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ABSTRACT

The second edition of this directory describes 296 projects and programs which are representative of current environmental education projects and programs in the United States. They cover the gamut of operation and orientation from financially well supported projects to "shoestring" operations conducted by one person in his spare time; from classical nature study to modern urban studies. Thus reflected is the fluidity of definition currently characterizing environmental education, as well as differences in levels of support accorded by various agencies in diversified places. Information accompanying each entry outlines the following: project title, director's name and address, headquarters location and facilities available, principal staff, project history, present commercial affiliations, project objectives, materials produced, materials available free of charge, materials for purchase, additional materials being developed, project implementation, teacher preparation, project evaluation, summary of activities since 1969, plans for the future, and materials available through the ERIC system. Entries are arranged alphabetically by state. In a separate volume (SE 017 299), appendices provide information relating to state coordinators for environmental education, and those projects and programs which sent brief responses or did not respond to the survey questionnaire. See ED 071 881 for the first edition of this directory. (JR)

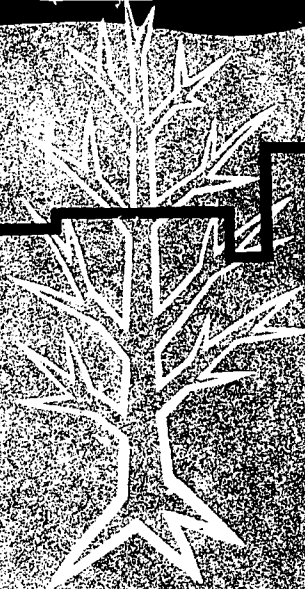
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ENVIRONMENTAL EDUCATION INFORMATION REPORTS

A DIRECTORY OF PROJECTS AND PROGRAMS
IN ENVIRONMENTAL EDUCATION FOR
ELEMENTARY AND SECONDARY SCHOOLS
SECOND EDITION

compiled by John F. Disinger and Beverly M. Lee

ERIC Information Analysis Center for
Science, Mathematics, and Environmental Education
400 Lincoln Tower
The Ohio State University
Columbus, Ohio 43210

November, 1973

DEDICATION

This publication is dedicated to Mrs. J. Robert (Beverly) Lee, Research Associate in Environmental Education, whose death occurred in November, 1973.

Mrs. Lee had been employed for several years at ERIC/SMEAC, had worked in many capacities related to environmental education, and was known to many people for her fine work. This edition of this directory is the result of much work on her part and represents one of the many projects with which she was associated at ERIC/SMEAC.

Her impact on environmental education has been great and will continue as publications she helped create are used by individuals throughout the United States and, indeed, the world.

ERIC/SMEAC

ERIC is a national information system supported by the National Institute of Education for providing ready access to results of exemplary programs, research and development efforts, and related information that can be used in developing more effective educational programs. Through a network of specialized centers or clearinghouses, each of which is responsible for a particular educational area, current significant information relevant to education is monitored, acquired, evaluated, abstracted, indexed, and listed in ERIC reference publications. Through these reference publications any educator, anywhere in the country, has easy access to reports of innovative programs, conference proceedings, bibliographies, outstanding professional papers, curriculum-related materials, and reports of the most significant efforts in educational research and development, regardless of where they were first reported.

In addition, each clearinghouse produces bulletins, interpretive summaries, research reviews, and bibliographies. These products are made available by the ERIC system and are also announced in a separate yearly compilation.

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This publication was prepared pursuant to a contract with the National Institute of Education, United States Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their judgment in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official National Institute of Education position or policy.

PREFACE

This publication represents a second effort on the part of ERIC/SMEAC to produce a directory of representative current environmental education projects and programs in the United States. As such, it is still an exploratory effort, incomplete and uneven, but representative of an extensive array of efforts in environmental education, stressing those related to schools. The first edition (October, 1972) contained 207 reports; this edition describes 296.

Several sources have been utilized in gathering information and materials for the directory. A generalized questionnaire was mailed to each environmental education project and program known to ERIC/SMEAC, with request for completion and return. Environmental education coordinators and supervisors at the state education department level were requested to identify outstanding projects and programs in their own and neighboring states; each program so identified was contacted, as were all efforts reported in the first edition of the directory. Also utilized were lists of efforts supported under Title III, ESEA, and P.L. 91-516, primary channels of federal funding for environmental education.

Each project and program for which a completed questionnaire was returned is described in the directory, even though a few (mostly among those funded under P.L. 91-516) are not school-related. No selectivity was exercised in inclusion of reports, other than that resulting from coordinator recommendations or listing on a funding roster. In some cases, responses indicated little or no change from the report printed in the first edition of the directory. For these, reports were reprinted in the format originally employed, rather than in the newer format.

Projects and programs which did not return completed questionnaires, but instead sent other responses, are listed in Appendix A, with annotations as to the nature of their responses. Appendices B, C, and D list projects and programs from which no response had been received as of November 23, 1973. Also given, in Appendix E, are the names and addresses of those persons functioning as members of SMEAC's network of state education department coordinators for environmental education. Some changes have taken place in the membership of that network since recommendations were received. Appendices appear in a separate volume.

Major change in format from the first edition has been the addition of an "ERIC Documents" section for each project and program which has materials available through the ERIC system. These materials have been abstracted in Research in Education, and are generally available from:

ERIC Document Reproduction Service
P. O. Drawer O
Bethesda, Maryland 20014

Insofar as possible, such documents have been identified by ED numbers, and must be ordered by reference to such numbers. In some cases, materials are listed by SMEAC's SE numbers because processing

into the central system had not been completed as this directory went to press. Persons wishing to order such documents must obtain the proper ED numbers from current issues of Research in Education in order to do so.

Projects and programs described in the body of the directory cover the gamut in all respects, from financially well-based efforts to what might be termed "shoestring" operations, literally conducted by one person in his spare time, and from "classical" nature study to "modern" interdisciplinary studies. Thus are reflected the fluidity of definition currently characterizing environmental education, as well as differences in levels of support accorded by various agencies, in various places.

There is little doubt that much of the information contained in this edition of the directory is already outdated, and more will be in a short time. A third edition is planned for Winter 1975.

Production of a directory such as this involves the efforts of a number of persons, both at ERIC/SMEAC and elsewhere. Those project and program directors who completed and returned questionnaires deserve special thanks, as do members of the state coordinator network. Special assistance and support were received from W. Ben Bohl, Cheryl L. Fuller, Linda S. Hemmler, Robert W. Howe, and Edwin L. Shay. Typing of the manuscript was completed by Norma V. Disinger.

Of particular interest to ERIC/SMEAC will be further information (updates, corrections, etc.) relative to projects and programs for which reports are included, and notification of the existence of other viable efforts which should have been included. Hopefully, the third edition of this directory will be both more complete and more representative.

John F. Disinger and Beverly M. Lee
Compilers

November, 1973

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ANNOTATED DIRECTORY OF
ENVIRONMENTAL EDUCATION PROJECTS AND PROGRAMS,
ARRANGED ALPHABETICALLY BY STATE

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: None at present. Dr. Ward Tishler and Dr. Miriam Collins, Coordinators, University of Montevallo, Physical Education Department, Montevallo, Alabama 35115. (205)665-2521 Ext. 275
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originator: Title III ESEA grant awarded for planning August 1967.
 2. Date and place of Initiation: August 1967 - Selma City and University of Montevallo, Montevallo, Alabama.
 3. Overall project purpose: Learning and teaching experiences through in-service training and school and day camping program in an outdoor education demonstration center.
- F. PROJECT OBJECTIVES:
- This project is currently in the planning stage; it has not been funded. The rest of the questionnaire cannot be answered at this time.

- A. PROJECT TITLE: ALABAMA ENVIRONMENTAL QUALITY ASSOCIATION
- B. EXECUTIVE DIRECTOR: Miss Martha McInnis, Director of Program Development, Alabama Farm Bureau Federation, P.O. Box 11000, Montgomery, Alabama 36111. (205)288-3900 Ext. 209
- C. PROJECT HEADQUARTERS:
1. 2108 E. South Boulevard, P.O. Box 11000, Montgomery, Alabama 36111. (205)281-6474
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Martha McInnis and the Alabama Farm Bureau Federation county women. Began as a rural cleanup program.
2. Date and place of Initiation: 1967 - Volunteer county effort throughout the entire state.
3. Overall project purpose: To write an Environmental Education Master Plan for the State of Alabama.
- F. PROJECT OBJECTIVES:
1. To work for the solution of problems related to man's relationship with his natural and man-made surroundings. This includes the relationship of population, resource allocation and depletion, conservation, transportation, technology, and urban and rural planning to the total environment.
2. To develop among Alabama residents a pride in their communities and their state and to emphasize the benefits of a clean, healthful and beautiful state.
3. To encourage and assist in the development of voluntary community improvement through a program of public education.
4. To promote the establishment of local volunteer environmental quality programs.
- G. MATERIALS:
1. Materials produced: Not applicable.
2. Free materials available:
a. Recycling brochure - "The Secondhand Book".
b. Manual - "A Blueprint for Action".
c. Newsletter - "EnviroNews (printed bi-monthly).
d. Resource Catalog - to be printed.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Not applicable.
5. Additional materials being developed: Brochures on film library, how to start local programs, abandoned autos, etc.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
In the near future, we will have the EE Master Plan written for the State.

K. PROJECT SUMMARY:

1. Continually working with Regional Councils in achieving their objectives.
2. Furnished public service announcements to all of the television stations in Alabama.
3. Disseminating information upon request.
4. Published recycling brochure, The Secondhand Book.
5. Tabulating of surveys and compiling information to be used for State Plan.
6. Gathering of information to be used for Resource Catalog. This catalog will contain the names and addresses of all agencies, clubs, etc., located in Alabama that works to foster environmental quality. The catalog will also contain federal governmental agencies.
7. Publish and distribute bi-monthly newsletter, EnviroNews.
8. Expansion of mailing list to include all concerned citizens.
9. Making available the film library for local programs.
10. Maintaining news coverage file and documentary materials.
11. Work with communities in setting up or promoting local beautification programs.
12. Work towards making citizens aware of the environmental problems. Example: Legislative newsletter with information on proposed environmental legislation.

L. PLANS FOR THE FUTURE:

- To be announced at a future date.

- A. PROJECT TITLE: BEAR CREEK WATERSHED ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Allan M. O'Neal, Jr., P.O. Box 880, Russellville,
Alabama 35653. (205)332-3303
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Bear Creek Watershed Association.
2. Date and place of Initiation: March 20, 1972.
3. Overall project purpose: To introduce the multi-disciplinary approach to the teachers in the 13 school systems involved in the project.
- F. PROJECT OBJECTIVES:
1. To inspire teachers to use the out-of-doors as a teaching technique in all subject areas such as: math, language arts, social studies, science, physical education, art, etc. Practical application of a subject leads to more meaningful learning.
2. To create a more intense awareness among students and teachers of the need for improving our environment.
3. To educate for leisure time activities.
4. To offer college training to teachers in environmental education while on the job.
5. To ultimately develop an outdoor education resident facility.
- G. MATERIALS:
1. Materials produced: Environmental Education Guide K-12.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: No.
5. Additional materials being developed: No.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 40.
2. Number of teachers having adopted all of the project materials: 150.
3. Number of teachers using some of the project materials: 200.
4. Total number of students using project materials: Not answered.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Russellville Junior High School, Russellville, Alabama.
b. Hamilton Grade School, Hamilton, Alabama.
c. Avalon Middle School, Muscle Shoals City, Alabama.
d. Bradshaw High School, Florence, Alabama.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 10 days.
 - b. Summer Institute: Yes. 10 days.
 - c. Evening classes: Yes. ~ One full semester.
 - d. Other: Florence State University offers 3 hours of graduate credit for teachers participating in the workshops, institutes or semester courses.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Lesson plans, teaching equipment.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the teachers.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. An Environmental Education Guide of 327 pages, consisting of example lesson plans in all subject areas has been published and distributed to all the schools in the Bear Creek area.
2. The workshops were very successful. A total of 124 teachers and 10 teacher aides hired by the Senior Aides Program in this area participated.
3. A program for high school students called STEP (Students Toward Environmental Participation) is being organized in the high schools. These high school students will work on a voluntary basis with grade school teachers by helping them take their students outdoors to teach all subjects on their campus.
4. The accomplishments of the project to date would not have been possible without the support of the superintendents and their staff, TVA, State Department of Education, Florence State University, Bear Creek Watershed Association, Bear Creek Development Authority, Muscle Shoals Council of Local Governments, Senior Aides Program, National Park Service, U. S. Forest Service, and the Soil Conservation Service.

L. PLANS FOR THE FUTURE:

Involve high school students as teacher aides in outdoor activities for elementary students. The high school students as well as the elementary teachers will attend outdoor environmental education workshops to prepare them to utilize their campus in all subjects.

M. ERIC DOCUMENTS:
Bear Creek, Alabama - Teacher's Workshop in Environmental
Education. ED 077 695

- A. PROJECT TITLE: READING ENRICHMENT AND OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Dr. Jayne A. Meyer, P.O. Box 2568, Tuscaloosa,
Alabama 35401. (205)758-0411
- C. PROJECT HEADQUARTERS:
1. Tuscaloosa County Board of Education, P.O. Box 2568,
Tuscaloosa, Alabama 35401.
2. Special facilities or activities available for visitor
viewing: Yes.
- D. PRINCIPAL STAFF: 14 persons regularly employed during the summer.
During the school year 50 persons are employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Superintendent and Coordinator of
Federal Projects.
2. Date and place of Initiation: June 1, 1971 - Tuscaloosa,
Alabama.
3. Overall project purpose:
a. To improve reading.
b. To provide outdoor education experiences.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS: None.
- H. MATERIALS IMPLEMENTATION: None.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:

The Tuscaloosa County Board of Education, through the use of local funds, renovated a closed four-room school which is located adjacent to Lake Tuscaloosa approximately fifteen miles north of Tuscaloosa. The renovated facility, now known as the Holly Springs Outdoor Education Center, includes approximately five acres of land.

In June 1971, a Title III, ESEA project was implemented at the site indicated. The two major project components include: three, two-week sessions of remedial reading camp for thirty children who have finished the fifth grade, are of average to above-average intelligence and who are reading from one to two years below grade level; and overnight outdoor education field trips for sixth grade students. Outdoor recreation and utilization of the facilities by student special interest groups are lesser components of the project.

For the summer camp, post-testing with the Stanford Diagnostic Reading Test showed that the average improvement in reading comprehension was a grade score of 0.3. Post-testing with the Self-Esteem Inventory showed an over-all improvement in the campers' self-esteem. From the sixth grade trips, students acquired knowledge and participated in activities which enhanced their classroom learning.

L. PLANS FOR THE FUTURE:
No additional activities are planned.

- A. PROJECT TITLE: BALD ROCK ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Dr. Joanne S. Jordan, Southern Union State Junior College, Wadley, Alabama 36276. (205)395-2211
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. The Bald Rock, a granite outcrop, and nature trail with special environmental lessons conducted by college students.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Biology faculty members and students of Southern Union State Junior College.
 2. Date and place of Initiation: March 1971.
 3. Overall project purpose: To develop environmental awareness and responsibility on the part of college and elementary school students who visit the study area.
- F. PROJECT OBJECTIVES:
1. To develop a series of capsule lessons concerning ecology and environment (Envirocaps) that implement process learning in which the learner is required to engage in decision making processes in a problem solving situation.
 2. To use these Envirocaps in a natural environmental setting (Bald Rock NESAs) to create environmental awareness and appreciation in students of elementary school age with the belief that the knowledge gained will result in positive behavior changes in the students.
 3. To create in students of Southern Union State Junior College (who will develop and implement the Envirocaps) environmental appreciation, and to provide pre-service training for the 40% of the students who have declared intention to teach to enable them to participate effectively in an environmental studies program.
- G. MATERIALS:
1. Materials produced: Booklet of environmental lessons for use in primary grades - basically 4-6. Booklet was written by college students.
 2. Free materials available: Limited number of copies of booklets are free.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Approximately 20 teachers are using some of our materials.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. Informally, by teachers who have used them.

2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Continuation and enlargement of present project to include teacher workshops and other activities that will promote environmental education in the immediate geographic area.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION RESOURCE CENTER
- B. PROJECT DIRECTOR: John A. Cook, 670 Fireweed Lane, Anchorage,
Alaska 99502. (907)277-6652
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Environmental Education Resource Center.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
The Anchorage School District has just created the position of Environmental Consultant. Therefore our anticipated program has not been determined. Our purpose is to identify and integrate appropriate environmental education concepts into the total curriculum K-12.
- F. PROJECT OBJECTIVES: See purpose (E).
- G. MATERIALS: Not applicable.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes. On a limited basis.
2. In-service education program for teachers using the materials: Yes. On a limited basis.
3. Pre-service training program for teachers desiring to use the materials: Yes. On a limited basis.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. $3\frac{1}{2}$ days.
b. Summer Institute: No.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Somewhat.
6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION: Not answered.
- K. PROJECT SUMMARY: Not answered.
- L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: ALASKA COMMUNITY ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Ms. Jo Michalski, Pouch F, Alaska State Department of Education, Juneau, Alaska 99801. (907)586-5486
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Larry Hill, Jo Michalski, Alice Cook, U.S. Forest Service.
 2. Date and place of Initiation: June 1972.
 3. Overall project purpose: To provide guidelines which will enable formal and community educational systems to make better use of the total learning environment (including natural, manmade and human resources) to further the concept of harmony between man and the environment.
- F. PROJECT OBJECTIVES:
1. Community education programs to increase the public's understanding of the goals and techniques of environmental education and to enhance its ability to participate.
 2. Acquisition of a network of outdoor classroom sites including: areas adjacent to schools, outlying sites representing a variety of ecotypes, overnight sites for outdoor school programs.
 3. Organization of a local Environmental Education Center to provide instruction, guidance, and resources to students, teachers, and community groups carrying out group or individual environmental projects.
- G. MATERIALS:
1. Materials produced:
 - a. K-12: "Multidisciplinary Environmental Experiences, K-12."
 - b. Other: Alaska Environmental Education Newsletter.
 2. Free materials available: Those listed above.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. For all levels.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not known at this time.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 25-50 hours.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 25-50 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By staff and outside evaluator.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Continue to seek funding.

M. ERIC DOCUMENTS:

Multidisciplinary Environmental Experiences, K-12. ED 076 413

- A. PROJECT TITLE: TUCSON AUDUBON SOCIETY INSTITUTE OF DESERT ECOLOGY
- B. PROJECT DIRECTOR: William N. Goodall, c/o Tucson Audubon Society,
Box 3981, Tucson, Arizona 85717. (602)325-7692
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 director, 5 faculty, 10 volunteers.
- E. PROJECT HISTORY:
1. Principal originators: Tucson Audubon Society.
2. Date and place of Initiation: 1971 - Tucson.
3. Overall project purpose: To enrich and increase ones knowledge of the desert environment.
- F. PROJECT OBJECTIVES: To develop a responsibility toward the wiser use of natural resources and learning how to impart this knowledge to others.
- G. MATERIALS: Not applicable.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. The Institute provides first hand experience with nature through an integrated sequence of morning and afternoon field trips complimented with evening programs. Emphasis is on ecological relationships, rather than classification, identification, or characteristics.
2. Groups are small on the field trips - ten to fourteen with one leader. It is not the intent of the program to stress hiking or distance. Observation and interpretation of nature are carried out in a leisurely manner.
3. Participants should be in good health and ready to partake in each day's organized program.
- L. PLANS FOR THE FUTURE:
The 4th annual Tucson Audubon Institute of Desert Ecology will be held Spring 1974.

- A. PROJECT TITLE: PROJECT MAN AND ENVIRONMENT
- B. PROJECT DIRECTOR: Gene Jones, P.O. Box 278, Dardanelle, Arkansas
72834. (501)229-4049
- C. PROJECT HEADQUARTERS:
1. 4th and Dawson, Dardanelle, Arkansas 72834.
2. Special facilities or activities available for visitor viewing: Yes. Classroom activities.
- D. PRINCIPAL STAFF: 3 persons employed full-time, 4 persons part-time.
- E. PROJECT HISTORY:
1. Principal originator: Gene Jones.
2. Date and place of Initiation: July 1972.
3. Overall project purpose: To develop an environmental education curriculum for Arkansas schools.
- F. PROJECT OBJECTIVES:
1. To implement environmental education in Dardanelle and Russellville schools.
2. To develop an ecology textbook for use in Arkansas schools.
- G. MATERIALS:
1. Materials produced:
7-12: Ecology textbook for secondary use.
2. Free materials available: None.
3. Materials produced that can be purchased: None at this time.
4. New instructional materials being developed: Yes. Secondary - textbook and slides.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 4.
2. Number of teachers having adopted all of the project materials: 8.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 240.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
a. Dardanelle High School, 2nd and West, Dardanelle, Arkansas 72834.
b. Russellville High School, Highway 7T, Russellville, Arkansas 72801.
c. Central High School, Hall High School, Metropolitan High School, Little Rock, Arkansas.
d. Perryville High School, Perryville, Arkansas.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By the project staff.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Development of ecology textbook.
2. Implementing ecology classes.

L. PLANS FOR THE FUTURE: No additional activities are planned.

- A. PROJECT TITLE: LAKE FAYETTEVILLE AQUATIC RESOURCE STUDY CENTER
- B. PROJECT DIRECTOR: Tom Jenkins, 1001 Stone Street, Fayetteville, Arkansas 72701. (501)443-3481
- C. PROJECT HEADQUARTERS:
1. Lake View Drive, Fayetteville, Arkansas 72701.
2. Special facilities or activities available for visitor viewing: No. In planning phase.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Tom Jenkins, Fran James.
2. Date and place of Initiation: Summer 1971.
3. Overall project purpose: With the establishment of the Lake Fayetteville study center there will be hiking trails and study plots throughout the area.
- F. PROJECT OBJECTIVES:
Through cooperative efforts between the classroom teacher and the staff members of the center, field and laboratory experiences will be used to obtain the following goals:
1. To examine local, regional, national and global effects of man upon water environments.
2. To create an awareness among students that basic existence depends upon the finite resource of water.
3. To provide specific basic knowledge of the world's natural resources, operational processes and cycles, renewability or non-renewability of aquatic environments.
4. To provide a perspective of man's responsibility to use water resources wisely and preserve them for future generations.
- G. MATERIALS:
1. Materials produced: None yet.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Will be.
5. Additional materials being developed: Activity packets for field investigations.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Three teachers are using our materials.
- I. TEACHER PREPARATION: None yet.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
1. The building being constructed this year will provide interpretive exhibits and laboratory space. Its location on the lake shore allows easy access for outdoor labs.
2. The Springdale and Fayetteville Public Schools have been awarded an ESEA Title III grant. Local funds placed with the

federal grant will finance the first three years of the program.
3. Planning for the project is taking place this school year. During this time the facilities will be completed and curriculum materials selected. The first operational year should be the next school year (1974-75).
4. Staffing of the center will take place this year.

L. PLANS FOR THE FUTURE:

First operational year to be 1974-75 school year.

- A. PROJECT TITLE: ARKANSAS' ENVIRONMENTAL EDUCATION PROJECT --
RESOURCE MATERIALS DEVELOPMENT
- B. PROJECT DIRECTOR: Dr. Bessie B. Moore, Arch Ford Education Building,
Little Rock, Arkansas 72201. (501)371-2061
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons employed full-time, one part-time.
- E. PROJECT HISTORY:
1. Principal originators: W. L. Fulton, Environmental Consultant, Arkansas Department of Education; E. R. Mackey, Environmental Consultant, Arkansas Department of Education; Dr. Bessie Moore, Coordinator, Economic and Environmental Education, Arkansas Department of Education.
2. Date and place of Initiation: Little Rock - 1971.
3. Overall project purpose: To adapt and modify existing environmental education materials to the state of Arkansas.
- F. PROJECT OBJECTIVES:
1. The project staff and participating teachers will modify instruction units and/or courses in environmental education from a number of sources that are appropriate for use in local schools of various sizes in Arkansas, grades 7-12, in science, social studies, and other appropriate curriculum areas. The units will include teaching guides which contain: a. specific objectives, b. instructional activities, and c. materials, equipment, and resources. The units will be judged as "adequate" or better by 90 percent of the project staff, participating teachers, and consultants in evaluation.
2. At the end of the project year, the project staff will make the modified instructional units in environmental education available to educators in other states with similar problems. Their availability will be published in ERIC's Research in Education.
3. The project staff will produce a bibliography of instructional units in environmental education to be disseminated to all schools in Arkansas. The bibliography will include: a. the title of units, b. suggested subject area, c. suggested grade level, and d. source of further information. It is expected that this bibliography will be mailed to all Superintendents of Schools in the state and will be published in the Arkansas Department of Education Newsletter.
- G. MATERIALS:
1. Materials produced:
K-6: How to Teach About the Environment in the Elementary Grades.
Investigating Your Environment.
7-12: Investigating Your Environment.
A Multidisciplinary Teachers Guide to Man and Environment.
Education for Spaceship Earth.
Others: None.

2. Free materials available: Single copies of all materials available on request.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. See objectives.
5. Additional materials being developed: Not answered.
6. Present commercial association: No.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 30.
2. Number of teachers having adopted all of the project materials: 76.
3. Number of teachers using some of the project materials: 1,261.
4. Total number of students using project materials: 30,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Mt. View Public Schools, Mt. View, Arkansas 72560.
 - b. Ft. Smith Public Schools, 3205 Jenny Lind Road, Ft. Smith, Arkansas 72901.
 - c. Little Rock Public Schools, 2000 Aldersgate Road, Little Rock, Arkansas 72205.
 - c. Fayetteville Public Schools, 500 Stone Street, Fayetteville, Arkansas 72701.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-5 days.
 - b. Summer Institute: Yes. 4 weeks.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Teachers who are involved in adapting the materials have been selected and trained.

L. PLANS FOR THE FUTURE:

1. See objectives.
2. We will be conducting in-service workshops during the year.

M. ERIC DOCUMENTS:

A Multidisciplinary Teachers Guide to Man and Environment. SE 016 987

- A. PROJECT TITLE: THE DEVELOPMENT AND PILOT APPLICATION OF URBAN-FOCUSED ENVIRONMENTAL EXPERIENTIAL-EDUCATION CONCEPTS AND MATERIALS
- B. PROJECT DIRECTOR: David B. Sutton, Box 14081, U.C.S.B., Santa Barbara, California 93107. (805)968-0164
- C. PROJECT HEADQUARTERS:
1. John Muir Institute for Environmental Studies, 2118 C Vine Street, Berkeley, California 94709. (415)956-4940
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons employed part-time plus special consultants.
- E. PROJECT HISTORY:
1. Principal originators: Mr. N. Paul Harmon, Mr. David B. Sutton, Dr. Donald Aitken.
2. Date and place of Initiation: February 1973 - Menlo Park, California.
3. Overall project purpose: To develop, test, and evaluate self-instructional environmental education materials for urban junior and senior high school students.
- F. PROJECT OBJECTIVES:
1. Identify the major, natural, ecological principles as they are revealed in a typical urban environment (actually experimenting with four distinctly different kinds urban environments).
2. Determine those kinds of experiential opportunities (encounters) which can reveal to the urban student the ecological principles identified in (1), and define those problem-solving skills which can best enable the student to extrapolate his experiences both in the direction of a comprehension of more general environmental-ecological principles and in application to city government and environment-management decision-making.
3. Design and develop a pilot package of individualized instruction materials for pilot use in four San Francisco Bay Area schools (two Junior High and two Senior High Schools), aimed at revealing those principles and imparting those skills identified from the analyses in (1) and (2).
4. Assess the effectiveness of the pilot materials developed in (3) in actual field-test situations, and extrapolate to general conclusions on the design of effective environmental curricular and resource materials for urban schools.
- G. MATERIALS:
1. Materials produced: Sample materials were developed on the deer in a semi-wilderness setting under previous CEE pilot project OEC-0-72-5053 in conjunction with the San Luis Obispo County Office of Education.
2. Free materials available: None.
3. Materials produced that can be purchased: Not applicable.
4. New instructional materials being developed: Yes. High school level.

5. Additional materials being developed: None.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Materials developed will be field tested beginning March 1974.

I. TEACHER PREPARATION:

Pre- and in-service training as well as supervision by project personnel is expected during field testing.

J. MATERIALS EVALUATION:

Data from field testing will be evaluated and used to revise materials.

K. PROJECT SUMMARY:

Phase I of the project has begun with the development of an environmental concepts hierarchy--an overview that elucidates and categorizes all of the learning objectives that any environmental curriculum could aim at accomplishing. We then intend to isolate those concepts and objectives that might best be taught to urban high school students. We will, in effect, propose a general high school curriculum in experiential environmental education. Then, from among the total possible curriculum needs, some sample materials will be developed with this OEE funding.

L. PLANS FOR THE FUTURE:

The continuation of the project through phases 2, 3, and 4.

- A. PROJECT TITLE: PROJECT MER (MARINE ECOLOGY RESEARCH)
- B. PROJECT DIRECTOR: George J. Castellani, 75 Santa Barbara Road,
Pleasant Hill, California 94523. (415)937-4100 Ext. 368
- C. PROJECT HEADQUARTERS:
1. Contra Costa County Superintendent of Schools Office, 75 Santa Barbara Road, Pleasant Hill, California 94523.
 2. Special facilities or activities available for visitor viewing: Yes. Project MER Marine Laboratory, Point Molate, Richmond, California.
- D. PRINCIPAL STAFF: 4 persons regularly employed, 1 person part-time.
- E. PROJECT HISTORY:
1. Principal originators: Science teachers in Contra Costa and Alameda Counties under the direction of Contra Costa County Superintendent of Schools Office, Dr. Floyd Marchus, Superintendent; Dr. William Landis, Coordinator-Science and Math; George Castellani, Coordinator-Aquatic Biology and present director of the project.
 2. Date and place of Initiation: Spring, 1971 - Contra Costa County Superintendent of Schools Office.
 3. Overall project purpose: To supplement existing instruction in life sciences with a unit on marine ecology applicable to the San Francisco Bay-Delta-Estuary Complex. The instruction is designed to provide students with a factual background in science and develop positive attitudes toward their local aquatic environment.
- F. PROJECT OBJECTIVES:
- Project MER is designed to supplement existing science programs and offers a program, including instruction at a marine lab, over a five-week period. The objectives include increasing student knowledge in this area and development of positive attitudes toward the marine environment. Curricular activities include student involvement in gathering data on the Bay, to be utilized by local governmental agencies. Teacher training and the development of curricular materials are also part of the program.
- G. MATERIALS:
1. Materials produced: 7-12.
 - a. Marine Science Handbooks (Parts I - VI).
 - b. Project MER Marine Sciences Inventory. (Parts A - B).
 2. Free materials available:
 - a. Project Abstract and Field Research Design.
 - b. Data Collection forms for recording physico-chemical and biological parameters of conditions at a field station.
 3. Materials produced that can be purchased:

a. Part I	Monitoring Techniques for the	\$1.00
	Measurement of Physico-Chemical	
	and Biological Parameters	
b. Part II	Key to the Phytoplankton Phyla	.60
	and Genera	
c. Part III	Key to the Invertebrates	.80
d. Part IV	Key to the Coastal Marine	.50
	Fishes of California	

e. Part V	Key to the Fresh Water and Anadromous Fishes of California	\$.50
f.. Part VI	Key to the Common Fishes of San Francisco Bay	<u>.50</u>
		\$3.90

Copies of the complete set may be purchased for \$3.50.

If your handbooks are ordered from the Contra Costa County Superintendent of Schools Office, please address your order: Attention Walter H. Harris, 2371 Stanwell Drive, Concord, California 94520. Make checks payable to the County Treasurer and Tax Collector.

4. New instructional materials being developed: Yes. Grades 7-12.
5. Additional materials being developed: MER Projective Test of Attitudes in Marine Ecology.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 60.
2. Number of teachers having adopted all of the project materials: 60.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: Unknown.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Liberty Union High School, 850 Second Street, Brentwood, California 94513.
 - b. Moreau High School, 27170 Mission Boulevard, Hayward, California 94544.
 - c. Campolindo High School, 300 Moraga Road, Moraga, California 94556.
 - d. John Swett High School, Pomona Avenue, P.O. Box 847, Crockett, California 94525.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-5 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Listing in process.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By participants.
2. Pertinent published research studies: incomplete to date.

K. PROJECT SUMMARY:

1. Project MER, funded under ESEA Title III, has been designed to supplement ecology instruction in grades 7-12 by offering field experiences in aquatic ecology. The program encompasses five weeks work, utilizing materials developed by teachers in Alameda and Contra Costa Counties. During the five weeks, students receive specialized training at the Point Molate Marine Laboratory under the direction of a marine biologist. The training at the laboratory centers upon the analysis of the physico-chemical and biological parameters of the local waters. Subsequent to the training, students continue their studies under the direction of local teachers and participate in a program of monitoring the bay waters for the parameters which they studied at the lab. The purpose of the monitoring is to provide a base line of data from a series of field stations around the bay which can be used to better understand local waters. From this information, governmental agencies will be in a better position to render informed decisions related to the water system. The student involvement in the collection of data provides "relevance" to their normal in-school activities.
2. As part of the program, teachers from the varying schools receive in-service training at the Point Molate Marine Laboratory during the year.
3. The project has developed a series of curriculum materials along with an audio-tutorial instructional program for use at the laboratory. During the summer of 1973, in conjunction with the National Science Foundation - MER In-Service Institute for Teachers, curriculum materials were developed for use in this program.
4. The involvement of students in the outdoor laboratory is designed to not only increase their knowledge of the aquatic biome, but to provide them with experiences which will lead to the development of positive attitudes toward the environment.
5. As part of the Title III grant, assessment of student gains in knowledge and the development of positive attitudes will be made during the grant period.

L. PLANS FOR THE FUTURE:

- Refinements of existing program materials.

M. ERIC DOCUMENTS:

Handbook of Techniques and Guides for the Study of the San Francisco Bay-Delta-Estuary Complex...

1. Part I - Monitoring Techniques for the Measurement of Physio-Chemical and Biological Parameters. SE 016 645
2. Part II - Key to the Phytoplankton Phyla and Genera (1971). SE 016 646
3. Part III - Key to the Invertebrates (1971). SE 016 647
4. Part IV - Key to the Coastal Marine Fishes of California (1971). SE 016 648
5. Part V - Keys to the Freshwater and Anadromous Fishes of California (Reprint from California Fish and Game, Vol. 46, No. 4, Oct. 1960). SE 016 649
6. Part VI - Key to the Common Fishes of San Francisco Bay (1973). SE 016 650

- A. PROJECT TITLE: PROJECT AWARENESS
- B. PROJECT DIRECTOR: Robert Frazer, 1616 Vallejo Way, Sacramento,
California 95818. (916)442-3592
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: Principal and two teachers.
- E. PROJECT HISTORY:
1. Principal originator: Staff and interested parents.
2. Date and place of Initiation: October 1972.
3. Overall project purpose: To make students aware that something can be done about pollution (but that it is difficult).
- F. PROJECT OBJECTIVES:
To increase student understanding of how pollution, or waste streams are generated, who is responsible for wastes and how pollution may be overcome, in part, through improved public control measures.
- G. MATERIALS:
1. Materials produced: None.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 2.
3. Number of teachers using some of the project materials: 2.
4. Total number of students using project materials: 70.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Only at Crocker School.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes.
By teachers, students and parents involved.
2. Pertinent published research studies: None.
- K. PROJECT SUMMARY:
1. Our project was, I believe, a great success but it was such a tiny effort that nothing was produced that could really be shared.
2. Two regular classroom teachers integrated their efforts into their regular program. There was no released time (except one day to attend a workshop) and they did it all themselves.

3. Our total budget was \$1500.

L. PLANS FOR THE FUTURE:

We would be more than happy to discuss or explain what we did, but we found out early that we couldn't even afford the postage required to answer requests for information.

- A. PROJECT TITLE: CONSERVATION EDUCATION SERVICE, CALIFORNIA DEPARTMENT OF EDUCATION
- B. PROJECT DIRECTOR: Rudolph J. H. Schafer, Consultant in Conservation Education, 721 Capitol Mall, Sacramento, California 95814.
(916)445-8010
- C. PROJECT HEADQUARTERS:
1. 721 Capitol Mall, Sacramento, California 95814.
 2. Special facilities or activities available for visitor viewing: No. Visitors are welcome at our office to discuss programs and review materials on file. Site visits can be arranged.
- D. PRINCIPAL STAFF: 3 persons employed regularly, 2 part-time student interns.
- E. PROJECT HISTORY:
1. Principal originators: State Senate in 1966 recommended that the Department of Education take action to improve conservation education program.
 2. Date and place of Initiation: December 1967.
 3. Overall project purpose: Development and implementation of a state environmental leadership program.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Provide consultant services to local educational agencies and county agencies.
 - b. Develop materials for use by school agencies.
 - c. Organize and develop county resources.
 - d. Conduct teacher training programs.
 - e. Evaluate local, district, and state-level programs.
 2. New instructional materials being produced: Yes. K-12.
- H. MATERIALS PRODUCED:
1. K-12: Ekistics - A Guide for the Development of an Interdisciplinary Environmental Education Curriculum.
 2. Others:
 - a. Handbook on California's Natural Resources.
 - b. Report to the State Board of Education by the Conservation Education Advisory Committee.
 - c. Bibliography of Films, Filmstrips, and Picture Sets.
 3. A number of curriculum publications have been developed by local school districts through contract with the Department of Education. These materials are on file with the Department of Education but no copies are available for distribution.
- I. MATERIALS AVAILABLE FREE: All above in limited quantities.

J. MATERIALS PURCHASABLE:

Conservation in Miniature - An illustrated report of conservation education activities conducted at the Monlux Science Center, Los Angeles City Schools, for elementary schools. Stresses community participation and describes how to obtain and utilize such support. May be obtained at a cost of \$1.50 plus tax from: State Office of Procurement, Documents Section, P.O. Box 20191, Sacramento, California 95826.

K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.

L. PROJECT IMPLEMENTATION:

Most of our contacts are with district and county office level personnel, and we regularly work with the majority of those agencies in California. We receive a number of written requests for information from teachers and answer these also. Our curriculum outline is widely used throughout California. The following agencies have developed particularly good programs:

- a. Santee School District, P.O. Box 220, Santee, California 92071.
- b. Santa Cruz School District, 701 Ocean Street, Room 200, Santa Cruz, California 95060.
- c. Los Angeles City Schools, Laurel Ecology Center, 1044 N. Hayworth Avenue, Los Angeles, California 90046.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes. Indirectly.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Not answered.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
 - a. Statewide school district and county office program evaluation underway.
 - b. Los Angeles City is developing pupil evaluation instruments and data which we hope to use (Title III project).
2. Pertinent published research studies: Not answered.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Instruction in wise use of natural resources and protection of the environment is required in all appropriate grade levels and subject areas, grades 1-12.

2. Education Code Sections utilizing in part language from the Advisory Committee Report recognizes the need for a coordinated statewide conservation-environmental education effort and pledges state government to support such a program.
3. A Conservation Education Service was created in the Department of Education to develop and maintain a statewide leadership program in this area involving the schools and other appropriate community agencies.
4. The State Superintendent of Public Instruction is authorized to make grants to various organizations for planning and implementing conservation education programs.
5. All state-adopted textbooks must emphasize wise resource use and environmental protection when appropriate.

P. PLANS FOR THE FUTURE:

1. Teacher Training. The Department of Education will develop and implement a teacher training program during fiscal year 1973-74, and will provide grants to local educational agencies to enable them to participate.
2. Community Resources. Development of a state plan which will extend the environmental education concept to include informal public education as well as regular school programs is projected for fiscal year 1973-74.
3. Grant Program. The Department of Education will provide grants to local educational agencies for curriculum development, teacher training and capital outlay for environmental education programs.
4. Merit Award Program. A statewide student environmental merit award program based on the PEMAP project of EPA was conducted during 1972-73. An expanded program is scheduled for 1973-74.
5. Regional Cooperation. The Department administers an ESEA Title V Section 505 project involving the Department of Education and Resource Management Agencies of 13 western states. This project will continue through fiscal year 1973-74.

Q. ERIC DOCUMENTS:

1. Ekistics - A Guide for the Development of an Interdisciplinary Environmental Education Curriculum. ED 076 438
2. A Report to the California State Board of Education by the Conservation Education Advisory Committee. ED 038 279

- A. PROJECT TITLE: COMMUNITY EDUCATIONAL RESOURCES
- B. PROJECT DIRECTOR: John K. Gessel, 6401 Linda Vista Road, San Diego, California 92111. (714)278-6400
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Industrialists and educators in the San Diego area.
 2. Date and place of Initiation: 1959 - San Diego County Department of Education.
 3. Overall project purpose: To develop curricular materials based upon community resources.
- F. PROJECT OBJECTIVES:
1. Develop materials from local community resources.
 2. Develop materials from national community resources.
 3. Develop materials derived from current scientific breakthroughs.
 4. Avoid duplication of commercially produced materials.
 5. Development may originate from either lay or educational sectors.
- G. MATERIALS:
1. Materials produced:
 - a. Living and Working in Inner Space - contains two filmstrips, 1 record, 2 filmstrip study guides, 19 study prints, 6 wall charts, and 1 teacher's guide.
 - b. Whale Watching at San Diego - contains 1 filmstrip, a record in English, a record in Spanish, a filmstrip study guide, 8 wall charts, and a teacher's guide.
 - c. Photomurals and Teacher's Guide - includes a series of 23 photomurals, 22" x 18", entitled "Zoo Animals", and a teacher's guide.
 - d. Underwater Acoustics.
 - e. The Arctic Ocean.
 - f. Sealab II.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased:
 - a. Living and Working in Inner Space - \$15.00.
 - b. Whale Watching at San Diego - \$13.00.
 - c. Photomurals and Teacher's Guide - \$1.00.
 Available from: Department of Education, San Diego County, 6401 Linda Vista Road, San Diego, California 92111. Add 6% tax for California.
 - d. Three sets of materials available from Charles Merrill Publishing Company, Columbus, Ohio: Underwater Acoustics, The Arctic Ocean, Sealab II.
 4. New instructional materials being developed: Yes. K-12.

5. Additional materials being developed:
 - a. Public art of San Diego.
 - b. New traffic control devices.
 - c. Environmental education materials.
6. Present commercial association: Charles Merrill, Columbus, Ohio.

H. MATERIALS IMPLEMENTATION:

We have produced so many materials that this question cannot apply. Names and locations of schools where the program materials are being used:

1. Bayside School, 490 Emory Street, Imperial Beach, California 92032.
2. Valley Center School, 28751 Cole Grade Road, Valley Center, California 92082.
3. Kellogg School, 229 East Naples Street, Chula Vista, California 92011.
4. Muirlands Junior High School, 1056 Nantilus Street, La Jolla, California 92037.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-5 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: Many after school sessions.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Listed under G.
6. Teaching materials commercially available: Yes. Charles Merrill Publishing Company, Columbus, Ohio.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Two frequency of use surveys have been made, one in 1969, the other in 1972.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Development of environmental education materials.

- A. PROJECT TITLE: ORANGE COUNTY ENVIRONMENTAL EDUCATION COUNCIL
- B. PROJECT DIRECTOR: Brenda Easely, P.O. Box 1780, Santa Ana,
California 92701. (714)523-2381
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: Staff is voluntary.
- E. PROJECT HISTORY:
1. Principal originators: Nathaniel Lamm, Orange County Department of Education.
2. Date and place of Initiation: January 1971.
3. Overall project purpose: To provide special programs for educators.
- F. PROJECT OBJECTIVES:
1. To provide where needed and as desired environmental education information and resource opportunities to teachers in Orange County. These opportunities may include seminars, lectures, and symposia.
2. To establish and maintain environmental education resource centers.
3. To encourage the inclusion, wherever possible, of environmental considerations within school curricula.
4. To coordinate and further the opportunities for teacher and student participation in environmental study trips.
5. To serve as a liaison between the environmental education programs of the various conservation groups, industrial organizations, governmental agencies, and educational institutions in Orange County.
- G. MATERIALS: None.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION: Not answered.
- J. MATERIALS EVALUATION: Not answered.
- K. PROJECT SUMMARY:
We have provided two major conferences, six workshops and special programs. We make special awards to students for outstanding environmental projects and activities. We have established two environmental education resource centers.
- L. PLANS FOR THE FUTURE:
Continue with activities listed above.

A. PROJECT TITLE: TRIPLE E PROJECT - ELEMENTARY ENVIRONMENTAL EDUCATION

B. PROJECT DIRECTOR: Leonard H. Mooy, Mrs. Charles Piper, Co-directors,
390 Princeton Avenue, Santa Barbara, California 93111
(805)967-4716

C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.

D. PRINCIPAL STAFF: 23 persons employed part-time.

E. PROJECT HISTORY:
1. Principal originators: Mrs. Micheal Towbes, Santa Barbara Junior League; Dr. Roderick Nash, Co-chairman, Environmental Studies Department, U.C.S.B.; Mr. Lorenzo Dall'Armi, County Superintendent, Santa Barbara County Schools.
2. Date and place of Initiation: August 1972 - University of California at Santa Barbara.
3. Overall project purpose: To provide intensive instruction in the techniques of environmental education to classroom teachers K-12. These teachers in turn assume the role of environmental resource person for their schools.

F. PROJECT OBJECTIVES:
1. Development of insights and attitudes conducive to the encouragement of the betterment of the environment.
2. Increased sensitivity to the need for recognition of problems of the balance of nature.
3. Mastery of techniques and methodology which will engender re-activation in the classroom and the community.
4. Familiarity with the literature on ecology and environmental studies as appropriate to education.

G. MATERIALS:
1. Materials produced: The Environmentalist - A Guide to Free and Inexpensive Materials of Environmental Interest.
2. Free materials available: None.
3. Materials produced that can be purchased: The Environmentalist - A Guide to Free and Inexpensive Materials of Environmental Interest.
List \$2.75. Bulk rates to school departments:
10 to 49 - \$2.25.
50 to 99 - 2.00
100 to 399 - 1.75
400/case - 1.50
Can be purchased from: Leonard H. Mooy at project address.
4. New instructional materials being developed: Yes. K-12 lesson plans on environmental education.
5. Additional materials being developed: None.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 48.
2. Number of teachers having adopted all of the project materials: 48.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 1,200.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Monte Vista School, Hope Avenue, Santa Barbara, CA. 93105.
 - b. Montecito Union School, 385 San Ysidro Road, Santa Barbara, CA. 93108.
 - c. McKinley School, 350 Loma Alta Drive, Santa Barbara, CA. 93109.
 - d. Vieja Valley School, 434 Nogal Drive, Santa Barbara, CA. 93110.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Two weeks at U.C.S.B.
 - b. Summer Institute: Yes. Two weeks at U.C.S.B.
 - c. Evening classes: Yes. Four seminar meeting during school year. All day sessions.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Packets which have been accumulated through the use of The Environmentalist.
6. Teaching materials commercially available: Yes. From sources listed in The Environmentalist.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers involved in the project for the past two years.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. August 1972: Two week workshop at U.C.S.B for 23 local elementary school teachers. Course - X334.22 Curriculum Development in Environmental Education. Each teacher received - \$100 stipend, \$75 to spend on materials or supplies, \$45 paid tuition for six semester credits.
2. Four meeting during 1972-1973 school year for sharing of experiences and suggesting improvements in the project. Project funded - $\frac{1}{2}$ by Santa Barbara Junior League; $\frac{1}{4}$ by Environmental Studies Department, U.C.S.B.; $\frac{1}{4}$ by Santa Barbara County School Department.
3. July 1973 - Two week workshop at U.C.S.B. for 25 local elementary and secondary public and private school teachers. Each teacher received - \$100 stipend, \$75 to spend on materials and supplies, \$45 paid tuition for six semester credits.

4. Meetings to be held during coming school year.

L. PLANS FOR THE FUTURE:

Continuation of the project. Number of participants depending on future funding.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Paul Relis, 15 W. Anapamu, Santa Barbara,
California 43101. (805)965-8302
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 9 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Paul Relis, J. Marc McGinnes.
 2. Date and place of Initiation: June 1970. Santa Barbara, California.
 3. Overall project purpose: Environmental education via agriculture and planning and community design.
- F. PROJECT OBJECTIVES:
1. Expanded awareness of environmental problems in agriculture.
 2. Awareness of alternatives to our energy crisis.
 3. Alternate planning concepts and their implementation.
- G. MATERIALS:
1. Materials produced:
 - a. Santa Barbara "Survival Times."
 - b. Today's Action Tommorrow's Profit: An Alternative Approach to Community Development.
 - c. A Plan for East Beach.
 2. Free materials available: None.
 3. Materials produced that can be purchased:
 - a. Today's Action - \$2.00.
 - b. A Plan for East Beach - \$3.25.
 - c. Santa Barbara "Survival Times" - \$4.00 per year's subscription - \$.35 per copy.
 All available from our office address.
 4. New instructional materials being developed: Yes. K-adult.
 5. Additional materials you anticipate developing: Film scripts and films with texts based on our planning and El Mirasol urban farm project.
 6. Teaching materials commercially available: Yes. Rodale Press, Harper and Row, KLET - Channel 28, Los Angeles.
- H. MATERIALS IMPLEMENTATION:
- Number of schools and teachers using our materials are unknown.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: No.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes.
 - b. Summer Institute: No.
 - c. Evening classes: Occasionally. 2 hours long.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION: A TEACHER'S GUIDE WITH INQUIRY AND VALUE SEEKING STRATEGIES
- B. PROJECT DIRECTOR: Dr. J. F. Phelps, P.O. Box 220, Santee, California, 92071. (714)448-2510
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originators: Santee School District Board of Trustees.
2. Date and place of Initiation: Spring 1970.
3. Overall project purpose: To develop a value-oriented environmental education guide for K-12.
- F. PROJECT OBJECTIVES:
To produce and distribute a teacher's guide in environmental education with inquiry and value-seeking strategies.
- G. MATERIALS:
1. Materials produced:
Environmental Education: A Teacher's Guide with Inquiry and Value-seeking Strategies.
2. Free materials available: At present another grant will re-print 1000 free copies for distribution.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials you anticipate developing: None.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION:
At present, school locations for future use are being considered for the new state grant being awarded.
- I. TEACHER PREPARATION:
Plans are not definite.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated. Yes.
By Dr. Julianna M. Hamann.
2. Pertinent published research: None.
- K. PROJECT SUMMARY:
Future plans are being developed for 1973-1974 school year by the Santee School District coordinator, Dr. James Humphrey.
- L. PLANS FOR THE FUTURE:
To validate the effectiveness of Environmental Education Guide and utilizing additional in-service materials developed by Dr. Julianna Hamann.

- A. PROJECT TITLE: PLAINS CONSERVATION CENTER: ENVIRONMENTAL AND HISTORICAL OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Edward Butterfield, 1085 Peoria Street, Aurora, Colorado 80010. (303)364-3331
- C. PROJECT HEADQUARTERS:
1. Colorado Highway 30 and East Hampden Avenue, Arapahoe County, Colorado.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. John C. Johnson, Mr. Eugene H. Herrington, Mr. Edward E. Butterfield.
 2. Date and place of Initiation: August, 1970.
 3. Overall project purpose: To enrich classroom concepts concerning: Man's responsibility as a guardian of his environment; the relationship of all living things to their environment; and the survival problems the early settler faced in this new frontier.
- F. PRESENT COMMERCIAL AFFILIATION: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. To develop an awareness of our natural and historical heritage as it relates to the development of the American Plains.
 - b. To develop an awareness of conservation problems as they relate to past, present and future activities of man in this region.
 2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: A suggested guide of field activities for Grades K-12 is being developed.
 2. Development of other materials anticipated:
 - a. Trail guides.
 - b. Project guides.
 - c. Museum.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 60.
 2. Number of teachers having adopted all of the project materials: 200.
 3. Number of teachers using some of the project materials: 50.

4. Total number of students using project materials: 15,000/yr.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught: Classes are bussed from individual schools to the center for instructional purposes.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Prior to visit to the center, teachers are consulted on an individual basis.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. .
By individual teachers using the center.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Field Activities K-12: Plant survey, insect survey, bird study, mammel study, soil study and geology.
2. Plant and Animal Ecology: Conservation and farming, art and creative writing.
3. Pioneer Living Activities K-12: Housing, schooling, Indian living and cooking.

P. PLANS FOR THE FUTURE:

1. Increase usage by disciplines other than science and history.
2. Development of nature trails.
3. Development of additional building facilities (dormitory, museum, etc.)

- A. PROJECT TITLE: THE MOUNTAIN VIEW CENTER FOR ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Dr. David Hawkins, 1511 University Avenue, Boulder,
Colorado 80302. (303)443-2211 Ext. 8421
- C. PROJECT HEADQUARTERS:
1. 1511 University Avenue, Boulder, Colorado 80302.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Dr. David Hawkins.
2. Date and place of Initiation: July 1, 1970.
3. Overall project purpose: To help schools evolve toward better education.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. In collaboration with consultants and principals, and independently, we will arrange workshops to be held at the Center. They can be responsive to particular needs of teachers and may give special emphasis to science, mathematics, reading and writing, art, music and social studies.
b. We will visit and work with teachers in their classrooms if both they and we feel that we can help in providing materials, in organization and planning, or in work with groups of children.
c. We hold firm ideas about ways in which children and teachers can make use of the environment in which they live. The initiative for exploring and using the resources must be local and must evolve through the work of children and teachers and those who help and support them.
2. New instructional materials being produced: No. We use quite ordinary materials, sometimes in new ways, for pre-school through sixth grade.
- H. MATERIALS PRODUCED:
1. K-6:
a. Science Equipment in the Elementary Schools.
b. The Logic of Action.
2. 7-12: None.
3. Others: None.
- I. MATERIALS AVAILABLE FREE:
Various short articles and pamphlets on elementary school teaching written by our staff and associates.

J. MATERIALS PURCHASABLE:

1. The Logic of Action: From a Teacher's Notebook by Frances P. Hawkins. \$3.00.
 2. Yesterday I Found... by Dorothy and John Paull.
 3. Science Equipment in the Elementary School. \$3.00.
 4. OUTLOOK Magazine. Three issues per year. \$2.00.
 5. Northumberland Children. A silent film, 45 minutes, of an excellent day care facility in northern England. Made by David and Frances Hawkins.
- All materials are available from: Mountain View Center, 1511 University Avenue, Boulder, Colorado 80302.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

We are not developing materials for use in classrooms except incidentally to our work as advisers. We will undoubtedly be working our designs for such things as animal cages, various simple musical instruments, etc. At this point we cannot specify precisely what these will be, but any designs we arrive at can be made available to others.

L. PROJECT IMPLEMENTATION: Not applicable.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Not answered.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Time varies.
 - b. Summer Institute: Occasionally. 2 - 4 weeks.
 - c. Evening classes: Occasionally. Open-ended.
 - d. Others: A considerable part of our work takes place in classrooms as teachers request our help. There are no limits set in advance on the extent of these commitments.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Reprints of articles on various aspects of science teaching and education more generally are available. They include:
 - a. Ojo de Dios.
 - b. Is It a Conglomerate?
 - c. One Blue Jay.
 - d. Piaget Re-discovered.
 - e. Away from Stages.
 - f. Drops and Streams.
 - g. Report of 3 days Spent in Washington, D.C.
 - h. Photographs of Deaf Children in Nursery School.
 - i. Thermodynamics of Purpose.
 - j. On Understanding the Understanding of Children.
 - k. Square Two--Square Three.
 - l. Education and the Spirit of Science.
 - m. Mind and Mechanism in Education.

- n. Messing About in Science.
- o. The Bird in the Window.
- p. Statement of Environmental Education.
- q. I-Thou-It.
- r. The Nature of Purpose.
- s. On Living in Trees.
- t. Pendulums.

6. Commercial availability of materials: Single copies can be obtained without charge by interested individuals who write to the Mountain View Center.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Summer conference, 1970, of invited teachers, administrators and program developers from the United States, England and New Zealand.
2. Open houses for teachers each Monday afternoon.
3. Courses given by individual staff members, covering such topics as environmental studies, an introduction to music, batteries and bulbs, print-making, etc.--.
4. A course offered to University of Colorado freshmen entitled "The World of Childhood", attended by 24 students, meeting as a group once a week and with individual staff members in small groups for specific projects once a week.
5. Cooperation with Ogalala Sioux Indians, Manderson, South Dakota in setting up a learning resource and teacher center.
6. Preparing for a series of workshops to be given on alternate Saturdays in Manderson by staff members.
7. Preparation of the periodical OUTLOOK.

P. PLANS FOR THE FUTURE:

Continued activities as above, with additional activities as the need arises.

- A. PROJECT TITLE: SADMESS (STUDENT ASSISTED DEVELOPMENT OF MATERIALS FOR ENVIRONMENTAL AND SOCIAL STUDIES)
- B. PROJECT DIRECTOR: Irving Morrissett and Suzanne Wiggins Helburn,
855 Broadway, Boulder, Colorado 80302. (303)443-1370
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Resource and Reference Center of the Social Science Education Consortium and the ERIC Clearinghouse for Social Studies/Social Science Education.
- D. PRINCIPAL STAFF:
SADMESS project is now closed; approximately 13 were employed during its operation. Some were employed only for the duration of the project; others were permanently employed by the Social Science Education Consortium.
- E. PROJECT HISTORY:
1. Principal originators: The staff of the Social Science Education Consortium.
2. Date and place of Initiation: August 1971 - December 1972.
3. Overall project purpose: Utilize high school students in the curriculum development process.
- F. PROJECT OBJECTIVES:
1. The program will produce four to six environmental education activities which emphasize the social aspects of environmental problems and various proposed solutions to those problems.
2. The program will develop a conceptual framework which will specify the foundation concepts and processes to be utilized in the development of units and in other possible environmental education materials.
3. The program will experiment with a new model for student involvement in curriculum development.
4. The program will provide a new kind of learning experience in which students acquire knowledge, skills, and attitudes by participating with teachers and professional staff as members of a team performing the crucial educational task of developing learning activities.
5. The program will provide a learning experience in which teachers and professional staff have the opportunity to develop new understandings and attitudes regarding the use of students as partners in the development of educational materials. Many of the outcomes to be achieved by the student-developers will also be achieved by the teachers and professional staff.
6. In addition, the results of this program are expected to have a spillover effect of encouraging greater use of students in all areas of the educational process.
- G. MATERIALS:
1. Materials produced:
a. Sunshine Unfolding, by Craig Holdrege, Susanne Bank, Sheryl Wiggins, and Dan Bouricius. SSEC Publication #151. \$4.95.

- b. Boulder Experiments Scrapbook. SSEC Publication #152. \$6.00.
- c. SADMESS Final Report. SSEC Publication #153. \$8.00.
A copy of a 4i-slide show to accompany the final report can be obtained separately for \$20.00.

The three SADMESS publications can be obtained as a package for \$16.00.

2. Free materials available: None from SADMESS project; the newsletters are available free of charge from both the Social Science Education Consortium and the ERIC Clearinghouse for Social Studies/Social Science Education. These occasionally contain information about environmental educational materials and programs with a social science emphasis.

3. Materials produced that can be purchased: See G.1. Materials can be ordered from: Publications Department, Social Science Education Consortium, Inc., 855 Brodaway, Boulder, Colorado 80302. All orders must be accompanied by a check, money order, or official institutional purchase order. For orders totaling less than \$3.00, add a handling charge of 50 cents. Reference to the publication number of each publication ordered will help to assure expeditious processing of your order.

4. New instructional materials being developed: No.

5. Additional materials being developed: None.

6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Since our materials were just recently put on the market, we are unable to estimate the number of schools using them.

I. TEACHER PREPARATION:

We have no formal programs for teachers using our materials, although we would be happy to consult with anyone interested.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Project was conducted under one-year grant (with extension) from Office of Environmental Education, USOE. The many activities conducted during the life of the project are described in the projects publications.

L. PLANS FOR THE FUTURE:

Whether or not we conduct future activities in the area of environmental education depends on whether we have any good ideas in that area, and whether funding opportunities for such good ideas present themselves.

- A. PROJECT TITLE: HIGH TRAILS OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Paul H. Forister, School District #11, 1115 N. El Paso, Colorado Springs, Colorado 80903. (303)633-8773 Ext. 205
- C. PROJECT HEADQUARTERS:
1. Camp is located at Florissant, Colorado, Mr. Roger Sandborn, 80816.
 2. Special facilities or activities available for visitor viewing: The camp itself, however, the facilities are not owned by the school district.
- D. PRINCIPAL STAFF: District personnel are used - classroom teachers plus a staff furnished by High Trails Center.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Roger Sandborn, High Trails Education Center; Mr. Richard Holliday, 6th grade teacher; Mr. Thomas Doherty, Superintendent of Schools; Dr. William Liddle, Division of Elementary Education.
 2. Date and place of Initiation: 1967.
 3. Overall project purpose:
 - a. Social goals in mixing economic, racial and educational differences.
 - b. Individual growth opportunities - self-reliance, confidence, awareness, cooperation etc.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Opportunity to teach and to learn greater understanding and love of natural surroundings in a setting where children of varied social and economic groups have an opportunity for new friends and to promote intercultural understanding.
 - b. Living experiences that enhance citizen responsibilities, leadership and awareness of others.
 - c. Direct experiences; field math, creative writing, conservation, local history, etc.
 2. New instructional materials being produced: Yes. Revising 6th grade notebook. High school students - teacher/counselor notebooks.
- H. MATERIALS PRODUCED:
1. K-6: Student notebook (6th) covering arts and crafts, rocks and minerals, language arts, conservation, field math, botany, animals and birds.
 2. 7-12: 10-12 - Follows the same outline as the 6th grade notebook with additional counseling-work assignments.
 3. Others: Not answered.
- I. MATERIALS AVAILABLE FREE: None.

J. MATERIALS PURCHASABLE:

1. Student Notebook - Workbook. \$1.25.
 2. Counselor Notebook - Workbook. \$1.25.
 3. Teacher Notebook - Workbook. \$1.25.
 4. Films and slides are available on a loan basis.
- All materials are a cooperative effort between School District and High Trails Outdoor Education Center. Contact Paul H. Forister, 1115 N. El Paso, Colorado Springs, Colorado 80903.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:
 - a. Nature mobile.
 - b. Updating slides and films.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 37.
2. Number of teachers having adopted all of the project materials: 135.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 2,800 6th grade students plus 15,000 on Nature Wagon.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught: The course is taught at the camp. Introduction and followup is taught in the classroom.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Limited basis.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Yes.
 - d. Others: Nearby colleges offer off-campus outdoor education courses for credit - available to teachers in our district.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By parents, students participating, teachers/counselors, and high school student counselors.
2. Pertinent published research studies: Not answered.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1969 - 1,163 6th grade students.
2 classes special education.
62 classroom teachers.
252 high school students - 3 high schools.
7 one week sessions.

1970-71

2,000 6th grade students.
4 classes special education.
75 classroom teachers.
360 high school students - 3 high schools.
10 one week sessions.

1972 - 2,846 6th grade students.

440 H.S. Students - 4 High Schools.
134 classroom teachers.
13 one-week sessions.

P. PLANS FOR THE FUTURE:

High Trails Nature Wagon - Pre-school through 6th grade.
The High Trails Nature Wagon is an educational mobile unit displaying nature concepts to elementary students. It includes not only inside and outside displays which deal with such concepts as awareness, balance of nature, interrelationships, conservation and local history; but also contains kits which may be used in the classroom. There are a series of nature games for all levels and a reference library is always available.

In addition to providing the elementary students with these environmental experiences, the nature wagon provides leadership training for junior and senior high school students who serve as guides and teachers for the elementary students in the nature wagon.

- A. PROJECT TITLE: THE CULTURAL RELATIONSHIP OF MAN TO HIS ENVIRONMENT - PAST, PRESENT, FUTURE
- B. PROJECT DIRECTOR: L. L. Livingston, Route 1, Box 127, Delta, Colorado 81416. (303)874-4438
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Media-equipment facilities.
- D. PRINCIPAL STAFF: 1 person employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: Mr. M. C. Kreutz, Assistant Superintendent in charge of personnel and curriculum.
 2. Date and place of Initiation: September 1, 1971 - Joint School District No. 50.
 3. Overall project purpose: To show in perspective continuity the effect of man's culture on his environment and how man has adjusted to and utilized his environment to achieve his present day sophistication to the exclusion of proper environmental planning and control; and, how man might best make use of his environment in the future.
- F. PROJECT OBJECTIVES:
1. Grades K-6: Designed to identify, distinguish and demonstrate the cultural relationship between man and his environment over a continuum of time from primitive man to present society which will enable the student to describe orally and in written form his interpretation of man and his changing environment.
 2. Grades K-6: Designed to identify, develop and reinforce a positive environmental ethic which results in student demonstration of desired behavioral responses to simulated and real life situations requiring environmental judgement.
 3. Grades 7-8: Designed to analyze the physical and cultural environmental of Delta County as representative of the average rural western community through student centered projects wherein the students will be able to study and define a minimum of 70% of basic traits common to western rural America.
 4. Grades 7-8-9: Designed to demonstrate the interdependency of rural and urban citizenry upon one another as related to their respective environments wherein the students will compare the interchange of not less than 75% of the contributions between Delta County (rural) and Denver (urban) environment.
 5. Grades 10-11-12: Designed to enable the student to identify current environment problems in Delta County through field trips and meetings with local, state and federal agencies; and to work toward the ultimate solution of these problems through the study of approved environment procedures and practices and the construction of an environmental-action plan wherein major environmental problems are documented and possible solutions offered.

G. MATERIALS:

1. Materials produced:

a. K-6:

Eight media and instructional units developed around basic major stages of the cultural relationship between man and his environment - Grades 3-6.
Development of a total of 18 problem solving instructional units simulating environmental situations which require an ethical decision as part of the solution - Grades 1-6.

b. 7-12:

Development of a nine week study (45 hours) in Colorado History designed to analyze the physical and cultural environment of Delta County, and to demonstrate the interdependency of rural and urban citizenry upon one another as related to their respective environment.

c. Others: None.

2. Free materials available: None.

3. Materials produced that can be purchased: Not answered.

4. New instructional materials being developed: Yes. Grades 4-12.

5. Additional materials being developed: Simulation chamber capable of controlled temperature, humidity and light for use with instructional units listed in this questionnaire - section G.1.

6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 2.

2. Number of teachers having adopted all of the project materials: 7.

3. Number of teachers using some of the project materials: 24.

4. Total number of students using project materials: 430.

5. Totals stated are definite.

6. Names and locations of schools where the program materials are being used:

a. Paonia Elementary School, Paonia, Colorado 81428.

b. Hotchkiss Elementary School, Hotchkiss, Colorado 81419.

c. Hotchkiss High School, Hotchkiss, Colorado 81419.

c. Cedaredge Elementary School, Cedaredge, Colorado 81413.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. 2 days.

b. Summer Institute: No.

c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Forest Service Outdoor Educational Training Materials.

6. Teaching materials commercially available: Yes. U.S. Forest Service - Ron Grenwald, State of Colorado.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Development of a community advisory council organized into working committees, made up of individual citizens, students, Forest Service, Soil Conservation, County Planning Commission and municipal representatives.
2. Development of a core of twelve project teachers and two principals representing eight different schools, eighth grade levels, actively involved in instructional development and school and community activities.
3. The construction of instructional media and activities for all grade levels.
4. Development of four outdoor areas to be used for instructional activities.
5. Development of an environmental simulating chamber.
6. Development of a portable (D.C.) weather station capable of monitoring and recording wind speed and direction, air temperature, ground temperature, humidity, rainfall and water pH on a clock eimed schedule.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: BALARAT OUTDOOR EDUCATION CENTER
- B. PROJECT DIRECTOR: Kenneth W. Horn, 1521 Irving Street, Denver,
Colorado 80204. (303)266-2255
- C. PROJECT HEADQUARTERS:
1. 1521 Irving Street, Denver, Colorado 80204.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 12 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Kenneth W. Horn and the Denver Public Schools.
2. Date and place of Initiation: January 1969.
3. Overall purpose: To provide an interdisciplinary environmental education program for all the children of the Denver Public Schools.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3.
2. New instructional materials being produced: Yes. Grades K-12.
- H. MATERIALS PRODUCED:
1. K-6:
a. Field Guides for one-day experiences at the Balarat Environmental Center.
b. Evaluation sheet of one-day field experiences.
c. K-6 Environmental Education Packet for Urban Studies.
d. Earth Week Activities.
e. Brochure- "This is a Denver Public School Classroom."
2. 7-12:
a. Field Guides for one-day experiences at the Balarat Environmental Center.
b. Evaluation sheet of one-day field experiences.
c. Earth Week Activities.
d. Brochure.
3. Others: Newsletter, informational one-sheet handouts on a variety of outdoor education topics.
- I. MATERIALS AVAILABLE FREE:
All of those listed above except the One-Day Field Guide.
- J. MATERIALS PURCHASABLE:
1. "One-Day Field Guide" - \$1.75.
2. K-6 Environmental Education packet - \$1.50.
Both are available from: Department of Materials Control, Denver Public Schools, 414 Fourteenth Street, Denver, Colorado 80202.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:
 - a. A Four - Seasons Slide Presentation of the Montane Zone.
 - b. A Slide - Stereo Tape Presentation of One-Day Field Experiences.
 - c. Slide Presentation on How to Conduct Interdisciplinary Field Trips in the Urban Environment.
2. Development of other materials anticipated:
 - a. Curriculum guide for urban environmental studies through each subject discipline.
 - b. Curriculum guide for environmental experiences for the handicapped.
 - c. Curriculum guide for five-day resident school experiences.
 - d. Educational specifications for a five-day resident school program.
 - e. Environmental Education - Leadership Training program for high school students.

L. PROJECT IMPLEMENTATION:

This is not applicable because it is not a course of study for the schools. 30,000 pupils from 119 schools have made the one-day field trip to the Balarat Outdoor Education Center. Other materials are in preparation for use at the local school level.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 7 days.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 10 weeks.
 - d. Others: Compensated In-service programs - 18 hours in length over a period of five weeks titled "Urban Environmental Studies". Teachers are paid for attending.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. 1971-72:
 - a. 10,800 students K-12 for one day excursions, 8 classes special education.
 - b. 140 teachers for in-service education.
 - c. 300 high school students for special programs.
2. 1972-73:
 - a. 11,200 students K-12 for one day excursions, 8 classes special education.
 - b. 90 teachers for in-service training.
 - c. 66 high school students for special career education program.

P. PLANS FOR THE FUTURE:

1. Master planning with Architectural Master Planning Team for facility development of the Balarat Outdoor Education Center.
2. Curriculum development of multiple programs.
3. Further development of guides and curriculum for urban environmental study, K-12.
4. Pre-Laboratory and Post-Laboratory guides for one-day field experiences.
5. Community involvement and fund raising campaign through adult Balarat Council and Students for Balarat.
6. Expansion of the Students for Balarat Program.
7. Cooperation with the local County PTA for environmental studies programs in the schools.
8. Extension of the specially equipped buses for one-day field excursion program by the addition of two more buses, staff and alternate study sites.
9. Construction in progress for anticipated and operational programs at outdoor education site.

Q. ERIC DOCUMENTS:

The Balarat Center for Environmental Studies. A Report to the Board. Ed 033 778

- A. PROJECT TITLE: HUMAN AND NONHUMAN ECOLOGY SEMINAR
- B. PROJECT DIRECTOR: Daniel VanGorp, 2951 South Race, Denver,
Colorado 80210. (303)757-2822
- C. PROJECT HEADQUARTERS:
1. 9300 E. Union, Englewood, Colorado 80110.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Daniel VanGorp.
2. Date and place of Initiation: August 1969.
3. Overall project purpose: To study ecology, both mountain and urban, in a two-week remote site program.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To develop, through an interdisciplinary approach, an understanding of the types of interactions between man and the biotic and abiotic components of the environment and how man's behavior may influence natural and social problems.
2. New instructional materials being produced: Yes. Grades 10-12, as per above description.
- H. MATERIALS PRODUCED:
1. K-6: None.
2. 7-12: Curriculum guide, 8mm film and slides, tapes.
3. Others: None.
- I. MATERIALS AVAILABLE FREE:
Course outline, description of program.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Slides, 8 mm color film and tape.
2. Development of other materials anticipated: Student guides, curriculum materials, field activities for students.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 8.

3. Number of teachers using some of the project materials: 8.
4. Total number of students using project materials: 30-40.
5. Totals stated are definite.
6. Names and locations of selected schools where the course is being taught: Cherry Creek High School, 9300 E. Union, Englewood, Colorado 80110.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. $\frac{1}{2}$ day to 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Briefing sessions.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By students and teachers.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Workshop - Summer 1969: Science and social studies teachers.
2. Workshop - Summer 1970: Included students and teachers of science, social studies and art.
3. Seminar - Summer 1971.
4. September 1971: Weekend (to winterize cabin) - 22 students and 6 teachers.
5. Summer 1972 - 40 students (17 Pine Ridge Indians).
6. Summer 1973 - 31 students (Cherry Creek only), Indians were not granted release because of problems at Pine Ridge 1973. Students received $\frac{1}{2}$ credit.
7. Math and English have been added, for a multi-disciplinary approach.

P. PLANS FOR THE FUTURE:

Develop facilities in order to be winterized - students can spend a week in the mountains during the school year as an integral part of the curriculum - team teaching by staff members.

- A. PROJECT TITLE: JEFFERSON COUNTY-OUTDOOR EDUCATION LABORATORY SCHOOL
- B. PROJECT DIRECTOR: James R. Jackson, Rural Route 5, Box 451, Evergreen Colorado 80439. (303)674-3633
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Guided tour. Some facilities at nominal charge.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Curriculum Department, administration and teachers of elementary level.
 2. Date and place of Initiation: 1953 at Gamma Phi Beta Camp, Indian Hills, Colorado.
 3. Overall project purpose: Environmental education and life long recreational activities.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Teacher Guide.
 - b. 7-12: None.
 - c. Other: None at present - in process.
 2. Free materials available: None.
 3. Materials produced that can be purchased: Outdoor Education Guide - \$5.50. Purchase from: Outdoor Education Laboratory School, Jefferson County School District, Instructional Materials Center, 809 Quail, Lakewood, Colorado 80215.
 4. New instructional materials being developed: Yes.
 - a. Revision of Teachers Guide.
 - b. Student Leader Handbook.
 - c. Visitors leaflet.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 86.
 2. Number of teachers having adopted all of the project materials: Not answered.
 3. Number of teachers using some of the project materials: Not answered.
 4. Total number of students using project materials: 6,400.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Earle Johnson Elementary School, Golden, Colorado.
 - b. Swanson Elementary School, 6055 W. 68th Avenue, Arvada, Colorado.
 - c. Leawood Elementary School, 6155 W. Leawood Drive, Littleton, Colorado.

- d. Green Mountain Elementary School, 12250 W. Kentucky Place, Lakewood, Colorado.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 hours/quarterly.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. Quarterly basis.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers.
2. Pertinent published research studies: Not formally.

K. PROJECT SUMMARY:

Recognized by National Park Service as a National Landmark Monument.

L. PLANS FOR THE FUTURE: Not answered.

M. ERIC DOCUMENTS:

Outdoor Education Curriculum Guide, Grade 6. ED 024 484

- A. PROJECT TITLE: PROJECT D.I.S.P.E.R.S.E.
- B. PROJECT DIRECTOR: Dr. Harry O. Haakonsen, Southern Connecticut State College, New Haven, Connecticut 06515. (203)397-2101
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 3 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Harry O. Haakosen, Dr. Sigmund Abeles.
 2. Date and place of Initiation: January 1971.
 3. Overall project purpose: This project is designed to sensitize teachers to the environmental crisis. Teachers are exposed to audio-tutorial instructional units, simulation games, values laboratories and printed materials, which effectively deal with environmental issues. They in turn are trained in the use of these materials and in techniques for developing their own pedagogical devices.
- F. PROJECT OBJECTIVES:
1. Sensitize teachers to the magnitude of the "environmental crisis".
 2. Facilitate an attitudinal change toward environmental problems.
 3. Develop an awareness of the role teachers can play in re-orienting the attitude of children toward alleviating environmental pollution.
 4. Emphasize the multidisciplinary nature of environmental education.
 5. Introduce teachers to a broad spectrum of pedagogical devices that can be utilized in learning-teaching systems on environment. Techniques to be utilized include:
 - a. Audio-Tutorial materials.
 - b. Multi-media group presentations.
 - c. Simulation games.
 - d. Values laboratories.
 - e. Filmic experiences.
 - f. Use of printed materials.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Teacher training.
 - b. 7-12: Teacher training.
 - c. Other: Six Audio-Tutorial Units-Fundamentals of Environment, Population I, Population II, Air Pollution, Water Pollution, and Noise Pollution. Simulation Games - ABC's of Ecology, Econology Rally.
 2. Free materials available: Project description.
 3. Materials produced that can be purchased: None at this point.
 4. New instructional materials being developed: Yes. College level.

5. Additional materials being developed: Audio-Tutorial Units on major environmental concepts. Simulation Games.
6. Present commercial association: No.

H. MATERIALS IMPLEMENTATION:

300+ teachers are using some of our materials.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1½-2 day session.
 - b. Summer Institute: Yes. 6 weeks.
 - c. Evening classes: No.
 - d. Other: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Audio-Tutorial Units and Audio-Tutorial Training Materials.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By a project research team. This program published research as part of the evaluation.
2. Pertinent published research studies: Published material not available at this time.

K. PROJECT SUMMARY:

1. Teacher workshops have been held in seven states in the New England area for teachers who are involved in environmental studies teaching at the secondary and elementary school level.
2. At this point 300+ teachers have been involved in workshops and a large number of college students have been exposed to preliminary materials for the collegiate level.

L. PLANS FOR THE FUTURE:

We intend to develop a series of Audio-Tutorial materials for individualized instruction in environmental studies for college and high school students. These materials will be available through Project DISPERSE and ultimately through a commercial house.

- A. PROJECT TITLE: MINIGRANT WORKSHOP
- B. PROJECT DIRECTOR: Lawrence M. Schaefer, 625 Orange Street #38,
New Haven, Connecticut 06511. (203)787-1851
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: E-P Education Services.
 2. Date and place of Initiation: December 30, 1972.
 3. Overall project purpose: To promote environmental and population education in Connecticut.
- F. PROJECT OBJECTIVES:
1. To develop communications between secondary school teachers of environmental/population education from different school systems.
 2. To develop communications between elementary school teachers of environmental/population education from different school systems.
 3. To increase the use of problem-solving approach in environmental population education in Connecticut.
 4. To develop a continuing communication between teachers of environmental/population education in Connecticut.
 5. To stimulate teachers to develop curricular applications within their discipline, and among several disciplines.
 6. To demonstrate innovative teaching approaches including uses of audiovisuals, role-playing, simulation-gaming, problem-solving, as applied to environmental/population education.
 7. To promote an exchange of ideas on environmental/population education.
 8. To stimulate an exchange of ideas between teachers of different disciplines to promote interdisciplinary programs in environmental/population education.
- G. MATERIALS:
1. Materials produced: An Introduction to Population, Environment and Society - a teacher's resource manual (from previous project).
 2. Free materials available: None.
 3. Materials produced that can be purchased: An Introduction to Population, Environment, and Society - a teacher's resource manual. Available from: E-P Education Services, 625 Orange Street #38, New Haven, Connecticut 06511 - \$4.50/manual.
 4. New instructional materials being developed: Yes. Grades 5-12.
 5. Additional materials being developed: A resource manual based on a collection of materials the teachers bring to the workshop.
 6. Present commercial association: No.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 500.
2. Number of teachers having adopted all of the project materials: 200.
3. Number of teachers using some of the project materials: 300.
4. Total number of students using project materials: 6,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Amity Regional High School, Newton Road, Woodbridge, Connecticut.
 - b. Weston High School, 444 Wellesley Street, Weston, Mass. 02193.
 - c. Hopkins Grammar School, 986 Forest Road, New Haven, Connecticut.
 - d. Bristol Central High School, Wolcott Street, Bristol, Connecticut.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: See G.3.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers in pilot program.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

The teacher workshop are in their initial planning stages. They will not be held until March 1974. Location, speakers, printed material are in the planning stages. Contacts have been made with state colleges, state department of education, state department of environmental protection, teacher organizations to co-ordinate activities.

L. PLANS FOR THE FUTURE:

1. Curriculum development.
2. Teacher training.
3. Free resource loan library.
4. Free loan-film library.

- A. PROJECT TITLE: ELIOT PRATT EDUCATION CENTER
- B. PROJECT DIRECTOR: Daniel Hart, Paper Mill Road, New Milford,
Connecticut 00706. (203)354-3665
- C. PROJECT HEADQUARTERS:
1. Paper Mill Road, New Milford, Connecticut 00706.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Eliot Pratt Family, Title III funding.
2. Date and place of Initiation: 1968 - New Milford, Conn.
3. Overall project purpose: Environmental education and communication.
- F. PRESENT COMMERCIAL AFFILIATION: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To provide instruction in many areas of environmental education K-12.
b. To provide in-service education for teachers.
c. To provide pre-service education at local colleges.
2. New instructional materials being produced: Yes. Grades K-12.
- H. MATERIALS PRODUCED:
1. Beyond Your Classroom - "An Activity Guide."
2. Ecology Work Week Box - a multi-media kit.
- I. MATERIALS AVAILABLE FREE:
Occasional materials on environmental problems and educational techniques.
- J. MATERIALS PURCHASABLE:
Beyond Your Classroom - "An Activity Guide", available from center at \$5.00.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed:
a. A guide to planning local sites.
b. A movie on a case study environmental project.
2. Development of other materials anticipated: A series of publications on the Eastern Woodland Indians.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 50.
2. Number of teachers having adopted all of the project materials: 1,000.
3. Number of teachers using some of the project materials: 1,500.

4. Total number of students using project materials: Unknown.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. New Milford High School, New Milford, Conn. 00706.
 - b. Brookfield Schools, Brookfield Center, Brookfield, Conn.
 - c. Danbury Schools, Danbury, Conn.
 - d. Sherman Schools, Sherman, Conn.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 hours each.
 - b. Summer Institute: No.
 - c. Evening classes: Yes.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Beyond Your Classroom-"An Activity Guide".
 - b. Water Ecology Study.
 - c. Environmental Activities.
6. Commercial availability of materials: Are being negotiated.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES: Not answered.

P. PLANS FOR THE FUTURE:

We hope to open a teacher center.

- A. PROJECT TITLE: TALCOTT MOUNTAIN SCIENCE CENTER FOR STUDENT INVOLVEMENT
- B. PROJECT DIRECTOR: Donald P. LaSalle, Montevideo Road, West Hartford,
Connecticut 06107. (203)677-1359
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 10 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Donald LaSalle and George Atamamian, Assistant Director.
2. Date and place of Initiation: October 1967.
3. Overall project purpose: To educate students in grades K-University and make them aware of scientific thought and environmental ethics.
- F. PROJECT OBJECTIVES: See above.
- G. MATERIALS:
1. Materials produced: Environmental repair kit.
2. Free materials available: None.
3. Materials produced that can be purchased:
a. Complete Air Kit - \$100.00.
b. Complete Water Kit - \$100.00.
c. Complete Soil Kit - \$100.00.
d. All three kits purchased together - \$275.00.
Specific parts of each kit may be purchased separately:
a. Activity materials - soil, air, water - \$50.00 each.
b. Teacher's Guide - soil, air and water - \$5.00 each.
c. Activity cards - soil, air and water - \$5.00 each.
d. Film Loop - soil, air and water - \$20.00 each.
e. 35mm Slide sets (with description sheet) - soil, air and water - \$20.00 each.
f. Audio cassette (keyed to slide set) - soil, air and water - \$4.00 each.
4. New instructional materials being developed: Yes. Grades K-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 2 hours.

b. Summer Institute: Yes. $2\frac{1}{2}$ months.

c. Evening classes: Yes.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not answered.

6. Teaching materials commercially available: Yes. Talcott Mountain Science Center.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By teachers using materials.

2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

1. Aspires - a science program to inspire reading through environmental sciences. This will be done with underprivileged inner-city students.

2. We will be doing testing for geology, flora and fauna of a recreation area. This will be qualitative and quantitative.

We will discuss environmental impact from surrounding developments.

- A. PROJECT TITLE: DEVELOPMENT OF CURRICULUM MATERIALS FOR USE IN FORMAL AND NON-FORMAL EDUCATION ACTIVITIES
- B. PROJECT DIRECTOR: John F. Reiher, State Supervisor of Science and Environmental Education, Townsend Building, Dover, Delaware 19901.
(302)678-4885
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Our three resource centers.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Not answered.
2. Date and place of Initiation: October 1, 1972.
3. Overall project purpose: To provide teachers with environmental education activities.
- F. PROJECT OBJECTIVES:
1. To develop curriculum materials for use in both formal and non-formal educational activities in the State of Delaware.
2. To coordinate the implementation and dissemination of all environmental education programs for the K-12 levels of regular and special education programs in public and non-public schools.
3. To establish the monitoring machinery to carry out a needs assessment and evaluation program for environmental education in Delaware's public and non-public schools.
4. To encourage the development of programs and materials as indicated by individual district needs.
5. To serve as a clearinghouse for all projects submitted for federal, state, or private funding which serves the K-12 regular or special students in public and non-public schools.
6. To facilitate the activities of federal, state, private agencies, and/or associations concerned with environmental education.
7. To coordinate with the institutes of higher education and technical institutes as to programs provided for the professional educator.
- G. MATERIALS:
1. Materials produced: K-12.
a. Environment and You Series K-8.
Level I: K-1.
Level II: 2-3-4.
Level III: 4-5-6.
Level IV: 6-7-8.
b. Other: Activities Guide Booklet.
2. Free materials available: Curriculum Guide - while supply lasts.
3. Materials produced that can be purchased:
a. Environment and You Series - 100 transparencies and teachers guides for \$150.00.
b. K-6 Curriculum Guide - 200 activities for \$10.00.
c. Special Education Applicate - \$3.00 extra.
Available from: R. J. Brady, Bowie, Maryland.

4. New instructional materials being developed: Yes. Elementary level.
5. Additional materials being developed: Guide for marine science education.
6. Present commercial association: Yes. Robert J. Brady Co., Bowie, Maryland.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 100+.
2. Number of teachers having adopted all of the project materials: 2,000.
3. Number of teachers using some of the project materials: 2,000.
4. Total number of students using project materials: 100,000.
5. Totals stated are estimated. We only have 6,000 teachers in the whole state and 140,000 students.
6. Names and locations of schools where the program materials are being used:
 - a. Lake Forest North Elementary School, Felton, Delaware.
 - b. New Castle-Gunning Bedford School District, District Office, New Castle, Delaware.
 - c. De La Warr School District c/o District Office, New Castle, Delaware.
 - d. Laurel Elementary School, c/o District Office, Laurel, Delaware.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Depends on amount of time that can be provided.
 - b. Summer Institute: Yes. 4 weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Basic guide from Brady Company.
6. Teaching materials commercially available: Yes.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
2. Pertinent published research: Not published as yet.

K. PROJECT SUMMARY:

1. The Environmental Laboratory, located in the New Castle-Gunning Bedford School District, is in its third year of operation; primarily funded through E.S.E.A. Title III funds.
2. The Sea Beside Us, for the special child, will serve as the development center for environmental education programs which focus on the marine environment.

3. In light of the success of the Del Mod System, a number of programs have been developed in cooperation with local school districts.

4. Statewide in-service conferences for elementary school teachers were held in each county to orientate the elementary teacher as to what can be done in environmental education and what materials are available to teachers.

5. A community environmental awareness program was developed and funded through a grant from the United States Jaycees.

6. A newsletter for dissemination of materials that will be helpful for teachers has been developed.

7. Preparation of outdoor environmental classroom areas at each school in Delaware wherein students can obtain first-hand, direct, purposeful, and meaningful experiences related to examining the phenomena of nature.

L. PLANS FOR THE FUTURE:

The project had a good initial impact on the advancement of environmental education in the schools of Delaware. However, since funding was not continued for the coming year some of the activities that have begun will be terminated or severely limited. The operating budget of the office of Science and Environmental Education of the State Department of Public Instruction cannot handle as wide a dissemination of the curriculum materials and indexes as is needed. The newsletter will continue to be published in the same format.

M. ERIC DOCUMENTS:

1. Environmental Curriculum Materials, Level I (K-1). ED 073 928
2. Environmental Curriculum Materials, Level II (2-3-4). ED 073 929
3. Environmental Curriculum Materials, Level III (5-6). Ed 073 930
4. Special Education Master Key and Index for Environmental Curriculum Materials. ED 073 927

- A. PROJECT TITLE: POPULATION ENVIRONMENT PROJECT
- B. PROJECT DIRECTOR: Thomas S. Hounsell, 4031 Kennett Pike, Greenville, Delaware 19807. (302)654-5171 Ext. 45
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. A multidisciplinary outdoor laboratory K-4. A central access system for science, math and environmental education. An astronomy program K-8 (man and the Universe). In-service program in science and environmental education.
- D. PRINCIPAL STAFF: 1 director, 1 full-time secretary, 1 part-time secretary, and 3 part-time program coordinators.
- E. PROJECT HISTORY:
1. Principal originator: Thomas S. Hounsell.
 2. Date and place of Initiation: September 1969. 7th grade life science at the Alexis I. duPont Middle School.
 3. Overall project purpose: Our entire program is based on the individual in an effort to present his relationship, role, interaction and alternatives in a complex technological society. Through this approach we hope to change the focus of responsibility to the individual rather than mankind in general.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Infusing Population-Environment concepts into our District curriculum.
 - b. Modifying the emphasis in the curriculum to encourage individual responsibility.
 - c. Utilizing the immediately surrounding school property for multidisciplinary environmental study, coordinated with the total school program.
 - d. Developing youth camps away from the school property designed for the multidisciplinary study of the individual and his interrelationships with himself, mankind, and his environment.
 - e. Utilizing our community resources to exemplify population-environment problems as they affect us.
 - f. Developing models in population-environment education for implementation and dissemination both locally and nationally.
 - g. Cooperating fully with any school district or agency that expresses interest in our project.
 2. New instructional materials being produced: Yes. Present use K-8, intended use K-12.

E. MATERIALS PRODUCED:

1. K-4: Multidisciplinary approach to man and his environment as related to math, science and social studies.
2. K-7: Conceptual Guide to the Planetarium Program in the Alexis I. duPont School District.
3. K-12: Life Diary (pupils record of life in a changing community).
4. 7th grade: Multidisciplinary study of Cape Henlopen and Lewes, Delaware.
5. The adaptation of the SCIS program to our environmental education program K-4.
6. K-4: Man's Place in the Universe.
7. 5th: Energy Production (overnight experience).
8. 5-12: Community Planning.
9. 5-8: Man's Use of Leisure Time.
10. "PEP" Population environmental bulletin.
11. 7th: Full year course, Man and His Environment.
12. 10-12: Ecology, Environmental Measurement, Man and His Environment.

I. MATERIALS AVAILABLE FREE: A complete list of materials is available from the project office.

J. MATERIALS PURCHASABLE: The list of materials available from the project office includes the charges if any.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: Yes. Grades K-12.
2. Development of other materials anticipated: We have a continuing program designed to produce a continual flow of new materials.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 15.
2. Number of teachers having adopted all of the project materials: 40.
3. Number of teachers using some of the project materials: 200.
4. Total number of students using project materials: 4,000.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
 - a. Alexis I. duPont Middle School, Greenville, Delaware.
 - b. Henry B. DuPont Middle School, Hockessin, Delaware.
 - c. Greenville Elementary School, Greenville, Delaware.
 - d. Sanford School, Hockessin, Delaware.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 8 weeks.
 - b. Summer Institute: Yes. 8 weeks.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Teaching packets accompany all units listed in section G.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION

1. Has the effectiveness of the materials been evaluated: Yes. Teachers and administrators are continually in the process of evaluating our materials.
2. Pertinent published research: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

During the first two years of the project I was involved in the writing of a K-12 multidisciplinary curriculum in population environment studies. During this past year I have been working directly with the staff of the Alexis I. duPont School District. My efforts are concentrated primarily in the area of teacher education and the infusion of population environment curriculum materials and concepts into the existing school program. Through in-service work with teachers we have been able to design an activity oriented, controlled access system in the area of man and his environment as related to math, science and social studies. This system will be used in the elementary schools with possible extension through the 5th and 6th grades. I am also working with the upper level district faculty in an effort to educate the entire staff to the need for the integration of population environment related concepts into the existing structure. At the present time we have two courses concerning man and his environment, one in the middle school and one in the high school. In addition we are about to begin a course in environmental analysis also at the middle and high school levels. Our program is still in its infancy and it is undergoing constant change. Our current source of funding is the U.S.O.E.E..

P. PLANS FOR THE FUTURE:

We are presently running a developmental program with twenty teachers from four different school districts. This is supported by the U.S.O.E.E. Since all funds from this source will terminate by the end of this year, the future of this project and ones like it is somewhat questionable. However, I would anticipate the continuation of certain project activities on a local basis.

- A. PROJECT TITLE: OUTDOOR LABORATORY
- B. PROJECT DIRECTOR: Catharine Y. Bonney, 83 E. Main Street, Newark,
Delaware 19711. (302)731-2221
- C. PROJECT HEADQUARTERS:
1. West Chestnut Hill Road, Newark, Delaware 19711.
2. Special facilities or activities available for visitor viewing:
Yes. Trailer office with exhibits, nature trails.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Advisory Committee composed of staff and community.
2. Date and place of Initiation: February 1966.
3. Overall project purpose: This proposal will establish an Outdoor Laboratory consisting of nature trails to be developed within an existing park area. The program will include guided field trips, instruction, and the development of related materials for elementary and secondary school children in public and non-public schools within the area served by the Newark School District.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To enhance instruction by giving children experiences with flora and fauna in a natural setting where the children can explore natural phenomena for themselves, but in a structured situation.
b. To incorporate the acquisition of knowledge of the historical background of the center and its immediate surroundings as well as the scientific truths of the area.
c. To further an interest in conservation education through direct observation of the desired effects of recommended practices as compared with wasteful conditions that might result from poor control of natural forces.
d. To have access to a site where the ecology of natural communities can be preserved and studied.
e. To keep acreage in and around urban areas for showing representative samples of the native landscape.
f. To develop in all that use the facility an awareness and appreciation of nature along with a respect for living things.
g. To help promote a more active type of recreation through an on-the-site nature study with the hope that those who visit the center will make their leisure time more productive.
h. To provide a common ground where both public and non-public schools can work together toward the complete education of children who in many cases receive training from both organizations.

2. New instructional materials being produced: Yes. Grades K-5.

H. MATERIALS PRODUCED:

1. K-6: Curriculum Guide K-6.
2. 7-12: None.
3. Others:
 - a. Rittenhouse Park - Self-Guide.
 - b. Nature slides.
 - c. Tape - slide presentation.

I. MATERIALS AVAILABLE FREE: Rittenhouse Park - Self-Guide.

J. MATERIALS PURCHASABLE:

Curriculum Guide K-5 \$1.50.
Available from: Mr. Philip A. Toman, Director of Information Services, Newark School District, Newark, Delaware 19711.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: None.
2. Development of other materials anticipated: Tape-slide presentation.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 14.
2. Number of teachers having adopted all of the project materials: 280.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 5,087.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught:
 - a. R. Elisabeth Maclary School, St. Regis Drive, Newark, DE.
 - b. Joseph M. McVey School, Old Chestnut Hill Road, Newark, DE.
 - c. John R. Downes School, Casho Mill Road, Newark, DE.
 - d. Etta A. Wilson School, Forge Road, Newark, DE.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. The project has been evaluated by teachers who use the facility.
2. Pertinent published research studies: The evaluation is a part of the annual report.

O. PROJECT SUMMARY:

All students in grades K-5 in the Newark School District take part in the Outdoor Laboratory program. For the kindergarten child there are tours of the school grounds during the different seasons of the year. Children in grades 1, 2, 3, and 5 are bused to Rittenhouse Park for their learning activities in the out-of-doors. Grade 4 students are taken to the Iron Hill Museum to study exhibits representative of the natural history of the area. They also visit the nature trail surrounding the museum.

A nature center has been established at the R. Elisabeth Maclary School for use by students at that location. Other neighboring schools are invited to use this site also.

P. PLANS FOR THE FUTURE:

A committee is investigating the possibility of a Residence Camping program for all students in grade 5.

- A. PROJECT TITLE: POPULATION-ENVIRONMENT CURRICULUM STUDY
- B. PROJECT DIRECTOR: Dr. Robert W. Stegner, Dr. Val E. Arnsdorf,
University of Delaware, Newark, Delaware 19711. (302)738-2331
- C. PROJECT HEADQUARTERS:
1. University of Delaware, Newark, Delaware 19711.
2. Special facilities or activities available for visitor viewing: Curriculum Resource Center.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Robert W. Stegner, Dr. Val E. Arnsdorf.
2. Date and place of Initiation: Summer 1968. University of Delaware.
3. Overall project purpose: Teacher education and curriculum development in population-environment studies.
- F. PROJECT OBJECTIVES:
1. Objectives of the project: Teacher education and curriculum development in population-environment studies, K-12, multidisciplinary, problem-solving program for infusion.
2. New instructional materials being produced: Yes. Grades K-12.
- G. MATERIALS:
1. Materials produced:
a. Conceptual Scheme for Population-Environment Studies, Experimental Edition, revised 1973.
b. Bibliography of Popular Books on The Marine Environment and Wetlands Ecology.
c. A state plan for environmental education.
2. Free materials available: None.
3. Materials produced that can be purchased:
a. Conceptual Scheme for Population-Environment Studies, Experimental Edition, 1973 - \$2.50.
b. Bibliography of Popular Books on The Marine Environment and Wetlands Ecology - \$1.00.
4. New instructional materials being developed: A collection of teaching materials ("lesson plans") for population-environment studies.
5. Additional materials you anticipate developing: From the basic resource collection, we will produce discrete, separate courses of study, minicourses, and school-wide, multidisciplinary programs for population-environment education.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION: Not applicable at this time.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day.
 - b. Summer Institute: Yes. 6 weeks, full time.
 - c. Evening classes: Yes.
 - d. Others: None.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Teaching collection.
 6. Commercial availability of materials: Available only from Population Curriculum Study, University of Delaware, Newark, Del.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: In the process - by practicing teachers.
 2. Pertinent published research studies: None yet.
- K. PROJECT SUMMARY:
1. Educated about 400 teachers in population-environment studies.
 2. Produced: Sourcebook, Conceptual Scheme, Collection of Learning Experiences, Bibliography of Popular Books on The Marine Environment and Wetlands Ecology.
- L. PLANS FOR THE FUTURE:
1. Refinement and expansion of collection of learning experiences.
 2. Continued education of teachers.
 3. Dissemination of materials.
- M. ERIC DOCUMENTS:
- A Conceptual Scheme for Population-Environment Studies, Experimental Edition, Revised 1973. SE 016 920.

- A. PROJECT TITLE: DEVELOPMENT AND TRIAL OF INTERDISCIPLINARY SECONDARY SCHOOL ENVIRONMENTAL MATERIALS
- B. PROJECT DIRECTOR: James L. Aldrich, Senior Associate, Conservation Foundation, 1717 Massachusetts Avenue, NW, Washington, D.C. 20036.
(202)265-8882
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed, 2 part-time.
- E. PROJECT HISTORY:
1. Principal originator: James Aldrich, Conservation Foundation.
2. Date and place of Initiation: Applied to Office of Environmental Education for grant March 1, 1973; Project commenced June 1973.
3. Overall project purpose: To help meet the need for environmental education curriculum materials on the secondary school level.
- F. PROJECT OBJECTIVES:
Develop transdisciplinary, supplemental environmental case studies.
- G. MATERIALS:
1. Materials produced: In preparation: 3 case studies on water resources for use in high school environmental study programs.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. High school level.
5. Additional materials being developed: Teacher resource guides.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
All materials still in developmental stages.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. During the summer three regional conferences were held in Washington, D.C., Orlando, Florida, and Boston, Massachusetts. After review of the tapes from the conferences (in which environmentalists, teachers and students participated) topics were selected for the three areas. Each case study will focus on a separate aspect of water resources problems, with each drawing on the three areas, but using a different geographic site as the major example. This faceted approach will enable us to accent the many inter-relationships between land use, population, growth, etc.
2. We are now collecting and evaluating materials on the subject, researching specific problems in the three areas, and beginning

first-draft development of the curriculum materials. Our current timetable calls for completion of the materials by the first of the year (1974), ready for use in the schools in the early spring.

L. PLANS FOR THE FUTURE:

Preparation of additional case studies on environmental issues.

- A. **PROJECT TITLE:** NATIONAL AERONAUTICS AND SPACE ADMINISTRATION'S
EARTH RESOURCES EDUCATION PROGRAM
- B. **PROJECT DIRECTOR:** E. E. Collin, Deputy Director, Educational Programs Division/FE, National Aeronautics and Space Administration, Washington, D.C. 20546. (202)755-3572
- C. **PROJECT HEADQUARTERS:**
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. **PRINCIPAL STAFF:** Not answered.
- E. **PROJECT HISTORY:**
1. Principal originator: NASA.
 2. Date and place of Initiation: 1971 - Washington, D.C.
 3. Overall project purpose: See objectives - F below.
- F. **PROJECT OBJECTIVES:**
1. Provide understanding of the potential of Earth observations from space in such areas as agriculture, demography, forestry, geography, geology, hydrology, and oceanography.
 2. Provide understanding of the science underlying the process of Earth observations from space.
 3. Provide understanding of the means for interpreting the visual representations of the Earth from space.
- G. **MATERIALS:**
1. Materials produced:
 - a. ERTS, a one-sheet fold-over, which provides a brief explanation of the Earth Resources Technology Satellite (ERTS), America's first satellite specifically designed for study of the Earth's resources. Obtainable free from NASA Centers. Grade level: 7-12.
 - b. Skylab, NF-43, a multi-colored wall chart, with legends explaining the several types of experiments on Skylab, including those of Earth observations. 1972. U. S. Government Printing Office. \$.45. Stock No. 3300-0423. Grade level: 10-12.
 - c. Skylab Experiments: Remote Sensing of Earth Resources, EP-111, Vol. II, 1973. 83p. U. S. Government Printing Office, \$1.25. Stock No. 3300-00512. Grade level: 10-12.
 - d. Earth Resources Technology Satellite. Film. 1973. 16mm., 27½ min., Sd., Color. Cost \$11.50. Rental free, with charge for return postage and insurance. Available from NASA Centers. Grade level: 4-12.
 2. Free materials available: See 1.a.
 3. Materials produced that can be purchased: See above. All publications available from USGPO. More complete lists are available from NASA educational offices, located at:
 - a. NASA Ames Research Center, Moffett Field, California 94035.
 - b. NASA George C. Marshall Space Flight Center, Marshall Space Flight Center, Alabama 35812.

- c. NASA John F. Kennedy Space Center, Kennedy Space Center, Florida 32899.
- d. NASA Langley Research Center, Langley Station, Hampton, Virginia 23365.
- e. NASA Lewis Research Center, 21000 Brookpark Road, Cleveland, Ohio 44135.
- f. NASA Manned Spacecraft Center, Houston, Texas 77058.

- 4. New instructional materials being developed: Yes. A curriculum supplement leaflet on the nature and purposes of Earth observations from space. Being prepared in cooperation with the Northeastern Environmental Education Development System and the Talcott Mountain Science Center.
- 5. Additional materials being developed: Not answered.
- 6. Present commercial association: None. All publications available through USGPO.

H. MATERIALS IMPLEMENTATION: Not answered.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes. Through Educational Offices.
- 2. In-service education program for teachers using the materials: Yes. Courses and workshops.
- 3. Pre-service training program for teachers desiring to use the materials: No.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Not answered.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not as such.
- 6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

- 1. The National Aeronautics and Space Administration's Educational Programs with Headquarters in Washington, D.C., and eight field Centers has had since 1971 an Earth resources/environmental education program comprising publications and films, and also specialists for work in schools and classrooms, professional education conferences, and courses and workshops for pre- and in-service teachers.
- 2. Among services available are:
 - a. Speeches to conferences and workshops. Speakers may have background in teaching or in the science discipline.
 - b. Demonstrations and assistance to teachers in conducting activities which demonstrate how Earth resources/environmentment may be related to pupils' activities in the classroom. In connection with these activities, sheets with directions for the activities are distributed to teachers. The specialists who conduct activities are former classroom teachers with training in Earth resources.
 - c. Occasional directing of courses and workshops.
 - d. Talks to assembly hall and classroom groups.

L. PLANS FOR THE FUTURE: Not answered.

M. ERIC DOCUMENTS:

1. Skylab experiments: Remote Sensing of Earth Resources, Vol. II.
SE 016 465
2. Information for Teachers (Including Classroom Activities),
Skylab Student Project. ED 077 655

- A. PROJECT TITLE: A MODEL COMPREHENSIVE PROGRAM IN URBAN ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Ethel J. Hackney, Madison School, 10th and G Street N.E., Washington, D. C. 20002. (202)629-6511
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Resource Center being readied. Visitors may see student engaged in some of the components - water studies, outdoor classes, schoolsite improvement.
- D. PRINCIPAL STAFF: 7 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Ethel J. Hackney and Reuben G. Pierce.
 2. Date and place of Initiation: June 1972. Project began with a staff development session for four weeks during summer Project was housed in a classroom.
 3. Overall project purpose: To provide the mechanism for making environmental education a part of the everyday schooling of all of our students, K-12 and to reach out and touch the non-school population.
- F. PROJECT OBJECTIVES:
1. To produce environmental literacy in all of our students.
 2. To provide the background and impetus so that some students will seek careers in environmental management both through higher education and on-the-job training.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Activities Book K-6; Ecological News (these materials are in the draft stage.)
 - b. 7-12: Supplementary curriculum materials in: American Government, 10-12; Economics, 10-12; American History, 10-12; Sociology, 10-12; Social Studies, 7-9; General Science, 7-9; Home Economics 7-12; Business Education, 7-9; Health 7-9.
 2. Free materials available: No materials are available for distribution yet.
 3. Materials produced that can be purchased: None are available.
 4. New instructional materials being developed: Yes. Tapes and slides for grades 7-9 are being produced; development is continuing on materials listed above.
 5. Additional materials being developed: Pre-, on-site and post-site materials for use on environmental study tours which are regularly taken by students.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Materials are just now starting to be piloted.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes. For some.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-3 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The project began in June 1972. Since that time, it has made an impact on the D. C. School system in many areas.

1. Instructional materials have been developed in various subject areas which correlate environmental concepts with the existing curricula for grades K-12.
2. School site improvement projects were begun at a number of schools.
3. Trips to places of environmental interest were arranged for more than thirty-three thousand students.
4. A city-wide High School Environmental Education Alliance, made up of representatives of the high schools of the city, was organized and a wide variety of projects were initiated.
5. Multiple resources of many outside agencies and groups have been channeled through U.E.E.P. to the city's schools - trees for Arbor Day; Johnny Horizon clean-up kits; free posters, pamphlets, books; seeds, plants and technical advice.
6. In-service training workshops in environmental education have been provided for several groups of teachers - some of which carried graduate credit.

L. PLANS FOR THE FUTURE:

1. Mini-grants will be made to teachers to carry out projects of their choosing.
2. A module on environmental careers will be developed.
3. Project serves as an umbrella to coordinate activities, services and resources of the many agencies, groups and individuals to make them available to the schools. This will continue. For example: Many Federal agencies - Park Service, Geological Survey, Smithsonian Institution - make a variety of programs available to us. We contact the schools, help plan and carryout teacher workshops, help in developing necessary materials, schedule the classes in and do follow-up.
4. Curriculum materials will be developed in subject areas not yet covered.

- A. PROJECT TITLE: NATIONAL PARK SERVICE, NATIONAL CAPITAL PARKS,
LIGHTSHIP CHESAPEAKE
- B. PROJECT DIRECTOR: Thomas N. McFadden, Sr., 1200 Ohio Drive SW,
Washington, D.C. 20242. (202)426-6896 Ext. 97
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. A lightship as an historical ship, visitors view pilot house, radio room, weather station. For ecological purposes, an aquarium of aquatic life from the Potomac River, ecology and recycling displays, ship's laboratory for water analysis.
- D. PRINCIPAL STAFF:
- 14 Park Service personnel; the ship's crew is an Explorer Post of 18 members--weekends during school year, full time in the summer; graduate students (4) for 150 hours per semester for credit.
- E. PROJECT HISTORY:
1. Principal originator: Thomas N. McFadden, Sr. of the National Capital Parks, National Park Service.
 2. Date and place of Initiation: January 5, 1971.
 3. Overall project purpose: To allow students in the Washington D.C. metropolitan area--grade school, high school, university, and civic groups--the opportunity to investigate the interaction and interdependence of them with the river environment through a variety of extra-classroom activities.
- F. PROJECT OBJECTIVES:
- The program is carried out in a variety of ways:
1. Education: Through the on-going high school and grade school programs, special graduate study projects, and by making the Lightship available as a platform for citizens' groups activities.
 2. Recreation: By offering free instruction to adults and teenagers in canoeing and sailing, plus a less-academic version of the 6th grade school program as a "Fun Trip" for neighborhood center groups in cooperation with the Summer in the Parks program of the National Capital Parks.
 3. History and Interpretation: An Explorer Post operates and maintains the ship as an historical craft.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Through a cooperative effort of elementary resource teachers, National Capital Park education specialists, and the Lightship staff, a resource manual is provided for teachers to prepare their class for visits to the ship. The elementary program is tailored to the 5th and 6th grade level and is evaluated and revised at the end of each school year.
 - b. 7-12: A river study program is available for junior and senior high school groups and enables them to carry on in-depth studies in river ecology. All necessary equipment

and small craft are provided by the Lightship, and training sessions are held to introduce teachers to new techniques in sampling. The program is flexible allowing students to determine the direction of their study.

- c. Other: The Lightship is involved in compiling data for the Earth Resources Technology Satellite (ERTS), in cooperation with the graduate Biology program at the American University.
2. Free materials available: Copies of both elementary and high school resource material, and project outlines, publicity brochures of the Lightship project, workshop outlines. All are printed in limited quantities and are available on request.
3. Materials produced that can be purchased: As a result of a cooperative study with Oakridge Associated Universities, Oak Ridge, Tennessee the Lightship has produced kits for building noise and pH meters in school classrooms. A limited number are available for approximately \$30.00 (noise) and \$35.00 (pH). For information contact the Lightship, 1200 Ohio Drive SW, Washington, D.C. 20242.
4. New instructional materials being developed: Yes. Both elementary and secondary levels. Beginning to video tape field work studies and equipment handling techniques for secondary; orientation sessions for use in elementary classrooms prior to a class's visit.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 91 (elementary), 17 (high schools).
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 3,780 (elementary), 842 (high school).
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. McKinley Senior High School, Att. Mr. Baldwin, 2nd and T Street NE, Washington, D.C. 20017.
 - b. Crossland Senior High School, Att. Mr. Wheatley, Temple Hills and Allentown Roads, Camp Springs, Maryland 20031.
 - c. Bunker Hill Elementary, 14th and Michigan Avenue NE, Washington, D.C.
 - d. Charles Young Elementary, 24th and Benning Road NE, Washington, D.C.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 6 hours.
 - b. Summer Institute: Yes. Upon request. 1 day or seminar sessions.
 - c. Evening classes: Yes. Upon request. One or a series of seminar sessions.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not now. Anticipate developing such materials in the future.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Elementary School Program: 5th and 6th grade classes are aboard each weekday for first hand examination of environmental problems and discussion of possible solutions. Classes spend one day (10-2) aboard the ship. They ride in one of the small craft on the river, take water samples, weather observations, discuss man's effect on the historical changes that have taken place in the river. Back on board the class is divided into 'crews' that rotate through stations: hydrological cycle and weather; aquarium to study food chains and habitats of aquatic life; and the laboratory where they do a nitrate or phosphate test on the sample taken on the river, they discuss causes and possible solutions to the river's problems. Discussion on how they can have an effect on pollution. Each classroom teacher receives a resource manual to help in preparing her students for the visit to the Lightship.
2. High School Program - STEP (Students Toward Environmental Participation): Program is designed to give Washington, D.C. high school students the opportunity to examine in-depth an environmental system. The academic year 73-74 features a River Study which allows students a four part experience with different aspects of the river community. The Lightship furnished small craft and all equipment, plus instruction for equipment usage for both students and instructors. The students are required to compile an 'environmental impact statement' on their data collected which considers problems of the river, sources of those problems, and possible solutions.
3. College Students: Graduate and college students use Lightship small craft and laboratory facilities to supplement classroom work on environmental studies. The Lightship also participates in sampling the river in conjunction with the ERTS remote sensing overflights of the Potomac Watershed.
4. Sea Explorers: High school and college students spend their weekends during the school year and full time during the summer serving as the ship's crew. They receive a wide range of training in conjunction with their duties (navigation, electronics, welding, mechanics). They also act as interpreters for the National Park Service for visitors to the Lightship. Training also includes D.C. Fire Fighting School, Metropolitan Police Small Craft Safety School. A new Post for environmental studies has just been formed.
5. Recreational Programs: During the summer months the Lightship offers a less-academic version of the Lightship elementary program to neighborhood recreational and church centers. It is a part of

the National Capital Parks program "Summer in the Parks". Children are picked up and returned to their center by a Lightship bus. Lunches are provided, free of charge, through the Summer in the Parks program. The purpose is educational and recreational and provides urban children the opportunity to be a part of a nautical setting. Emphasis is on safety around the water. Children visit the ship's aquarium, do a chemical analysis on the water, participate in shore games (life jacket relay, ring buoy toss, tug-o-war). In the afternoon they take a boat ride and go to a nearby marina for more activities.

6. The Lightship sponsors free instruction in canoeing and sailing for urban children 12-18. Classes are of a two week progression--canoeing the first, sailing the second. Course also includes the Red Cross Small Craft Safety Orientation before each class begins. The equipment is made available to the Red Cross for free instruction to adults during evening hours, taught by Red Cross volunteers.

L. PLANS FOR THE FUTURE:

The forward hold (the bilge section) is being converted to a simulated submarine to be included in the elementary school program. Plans include portholes, behind which are aquariums with a water level that will rise and fall, use of movie clips and tapes to allow students to "see" the kind of life that lives beneath the surface of the river. Lightship staff member will serve as captain of the crew, but each student will have an individual console with instruments making him responsible for some aspect of the "cruise", i.e. radarman, communications officer, engineer. The top hatch will fill with water and students will get the illusion that they are actually dropping out of the bottom of the ship for a trip under water.

M. ERIC DOCUMENTS:

Elementary Teacher's Resource Manual, 1973-74. SE 016 952

- A. PROJECT TITLE: CRITICAL SEEDING AND STABILIZATION - PHASE II
- B. PROJECT DIRECTOR: Mrs. Irene Morris, 1918-43rd Street, N.W.,
Washington, D.C. 20016. (202)363-1743
- C. PROJECT HEADQUARTERS:
1. 10th and Monroe Streets, N.E., Washington, D.C. 20017.
(202)629-7771
 2. Special facilities or activities available for visitor viewing: Schools grounds, science room and each classroom of the school.
- D. PRINCIPAL STAFF: 6 classroom teachers.
- E. PROJECT HISTORY:
1. Principal originators: Irene Morris, Science Resource Teacher and the children of Brookland Elementary School.
 2. Date and place of Initiation: October 1, 1971 - Brookland Elementary School.
 3. Overall project purpose: Environmental education - ecology - awareness of where we work, play, and learn.
- F. PROJECT OBJECTIVES:
1. What is Ecology? Conservation? Environment?
 2. What are Seeds Grass? Ornamental Plants?
 3. Pollution.
 4. Why is soil important to all? Water?
 5. What can we do to help all preserve the land, water and plants?
 6. How to reseed and maintain our school grounds?
- G. MATERIALS:
1. Materials produced: Two books sent to D.C. Beautification Awards Program, and the Presidents Environmental Merit Awards Program. Books included pictures and writeups of our projects, indoor and outdoors. Bulletin boards, displays showed how math was used - language arts and social studies. Poems were written by the children of Brookland Elementary School.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Grades K-6.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 2.
 2. Number of teachers having adopted all of the project materials: 6.
 3. Number of teachers using some of the project materials: 3.
 4. Total number of students using project materials: Not answered.
 5. Totals stated are definite.
 6. Names and locations of schools where the program materials are being used:
 - a. Brookland Elementary School, 10th and Monroe Streets, N.E., Washington, D.C. 20017.

- b. Webb Elementary School, Mt. Olivet Road and Holbrook Place, N.E., Washington, D.C.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3-5 days depending on the needs of the teachers.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Science Curriculum Improvement Study materials. SCIS.
 - b. Science - A Process Approach. SAPA. Irene Morris.
6. Teaching materials commercially available: Yes.
 - a. SCIS - Rand McNally and Company.
 - b. SAPA - Xerox published and distributed by Xerox Education Division.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Mr. Ernest Moody, USDA - Soil Conservation Service; Mrs. Mary Harbeck, Assistant Director Science Department, D.C. Public Schools; Mrs. Hollie Chapman, Acting Director Science Department, D.C. Public Schools.
2. Pertinent published research studies:
 - a. District of Columbia - Beautification Congress - "Ecology Begins at Home" - May 5, 1973.
 - b. President's Environmental Merit Awards Program.

K. PROJECT SUMMARY:

We have cleaned, raked and re-seeded, stabilized our school lawns - planted another tree and added a bed of snapdragons edged with zinnas. Balsams were planted as well. We continued our poetry, along with displays and bulletin boards. Added more terraria and learned about the care of pets. We continued individual projects - ECOLCGY. Other resources have been invited into the building.

L. PLANS FOR THE FUTURE:

We are looking forward to moving into a new building - open space - open education. I have asked Building and Grounds to please permit the children to do most of the landscaping. We will do all the planting for the various centers of the schools as well as the wet areas. I hope to have many individual projects existing during the above school years. I am also hoping to get more community support. I want to extend my program to a more comprehensive study of Man and His Environment - What To Do and Not To Do.

A. PROJECT TITLE: WAR ON RATS

B. PROJECT DIRECTOR: James E. Murphy, 1114 9th Street, N.W., Washington, D.C. 20001. (202)629-5447

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Visitors are allowed to see the laboratory facility where the poison is mixed and prepared. There is also an educational trailer known as the "Ratmobile" which is situated in various locations in the community.

D. PRINCIPAL STAFF: 89 persons are regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Department of Public Health, Department of Sanitary Engineering, and the Department of Economic Development. The Department of Sanitary Engineering and a portion of the Department of Public Health merged and became the Department of Environmental Services.
2. Date and place of Initiation: June 30, 1969.
3. Overall project purpose: To improve the environment by reducing the rat infestation.

F. PROJECT OBJECTIVES:

1. To provide new opportunities in jobs offering useful, meaningful employment.
2. To encourage city dwellers to improve their own environment, thereby helping to remove the causes of rats.
3. To improve the services to residents which would support and strengthen their efforts to help themselves.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Texts: Rat Attack; Rats (4th, 5th, and 6th grades); lesson plans for teachers are available.
 - b. 7-12: Films and brochures. Films include Minus One, The Norway Rat (produced for WOR Project in Washington, D.C.), It Must Be the Neighbors, Home Sweet Home, etc.
 - c. Other: Prepared tests and War on Rats litterbags are also available.
2. Free materials available: All materials such as pamphlets, brochures and posters, etc. are free. Brochures include "Do Your Own Thing", and "A Rat That Failed". These are produced by the Department of Environmental Services, Environmental Health Administration, War on Rats Project.
3. Materials produced that can be purchased: The publications "Rats" and "Rat Attack" can be purchased from UCOM Educational, Inc., 907 Culver Road, Rochester, New York 14609.
4. New instructional materials being developed: No. The Project is not presently producing any new instructional materials. Brochures and a film designed especially for the Project are already in use.

5. Additional materials being developed: Not answered.
6. Present commercial association: Yes. UCOM and Media Learning.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 50.
2. Number of teachers having adopted all of the project materials: 400.
3. Number of teachers using some of the project materials: Not applicable.
4. Total number of students using project materials: 10,400.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Savoy Elementary School, 2400 Shannon Place, S.E., Washington, D.C.
 - b. Rabaut Junior High School, North Dakota and Kansas Avenue, N.E., Washington, D.C.
 - c. Logan Elementary School, 3rd and G Street, N.E., Washington, D.C.
 - d. Peabody Elementary School, 5th and C Street, N.E., Washington, D.C.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Rat Control lesson plans are available.
6. Teaching materials commercially available: Yes. UCOM.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the Bureau of Community, Environmental Management.
2. Pertinent published research studies: Not applicable.

K. PROJECT SUMMARY:

1. Operation Clean Sweep collected more than 25,000 tons of trash and debris over and above the routine collection service during an eleven week period in August 1971.
2. A city-wide survey of rat infestations was made by the War On Rats program in conjunction with Operation Clean Sweep.
3. The Ratmobile is a unique environmental health educational trailer that has proven to be successful by itself, as well as when used in combination with other motivational methods to carry the program to the community.

4. Thirty-eight employees completed forty or more hours of college credit work in a program designed by the Washington Technical Institute to meet the ever increasing needs of manpower in Environmental Health.

L. PLANS FOR THE FUTURE:

The project is continuously expanding its target area. This will mean that more residents, schools, community groups and organizations will be contacted throughout the City in an effort to reduce the overall rat infestation.

M. ERIC DOCUMENTS:

1. Rats - Rat Control Lesson Plan for Fourth, Fifth, and Sixth Grades. SE 016 964
2. War On Rats, 1972, Progress Report. SE 016 963

- A. PROJECT TITLE: ENVIRONMENTAL ACTIVITIES
- B. PROJECT DIRECTOR: Bart Truesdale, 1100 Ohio Drive, National Capital Parks, Washington, D.C. 20242. (202)282-7020
- C. PROJECT HEADQUARTERS:
1. 3545 Williamsburg Lane, Washington D.C. 20242.
 2. Special facilities or activities available for visitor viewing: Yes. The Klinge estate, built in 1820, is a historic park site, located on several acres of in-city parkland, just above Rocky Creek Park.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Marley Thomas and Bart Truesdale.
 2. Date and place of Initiation: 1970 Washington D.C.
 3. Overall project purpose: To present environmental education materials to teachers, children, community leaders, and other park service personnel.
- F. PROJECT OBJECTIVES:
1. To introduce an environmental approach to learning.
 2. To utilize our historic building in environmental studies, and to involve participants in a renewed appreciation of park lands.
- G. MATERIALS:
1. Materials produced:
 - a. 3 silk screen stories about environment.
 - b. An environmental feltboard story.
 - c. 5 slide shows demonstrating the social, natural, and built features of our environment.
 - d. A series of environmental theater games.
 - e. A city planning game.
 - f. Enviroblocks.
 - g. A puppet show.
 - h. A plant workshop presentation.
 - i. Make a terrarium.
 - j. Several activities that are arts and crafts related.
 2. Free materials available:
 - a. Follow up lesson plans and Greenscene Book.
 - b. Background materials on Expand Program.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. For children and adults.
 5. Additional materials being developed: We hope to have full curricula for our workshops shortly.
 6. Present commercial association: None. Our materials such as the Greenscene Book on care and maintenance of household plants is printed by the National Park Services through the Government Printing Office.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 12.
 2. Number of teachers having adopted all of the project materials: 4.

3. Number of teachers using some of the project materials: 50.
4. Total number of students using project materials: 24,000 were exposed to our materials last year in the D.C. schools.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used: We are not currently in the schools and have no record of what materials are in use.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 hours to all day.
 - b. Summer Institute: Yes.
 - c. Evening classes: No. Probably Saturday morning class - 3 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. We have suggestions for easily obtainable materials for teachers.
6. Teaching materials commercially available: Yes. Write to Environmental Activities, National Park Service, 1100 Ohio Drive S.W., Washington, D.C. 20242.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers, administrators, children, and us.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

The Expand program, initially developed for the Anocostia area of Washington, D.C. consisted of curriculum for the natural, built and social environment. The Expand program from September 1972 to July 1973 was demonstrated for three weeks in each of eight elementary schools. The grade levels were from K-6th. Broken down into three phases, phase I consisted of forty-five minute sessions which functioned as an introduction to environment. Each of the seven staff members had three classes per morning. Phase II was more indepth for the 4-6th grades. Each session was three hours per class. This also lasted one week. Phase III for 4-6th grade lasted one week, three hours per day, where one class got only the natural, built or social environment.

The Greenscene program, also part of environmental activities, has a plant extension number - (202)282-7080 - for people having problems with plants, lawns, trees and soil.

L. PLANS FOR THE FUTURE:

Currently we are operating daily workshops on various aspects of environmental education including teaching techniques and concepts. The workshops are designed for park personnel, teachers, and community groups. One week a month we are doing outreach into the schools and local communities.

- A. PROJECT TITLE: DESOTO ENVIRONMENTAL LEARNING LABORATORY
- B. PROJECT DIRECTOR: John A. Reynolds, P.O. Box 820, 420 East Gibson Street, Arcadia, Florida, 33821. (813)927-3001
- C. PROJECT HEADQUARTERS:
1. 420 East Gibson, Arcadia, Florida 33821.
 2. Special facilities or activities available for visitor viewing: Yes. A forty acre tract of wooded land with several characteristic Florida habitats, including slash pine-Saw Palmetto, Hardoo Hammock, and fresh water ponds.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mrs. Susie W. Brewer, Former Principal - DeSoto Middle School, John A. Reynolds.
 2. Date and place of Initiation: Funded January 1, 1972.
 3. Overall project purpose: To create an awareness of the environment and its interrelationship with man.
- F. PROJECT OBJECTIVES:
1. To increase student awareness of the inter-relationship and inter-dependence between man and his environment.
 2. To provide a relevant change in student behavior, resulting in a more positive attitude toward the students environment.
 3. To provide the student with a basic foundation of knowledge in the science of ecology.
 4. To provide the student with specific knowledge of the ecosystems that exist in his home environment.
 5. To implement a change in over-all students attitudes towards learning by making the learning experience more relevant to the world in which the student lives.
 6. To demonstrate the effectiveness of the "hands-on" experience provided by the Environmental Learning Laboratory, as compared to normal classroom presentations of highly simular materials.
 7. To increase the level of specific ecological knowledge, and the general awareness of the importance of the subject in the entire teaching staff of the school, with special emphasis on conditions in the local environment.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: Programmed Packet.
 - c. Others: None.
 2. Free materials available: The above packet.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. For 6th through 8th grades.
 5. Additional materials being developed:
 - a. A video tape of the program (if technical difficulties can be eliminated).
 - b. An 8 mm movie of students engaged in various environmental education activities.

- c. Additional packets covering the Pine-Palmetto Community, the Live Oak Hammock, and the Pond.

H. MATERIALS IMPLEMENTATION:

All students in the DeSoto Middle School are using the materials.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs:
 - a. Workshop: No.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not at this time.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By D. E. Scott and Joan Burr, Educational Psychologists, Psychology Departments of Florida Technological University, Orlando, and University of Tampa.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

Since January 1973 students have been bused from DeSoto Middle School in groups of 30 to 40 students to the Environmental Learning Laboratory, ten miles away. They spend two weeks studying in the field. Through the use of the "Shady Oaks Ecology Treasure Hunt" packet, actual field experience in the different biotic communities found at the Laboratory, and additional field trips to the county and city dumps, the Arcadia Water and Sewage Treatment Plants, and the flood plain of Peace River, they learn about general ecological principles; the common flora and fauna; ecological problems and possible solutions to these problems.

In addition to student activities staff teachers made three in-service visits. The first to Natures Classroom in Hillsborough County, Tampa, Mr. Henry Verges, Principal. The second to Myakka State Park, and Oscar Sherrer State Park with State Park Naturalist Ken Alvarez, to study plant communities in these parks and to gain insight into the work of an interpretive naturalist. The third to Archbold Biological Station to study the plant communities there, and to see an ecological research station in action and get an overview of their research activities.

L. PLANS FOR THE FUTURE:

Additional activities for students who have taken part in the initial experiences at the laboratory will include more indepth studies of the various biotic communities found at the Environmental Learning Laboratory, plus more in-service visits by personnel

to points of ecological interest, such as other environmental education projects as well as marine laboratories and other organization involved in ecological research.

A. PROJECT TITLE: BROAD SPECTRUM ENVIRONMENTAL EDUCATION PROGRAM

B. PROJECT DIRECTOR: Dr. Clair W. Bemiss, 705 Avocado Avenue, Cocoa,
Florida 32922. (305)636-6543

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Center for Environmental Education and Research Library.

D. PRINCIPAL STAFF: 8 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Brevard County School Board.
2. Date and place of Initiation: July 1971.
3. Overall project purpose: To provide environmental education materials in all sixty-eight elementary and secondary schools in the county. A full course in Ecology (elective) is also presented in 21 Junior and Senior High Schools.

F. PROJECT OBJECTIVES:

The long-range objective of this project is to produce materials which will resolve critical learner needs in the area of environmental education. These needs have been previously identified as the:

1. Development of values necessary for the adoption of suitable behavior toward the environment.
2. Employment of techniques of acceptable social inter-action which may lead to environmental problem resolution.
3. Acquisition of knowledge and understanding of the inter-relationships of both natural and man-made aspects of the environment.
4. Motivation to directly participate in solving environmental problems.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Supplementary Resource Guide in Environmental Education for Elementary Teachers; Environmental Learning Packets (primary set - 58 cards, intermediate set - 62 cards).
 - b. 7-12: Teachers Curriculum Guide in Field Ecology, (with supplement); Economic/Moral Aspects of Environmental Education; Political/Legal Analysis of the Environment; Community Resources Usage for Environmental Improvement; Social Aspects of the Environment.
 - c. Other: Four additional units for 7-12 have been produced and are currently being evaluated in the classroom. They will not be available until Spring 1974. They are all concerned with Man's Impact on the Environment.
 - Unit 1 - The City as an Ecosystem.
 - Unit 2 - The Barrier Beach as an Ecosystem.
 - Unit 3 - The Estuary as an Ecosystem.
 - Unit 4 - The Freshwater Marsh as an Ecosystem.
2. Free materials available: Please write.

3. Materials produced that can be purchased: Availability of materials for purchase uncertain at this time. Dissemination and export subject to validation review Spring 1974.

4. New instructional materials being developed: Yes. Grades K-12.

5. Additional materials being developed: Additional elementary packet units and secondary ecology resource units.

6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 36+.

2. Number of teachers having adopted all of the project materials: 48.

3. Number of teachers using some of the project materials: 168+.

4. Total number of students using project materials: 2782.

5. Totals stated are definite.

6. Names and locations of schools where the program materials are being used:

a. Merritt Island High School, 100 E. Lucas Road, Merritt Island, Florida 32952.

b. Johnson Junior High School, 2155 Croton Road, Melbourne, Florida 32935.

c. Lewis Carroll Elementary School, Skyline Blvd., Merritt Island, Florida 32952.

d. Freedom 7 Elementary School, 400 Fourth Street, South, Cocoa Beach, Florida 32931.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. 1 day.

b. Summer Institute: No.

c. Evening classes: No.

d. Other: Periodic in-service meetings to discuss progress, problems or schedule field trips - usually $\frac{1}{2}$ -1 full day.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Through formal testing in eleven senior high schools in a program designed by Dr. Edward Shirkey of Florida Technological University.

2. Pertinent published research studies: Preliminary evaluation by teachers and students in a trial testing period.

K. PROJECT SUMMARY:

1. First year of project - July 1971 to June 1972: Initially we had nearly 2500 ecology students, enrolled in 68 classes, in 19 junior and senior high schools being taught by 24 full-time teachers.

This was the first full-time course in ecology offered in any school system in the State of Florida. Since that time it has grown to approximately 3200 students.

2. During the current year, materials for the elementary grades were produced and are being tested by sixty-seven teachers in eleven schools.

3. In addition, due to the request from the State of Florida Director of the Bureau of Environmental Education, complete sets of the multi-disciplinary materials were forwarded to each school system in the sixty-seven counties and an additional thirty-two senior Catholic high schools.

L. PLANS FOR THE FUTURE:

Refinement of inter-disciplinary materials currently undergoing evaluation testing and production of some new materials during this, the last year of the project.

M. ERIC DOCUMENTS:

1. Supplemental Resource Guide in Environmental Education for Elementary Teachers. ED 065 353.
2. Teachers Curriculum Guide for Field Ecology, Revised Edition. ED 067 299
3. Teachers Environmental Resource Unit: Consumer Resources Idea Handbook. ED 067 300
4. Teachers Environmental Resource Unit: Industry: Iron/Steel and Pulp/Paper. Ed 067 301
5. Teachers Environmental Resource Unit: The Automobile. ED 067 302
6. Teachers Environmental Resource Unit: Energy and Power. ED 067 303
7. Social Studies Resource Units. ED 067 304
8. The Curious Entanglement of Law, Politics, and the Environment. ED 068 339

- A. PROJECT TITLE: MARINE SCIENCE STATION
- B. PROJECT DIRECTOR: Patrick J. Purcell, P.O. Box 1258, Crystal River, Florida 32629. (904)795-4393
- C. PROJECT HEADQUARTERS:
1. Highway 44 West, Crystal River, Florida 32629.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 10 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Bill Hilliard.
2. Date and place of Initiation: March 1967.
3. Overall project purpose: To add to and enrich the educational and cultural opportunities of the area, through an emphasis on natural environments. the marine environment in particular.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To promote an understanding of the importance of existing natural environments, including the seas and estuaries.
b. To introduce everyone to the marine environment and to stimulate interest in the environmental sciences.
2. New instructional materials being produced: Yes.
- H. MATERIALS PRODUCED:
1. K-6: Handbook for Elementary Teachers.
2. 7-12: Handbook for Secondary Teachers.
3. Others: Student Field Guides.
- I. MATERIALS AVAILABLE FREE:
1. Abstract "They Go Down To The Sea . . . To Study".
2. Handbook for teachers.
3. Fauna list of vertebrates.
- J. MATERIALS PURCHASABLE: Field Guides.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 45+.
2. Number of teachers having adopted all of the project materials. 300+.
3. Number of teachers using some of the project materials: 300+.
4. Total number of students using project materials: 10,000 /yr.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
a. Forest High School, Ocala, Florida.

- b. Mt. Dora High School, Mt. Dora, Florida.
- c. Invernes Middle School, Invernes, Florida.
- d. Crystal River Primary School, Crystal River, Florida.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 week.
 - b. Summer Institute: Yes. 1 week.
 - c. Evening classes: No.
 - d. Others: All workshops are Audubon sponsored.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: Yes.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the State Department of Education.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. During the year groups from kindergarten through the university and various adult groups visit the Marine Science Station for one-day field trips.
2. The basic program during the academic school year consists of conservation camp visits by intermediate pupils. An intermediate class, with the home teacher, spends a full week at the station, studying aquatic, estuarine and marine environments.

P. PLANS FOR THE FUTURE:

Continuation of program.

- A. PROJECT TITLE: MODEL STRATEGY FOR AN EFFECTIVE ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: William Hammond, 2266 Second Street, Fort Myers, Florida 33901. (813)334-1983
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 9 persons employed full-time, 2 part-time.
- E. PROJECT HISTORY:
1. Principal originator: William Hammond.
 2. Date and place of Initiation: June 1963.
 3. Overall project purpose: Develop and implement a total K-Community environmental education program.
- F. PROJECT OBJECTIVES:
- There are 58 major project performance objectives relative to item E-3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6:
 - Mud Flat Field Guide - Grade 3.
 - Clean Water--Dirty Water - Grade 4.
 - Trees--Things of Value - Grade 5.
 - Shady Oaks Ecology Treasure Hunt - Grade 6.
 - Who' Who on the Beach - Grade 6.
 - Environmental Concept Units - Middle School Grades.
 - Interrelationship--Man, Environment, Problems, Water.
 - Interdependence of Plants, Animals, and Man.
 - Heredity and Environment Interact.
 - Agent of Change--We Affect Our Environment.
 - Environmental Education Interdisciplinary Concepts and Activities Guides. These guides have been written for specific grade levels ranging from grade one through grade eight.
 - Producers-Consumers-Decomposers - Grades 4-6.
 - b. 7-12:
 - Why is a Beach a Beach - Grade 7.
 - How to Make It in a Bird's World - Grade 7.
 - Downtown - Grade 8.
 - Beaches in Motion - Grade 9.
 - Succession--Beauty in Change - Grade 10.
 - What is a Tree Worth to You? - Grade 8-12.
 - Key to the Local Amphibians and Reptiles - Grades 6-12.
 - Key to the Trees of Lee County - Grades 6-12.
 - Interdisciplinary Units--Values in Conflict - Grade 9.
 - Language Arts, Math, Science, Social Studies.
 - Life in the Sea - Grade 7.
 - Types of Aquatic Life - Grade 7.

c. Other:

Field Studies Planning Guide - all teachers.
"Environmental Alert" - monthly publication.
Resource Guide.
Investigating Water Quality.
Little Johnny Raindrop - a short poem that is presented
by the students as a play.
Teachers Environmental Resource Unit: The Automobile.
Synopsis of Lee County Environmental Problems.

2. Free materials available: Single copies of any listed project materials.
3. Materials produced that can be purchased: Multiple copies of all project materials are available from the Lee County Environmental Education Center. Prices being established.
4. New instructional materials being developed: Yes. K-12 and community.
5. Additional materials being developed:
 - a. School campus teaching guide.
 - b. Community topics of interest pamphlet series - 4.
 - c. 25 student learning activity modules - Grades 1-12.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 36.
2. Number of teachers having adopted all of the project materials: 500.
3. Number of teachers using some of the project materials: 1,200.
4. Total number of students using project materials: 24,000.
5. Totals stated are estimated (2 and 4), definite (1,3, and 5).
6. Names and locations of schools where the program materials are being used:
 - a. Lehigh Elementary School, 200 School Way Court, Lehigh Acres, Florida 33936.
 - b. Bayshore Elementary School, Williams Road, N. Fort Myers, Florida 33903.
 - c. Cypress Lake Middle School, Cypress Lake Drive, Fort Myers, Florida 33901.
 - d. Fort Myers Senior High School, 2635 Cortez Blvd., Fort Myers, Florida 33901.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes. On a cooperative basis with University of Southern Florida.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. During school year, single days.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 3 classes - 1 semester each.
 - d. Other: Teacher self-training modules have been created for field in-service program.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Four "how to do it" pamphlets in preparation. We utilize the curriculum materials, Interdisciplinary Guides, etc. for teacher training.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Partially. By Dr. Lehman Barnes - Florida State University, and Lee County Schools.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. The Project has been concerned with developing and implementing a model strategy for environmental education programs which can be practically implemented in typical school systems.
2. A major focus of project activities has been centered on developing a K-12 set of environmental education interdisciplinary curriculum materials and supplemental A.V. materials which all integrate into existing curricula.
3. In addition an innovative on and off campus field studies program has been developed for all levels. The field program utilizes innovative locally developed semi-programmed field guides which serve as the teaching base for the student activity-centered learning.
4. Practical teacher in-service activities including self training modules in environmental education have been produced and implemented.
5. The program has addressed itself to community needs and action, community funding of programs, developing new evaluation especially in the attitudinal, affective domain and the behavioral activity of students. The Project Staff has participated as speakers and instructors in many state and national workshops and conferences as part of a national dissemination effort.
6. The Project has synthesized many major environmental education activities into a comprehensive program which is constantly being expanded and implemented.
7. The program is presently funded by Title III ESEA (3rd yr.), Office of Environmental Education (Dissemination Grant), the Lee County School System, and community organizations.

L. PLANS FOR THE FUTURE:

1. Continuation of environmental education curriculum materials development at all levels but with a particular emphasis of high school programs that are action oriented.
2. Additional audio-visual materials will be developed for both school and community utilization.
3. Expansion of the community involvement and funding effort will be pursued.
4. Continued development of environmental teaching areas on each school campus as part of a county wide community park system.
5. Development of off campus live-in environmental centers will be undertaken if present pilot efforts prove desirable.
6. Expansion of technical assistance services to other educators wishing to utilize Lee County programs will be provided.

7. Continued development and investigation of evaluation instruments and techniques in environmental education.

- A. PROJECT TITLE: ENVIRONMENTAL STUDIES CENTER
"CURRICULUM MODIFICATION THROUGH ENVIRONMENTAL STUDIES"
- B. PROJECT DIRECTOR: Jay Jarrett, 205 South Indian River Drive, Jensen Beach, Florida 33457. (305)334-1262
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Museum, wet lab and all rooms open to the public.
- D. PRINCIPAL STAFF: 11 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Miss Olive Ashby, Mrs. Ella Clark (now staff members).
 2. Date and place of Initiation: August 14, 1972 - Jensen Beach.
 3. Overall project purpose: Creation of a sequential program of environmental education to be incorporated into the regular school curriculum, K-12.
- F. PROJECT OBJECTIVES:
1. To provide a fully structured and implemented program of environmental studies, K-12 with attendant resource materials and evaluation vehicles.
 2. To create an environmentally knowledgeable citizenry to insure intelligent decisions in the field of the human environment.
 3. To provide a regional center for the production, collection, study and dissemination of environmental data and study methods.
- G. MATERIALS:
1. Materials produced: K-6.
 - a. Pre-and Post-tests K-5 (set for each level).
 - b. "Environmental Art Activities".
 - c. "The Grassflat Habitat".
 - d. "Vocabulary for Environmental Study".
 - e. "Try a Marine Aquarium".
 - f. "The Terrarium".
 - g. "The Mangrove Habitat".
 - h. Various instruction sheets and game plans for classroom use in environmental study.
 Grades 7-12 to be prepared this year.
 2. Free materials available: All materials are in "draft" status. Will be available by the end of the year in more final form.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. K-12.
 5. Additional materials being developed: Peer-produced mini-texts on environment.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 11.
 2. Number of teachers having adopted all of the project materials: 199.

3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 4812.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Jensen Beach Elementary School, Savannas Road, Jensen Beach, Florida 33457.
 - b. Pt. Salerno Elementary School, No. 10th Street, Port Salerno, Florida.
 - c. The Pine School, 10th Street, Stuart, Florida 33494.
 - d. Okeechobee Primary School, Okeechobee, Florida.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Varies from 3 hours up.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Informally by the teachers using them. We plan item analysis on tests in near future.
2. Pertinent published research studies: None available yet.

K. PROJECT SUMMARY:

1. Complete renovation and outfitting of Center buildings, classrooms and laboratories.
2. Designed program, wrote curriculum and resource materials, conducted in-service programs and field study programs for all students, K-4 in Martin and Okeechobee
3. Wrote programs and field study materials for grades 5-9. Conducted trial programs at each of these levels.
4. Made several appearances at local civic and social clubs to explain program. Hosted several meetings at the Center.
5. Held evening series of environmentally oriented films for community. Scheduled second series for early fall.
6. Designed adult, non-credit course in environmental studies to be implemented winter of 1974.
7. Designed and commenced construction on 30' survey boat.
8. Field tested cooperative program with high school of production of student produced "mini texts" at the elementary level.

L. PLANS FOR THE FUTURE:

1. Produce film loops, tape-synch slide shows and other A-V materials.
2. Establish three or four satellite centers throughout the county at suitable areas - for fresh water, terrestrial studies.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Carla Palmer, PO Drawer 7, Maitland, Florida
32751. (305)647-2615
- C. PROJECT HEADQUARTERS:
1. PO Drawer 7, Lake Sybalia Drive, Maitland, Florida 32751.
2. Special facilities or activities available for visitor viewing: Yes. Small museum and library.
- D. PRINCIPAL STAFF: 1 person employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Mr. William Hammond, Mr. Hal Scott.
2. Date and place of Initiation: Spring, 1970. Highlands Hammock State Park EE Workshop.
3. Overall project purpose: Hold workshops to provide educators with a sound conceptual interdisciplinary grasp of EE problems and with the educational skills necessary to implement EE programs at the local level.
- F. PROJECT OBJECTIVES:
1. Develop EE problem addressing workshops for teachers and community leaders.
2. Produce environmental problem learning modules.
3. Demonstrate the use of audio visual media in effecting popular support in resolving environmental problems.
4. Provide local community groups and teachers in specific requests for assistance.
5. Publish a monthly EE newsletter.
- G. MATERIALS:
1. Materials produced: Not answered.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes.
5. Additional materials being developed: Anticipate developing a guide to human, natural, and written resources for those who wish to enrich their environmental education curriculums.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
About 250 teachers are using our materials.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. Weekend.
b. Summer Institute: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. We develop the materials as the need arises. Would be impossible to list all the educational materials Florida Audubon has developed through the 73 years of its existence.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

A series of teacher/community leader targeted workshops, conceptually oriented. Publication of a monthly newsletter with teaching suggestions and activities for the same target group.

L. PLANS FOR THE FUTURE:

Objectives as set forth under F.

- A. PROJECT TITLE: MARINE SCIENCE EDUCATION CENTER
- B. PROJECT DIRECTOR: George E. Mann, 1347 Palmer Street, Mayport,
Florida 32233. (904)246-2733
- C. PROJECT HEADQUARTERS:
1. 1347 Palmer Street, Mayport, Florida 32233.
2. Special facilities or activities available for visitor view-
viewing: Yes. Museum, Library, Wet Lab (containing aquaria with
live specimens).
- D. PRINCIPAL STAFF: 12 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: John Beakley, Jack Barile.
2. Date and place of Initiation: June 1, 1968.
3. Overall project purpose: The Marine Science Education
Center is a center designed to enrich the science program of the
students in Duval County by giving the elementary and secondary
students of the county experience in the marine science field at
a place appropriate for such experience.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3.
2. New instructional materials being produced: Yes. Grades 1-12.
- H. MATERIALS PRODUCED:
1. K-6:
a. Curriculum guides for grades 1-6.
b. Evaluative tests.
c. Specimen kits.
d. Set of transparencies.
2. 7-12:
a. Curriculum guides for grades 7-12.
b. Evaluative tests.
c. Specimen kits.
d. Set of transparencies.
3. Others:
a. 16mm films showing marshes and collection devices.
b. Film loops.
c. Audio tapes.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
1. Curriculum Guides.
a. Unit I - Grades 1-5....\$1.00.
b. Unit II - Grade 6\$1.00.
c. Unit III - 7th Grade Marine Biology Guide\$1.00.
d. Unit IV - 8th Grade Chemistry.....\$1.00.
e. Unit V - 9th Grade Physical Science\$1.00.

- f. Unit VI - 10th Grade Marine Biology.....\$1.00.
 - g. Unit VII - 11th Grade Chemistry.....\$1.00.
 - 2. Preserved marine specimen kits with 20 specimens
(Available to Duval County Schools only).....\$5.00.
- The above materials are available from the Center.

K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.

L. PROJECT IMPLEMENTATION:

- 1. Number of schools now using entire set of materials: They are available to all schools in Duval County, approximately 200.
- 2. Number of teachers having adopted all of the project materials: 500.
- 3. Number of teachers using some of the project materials: 1,000.
- 4. Total number of students using project materials: 25,000 elementary; 5,000 secondary.
- 5. Totals stated are estimated.
- 6. Names and locations of schools where the course is being taught:
 - a. William Raines Senior High School, Duval County School System.
 - b. Fletcher Senior High School, Duval County School System.
 - c. Terry Parker Senior High School, Duval County School System.
 - d. Southside Junior High School, Duval County School System.

M. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: In-service training in the classroom with the teacher. Program is presented to the teacher along with the two week curriculum for her to present to the class.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Curriculum guide.
 - b. Marine specimen kit.
 - c. Set of transparencies for overhead projector.
- 6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes.
By Marilyn Heaney, Project Evaluator, 1347 Palmer Street,
Mayport, Florida 32233.

2. Pertinent published research studies: Quarterly and year end reports to Coordinator of Elementary and Secondary Education Act Title III, Office of Federal-State Relations, State Department of Education, Tallahassee, Florida.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

We collect and supply Duval County Schools with marine specimens.

P. PLANS FOR THE FUTURE:

Although the Marine Science Education Center originated as a Title III Federal Project, the Center is now School #32 in the Duval County School System and all operating monies come from the Duval County School System. Because of the favorable reception of the Center by students, teachers, school administrators, parents and the community as a whole, the Duval County School Systems has appointed an Environmental Program. The initial stages of this program will make much use of the knowledge and experiences gained by the staff of the Marine Science Education Center.

Q. ERIC DOCUMENTS:

1. Guidebook - for Elementary Schools - Grade Six. SE number not available at press time.
2. Marine Biology. SE number not available at press time.

- A. PROJECT TITLE: CURES (CENTER FOR URBAN RESEARCH IN ENVIRONMENTAL EDUCATION)
- B. PROJECT DIRECTOR: Harriet Ehrhard; 1410 N. E. Second Avenue,
Miami, Florida 33132. (305)350-3506
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 teachers regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Teachers, curriculum people.
2. Date and place of Initiation: November 15, 1972 - Miami, Florida.
3. Overall project purpose: To introduce students to the problems of the urban environment and through concrete experiences cause them to study possible solutions.
- F. PROJECT OBJECTIVES:
Pupils will be able to:
1. Identify physical and social problems typical of most urban environments.
2. Analyze urban environmental problems for Dade County.
3. Develop skills in analyzing the components of pollution and devising methods of correction and/or prevention specifically related to air, water, sound and land.
4. Take positive actions for local conservation, improvement, and protection of urban environment.
5. Communicate results of investigations to the community-at-large and appropriate government agencies.
- G. MATERIALS:
1. Materials produced: All units are written for use 4-12, with variations. Study modules:
a. Water Treatment.
b. Water Distribution.
c. Sewage Treatment.
d. Surface Water Quality.
e. Land Fill and Incineration.
f. Parks and Open Space.
g. Electrical Power Generation.
h. Sound Level Measurement.
2. Free materials available: A brief overview of the program.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 4-12.
5. Additional materials being developed: New study modules will be developed as time allows. Seventeen topics have been identified as important.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: Not applicable.
2. Number of teachers having adopted all of the project materials: Not applicable.
3. Number of teachers using some of the project materials: 200.
4. Total number of students using project materials: Not any one student would use all the materials. Probably 6,000 are using some of the materials.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Norwood Elementary School, 19810 N. W. 14th Court, Miami, Florida.
 - b. Allapattah Junior High School, 1331 N. W. 46 Street, Miami, Florida.
 - c. North Miami Beach Senior High School, 1247 N. E. 167 Street, North Miami Beach, Florida.
 - d. Caribbean Elementary School, 11990 S. W. 200 Street, Miami, Florida.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2-3 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: Staff personnel and classroom teachers plan together for each particular class for from one to three hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. Not for distribution outside Dade County.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Approximately two months in 1972 were spent in planning and in preparing basic materials, then the staff began working with individual teachers and children to test the materials. Presently seventeen modules have been prepared which can be used with various levels and age groups. Community involvement and cooperation has made possible a wide range of experiences for students. In some cases agencies have set up laboratories for the students.
2. The staff are with teachers and students on the average of four days a week and spend one day confirming appointments, conferring with community agencies, and planning and improving materials. They can not begin to meet the demand for their services.

L. PLANS FOR THE FUTURE:

Present programs will be improved and expanded as time and resources permit.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION IN THE DADE COUNTY PUBLIC SCHOOLS
- B. PROJECT DIRECTOR: Harriet Ehrhard, 1410 N. E. Second Avenue, Miami, Florida 33132. (305)350-3506
- C. PROJECT HEADQUARTERS:
1. 1410 N. E. Second Avenue, Miami, Florida 33132.
 2. Special facilities or activities available for visitor viewing: Yes. Environmental Education Center at Crandon Park.
- D. PRINCIPAL STAFF: 3 persons employed in the Environmental Education Center, 10 persons employed in the Everglades National Park, and teachers in 233 schools.
- E. PROJECT HISTORY:
1. Principal originators: Interested science teachers and supportive administrative and community personnel.
 2. Date and place of Initiation: Environmental Education has been a part of the Dade County Schools program for many years. Major dates: In-service 1964; South Florida Environmental Media Series 1968; Environmental Education Center 1969; Everglades National Park Program 1969; Urban Environmental Center 1972.
 3. Overall project purpose: The overall purpose of Environmental Education is to give students and adults a basic understanding of our environment in order for them to realize the necessity of taking appropriate action to maintain a habitable world.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3 above. Each part of the total program has explicit objectives related to its specific phase of the program.
 2. New instructional materials being produced: Yes. Media lessons for the elementary children, K-6, are being produced.
- H. MATERIALS PRODUCED:
1. K-6:
 - a. Ecology in the Elementary School - Social Studies, Science, Math, Art - Curriculum Bulletin 8B-1.
 - b. 40 media lessons on South Florida Environmental Science.
 - c. Teacher and student materials for Environmental Education Center.
 2. 7-12:
 - a. 52 media lessons and guide of the biological aspects of South Florida Environmental Science.
 - b. 45 media lessons and guide on the physical and chemical aspects of South Florida Environmental Science.
 - c. 22 Quinmester Courses related to environmental problems.
 - d. Ten Years to Go - (Social Studies Curriculum Bulletin).
 - e. Natural History and Ecology of South Florida - Curriculum Bulletin 8B - 2.
 3. Others: 18 minute, 16mm color film "Under the Sabal Palm" for use with schools and community agencies to explain total program.

I. MATERIALS AVAILABLE FREE: None.

J. MATERIALS PURCHASABLE:

1. Ecology in the Elementary School Curriculum Bulletin 8B-1 \$2.50.
2. South Florida Environmental Science Media Units Guide Curriculum Bulletin 8B2-MU-1-11 \$1.00.
3. South Florida Environmental Science Media Units Guide Curriculum Bulletin 8B2-MU-12-21 vol. II \$1.00.
Available from Textbook Services, 2210 S.W. Third Street, Miami, Florida.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: 40 elementary environmental media lessons are being developed - each has a film strip and audio tape with pre and post activities, rationale, and references. The individual media units, including the films, filmstrips, audiotapes, and videotapes, as well as the printed materials will be available for purchase in the near future. Dade County Science Quinmester Courses related to ecology and the environment are available through ERIC.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

The materials are available to 233 public schools in Dade County, K-12. No one teacher could use all the materials. Schools where the program materials are being used are:

1. Gragny Elementary, 11905 N. Miami Avenue, Miami, Florida 33168 (CURES Program).
2. Allapattah Junior High, 1331 N.W. 46 Street, Miami, Florida 33142 (CURES Program).
3. Kinloch Park Junior High, 4340 N.W. 3rd Street, Miami, Florida 33126. (Well developed program within the school).
4. Southwest Miami Senior High, 6856 S.W. 53 Street, Miami, Florida 33155. (Well developed program within the school).

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes. On a very limited basis.
2. In-service education program for teachers using the materials: Yes. Limited.
3. Pre-service training program for teachers desiring to use the materials: Yes. Limited.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 2-6 hours.
 - b. Summer Institute: Yes. 6 days.
 - c. Evening classes: Yes. 15-30 hours.
 - d. Others: Special week-end sessions 15-30 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. We have materials for use within Dade County, but not in quantities for widespread distribution.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. An evaluator in the Dade County Public Schools Media Department has validated random samples of the media productions.
2. Pertinent published research: None.

O. PROJECT SUMMARY:

1. Environmental education in the elementary school curriculum uses the process approach and is based on the strand idea developed by the National Park Service. Ecology in the Elementary School, which develops ecological activities in science, social studies, mathematics and art serves as a guide. Forty environmental media lessons for grades 1-6 are in production. Each lesson includes references and learning activities to emphasize the ideas in the media presentation which may be a filmstrip with audiotape, or a film.
2. An Environmental Education Center on Key Biscayne has a two-day program for sixth graders who are transported to the site. Emphases are on the marine and land ecology of the area and the importance of maintaining a balanced environment. The Center, with a staff of three teachers, accommodates groups of sixty.
3. The Everglades National Park provides instruction in Shark Valley for third and fourth graders, and in the Long Pine Key Environmental Study Area for fifth and sixth graders. Groups of sixty students are transported to the respective areas for one-day experiences. The Park personnel conducts workshops for the teachers. Attendance is required before teachers are scheduled to take their children to the Park.
4. Ten Years to Go is a junior high school guide, primarily social studies in content, while Natural History and Ecology of South Florida used in senior high is somewhat more science oriented. Approximately twenty quinmester courses related to environmental problems have been written for use in grades 7-12. Many of these combine science, social studies and language arts.
5. The South Florida Environmental Science Media Units are composed of 97 lessons with filmstrip and audio tape, film or video tape along with learning activities, references, pre and post tests. These are based on biological, physical and chemical aspects of the South Florida environment and were produced to be used primarily in grade 7-12.
6. Many environmental problems are presented in the Florida Series, Environmental Conservation which are social studies media programs for use in grades 7-12.
7. CURES (Center for Urban Research in Environmental Education) with the assistance of federal funds, is starting its second year of operation. Students from elementary, junior and senior high schools who plan to participate make preparations at their schools then are transported to sites within the county which present cases of special interest to urban society. Locations are studied and data are collected. Students return to their respective classrooms for further study and analyses of the situations.

8. A close relationship is maintained between the Dade County Public Schools and the various institutions of higher learning in the area. Many courses are offered by the colleges and universities to answer the needs of Dade County instructional personnel. Workshops of various nature are given by the county throughout the year to supplement and facilitate the emphases on environmental education.

P. PLANS FOR THE FUTURE:

Existing programs will be continued with emphases on quality instruction and improvement of procedures and materials. Expansion will be possible only when considerable additional funding becomes available.

- A. PROJECT TITLE: ENVIRONMENTAL SENSITIVITY PROJECT
- B. PROJECT DIRECTOR: Roy L. Hyatt, Environmental Studies Center,
2501 N. Hayne Street, Pensacola, Florida 32503. (904)438-1140
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Environmental Museum, Environmental Resource Center.
- D. PRINCIPAL STAFF: 3 persons employed full-time for 12 months,
2 persons employed part-time for 10 months.
- E. PROJECT HISTORY:
1. Principal originators: Roy L. Hyatt, Dr. Hiram Smith, Veronica Lish.
2. Date and place of Initiation: Planning Grant ESEA III - 1968-69; Operational Grant ESEA III - 1970-73.
3. Overall project purpose: To assist teachers and others in improving programs and activities centered around the environmental education of children.
- F. PROJECT OBJECTIVES:
1. To achieve an increased emphasis upon ecology in elementary school curricula and to promote an appreciation of ecology in children's homes, especially through increased teacher understanding and use of field trips.
2. To bring student, teacher, school and home awareness of ecology and environmental trends to bear upon the increasing ecological threats to human survival and the general well-being of man and other life.
3. To establish a nature center designed for teaching elementary school children ecology; included in the Center would be an ecological museum, field-trip areas, and a library of resources and materials for environmental education at the elementary school level.
- G. MATERIALS:
1. Materials produced:
a. K-6:
Handbook for Field Trip Participants in the Environmental Sensitivity Project.
A Guide to the Bratt Nature Trail.
A Guide to the Beulah Nature Trail.
A Guide to the Fishcamp Nature Trail.
Elementary Guide to the Mesic Hardwood Hammock Nature Trail.
A Guide to the Shoreline Park Nature Trail.
b. 7-12: None.
c. Others:
Tour Guide for Environmental Museum.
The Web - Newsletter.
2. Free materials available: None.

3. Materials produced that can be purchased: Not available until revision.
4. New instructional materials being developed: Yes. Grades 2-5.
5. Additional materials you anticipate developing:
 - a. Portable exhibits.
 - b. Project brochure.
 - c. New field site guides.
 - d. Additional film slides on environmental topics.
6. Teaching materials commercially available: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 30.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 200.
4. Total number of students using project materials: 6,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Scenic Heights Elementary School, 3801 Cherry Laurel Drive, Pensacola, Florida 32504.
 - b. Gulf Breeze Elementary School, P.O. Box 250, Gulf Breeze, Florida 32561.
 - c. A. A. Dixon Elementary School, 1201 North "H" Street, Pensacola, Florida 32501.
 - d. Ferry Pass Elementary School, 8310 North Davis Highway, Pensacola, Florida 32504.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: Preliminary field trips for teachers (planning activity for class field trip at site) 1 to 2 hours; preliminary museum visits for teachers (planning activity for class visits to museum) 1 to 2 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Field trip in-service training for elementary teachers - began 1970.
2. Environmental resource center opened 1971.
3. Environmental Museum - opened 1973.
4. Funded by ESEA Title III, 1970-73.
5. Funded by Escambia County School Board, 1973 - .

I. PLANS FOR THE FUTURE:

We will add activities for each grade level to complete a total K-12 Environmental Education Program. They will include:

1. Field trips on ecology and local environmental problems.
2. Museum visits.
3. School yard and community studies.
4. Environmental surveying and monitoring.

M. ERIC DOCUMENTS:

Handbook for Field Trip Participants in the Environmental Sensitivity Project. SE 016 494

- A. PROJECT TITLE: SECONDARY SCHOOL ENVIRONMENTAL EDUCATION CURRICULUM GUIDE
- B. PROJECT DIRECTOR: Dr. Robert H. McCabe, 5940 SW 73rd Street,
South Miami, Florida 33143. (305)274-1213
- C. PROJECT HEADQUARTERS:
1. National Association for Environmental Education, 5940 SW
73rd Street, South Miami, Florida 33143. (305)666-3267
2. Special facilities or activities available for visitor view-
ing: No.
- D. PRINCIPAL STAFF: 1 person was employed on the project.
- E. PROJECT HISTORY:
1. Principal originators: National Association for Environmental
Education.
2. Date and place of Initiation: South Miami, Florida. September,
1972.
3. Overall project purpose: To produce a curriculum guide for
secondary school environmental education.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced: Man and Environment for Secondary Schools.
A curriculum in environmental studies for high schools.
2. Free materials available: None.
3. Materials produced that can be purchased:
Man and Environment for Secondary Schools.
Available from National Association for Environmental Education.
4. New instructional materials being developed: Curriculum
guide for grades 5-8.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not known.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION: Now underway.
- K. PROJECT SUMMARY:
An interdisciplinary curriculum guide for environmental education
in secondary schools was developed. It is modular in form and
includes principle concepts and student learning objectives for
each module. The curriculum guide was developed with nation-
wide representatives of high school teachers, curriculum experts,
and environmental experts.
- L. PLANS FOR THE FUTURE:
Development of a curriculum guides for grades 5-8.

- A. PROJECT TITLE: THE ETHICS OF ENVIRONMENTAL CONCERN: PROTO-TYPE MATERIALS FOR ENVIRONMENTAL EDUCATION WITHIN THE HUMANISTIC TRADITION.
- B. PROJECT DIRECTOR: Rodney F. Allen, 426 Hull Drive, Florida State University, Tallahassee, Florida 32306. (904)599-2318
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 secretary and four graduate assistants regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Rodney F. Allen.
 2. Date and place of Initiation: September 1, 1971. Florida State University.
 3. Overall project purpose: To develop teaching techniques and instructional materials for environmental education - perceived as a humanistic enterprise.
- F. PROJECT OBJECTIVES:
1. Develop instructional techniques and test them.
 2. Develop instruction materials and test them in two school systems.
 3. To perform the above objectives stressing humanistic concerns: Values, commitments, lifestyles, religious-philosophical traditions as they deal with the man-made and natural environments.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: "Messing About for Environmental Education: City, Nature."
American Lifestyles and the Environment: Three Historical Units.
Your City's Alive: Three Units "Awareness", "Creativity", and "Social Participation".
 2. Free materials available: None.
 3. Materials produced that can be purchased:
 - a. Deciding How to Live on Spaceship Earth: The Ethics of Environmental Concern (Winona, Minnesota: Plover Books, Terrace Heights 55987, 1973). Paper. \$3.50.
 - b. Deciding How to Live in the City: The Ethics of Urban Design and Lifestyles (Winona, Minnesota: Plover Books, Terrace Heights 55987, 1974). Paper. \$3.50.
 - c. "Religion and Nature," in Religious Issues in World Culture (Menlo Park: Addison-Wesley Publishing Company, 1974). Part of the Religious Issues in Social Studies Series.

4. New instructional materials being developed: Adult-Community Education: Public Awareness Programs, slide tapes and Photo Essays.

5. Additional materials you anticipate developing: A 16mm film on Environmental Education from a humanistic perspective. Tentatively set for development during the Spring, 1974.

6. Present commercial association: We have made arrangements for the publication of two ethics casebooks which draw upon our experience but produce other materials than those developed under our grant. We will publish a unit "Religion and Nature" with Addison-Wesley Publishing Company, 1974.

H. MATERIALS IMPLEMENTATION:

Our materials are in the hands of two county school systems.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. One day to three weeks.

b. Summer Institute: No.

c. Evening classes: No.

d. Others: We have conducted a variety of programs for teachers from one day to three full weeks. Length depends upon the needs and interests of school systems and teachers.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not yet.

6. Teaching materials commercially available: Contact Flover Books, Terrace Heights, Winona, Minn. 55987.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers, school supervisors, and project staff.

2. Pertinent published research: None.

3. Unpublished research: In-house formative evaluation materials only.

K. PROJECT SUMMARY:

1971-2: Produced instructional kits with four basic types of materials for teachers and students, who would develop their own units of instruction.

1972-3: Produced twelve instructional units, ranging from Messing About Kits to very structured units with teachers guides.

1973+: Fall, 1973, we will conduct an adult awareness program in Tallahassee, Florida, and conduct several workshops. During the winter and spring, 1974, we will produce a 16mm film on environmental education. In addition we will continue to field test materials on a limited, intensive basis, develop a unit for third graders on

Religion and Nature, and continue to develop community-oriented Photo Essays.

L. PLANS FOR THE FUTURE:

Contingent upon future funding, we want to develop a university undergraduate and graduate program in environmental education, drawing upon three systems: natural, political, and moral. For information contact Professor Lehman H. Barnes, Science and Human Affairs Program, College of Education, Florida State University, Tallahassee 32306. (904)599-2430.

- A. PROJECT TITLE: NATURE'S CLASSROOM - OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Henry Verges, Principal, Nature's Classroom,
Route I, Box 396, Thonotosassa, Florida 33592. (813)986-2089
- C. PROJECT HEADQUARTERS:
1. Verges Road, Thonotosassa, Florida 33592.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 1 Principal, 7 Teachers, 1 Teacher Aide, 5 Bus driver-teacher aides, 1 Parks Manager, 1 Custodian, 1 Secretary. All are regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Frank Farmer, Assistant Superintendent for Administration of Hillsborough County, and Henry Verges, Principal of Nature's Classroom, with the aid and assistance of the Southwest Florida Water Management District, the Hillsborough County School System, The Model Cities Program, E.S.E.A. and the Migrant Program.
2. Date and place of Initiation: September 1967.
3. Overall project purpose:
a. The teaching of ecology, science, applied mathematics, the study of survival, lifetime recreational skills, such as riflery, archery, water safety, etc:
b. To teach our future citizens to use the wilderness areas without abusing them.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Ecology.
b. Conservation.
c. Science.
d. Survival.
e. Compass.
f. Boating and Water Safety.
g. Study of native wildlife and plant life.
2. New instructional materials being produced: No. We follow no set teaching manual. We deal with 6th grade children, Headstart children, Follow-through children, Migrant children.
- H. MATERIALS PRODUCED:
We use no text books as such. Our classrooms are 365 acres of wilderness on the Hillsborough River. Our books are used by our teachers, principally for reference and furthering their own knowledge.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: We use slide presentations with verbal explanations of each slide, used on a manually operated "carousel-type" slide projector.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: All of the schools in Hillsborough County that have 6th graders.
2. Number of teachers having adopted all of the project materials: No. applicable.
3. Number of teachers using some of the project materials: Not applicable.
4. Total number of students using project materials: 11,000.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught: The school children are brought to the center.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. The children who come to us for teaching, and the Outdoor Education groups in our region and in the nation.
2. Pertinent published research studies: We rarely if ever document our work. It is done directly with the children, always searching for the "teachable moment".

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. We have added two portable dormitories and one portable kitchen, so the inner-city children may experience an overnight stay at Nature's Classroom.
2. We have, with the assistance of the Audubon Society, built a catwalk across a section of the swamp where the children may study the changes that occur during wet and dry seasons without disturbing or destroying any of the life going on there.

P. PLANS FOR THE FUTURE:

We plan to build a Seminole Indian Chickee, for the study of the life-style of the Florida Seminole Indians who live in the Everglades National Park in Florida.

- A. PROJECT TITLE: EXPERIENTIAL CURRICULUM IN ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Mrs. Kay Blackwelder, Northside High School,
2875 Northside Drive, N.W., Atlanta, Georgia 30305. (404)351-4679
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. A photography dark room and a chemistry laboratory.
- D. PRINCIPAL STAFF: 3 persons employed full-time, 3 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Proposal was developed by Research and Development Division with aid from instructional division of the school system.
2. Date and place of Initiation: February 1972. Northside High School and Grady High School.
3. Overall project purpose: To develop an experiential curriculum in environmental education through the independent study of selected topics by secondary school pupils.
- F. PROJECT OBJECTIVES:
1. To provide environmental education which gives students not only an awareness of natural, urban, and social environmental problems of the Atlanta area and the nation, but also the knowledge and ability to seek solutions to the problems.
2. To produce environmental materials for use in informing elementary and/or secondary pupils and the community of environmental issues.
3. To provide an alternative to the classroom process of education.
- G. MATERIALS:
1. Materials produced: Please contact the project director directly for this list.
2. Free materials available: None.
3. Materials produced that can be purchased: Contact project director.
4. New instructional materials being developed: No. Project was not funded for 1974.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 6.
2. Number of teachers having adopted all of the project materials: 6.
3. Number of teachers using some of the project materials: 20.
4. Total number of students using project materials: 50 per quarter.
5. Totals stated are definite (1 & 2), estimated (3 & 4).

6. Names and locations of schools where the program materials are being used:

- a. Northside High School, 2875 Northside Drive, N.E., Atlanta, Georgia 30305.
- b. Grady High School, 929 Charles Allen Crive, N.E., Atlanta, Georgia 30309.
- c. North Fulton High School, 2890 North Fulton Drive, N.E., Atlanta, Georgia 30305.
- d. Archer High School, 2250 Perry Blvd., N.W., Atlanta, Georgia 30318.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Some.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 week.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the staff.
2. Pertinent published research studies: Research and Development Report - Vol. VI, No. 5, August, 1972.

K. PROJECT SUMMARY:

The project began winter quarter, 1972, in two high schools of Atlanta Public Schools. It is designed for tenth, eleventh, and twelfth grade students who participate for one quarter. During the quarter, the students are released from structured classes in order to conduct an environmental study. Each student selects his own problem for study from the natural, urban, and/or social environments and works individually under the guidance of a team of four teachers representing four subject areas: science, social studies, language arts, and mathematics.

The students are free during the school day to travel throughout the city conducting primary and secondary research and interviewing key persons associated with the areas of study. Each student is required to meet with the team a minimum of one time per week. In addition, to expose the students to a broad range of environmental problems, seminars and field trips are planned for the entire groups.

Each student uses a multidisciplinary approach in his study of a problem of the environment. He works with the team teachers in developing a pupil-teacher contract in which they determine the course credit he will receive for his study, specify the requirements he must fulfill to receive course credit, and determine his

final grades in the subject areas.

The student must choose a format (such as a film, a slide lecture, or a written report) to communicate his findings. Then these media materials, which are developed by the students, will be used in the instruction of elementary and/or secondary pupils and community groups.

L. PLANS FOR THE FUTURE:

Expand the program to all Atlanta Public High Schools as rapidly as funds become available to do so.

M. ERIC DOCUMENTS:

Evaluation of the Project for Developing an Experimental Curriculum in Environmental Education, 1971-72. ED 076 405

- A. PROJECT TITLE: FERNBANK SCIENCE CENTER
- B. PROJECT DIRECTOR: Dr. Lewis S. Shelton, 156 Heaton Park Drive N.E., Atlanta, Georgia 30307.
- C. PROJECT HEADQUARTERS:
1. Fernbank Science Center, 156 Heaton Park Drive N.E., Atlanta, Georgia 30307.
 2. Special facilities or activities available for visitor viewing: Fernbank Science Center has a 65 acre forest with paved nature trails, a 500 seat capacity planetarium equipped with a Zeiss Mark V planetarium projector, an observatory with a 36 inch reflecting telescope, an electron microscope laboratory, a meteorological laboratory, a library with approximately 2500 volumes, and an exhibit area with 9,000 square feet of exhibit space. All of these facilities are open to the public at specified times. During the school day they are used as teaching facilities.
- D. PRINCIPAL STAFF: Two instructors are assigned specifically to the project. Six other instructors work part-time with project activities as their skills are needed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Lewis Shelton and Mr. Andrew J. Olsen.
 2. Date and place of Initiation: September 1972--Northeastern and North-Central Georgia--specific school systems were designated as target groups.
 3. Overall purpose: Teacher training via in-service oriented toward use of the outdoors as a learning resource area for all grade levels and all areas of the school curriculum.
- F. PROJECT OBJECTIVES:
1. To develop environmental education supplements to existing community-school curriculums, which are directed toward the definition and solution of local environmental problems.
 2. To assist pupils in learning how to identify and utilize local resources to resolve community environmental problems.
 3. To foster constructive attitudes toward environmental appreciation and citizenship in teacher, student and lay adult community populations.
 4. To enhance teacher skills in the design and implementation of problem solving, issue centered, learning experiences.
 5. To extend the ability of individual students to work individually and with others, through established democratic and social processes, to resolve local problems.
 6. To gather a body of total and unprejudiced information about local environmental problems and to share that information with others.
 7. To establish environmental education as a multi-disciplined subject area, concerned with both our natural and man-made environments.
 8. To develop the skills and resources necessary to design and implement a self-sustaining, issue centered, environmental education curriculum at the local school level.

G. MATERIALS:

1. Materials produced: K-12:
 - a. Amphibians of Dekalb County.
 - b. Birds - Class Aves of Dekalb County and the Atlanta, Georgia Area.
 - c. Mammals of Dekalb County.
 - d. Key to Selected Trees, Shrubs, and Vines of Fernbank Forest.
 - e. Math Activities for the Outdoors.
 - f. Teacher's Guide.
2. Free materials available: Those listed above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: Although this project will not be refunded, staff members at Fernbank Science Center will continue and expand relevant materials that can be used in our own instructional programs.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: Unknown.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: 160.
4. Total number of students using project materials: 5,000+.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Pine Forest Elementary School, 311 Aviation Road S.E., Marietta; Georgia 30062.
 - b. Franklin County Junior High School, Carnesville, Georgia 30521.
 - c. Newnan Junior High School, 40 Jackson Street, Newnan, Georgia 30263.
 - d. Turner Middle School, Lithia Spring, Georgia 30057.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 2 hours per night. 2 nights per week - maximum of 10 hours per course.
 - d. Other: Other related organized in-service courses are offered on demand throughout the school year.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Fernbank's primary areas of service have been consistent since its opening in December 1967. Our basic format directs itself toward the extension of classroom curriculums through programs designed for each grade level which extend the student's knowledge to the forefronts of scientific knowledge in the subject area he is considering. Equal emphasis is placed on enhancement of teacher knowledge of scientific fields with emphasis on areas of recent advancement and those areas which have not received consideration in proportion to national emphasis. Extensive programs for the public are also provided, each designed to foster appreciation through understanding of our natural and physical environment.

L. PLANS FOR THE FUTURE:

Fernbank Science Center led in the training of teachers for outdoor and environmental-related activities in the state of Georgia. Although this grant was not refunded, the staff at Fernbank Science Center are employed by the DeKalb County School System to teach both teachers and students by offering organized classes and courses in Environmental Education.

During the coming school year our services have been expanded to include the production of instructional aids, filmstrips, and kits as well as teaching responsibilities. These activities will continue to be at the forefront of our activities.

M. ERIC DOCUMENTS:

1. Fernbank Science Center Forest Teacher's Guide. ED 040 084
2. Packet of Environmental Activities. SE 016 975

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION FOR GUAM SCHOOLS
- B. PROJECT DIRECTOR: Dave Hotaling, Department of Education, Box DE,
Agana, Guam 96910. 772-8553
- C. PROJECT HEADQUARTERS:
1. Consultants' Office, O'Hara Street, Agana, Guam 96910.
2. Special facilities or activities available for visitor viewing: Yes. Nature trails.
- D. PRINCIPAL STAFF: 60+ persons employed.
- E. PROJECT HISTORY:
1. Principal originator: Gerry Perez, Director, Department of Agriculture; Tim Branch, Science Consultant, Department of Education.
2. Date and place of Initiation: August 1971. Guam.
3. Overall project purpose: To graduate citizens knowledgeable and conscientious in environmental concerns.
- F. PROJECT OBJECTIVES:
Increase teachers' knowledge about and competence in presenting environmental activities.
- G. MATERIALS:
1. Materials produced: 1-6.
a. Teachers' Guides (modified from SCIS Life Sciences).
b. Nature photo guides to Guam plants and animals.
c. 10-minute film: For Guam Schools.
2. Free materials available: Project reports in Guam Science Teachers Newsletters - April 1972, April 1973.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 1-6 - later for 7-12.
5. Additional materials being developed: Science and social studies units 7-12.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 2.
2. Number of teachers having adopted all of the project materials: 48.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 1200.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
a. Tamuning Elementary School, Tamuning, Guam.
b. Mongmong-Toto Elementary School, Guam.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 days and bi-weekly throughout year.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By Dr. Anthony Kallingal, University of Guam; and Dr. William Broadbent, NWREL.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. University of Guams course for teachers - Environment of Guam.
2. Adaptation of SCIS 1-6 guides for local conditions.
3. Two nature trail lists.
4. Implementation of workshop for teachers and one year of instruction 1-6 in two pilot schools.
5. Ongoing development of color photo guides to Guam flora and fauna.
6. 10 minute film "For Guam Schools".
7. Conferences with Trust Territory and Hawaii Science Education personnel.

L. PLANS FOR THE FUTURE:

1. Pilot year with revised materials in two schools.
2. Guam-wide adoption, local funding 1974+.
3. Writing of extension proposal for high school, 1974-1977.
4. Development of further-revised teachers' guides based on 1973-1974 feedback.

M. ERIC DOCUMENTS:

Impact of Environmental Education for Guam Schools - An Evaluation.
SE number not available at press time.

- A. PROJECT TITLE: PACIFIC AND ASIAN AFFAIRS COUNCIL
WORLD AFFAIRS PROGRAM
- B. PROJECT DIRECTOR: Norman Geschwind, 2004 University Avenue,
Honolulu, Hawaii 96822. (808)941-5355
- C. PROJECT HEADQUARTERS:
1. 2004 University Avenue, Honolulu, Hawaii 96822.
2. Special facilities or activities available for visitor viewing: Yes. Office library, student conferences.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: PAAC Council and interested high school students in Hawaii.
2. Date and place of Initiation: May 1972 - Honolulu, Hawaii.
3. Overall project purpose: To provide an opportunity for Hawaii's high school students to become environmentally aware citizens and participate in planning and decisions related to environmental preservation of Hawaii.
- F. PROJECT OBJECTIVES:
1. To provide an opportunity for students to develop a more positive attitude toward environmental solutions proposed by government and business leaders.
2. To get students more directly involved in communicating their conclusions and reactions to on going and projected environmental plans to corporate, government and community leaders and vice versa.
3. To develop an increased understanding of a truly global ecological perspective of the environmental problems facing Hawaii, the nation and the world.
- G. MATERIALS:
1. Materials produced: Grades 7-12: Student program guide, newsletter, bibliography.
2. Free materials available: All of the above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 60.
2. Number of teachers having adopted all of the project materials: 70.
3. Number of teachers using some of the project materials: 10.
4. Total number of students using project materials: 4,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Kailua High School, 451 Ulumanu Place, Kailua, Honolulu, Hawaii 96734.

- b. Konawaena High School, P.O. Box 693, Kealahou, Hawaii 96750.
- c. Baldwin High School, 1650 Kaahyman Highway, Wailuku, Maui 96793.
- d. Star of the Sea High School, 4469 Malia Street, Honolulu, Hawaii 96821.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: No.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Some. Books, pamphlets, periodicals.
- 6. Teaching materials commercially available: Yes.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Ten interschool conferences were held on the theme of the environment, including a model U.N. Conference on the Human Environment patterned after the U.N. Stockholm Conference. High school students from all over the state of Hawaii participated in the conferences. The conference formats, programs, resources were all initiated by the students.

K. PLANS FOR THE FUTURE:

The Council at present is facing a financial crisis - unless sufficient funds can be raised, no environmental education activities can be sponsored by the Council.

- A. PROJECT TITLE: FOUNDATIONAL APPROACHES IN SCIENCE TEACHING - FAST
- B. PROJECT DIRECTOR: Francis M. Pottenger, III, University Lab. School,
1776 University Avenue, Honolulu, Hawaii 96822. (808)948-7863
- C. PROJECT HEADQUARTERS:
1. Science Department, University Lab. School, Honolulu, Hawaii
96822.
2. Special facilities or activities available for visitor view-
ing: Yes. University Lab. School FAST project classes as in ses-
sion.
- D. PRINCIPAL STAFF: 11 persons regularly employed.
Project Director: Dr. Francis M. Pottenger, III.
Director Physical Science Strand: Dr. L. Reed Brantley.
Director Ecology Strand: Sister Edna L. Demanche, Ph.D.
Director Relational Study Strand: Dr. Francis M. Pottenger, III.
Project Writers: Miss Harriet Ajimine, Dr. Leslie R. Allen, Mrs.
Keven Keller, Mrs. E. Barbara Klemm, Mr. Will Kyselka, Mr. Ronald
Flegal, Mrs. Caren Walsh, Mrs. Karen Yamamoto, Miss Judith Yoshida,
Mr. Donald Young.
Many contributing writers and consultants.
- E. PROJECT HISTORY:
1. Principal originators: Hawaii Science Curriculum Council and
Science Faculty of the Hawaii Curriculum Center.
2. Date and place of Initiation: June 1967 - Hawaii Curriculum
Center, University of Hawaii Laboratory School.
3. Overall project purpose: Foundational Approaches in Science
Teaching (FAST) is designed as a three-year sequential laboratory
and field-centered science program which develops an understanding
of foundational concepts and methodologies of the physical, earth,
and biological sciences and relates these to the issues of man's
manipulation and use of his environment. It is part of a founda-
tional education curriculum, thus is appropriate for both terminal
and continuing science education.
- F. PROJECT OBJECTIVES:
FAST seeks to capitalize on certain positive developmental factors
peculiar to the period of early adolescence. Evidence points to
the fact that this is a time when students gain the ability to
grapple with the abstract, a time when the basic concepts of
science can be programmatically introduced for rediscovery, and a
time when the students are able to enter into bonafide scientific
inquiry and reflect on their activities. Throughout the FAST pro-
gram the student is asked to play a triple role. He operates
first as a scientist, laboring at the task of inquiry and generali-
zation. Then he steps out of this role to assume the stance of
the philosopher reflecting on the nature of scientific inquiry
and its place in the larger social context. Finally, he takes the
role of a member of society who ponders the impact of scientific
and technological changes in developing ways of coping with environ-
mental issues. This pause to contemplate on the kind and quality
of knowledge that science generates gives the student a more
nearly complete frame of comprehension into which he can fit the

achievements and implications of science that he will know in his lifetime.

G. MATERIALS:

1. Materials produced:
 - a. K-6: None.
 - b. 7-12:
 - Outlines for FAST 1, FAST 2, and FAST 3, for grades 7, 8 and 9 respectively.
 - Student Laboratory and Field Materials for FAST 1.
 - Teacher's Guide for FAST 1.
 - Student Laboratory and Field Materials for FAST 2.
 - Teacher's Guide for FAST 2.
 - Student Laboratory and Field Materials for FAST 3.
 - Teacher's Guide for FAST 3.
 - All of the above materials are written in English.
 - FAST 1 materials are also translated in Laotian.
2. Free materials available: Project Overview.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: Revisions of all materials.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 7.
2. Number of teachers having adopted all of the project materials: 20.
3. Number of teachers using some of the project materials: 105.
4. Total number of students using project materials: 500.
5. Totals stated are definite (1, 2, and 4), number 3 is estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Kailua Intermediate School, 145 S. Kainalu Drive, Kailua, Hawaii 96734.
 - b. Moanalua Intermediate School, 1289 Mahiole Street, Honolulu, Hawaii 96819.
 - c. Cathedral School, 1728 Nuuanu Avenue, Honolulu, Hawaii 96817.
 - d. Hawaii School for Girls, 2922 Poni Moi Road, Honolulu, Hawaii 96815.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 40 hours.
 - b. Summer Institute: Yes. 2 weeks.
 - c. Evening classes: Yes. 6 University of Hawaii credit hours.
 - d. Other: None.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Our Teacher's Guide is basically a Teacher's Training Manual.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Staff evaluation of teacher-, administrative-, parent-, student-feedback.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Full scale development began in 1967.
2. Materials were produced and tested 1968-70 at the University Laboratory School.
3. In the academic year 1970-71 FAST 1 materials were field tested in public and private schools of the state of Hawaii.
4. In 1971-72 FAST 2 materials were field tested and FAST 1 materials generally disseminated through the island.
5. The 1972-73 academic year saw the field testing of FAST 3 materials and the general dissemination of FAST 1 and FAST 2 materials to island schools.

L. PLANS FOR THE FUTURE:

1. Further dissemination of FAST 1 and FAST 2 throughout the rest of the State of Hawaii and the Pacific basin.
2. Further revisions of FAST 2 and FAST 3.

- A. PROJECT TITLE: HAWAII CENTER FOR ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Curt Smith, P.O. Box 1875, Honolulu, Hawaii
16805. (808)548-6915
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Local citizens concerned about the lack of direction and focus in environmental education in the state.
2. Date and place of Initiation: June 1971.
3. Overall project purpose: To facilitate coordination and cooperation among persons, groups, agencies, and teachers concerned with environmental education in the State of Hawaii.
- F. PROJECT OBJECTIVES:
1. To inventory the available environmental education resources in the State.
2. Coordinate those who need the environmental education resources with the available resources.
3. Provide direction and focus for environmental education in the state.
- G. MATERIALS: None produced as yet.
- H. MATERIALS IMPLEMENTATION:
We have not begun implementation of the statewide plan at this time.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
The Citizens' Committee for Environmental Education completed its report for a statewide plan on environmental education in February 1973. They have subsequently appointed an interim director to begin implementation of the program. The plan has been implemented in the following areas:
1. Setting up a computer-based environmental education clearinghouse.
2. Obtaining \$50,000.00 from the state legislature to set up a state environmental education center.
3. Incorporation of the center-herein called The Hawaii Center for Environmental Education.
- L. PLANS FOR THE FUTURE:
Additional activities are not planned at this time.

M. ERIC DOCUMENTS:

Hawaii is Unique. Citizen's Committee for Environmental Education (February 1973). SE 016 133

- A. PROJECT TITLE: OFF CAMPUS ONE WEEK WORKSHOP IN CONSERVATION AND ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Dr. Donald J. Obee, 1910 College Blvd, Boise, Idaho 83725. (208)385-1411
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: Staff of six donate their time although drawing salary and per diem from their respective agencies and employers.
- E. PROJECT HISTORY:
1. Principal originators: Austin Hamer and Donald J. Obee.
2. Date and place of Initiation: Donnelly-4H Camp, Donnelly, Idaho - 1968.
3. Overall project purpose: Promote environmental education.
- F. PROJECT OBJECTIVES:
1. Involve participants in environmental investigations that develop ecological understanding and problem solving skills through the process of collecting, recording, and interpreting data about the total environment.
2. Identify areas on or adjacent to the schoolyard or in other parts of the community that will be used as environmental study areas (ESA's).
3. Develop "involvement" activities, teaching aids, and lesson plans to fit local ESA's.
- G. MATERIALS:
1. Materials produced: The materials we use have been developed by the agencies who supply our staff members.
2. Free materials available: Our brochure and Forest Service task cards.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: None at this time.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Approximately 200 teachers are using some of our materials.
- I. TEACHER PREPARATION:
A one week workshop is available for teachers using our materials.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. By our participants.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. For the past six summers we have conducted a one week off campus workshop for teachers in Conservation and Environmental Education at the Donnelly 4-H Camp, 100 miles north of Boise. Most of the materials used are the task cards and lesson plans developed by the Division of Environmental Education of the U.S. Forest Service Area Office at Portland, Oregon.

2. We try to give to our participants who are mostly elementary school teachers, materials that will be relevant and adaptable to their classroom situations upon their return to their respective schools.

3. More and more teachers are becoming interested in being included among our participants. Last summer we had to cut off registrations a month in advance of the workshop and had a waiting list. We took care of 55 participants.

L. PLANS FOR THE FUTURE:

We plan to carry on essentially as we have in the past changing our format from time to time by deleting activities that didn't enhance the program and adding new ones that do.

- A. PROJECT TITLE: MAGIC VALLEY ENVIRONMENTAL EDUCATION TEAM
- B. PROJECT DIRECTOR: Stuart L. Murrell, Idaho Fish and Game Department, P.O. Box 428, Jerome, Idaho 83338. (208)324-4359
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 4-10 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Stuart L. Murrell and U. S. Forest Service personnel.
 2. Date and place of Initiation: First teacher workshop held in May 1972.
 3. Overall project purpose: Increase environmental education efforts by teachers in ten county area of Idaho.
- F. PROJECT OBJECTIVES:
1. Hold environmental education workshops for teachers of Magic Valley to acquaint them with discovery techniques of teaching.
 2. Conduct programs in the schools for all age groups and participate in outdoor tours for 6th graders.
 3. Encourage development and use of outdoor study areas.
- G. MATERIALS:
1. Materials produced: Workshop materials apply for all grades and disciplines.
 2. Free materials available: Workshop handouts for teachers.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Environmental slide series primarily for 6-12th grades.
 5. Additional materials being developed: Additional simulation games for various workshop areas.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: Not answered.
 2. Number of teachers having adopted all of the project materials: Not answered.
 3. Number of teachers using some of the project materials: 150.
 4. Total number of students using project materials: 2,000.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Shoshone Junior-Senior High School, 409 South Apple Street, P.O. Box 2D, Shoshone, Idaho 23352.
 - b. Lincoln Elementary School, 210 West Fourth Street, P.O. Box 2D, Shoshone, Idaho 83352.
 - c. Heyburn Elementary School, Heyburn, Idaho 83336.
 - d. Dworshak Elementary School, 19th and Overland Streets, Burley, Idaho 83303.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-2 days.
 - b. Summer Institute: Yes. 5 days.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Slide series on environmental problems and use of outdoor study areas.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Vern Fridley, U. S. Forest Service, Ogden, Utah.
2. Pertinent published research studies: Available from Vern Fridley.

K. PROJECT SUMMARY:

1. Five environmental education teacher workshops involving about 325 teachers.
2. Participation in annual sixth grade tours on conservation involving 800 sixth graders annually.
3. Numerous programs on environmental problems in Idaho and use of outdoor study areas in various schools to both teacher and student groups.

L. PLANS FOR THE FUTURE:

We are presently setting up and will be teaching a five day summer workshop next year for two credits through the University of Idaho.

- A. PROJECT TITLE: OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Contact person is Kenneth Grothers, P.O. Box 2D,
Shoshone, Idaho 83352. (208)886-2338
- C. PROJECT HEADQUARTERS:
1. 409 South Apple Street, Shoshone, Idaho 83352.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None - all volunteer.
- E. PROJECT HISTORY:
1. Principal originators: Mrs. Begie Hatmaker, Mr. James Pate,
Mr. Kenneth Grothers.
2. Date and place of Initiation: October 1969.
3. Overall project purpose: To acquaint elementary school students
with the conservation and environmental control being practiced by
various agencies in this area.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To provide outdoor, on-site ex-
periences in conservation and environmental control for elementary
school students.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 3.
2. Number of teachers having adopted all of the project materials:
Not answered.
3. Number of teachers using some of the project materials: 4.
4. Total number of students using project materials: 70.
5. Totals state are estimated.
6. Names and locations of schools where the course is being taught:
Not answered.
- M. TEACHER PREPARATION: Not answered.
- N. PROJECT EVALUATION: Not answered.
- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
For three years beginning in October 1969, the three school districts
in Lincoln County have conducted a field trip in conservation for.

all fifth grade students. Agencies of federal, state, and local government have provided field stations demonstrating conservation practices. These agencies (Forest Service, B.L.M., A.S.C., A.S.C.S., Fish and Game, County Extension) have worked cooperatively with the schools to prepare a field trip booklet for use before and during the trip. Each teacher determines the extent of coverage in her own classroom.

P. PLANS FOR THE FUTURE: To be continued each year indefinitely.

- A. **PROJECT TITLE:** ENVIRONMENTAL SCIENCE LEARNING PROJECT
- B. **PROJECT DIRECTOR:** Dr. Musa Qutub, Earth Science Department, Northeastern Illinois University, Bryn Mawr at St. Louis, Chicago, Illinois 60625. (312)583-4050 Ext. 740
- C. **PROJECT HEADQUARTERS:**
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. **PRINCIPAL STAFF:** 9 persons regularly employed.
- E. **PROJECT HISTORY:**
1. Principal originator: Dr. Musa Qutub.
 2. Date and place of Initiation: September 1973.
 3. Overall project purpose: To aid teachers in developing their own curriculum guide and a learner's guide for environmental science.
- F. **PROJECT OBJECTIVES:**
- To aid students in investigating their immediate environments as a start to learning about their global and regional environments.
- G. **MATERIALS:**
1. Materials produced: None.
 2. Free materials available: Motivated, self-directed learning model.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: None.
 6. Present commercial association: Yes.
- H. **MATERIALS IMPLEMENTATION:**
- We do not yet have this information.
- I. **TEACHER PREPARATION:**
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 6. Teaching materials commercially available: Not yet.
- J. **MATERIALS EVALUATION:** None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Ten pilot workshops will be held in various parts of the country.

- A. PROJECT TITLE: CRYSTAL LAKE OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Norbert Ziemer, 330 North Main Street, Crystal Lake, Illinois 60014. (815)459-5557
- C. PROJECT HEADQUARTERS:
1. 330 North Main Street, Crystal Lake, Illinois 60014.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Crystal Lake School District #47 and the Crystal Lake Park District.
 2. Date and place of Initiation: July 1, 1967.
 3. Overall project purpose: To facilitate and vitalize learning through direct meaningful experiences; to make environmental education real through involving the learner in the problem-solving approach to practical situations.
- F. PRESENT COMMERCIAL AFFILIATIONS: No.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: The primary aim of this program is to assist and aid teachers to increase children's understandings and appreciation of science and the natural environment outdoors, to develop and improve the scientific attitude and thinking in children, and to increase children's interests in science and the outdoors.
 2. New instructional materials being produced: Yes. K-12.
- H. MATERIALS PRODUCED:
1. K-6:
 - a. Resource guides.
 - b. Sample "Tips" bulletins.
 - c. Sample lesson plans and worksheets.
 - d. Resident Program Teachers' Guide.
 - e. Outdoor Education Resident Program Students' Handbook.
 2. 7-12:
 - a. Curriculum guides.
 - b. Resource guides.
 - c. Sample "Tips" Bulletins.
 3. Others: "Legends and Lore of Plants in Veteran Acres Park".
- I. MATERIALS AVAILABLE FREE:
1. Program resume.
 2. Program history, philosophy and community involvement.

J. MATERIALS PURCHASABLE:

1. Sample "Tips" bulletins (18 copies per year).
2. Primary Resource Guide.
3. Intermediate Resource Guide.
4. Resident program - Teacher Handbook.
5. Resident program - Student Handbook.
6. Sample lesson plan packet (k-6).

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: Slide series on curriculum areas as needed; i.e., winter birds, spring birds, etc.
2. Development of other materials anticipated: School site development and teaching ideas.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 20.
2. Number of teachers having adopted all of the project materials: All.
3. Number of teachers using some of the project materials: 350.
4. Total number of students using project materials: 15,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught: Not answered.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. $\frac{1}{2}$ day, 1-2 hours.
 - b. Summer Institute: Yes. 3 days.
 - c. Evening classes: No.
 - d. Others: Outdoor Education-related courses taught at the McHenry County College.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. University evaluators - Dr. Malcolm Swan, Northern Illinois University, Dr. George Donaldson, Northern Illinois University Taft Campus at Oregon, Illinois.
2. Pertinent published research studies: Available through Dr. George Donaldson and Dr. Malcolm Swan.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

The 6th grade resident program is considered part of our total school learning. All 6th grade students are provided one week of Resident Outdoor Education. The "unique" educational experience offered these students is only a part of education for "environmental awareness." An awareness that has become increasingly tied to man's ability to provide a quality existence on this planet for this and future generations.

P. PLANS FOR THE FUTURE:

1. Additional teacher in-service sessions.
2. Additional teacher aides.
3. Prepared materials, worksheets, trail guides, etc.
4. Expanded outdoor education professional committee membership.

Q. ERIC DOCUMENTS:

A Curriculum Enrichment Guide Using Veteran Acres Crystal Lake Park District. ED 035 472

- A. PROJECT TITLE: ENVIRONMENTAL ISSUES
- B. PROJECT DIRECTOR: Mrs. Bettye G. Kaplan, York Community High School,
355 St. Charles Road, Elmhurst, Illinois 60126. (312)TE4-9400
- C. PROJECT HEADQUARTERS:
1. Same as B.
2. Special facilities or activities available for visitor viewing: Yes. A resource center.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mrs. Bettye G. Kaplan and Keith Olson.
2. Date and place of Initiation: Development work started in June 1970; course initiated September 1971.
3. Overall purpose: To develop, teach, and continue to refine a high school course emphasizing current environmental issues from an interdisciplinary approach - evaluation and the appropriate course modifications are an integral part of the project.
- F. PROJECT OBJECTIVES:
1. To stimulate students awareness of their role in each issue studied.
2. Topics dealt with are:
a. Energy and materials flow.
b. Food production and distribution.
c. Power production and energy use.
d. Transportation.
e. Population issues.
f. General land use issues.
g. Management of the water resource problems involved in establishing maximum permissible concentrations of chemicals.
- G. MATERIALS:
1. Materials produced: All materials designed for 10-12 grade students who have studied one year of biology.
a. Environmental Issues - A Study Guide by Bettye G. Kaplan.
b. Student project guides - these are designed to encourage student involvement in local environmental issues.
c. Guide to use of environmental resources.
d. Outlines for the use of simulation exercises.
e. A variety of transparencies and slides.
f. Tests covering all topics considered.
g. Materials to prepare students for the field trips which are an integral part of the course.
2. Free materials available: A limited number of requests for materials may be honored.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. This is an on-going process as the course deals with issues in the forefront of the "news".
5. Additional materials being developed: Classroom games to accompany study units.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 2.
3. Number of teachers using some of the project materials: Unknown. Those who have taken Mr. Olson's course probably. No follow-up is done.
4. Total number of students using project materials: About 60 per year since September 1971.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: To our knowledge, all materials being used only at York High School, Elmhurst, Illinois.

I. TEACHER PREPARATION:

Mr. Olson teaches a course in the methods of Environmental Education through the National College of Education. It is based on the York High School experience in its environmental issues course. Materials listed under G.1. are available for educators to use.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By students and teachers involved.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Development and continuous updating of what is primarily a current events course focused on the changing physical and social environment.
2. Development of methods and materials based on experience teaching the course as well as on changes in the environment and interpretations of such change.

L. PLANS FOR THE FUTURE:

Continue present activities.

- A. PROJECT TITLE: DEKALB COUNTY NATURAL RESOURCE CENTER
- B. PROJECT DIRECTOR: Ward Miller, Box 264, Genoa, Illinois 60135.
(815)784-5815
- C. PROJECT HEADQUARTERS:
1. Box 264, Genoa, Illinois 60135.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: DeKalb County Conservation Committee (DeKalb Soil and Water Conservation District), Superintendents of DeKalb County School, Mrs. Beverly Southern.
2. Date and place of Initiation: March 1967.
3. Overall project purpose: To encourage, develop and operate a program of environmental and outdoor education for DeKalb County children and teachers.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. For the child to acquire broad environmental understandings.
b. For the child to develop a social conscience in respect to the environment.
c. For the child to behave with respect and responsibility toward the environment.
d. For the child to identify with the natural environment.
e. For the teacher to acquire knowledge of, respect for, and intellectual stimulation from natural resources education.
f. For the teacher to develop self confidence in the use of unfamiliar materials and environments for teaching purposes.
g. For the teacher to accept the philosophy of Natural Resource Education as good and its materials as relevant to the job of teaching.
h. For the community to recognize resource problems and to learn how to achieve environmental quality.
i. For the community to learn while it enjoys a facility for educational recreation.
2. New instructional materials being produced: At the present time our project is running at a minimum level and the staff has little time for new instructional materials development.
- H. MATERIALS PRODUCED:
1. K-6:
a. Curriculum materials for K-6 (10 concepts and class activities) for 15 different school systems.
b. Newsletter - The Web - produced quarterly.
c. Curriculum materials for use of North Grove School (one

room school house used to study resource use and re-definition.

- d. Several tapes for guiding in doing various environmental studies outside by classroom teachers (change, animal habitats, light, water erosion, etc.).

2. 7-12:

- a. Most of the materials used with this level are in the form of data sheets.

- b. Newsletter - The Web - produced quarterly.

3. Others: Film - "To Live on Earth" - Guide that describes the development of a trail for the handicapped now near completion at our center. Designed by Dr. Donald Hammerman and Dr. Milo Pritchett of Northern Illinois University.

- I. MATERIALS AVAILABLE FREE: At the present time our budget is so limited we are unable to provide materials free of charge.

J. MATERIALS PURCHASABLE:

1. Film - "To Live on Earth" - Purchase from Northern Illinois University for about \$100.00.

2. Newsletter - The Web - \$.50 an issue.

3. Guide to North Grove School (Teachers Guide). Study of mans use of natural resources, past and present.

4. A Plan and Design for Natural Resources Education by Beverly Southern.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:

- a. Curriculum materials to study redefinition of natural resources.

- b. More tapes to guide outdoor studies:

- c. Environmental activities.

- d. Special teaching stations and activities for handicapped.

2. Development of other materials anticipated: Environmental super 8mm films with sound (5 minutes long), many of which will be open-ended.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 11 school systems in the county are using center materials.

2. Number of teachers having adopted all of the project materials: Unknown.

3. Number of teachers using some of the project materials: Unknown.

4. Total number of students using project materials: 9,000 county students (K-12) use some of our materials.

5. Totals stated are estimated.

6. Names and locations of schools where the course is being taught:

- a. DeKalb Community School District #428, DeKalb, Ill.

- b. Sycamore School District #427, Sycamore, Ill

- c. Genoa-Kingston School District #424, Genoa, Ill.

- d. Waterman Schools #431, Waterman, Ill.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. School site workshops (1½ hours), Mini workshops (15 minutes - 1 hour), Grade level workshops (1 day), 20 hour environmental workshop.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Title III - ESEA, and OSPI - State of Illinois.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Quarterly produced Newsletters - "The Web".
2. Served approximately 50,000 students and teachers.
3. Construction of 3,000 square feet interpretive facility.
4. Construction of 80' foot bridge.
5. Special programs for county citizen groups.
6. Renovation of one room school house (used in study of redefinition of natural resources).
7. Construction of a specially designed trail for the handicapped (coordinated by DeKalb Junior Womens Club).
8. Development of integrated (science and social studies) environmental curriculum materials.
9. Production of film - "To Live On Earth".
10. On November 1, 1971 the Center was recognized as one of eight outstanding educational projects in the state of Illinois by the Illinois Elementary School Principals Association.

P. PLANS FOR THE FUTURE:

1. Development of environmental forum consisting of county students representatives from county schools (6-12). Purpose to monitor environmental quality in DeKalb County, Illinois.
2. Expansion of center staff and offering workshops to teachers outside the county.
3. Increase in the development of curriculum materials.

Q. ERIC DOCUMENTS:

Man's Urban Environment. ED 045 350

- A. PROJECT TITLE: TOWARD HUMANIZATION AND INDIVIDUALIZATION OF SCIENCE
- B. PROJECT DIRECTOR: F. D. Goar, Gary L. Bushman, 3600 23rd Ave.,
Moline, Illinois 61265. (309)762-9411
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Project classes in operation.
- D. PRINCIPAL STAFF: 10 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: F. D. Goar.
2. Date and place of Initiation: June 1970 - Moline, Illinois.
3. Overall project purpose: To humanize and individualize science - unified approach.
- F. PROJECT OBJECTIVES:
1. Develop individualized, humanized, unified science packets for a three year science course.
2. Develop teacher teams.
3. Act as demonstration center.
- G. MATERIALS:
1. Materials produced: 250+ modules on science - grades 7-12.
2. Free materials available: Handouts.
3. Materials produced that can be purchased: Questionable until state of Illinois acts on requests.
4. New instructional materials being developed: Yes. Grades 9-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 10+.
2. Number of teachers having adopted all of the project materials: 6+.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 500+.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Bloomington High School, Bloomington, Illinois.
b. LaSalle-Penn High School, LaSalle, Illinois.
c. Yorkwood High School, Monmouth, Illinois.
d. Carlisle High School, Carlisle, Iowa.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. 2 days - 1 week.

b. Summer Institute: No.

c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By Western Illinois University and paid consultants.

2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. The project has existed for three years. 250+ modules in unified science have been prepared.

2. Three pilot classes have been completed at Moline.

3. Four other pilot schools have adopted materials in Illinois.

4. At least three other schools have fully adopted the course and many many others in part.

5. Western Illinois University did an extensive study through the state of Illinois.

L. PLANS FOR THE FUTURE:

1. Revise materials.

2. Prepare teacher guide.

3. Prepare audio-visual supplements.

- A. PROJECT TITLE: THE ECOLOGY OF A SEWAGE TREATMENT LAGOON
- B. PROJECT DIRECTOR: Bill Dutton, Yorkwood Junior-Senior High School,
R.R. #3, Monmouth, Illinois 61467. (309)734-2070
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Sewage treatment lagoon and outdoor study area.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Bill Dutton.
2. Date and place of Initiation: Spring of 1971 - Yorkwood High School.
3. Overall project purpose: To provide the student of biology with an in-depth study of a man-made, man-controlled ecosystem unnatural to this area, the sewage treatment lagoon.
- F. PROJECT OBJECTIVES:
To expose the student to the intricate interrelationships of the aquatic flora and fauna, the physical factors affecting these interrelationships, and the immediate effects that the lagoon has upon the surrounding land areas and terrestrial habitats.
- G. MATERIALS:
1. Materials produced: Unit - Ecology of the Lagoon - Grades 7-12.
2. Free materials available: Copies of the unit and materials needed.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 7-12.
5. Additional materials being developed: Tapes to facilitate progress through the unit at self-paced rate.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
The materials are used at Yorkwood School only.
- I. TEACHER PREPARATION:
Yorkwood is a small rural unit and I am the only instructor in biology.
- J. MATERIALS EVALUATION:
The materials have been evaluated only by myself.
- K. PROJECT SUMMARY
Briefly I have employed this unit to compensate for some shortcomings that I felt were inherent in all biology texts. I have used it successfully for three school years and intend to continue with it this year. I am able to expose the students to an enriched biology course through its use.

L. PLANS FOR THE FUTURE:

I hope to integrate this unit with a number of other subject areas to create an interdisciplinary course that might either be taught during the summer months or be made a part of the existing curriculum.

- A. PROJECT TITLE: ENVIRONMENTAL PLANNING WORKSHOPS FOR COMMUNITY LEADERS
WILL COUNTY APEX-URBAN SIMULATION/GAME
- B. PROJECT DIRECTOR: Ted F. Andrews, Dean, College of Environmental and Applied Sciences, Governors State University, Park Forest South, Illinois 60466. (312)563-2211
- C. PROJECT HEADQUARTERS: Governors State University.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. James Joseph Gallagher, Dr. Herman Sievering.
 2. Date and place of Initiation: January 1973. Will County and Joliet Planning Offices.
 3. Overall project purpose: To develop a communications tool for citizen participation in decision-making in planning.
- F. PROJECT OBJECTIVES:
1. To coordinate Will County Planning Office and Joliet Planning Office in development of Will County data base for input into EPA's METRO-APEX.
 2. To use the converted APEX as a communications tool in Will County for better perceptions, perspectives, and articulation of value structure.
- G. MATERIALS:
1. Materials produced:
 - a. Papers on the use of APEX in spring environmental planning workshops.
 - b. Data based on Will County.
 2. Free materials available: Those listed above.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. College and adult.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. "Introduction of Simulation to Community Decision-Makers" published in Proceedings of the 1973 Pittsburgh Modeling and Simulation Conference.
 2. "Simulation/Gaming and Citizen Participation in the Planning Process", Fall 1973 edition, Simulation/Gaming/News.
 3. "Gaming as a Catalyst in Promoting Regional Approaches to Inter-Community Problems" to be presented to National Gaming Council and International Simulation and Gaming Association, 1973.

L. PLANS FOR THE FUTURE:

1. Workshops and seminars for community leaders.
2. Workshops and seminars for teachers.
3. Environmental education curriculum development.

- A. PROJECT TITLE: UPPER MISSISSIPPI RIVER ECO-CENTER
- B. PROJECT DIRECTOR: Dennis Etnyre, R.R., Thomson, Illinois 61285.
(815)259-2925
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Offices and resource library, 80 acre outdoor education site.
- D. PRINCIPAL STAFF: Project director, 2 instructors, and secretary all regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Howard Kennedy, Superintendent of Thomson Unit District; Dennis Etnyre, Biology teacher; Dr. George Donaldson; and Carroll County Outdoor Education Committee.
 2. Date and place of Initiation: August 1972 - Carroll County.
 3. Overall project purpose: Establish a center for carrying out curriculum reform in the ecology environment area.
- F. PROJECT OBJECTIVES:
1. Increase pupil understanding of basic concepts of environmental management.
 2. Improve pupil attitude toward environmental management.
 3. Increase teacher knowledge.
 4. Increase teachers instruction in environmental education.
 5. Develop a comprehensive outdoor education program for Carroll County.
- G. MATERIALS:
1. Materials produced:
 - a. K-6:
 - Upper Mississippi Environmental Awareness Test for 5th Grade.
 - Attitude Test for 5th Grade.
 - Test for teachers based on Roth's concepts.
 - Environmental Education Curriculum Guide for Intermediate Grades.
 - Curriculum Guide K-8 for Mt. Carroll Unit District.
 - Bibliography of resources of ECO-Center.
 - Slide sets of 5th grade field experiences.
 - One slide set of total program during 1972-73.
 - b. 7-12: Operation Awareness - Canoe-Camping. High School courses.
 - c. Others:
 - Monthly newsletter.
 - Directory of Resources for Carroll County.
 - Numerous activities for pupils and for in-service training sessions.
 2. Free materials available:
 - a. Newsletters.
 - b. Project description.
 - c. Other materials available by January 1974.

3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. Curriculum Guide K-8, slide set on high school course - Canoe Camping-Study Course.
5. Additional materials being developed:
 - a. Guide for producing in-service training sessions for teachers.
 - b. Teachers guide for the 5th grade ECO-center program.
6. Present commercial association: No. We are funded under Title III ESEA.

H. MATERIALS IMPLEMENTATION:

It would not be possible for any school or teacher to use all of our materials since we have many.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: One day workshop.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Will be available in 1974.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Dr. Ary and Dr. Vogl of Northern Illinois University.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. The entire program was planned in conjunction with the Department of Outdoor Education, Northern Illinois University. Dr. George Donaldson is consultant to the project.
2. It was necessary to develop a series of in-service training sessions for classroom teachers.
3. Area resources were identified and developed for student field trip experiences.
4. The educational activities of other area agencies were incorporated into the classrooms.
5. One-day field experiences at local outdoor education facilities were developed.
6. Information about the progress of the project was disseminated to professional educators as well as to the community.
7. A library of reference materials for teacher and student was developed.

L. PLANS FOR THE FUTURE:

Project staff will be working with 4,5,6th grades, with a summer course for high school students.

A. PROJECT TITLE: PLEASANT VALLEY FARM - OUTDOOR ENVIRONMENTAL EDUCATION CENTER PROGRAM

B. PROJECT DIRECTOR: James Mason, Pleasant Valley Farm, 13315 Pleasant Valley Road, Woodstock, Illinois 60098. (815)338-5080

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. 460 acre site; operating farm; 300 acre natural area; trails; resident facilities and program facilities.

D. PRINCIPAL STAFF: 10 persons regularly employed, 30 seasonal employees.

E. PROJECT HISTORY:

1. Principal originator: Community Renewal Society staff and program participants.
2. Date and place of Initiation: Pleasant Valley Farm - 1967.
3. Overall project purpose: To foster, support and enhance the exploration of new relationships of people with one another and with the earth, in order to assist people and their institutions in the renewal and rebuilding of purposes and tasks needed for a new society.

F. PROJECT OBJECTIVES:

1. To enhance understanding between people of varying backgrounds and to increase their sensitivity to the urban environment and its problems.
2. To help individuals and institutions to discover alternatives for individual and corporate actions necessary to improve and sustain a qualitative and human environment.
3. To foster the development of experimental programs in human relations and environmental education and to share findings with other educational centers and camps.
4. To see, feel, and understand Pleasant Valley as a community committed to justice and equality in human relations and environmental quality in its operations, policies and practices.
5. Camping Services:
 - a. To make possible broader participation in camping experiences and to serve as an educational resource for change and renewal through cooperative programs with families, churches, community organizations and other basic institutions.
 - b. To foster experimental camping programs which can contribute to the field of organized camping.
6. Environmental Education Services:
 - a. To cooperate with other educational groups and institutions in the development of significant learning experiences utilizing the total human environment.
 - b. To develop and carry out exploratory environmental education experiences and activities which can be models for other institutions engaged in environmental education.
 - c. To provide a training resource for students and teachers in environmental interpretation and management.

- d. To serve as a model of environmental quality in center/
camp operation and institutional management.
- 7. Retreat and Continuing Education Services:
 - a. To cooperate with institutions and agencies with purposes compatible with those of Pleasant Valley Farm in the development and carrying out of short-term educational programs, such as workshops, institutes, seminars, retreats and conferences.
 - b. To develop and carry out short-term experimental workshops and conferences, appropriate for implementation in other settings.
- G. MATERIALS: This project has not developed materials.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
A workshop for teachers - 5 hours to 2½ days.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
The constituency of Pleasant Valley Farm, with whom the purposes and programs of the center are planned and carried out, are residents of metropolitan Chicago and their families, schools, churches, social agencies, community organizations and other institutions, with special priority given to inner city residents and their institutions.
- L. PLANS FOR THE FUTURE:
Continuation of existing environmental education program.

- A. PROJECT TITLE: WOODSTOCK ENVIRONMENTAL EDUCATION PROJECT
(ESEA, TITLE III)
- B. PROJECT DIRECTOR: Lynn Yount, 600 Dean Street, Woodstock, Illinois
60098. (815)338-6975
- C. PROJECT HEADQUARTERS:
1. 600 Dean Street, Woodstock, Illinois 60098.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons regularly employed plus 12 teacher coordinators.
- E. PROJECT HISTORY:
1. Principal originators: Central office staff, staff instructors, interested citizens, and Outdoor Club enthusiasts.
2. Date and place of Initiation: 1969 - Community Council and Woodstock High School Outdoor Club.
3. Overall purpose: Develop and establish educational and community action programs in the schools and a variety of community organizations for the purpose of maintaining a sound social and natural environment.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Establish an exemplary resource center.
b. Identify academic essentials necessary to bring about desired environmental qualities.
c. Organize interested persons to support formal and non-formal EE activities.
d. Disseminate environmental materials to specific and general populations.
2. New instructional materials being produced: Yes. Grades K-12.
- H. MATERIALS PRODUCED:
1. K-6: EE Concept-Activity Materials.
2. 7-12: EE Concept-Activity Materials.
3. Others: None.
- I. MATERIALS AVAILABLE FREE:
Samplings of EE Concept-Activities.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: None.
2. Development of other materials anticipated: An extension of the EE Concept-Activity Materials.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 10.
2. Number of teachers having adopted all of the project materials: 0.
3. Number of teachers using some of the project materials: 90.
4. Total number of students using project materials: 0.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Clay Street School, Clay Street, Woodstock, Illinois 60098.
 - b. Greenwood Elementary School, 4618 Greenwood Road, Woodstock, Illinois 60098.
 - c. Westwood Elementary School, 14124 South Street Road, Woodstock, Illinois 60098.
 - d. Northwood Elementary School, 2645 N. Seminary, Woodstock, Illinois 60098.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - Workshops: Yes. 2 days.
 - Institute: Yes. 2 weeks.
 - Learning classes: No.
 - Others: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Project went into effect in July, 1971. Late summer workshop was held for benefit of teachers who had agreed to be building coordinators. Extensive ordering of materials was undertaken to support concentration of effort in EE. (Stock a Resource Center). A staff associate was employed to assist teachers in encountering a new curriculum area. During the summer of 1971, twenty-two teachers were involved in a two week workshop for the purpose of designing EE concept oriented activities. These materials were subsequently presented to the teaching staff by the building coordinators. All materials are being used to some extent. Field trips and school site surveys are being developed to coordinate with EE activities.

P. PLANS FOR THE FUTURE:

In-service workshops to reinforce teachers interest and abilities in EE are being planned. Resource persons and materials guides are being developed for use by teachers. Citizen-student community activities are being developed.

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- A. PROJECT TITLE: ENVIRONMENTAL STUDIES PROGRAM
- B. PROJECT DIRECTOR: Craig E. Nelson, Jordan Hall 018, Indiana University, Bloomington, Indiana 47401. (812)337-9485
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3½ positions in program; also coordinate efforts of 25 professors with appointments in other departments.
- E. PROJECT HISTORY:
1. Principal originators: Three professors and one associate dean.
 2. Date and place of Initiation: Fall 1971.
 3. Overall project purpose: Environmental education of undergraduate and graduate students.
- F. PROJECT OBJECTIVES:
1. Systems concept.
 2. Interdisciplinary base.
 3. Depth in one area.
- G. MATERIALS:
1. Materials produced: None.
 2. Free materials available: Description of program.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: Developing.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: No.
 - b. Summer Institute: Yes. 6 or 8 weeks.
 - c. Evening classes: Not answered.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION: Not applicable.

K. PROJECT SUMMARY:

The need for an interdisciplinary program at Indiana University dealing with the influences of science and technology on society with special emphasis on the environment was suggested by individual faculty members as early as 1963. A proposal for an interdisciplinary environmental studies program was initiated in 1965 by Professors from three departments (Microbiology, Political Science and Physics). However, it was not until the summer of 1970 that support for such a program reached a "point of critical mass". The factors which changed University receptivity between 1965 and 1970 included the discovery of environment by large numbers of students (especially in 1969) and an attitudinal change in natural sciences from skepticism of the need and feasibility of an interdisciplinary approach to concern that scientific knowledge be applied to the emerging environmental issues. This intervening period also saw the development of some courses in environmental aspects of traditional departments (e.g. Environmental Policy, Environmental Biology) and of an experimental interdisciplinary course (Environment and Man).

At an ad hoc meeting of the natural sciences faculty in July 1970 there was unanimous agreement on the desirability of such a program, but questions of program status and curriculum remained unanswered. Specific proposals were invited for the next meeting which was held in September. Programs at other universities and existing courses at Indiana University were discussed and a curriculum subcommittee was appointed. A program submitted by the subcommittee was approved with some modifications by the ad hoc committee in November 1970, and was subsequently presented to and approved by the University administration. An Environmental Studies Program was established in May of 1971. An undergraduate major in Environmental Studies was first offered by the College of Arts and Sciences in the Fall of 1971.

The University concurrently decided to seek state approval for the establishment of a School of Public and Environmental Affairs (SPEA). The School was given final approval early in 1972. A number of existing programs were transferred to the new school. These included the Environmental Studies Program, the Urban Affairs Program, the Aerospace Applications Research Center and the Program on Science, Technology, and Public Policy. An Undergraduate Concentration in Environmental Policy for students pursuing a Bachelor of Public Affairs in SPEA was initiated in the Fall of 1972. A graduate concentration in Environmental policy for students seeking a Master of Public Affairs degree (SPEA), a Graduate Minor in Environmental Studies (for students seeking the Ph.D. in other areas) and a Certificate in Environmental Studies (available to undergraduate students in any division of I.U.) was offered in the Fall of 1973.

L. PLANS FOR THE FUTURE:

1. Proposals which are presently being considered include a Teaching Major and Minor, teacher certification in Environmental Studies, Master of Arts in Teaching in Environmental Studies, and Master of Science in Environmental Sciences.
2. A resume was prepared in June 1973, at the request of the

National Association of Environmental Education (USA) for submission to the Center for Educational Research and Innovation, Organization for Economic Cooperation and Development, as a case study for possible use at the International Workshop on Environmental Education at Post-Secondary Level.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION WORKSHOP (INDIANA DUNES NATIONAL LAKESHORE); BAILLY HOMESTEAD ENVIRONMENTAL STUDY AREA
- B. PROJECT DIRECTOR: St. n Lock, District Ranger, c/o Superintendent, Indiana Dunes National Lakeshore, RR 2, Box 139A, Chesterton, Indiana 46304. (219)926-7561
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Visitor center, historic area, natural areas, trails.
- D. PRINCIPAL STAFF: One person in charge to set up as needed and as time permits. Volunteers and other resource people also used.
- E. PROJECT HISTORY:
1. Principal originators: National Park Service and Open Lands Project (Chicago).
 2. Date and place of Initiation: May 1973 - Visitor center (Indiana Dunes), with study guide.
 3. Overall project purpose: Environmental awareness.
- F. PROJECT OBJECTIVES:
1. The National Park Service objective: To create an environmental awareness that will lead the individual to a personal sense of involvement and eventually to the shaping of an environmental ethic to guide his behavior. National Park Service environmental study areas, like Indiana Dunes National Lakeshore, provide a new kind of learning experience that makes imaginative and creative use of the natural, cultural, and social worlds of which we all are a part. The approach to learning is through the use of dynamic interpretive concepts of "Strands of the Environment." These are universal ideas which can be applied to art, music, history, mathematics, social science, and communications. The Strands are:
 - a. Variety and Similarity.
 - b. Patterns.
 - c. Interaction and Interdependence.
 - d. Change and Continuity.
 - e. Adaptation and Evolution.
 2. Overall workshop objectives: To develop in the teacher an ability to use Indiana Dunes National Lakeshore or any other environmental study area on his or her own, and to demonstrate how the workshop experience can be translated to others.
- G. MATERIALS:
1. Materials produced: Study Guidebook for Teachers K-6 level.
 2. Free materials available: Workbook is handed out only to participants who have gone through workshop.
 3. Materials produced that can be purchased:
 - a. Science Notes - The Chicago Academy of Sciences, Lincoln Park, 2001 N. Clark Street, Chicago, Illinois 60614. \$.45.
 - b. Master Tree Finder - Nature Study Guild, Berkeley, California. \$.75.

4. New instructional materials being developed: Yes. Texts for teachers.
5. Additional materials being developed: Texts for teachers.
6. Present commercial association: The Washington office has in the past worked with Silver Burdett on developing the NEED materials. For more information contact National Park Service, Washington, D.C.

H. MATERIALS IMPLEMENTATION:

Over 100 copies of the workbook has been distributed.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 or 2 days.
 - b. Summer Institute: Possibly in 1974.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not answered.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. National Environmental Education Development (NEED) is a process for developing environmental awareness, understanding, and values through use of existing curricula of participating schools. Designed as a kindergarten through 12th grade program, it emphasizes awareness through inquiry, wise management of our resources, and development of a personal environmental ethic. Materials for grades 5 or 6 are now available. The processes that form the backbone of NEED operate everywhere throughout the environment, in nature and in what man has made of nature - his civilization, his culture, his history, his society. Thus NEED can be used to make environmental concepts relevant to any lesson in any curriculum for any child, regardless of individual background or environment.

2. NEED'S ENVIRONMENTAL STRANDS: The strands are five "constants" that run through the total environment. They can be used individually, in relation to a specific subject or a particular environmental setting. They also have a sequence and interconnectiveness that may deepen their significance and utility. Taken in order, they represent a logical sequence of learning. The strands can also be used singularly or in whatever combination suits the particular situation.

- a. Variety and Similarity - the inventory stage of learning; cataloging the observable components.
- b. Patterns - organizing the inventory into sets of things we can handle, either actually or intellectually.
- c. Interrelation and Interdependence - the action stage of

learning, where the environmental components are studied in motion.

- d. Continuity and Change - the extension in time of continuing processes and changing action.
- e. Adaptation and Evolution - the stage involving continuous modification which may result in adjustment to prevailing conditions.

L. PLANS FOR THE FUTURE:

Each workshop is set up through a "steering committee" and is tailored as much as possible to the specific needs of the group. Activities (awareness, etc.) are designed in relation to the weather, season, group, etc.

M. ERIC DOCUMENTS:

Bailly Homestead Study Guide for Environmental Education. SE 016 968

- A. PROJECT TITLE: A WETLANDS ECOLOGICAL LABORATORY
- B. PROJECT DIRECTOR: Mr. Dennis Clark, 3200 Cold Spring Road,
Indianapolis, Indiana 46222. (317)924-3291
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. A wetland area with adjoining sights, about 30 acres.
- D. PRINCIPAL STAFF: 1 full-time and 1 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Sister Marie Bernard Witte of the Biology Department with the aid of Dr. Robert Petty, Ecologist of Wabash College and Mr. Kenneth Pyle, District Conservationist of the U.S. Department of Agriculture.
2. Date and place of Initiation: January 1972.
3. Overall project purpose: To develop a greater interest in, concern for, and awareness of the outdoor, and to preserve some of the flora and fauna of wet lands which are rapidly being destroyed. These are to be accomplished primarily through working with teachers and small groups.
- F. PROJECT OBJECTIVES:
1. To provide outdoor teaching experience for students of elementary and secondary education.
2. To provide an outdoor laboratory where biology students and faculty can conduct on going class studies and research.
3. To provide an area for elementary and secondary school teachers to gain experience; for community groups for field trips; an area quite unique in Indiana.
- G. MATERIALS:
Since we are only in the first phase of interesting the community in the area to provide necessary funds for making it accessible, we have not yet produced materials. We anticipate developing keys for identifying various materials found in the area and helps for field studies.
- H. MATERIALS IMPLEMENTATION: Not applicable as yet.
- I. TEACHER PREPARATION: Not applicable as yet.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
Our detailed Master Plan for the laboratory was developed by the Minnesota Environmental Science Foundation, Inc., and was presented to the community at a workshop on August 21, 1973. With the aid of individuals some progress has been made with the area but there are several major items that need attention and it is primarily for these that we are seeking help from the community.

L. PLANS FOR THE FUTURE:

These activities will consist of workshops, teacher training activities, group field trips, such as Audubon Society, etc., study of various ecological types, field studies for biology classes from local and surrounding colleges.

- A. PROJECT TITLE: INNER-CITY RESIDENT OUTDOOR SCHOOL
- B. PROJECT DIRECTOR: Mrs. Magdalene A. Davis, Education Center -
Room 501G, 120 East Walnut Street, Indianapolis, Indiana 46204.
(317)634-2381 Ext. 242
- C. PROJECT HEADQUARTERS:
1. Bradford Woods, R.R. 1, Martinsville, Indiana 46151.
2. Specials facilities or activities available for visitor viewing: Exhibits and materials pertaining to the outdoor program.
- D. PRINCIPAL STAFF:
Teachers and director are employed by School Board for regular classes. Resource staff from other organizations, State and universities. This program is not funded for the entire staff.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Magdalene A. Davis, Consultant Outdoor Education, Classroom teachers, Curriculum Council, Outside Resource Staff - State Department, Universities and Conservation Groups.
2. Date and place of Initiation: April 1966. Camp Gallahue, Brown County, Indiana.
3. Overall project purpose:
a. Urban Inner-City need outdoor learning experiences.
b. Social behavior.
c. Health and recreational learning with educational learning emphases.
- F. PROJECT OBJECTIVES:
1. To develop powers of observation, reasoning, critical and analytical thinking through inductive and deductive scientific study and research outside the classroom.
2. To provide an environment of intensive work by the pupil in all subject areas - language arts, science, social studies, history, math, music, art, and health and safety.
- G. MATERIALS:
1. Materials produced:
a. K-6: Scholastic, Earth Corps., S.E.E. Hayes Arboretum.
b. 7-12: Scholastic.
c. Others: Exchange Bloomington and other schools in the state.
2. Free materials available: None.
3. Materials produced that can be purchased:
a. Outdoor Education Handbook.
b. Some Suggestions Useful in Planning Outdoor Program.
Available from: Dr. Magdalene A. Davis - \$1.00 each.
4. New instructional materials being developed: Yes. Guides being written with Hayes Arboretum for grades 1 and 2.
5. Additional materials being developed: Tapes and slides for school use explaining programs.
6. Teaching materials commercially available: No.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 114.
2. Number of teachers having adopted all of the project materials: 150.
3. Number of teachers using some of the project materials: 300.
4. Total number of students using project materials: Not known.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. School #44, Integrated Outdoor Learning-grade 4, 2033 Sugar Grove Avenue, Indianapolis, Indiana.
 - b. School #107, Integrated Outdoor Learning-grade 4, 3307 Ashway Drive, Indianapolis, Indiana.
 - c. School #22, Resident Camp, 1231 S. Illinois Street, Indianapolis, Indiana.
 - d. School #84, Resident Camp, 440 East 57th Street, Indianapolis, Indiana.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1½ hours-5 sessions.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the Advisory Council-Offices and State Department, ESEA Title III On-Site Project 70-318. November 8, 1972.
2. Pertinent published research: Not answered.

K. PROJECT SUMMARY:

The program has been in operation since 1968 at Bradford Woods. Twelve groups from inner-city schools, totaling 328 sixth-grade students from 11 schools, are provided with a 4 day camping experience. Resource persons from the community, schools, colleges and universities provide a well planned program of instruction. Classes are held morning, afternoon, and often evening. Nature appreciation, health, art, music, language arts, social studies, rocks and fossils, prehistoric life, air and water pollution, entomology, soil, trees, flowers, fish, reptiles, and wildlife are among the many class offerings. The main objective is to provide the inner-city student with educational and social experiences outside his local community.

L. PLANS FOR THE FUTURE:

1. Level I - The 175 Kindergarten teachers are introduced to simple concepts and study conservation and ecology. Kindergarten teachers attend Environmental Education Area Workshops in the fall. Instruction and suggested activities for school year, neighborhood, and nearby city parks are presented.
2. Level II - Outdoor learning experiences and projects are conducted in the neighborhood areas and nearby city parks.
3. Level III - Trips and visits are made to Bangle Farm, Indianapolis Zoo, and Indian Heritage Museum.
4. Level IV - Indianapolis Museum of Art and Grounds, Geist Reservoir, Sanitation Plant, and Eagle Creek Park.
5. Level V - Trips to Zoological and Botanical Gardens and the Planatariums.
6. Level VI - All 5th grades study the science unit on Pond Biology at Geist Reservoir. In-service workshops for teachers, parents, volunteers, and Conservation Clubs are conducted in Spring and Fall.
7. Level VII - 6th grade teachers and classes spend four weeks in Spring and Fall at Bradford Woods Resident Camp. An inner-city school and a non-inner-city school participate in the program. Twenty five city, county, state departments and national conservation groups assist in the program and provide pertinent materials, proper equipment, staff assistance and facilities.
8. Development of K-12 year round program.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION PROCESS CURRICULUM - K-12
- B. PROJECT DIRECTOR: W. Ray Lockwood, 121 E. River Boulevard, Marion,
Indiana 46952. (317)662-2546
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: W. Ray Lockwood, Administrative Assistant; Lewis Huston and Pat Hamilton, Biology teachers.
2. Date and place of Initiation: September 1973.
3. Overall project purpose: To develop an environmental education curriculum for all students in our system with emphasis on total community involvement.
- F. PROJECT OBJECTIVES:
1. Change attitudes of apathy-disinterest toward the environment.
2. Develop appreciations for the natural environment.
3. Promote sensitive awareness of man's interdependence with nature.
4. Develop understandings of man's effects on nature.
5. Utilize newest materials and insights of the environmental education field.
- G. MATERIALS:
1. Materials produced: Student activity sheets and teacher guides for K-12.
2. Free materials available: Student activity sheets and teacher guides now being printed.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. Taped interviews with environmentalists. Grades K-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Too early to know how many teachers and students are using our materials. The program materials are being used at: McCulloch Junior High School, 35th and Washington Streets, Marion, Indiana, and Marion High School, 26th Street, Marion, Indiana.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One week.
 - b. Summer Institute: Yes. One week.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Development and writing curriculum.
2. Developing, testing, and printing teacher and student activity guides.
3. Summer in-service for teacher-representatives from each building.
4. Application for full-time curriculum director made to Title III-ESEA.

L. PLANS FOR THE FUTURE:

1. Winter and spring institute in environmental education offered to all Marion teachers by Ball State University.
2. Purchase and development of 160-acre outdoor education site.
3. In-service for additional staff members.
4. Distribution of student guides.

- A. PROJECT TITLE: DEPARTMENT OF NATURAL RESOURCES, BALL STATE UNIVERSITY
- B. PROJECT DIRECTOR: Dr. Clyde W. Hibbs, Chairman, 2000 University Avenue, Muncie, Indiana 47306. (317)285-7161
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 7 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Natural Resources Curriculum Planning Group, Ball State University.
 2. Date and place of Initiation: February 15, 1965 was date of first meeting to initiate planning for natural resources program.
 3. Overall project purpose: To educate people in the area of natural resources.
- F. PROJECT OBJECTIVES:
1. To educate people in the area of natural resources, provide services to people in the environmental area to local communities and elsewhere.
 2. Conduct research.
- G. MATERIALS:
1. Materials produced: Materials prepared to date are those used in teaching various courses.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Yes. Laboratory module for introductory course in natural resources.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Materials have not been published to date.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Not answered.
 2. In-service education program for teachers: Yes.
 3. Pre-service training program for teachers: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One day to 9 months.
 - b. Summer Institute: Yes. 5 weeks.
 - c. Evening classes: Yes. 11 weeks.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The study of Natural Resources at Ball State is interdisciplinary, mission oriented, and dedicated to enhance the quality of the human experience through the improvement of people and their environment. Being an interdisciplinary program, students may include work from many departments in addition to a number of courses developed specifically for the Natural Resources curricula. The graduate curricula in Natural Resources focuses attention upon man/environment relationships leading to either the Master of Arts or the Master of Science Degree. In addition, a cognate area in Natural Resources may be elected at the doctoral level.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: TOTAL ENVIRONMENT EDUCATION
- B. PROJECT DIRECTOR: Glenn R. Linnert, 810 East Market Street, New Albany, Indiana 47150. (812)945-6681
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Special Thursday, Friday, Saturday teacher training programs.
- D. PRINCIPAL STAFF: 1 person employed full-time, two part-time.
- E. PROJECT HISTORY:
1. Principal originators: Glenn Linnert, New Albany Schools; Environmental Education Staff, Indiana Department of Public Instruction.
 2. Date and place of Initiation: July 1, 1973.
 3. Overall project purpose: The project is designed to demonstrate a model way of implementing a State Guidelines into a school district while involving an entire elementary staff in an open learning approach to environmental education.
- F. PROJECT OBJECTIVES:
- Goals:
1. Demonstrate a model for the implementation of a State Guidelines.
 2. Provide a series of materials and activities suitable for teacher use.
 3. Generate teaching techniques suitable to the development of student attitudes.
 4. Develop an awareness of environmental problems among students, teachers, and citizens in Floyd County, Indiana.
- G. MATERIALS:
1. Materials produced: Indiana State Environmental Guidelines. Activities designed to reach the Guidelines objectives (available after February 1974).
 2. Free materials available: Brochure describing the project and methods of implementing.
 3. Materials produced that can be purchased: Book of environmental activities designed to reach the objectives as stated in the Indiana State Guidelines.
 4. New instructional materials being developed: Yes. Grades 1-6.
 5. Additional materials being developed: Statistical summary of the success of the project.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 20.
 2. Number of teachers having adopted all of the project materials: 256.
 3. Number of teachers using some of the project materials: 30.
 4. Total number of students using project materials: 4,000.

5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Lafayette School, Box 322, Floyds Knobs, Indiana.
 - b. St. Marys of the Knobs, Box 912, Floyds Knobs, Indiana.
 - c. Galena School, Box 445, New Albany, Indiana 47150.
 - d. Silver Street School, 2023 Ekin Avenue, New Albany, Indiana 47150.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 full days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: Thursday, Friday, Saturday workshop for groups of 20 teachers at a time.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes, by March 1974. Not yet available.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Currently in process.
2. Pertinent published research studies: Since this is the first year of the project, research data will be available after May 1, 1974.

K. PROJECT SUMMARY:

1. This project has as its immediate goal the training and involvement of all elementary teachers of the New Albany-Floyd County School Corporation in the knowledge, attitudes, and methods of teaching an appropriate environmental education program in our schools. The entire program is modeled around the structure of the new State Environmental Education Guidelines, and a major thrust of the project is to demonstrate a model way to implement a state guidelines into a school district.
2. Teachers involved in the program will receive training in three categories: techniques of teaching for process and rational reasoning skills, methods of selecting and organizing appropriate activities that will give assurance of reaching desired attitudinal goals, and techniques of using the State Guidelines as a tool for curriculum planning and development. Hoped-for outcomes resulting from the training sessions will be the development within students of attitudes and values concerning the environment and the ability to make rational decisions about it.

L. PLANS FOR THE FUTURE:

1. Extension of the project to junior high school next year.

- A. PROJECT TITLE: ENVIRONMENTAL STUDIES PROGRAM (ENVIRONMENTAL STUDIES INSTITUTE)
- B. PROJECT DIRECTOR: Dr. William R. Eberly, Manchester College,
College Avenue, North Manchester, Indiana 46962.
(219)982-2141
- C. PROJECT HEADQUARTERS:
1. Manchester College, College Avenue, North Manchester, Indiana
46962. (219)982-2141 Ext. 267
2. Special facilities or activities available for visitor view-
ing: No.
- D. PRINCIPAL STAFF: No special employees; about a dozen different
faculty are part of the program.
- E. PROJECT HISTORY:
1. Principal originators: Faculty committee, then approval by
entire faculty.
2. Date and place of Initiation: Approved and placed into
operation about 1971.
3. Overall project purpose:
a. To provide general education related to environmental
problems on the liberal arts level.
b. To stress the interdisciplinary nature of environmental
concerns.
- F. PROJECT OBJECTIVES:
1. To provide general education courses for any student who
wants them.
2. To provide a liberal arts major for interested students.
3. To provide pertinent pre-professional courses for interested
students.
4. To supplement and broaden the concerns of students majoring in
any other field.
5. To provide education opportunities for all college faculty at
Manchester College.
- G. MATERIALS:
1. Materials produced: Not answered.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: None for
commercial use or distribution. I am developing audio-tutorial
units for use in my college classes.
5. Additional materials being developed: May work on a directory
of outdoor resources in Wabash County for use by the teachers in
this county.
6. Present commercial associations: None.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION:
We have held workshops and are planning a summer program for
teachers but none of this is related to any materials we have
developed.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

1. Six students graduated with the Environmental Studies major in 1972.
2. We have held several workshops in pollution detection and measurement for surrounding high school students and their teachers.
3. We have held several workshops on environmental education for both secondary and elementary teachers from the surrounding area, in cooperation with the environmental education consultant from the Superintendents education office in Indianapolis.

L. PLANS FOR THE FUTURE:

Our program is a continuing one, and we hope to plan more activities this year. More workshops are on the way, including one dealing with environmental ethics, which will likely involve a selected group of nearby clergy and church leaders.

- A. PROJECT TITLE: SEE SELF-EARTH ETHIC (formerly SYSTEM FOR ECOLOGICAL EDUCATION)
- B. PROJECT DIRECTOR: John W. Hart and Jessie M. Turner, 801 Elks Road, Richmond, Indiana 47374.
- C. PROJECT HEADQUARTERS:
1. Hayes Regional Arboretum, 801 Elks Road, Richmond, Indiana 47374.
 2. Special facilities or activities available for visitor viewing: Yes. All SEE materials.
- D. PRINCIPAL STAFF: The authors work part time on the project.
- E. PROJECT HISTORY:
1. Principal originators: Authors with advice from Dr. Clyde W. Hibbs, Ball State University.
 2. Date and place of Initiation: June 1971. Project (in part) was presented to graduate school, Ball State University.
 3. Overall project purpose:
 - a. Provide K-12 curriculum guide for the development of an environmental ethic based on SELF: A Part of Earth.
 - b. Provide a framework for making all levels of education cumulative.
- F. PROJECT OBJECTIVES:
1. Provide a systematic approach to environmental education which will enhance the students' learning experiences and make the teaching of environment/ecology pleasant and rewarding to the educator.
 2. Emphasize ethical responsibilities and encourage environmentally compatible behavior by both teachers and students.
- G. MATERIALS:
1. Materials produced: K-6.
 - a. Self-Earth Ethic, Level One.
 - b. Self-Earth Ethic, Level Two.
 - c. Scope and sequence chart of eight levels.
 2. Free materials available: Scope and sequence chart of eight levels.
 3. Materials produced that can be purchased: Self-Earth Ethic, Levels One and Two. From the Interstate Printers and Publishers, Inc., Danville, Illinois 61832. \$3.50 less discount (per single copy of either level).
 4. New instructional materials being developed: Yes. Self-Earth Ethic, levels three through eight are being composed using materials originally presented in the System for Ecological Education.
 5. Additional materials being developed: Supplementary workshops and special project guides are prepared from time to time to assist various school systems.
 6. Present commercial association: Yes. The Interstate Printers and Publishers, Inc., are publishing our materials.

H. MATERIALS IMPLEMENTATION:

Major trial is with Indianapolis Public Schools. Level one is now in second printing. Names and locations of schools where the program materials are being used:

1. Finley Elementary, Richmond, Indiana 47374.
2. Highland Heights, Richmond, Indiana 47374.
3. Green Acres (A school for mentally retarded), Richmond, Indiana 47374.
4. Contact Dr. Magdalene Davis, 120 East Walnut Street, Indianapolis, Indiana 46204, for information on the Indianapolis program.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes. In cooperation with Hayes Arboretum.
3. Pre-service training program for teachers desiring to use the materials: Yes. Authors present graduate level courses for teachers - credit from Ball State University.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes, when requested by teachers.
 - b. Summer Institute: Yes. Graduate courses at Hayes Arboretum, credit by Ball State University.
 - c. Evening Classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. The various levels of SEE fit this need.
6. Teaching materials commercially available: Yes. Interstate Printers and Publishers.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By school children and teachers who have used them.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. The new SEE, Self-Earth Ethic, is an outgrowth of the material incorporated in the System for Ecological Education written by the authors in 1970-71. Experience gained from the use of the old system led to discarding its graded charts and brief guide books in favor of the new 8-level format. Two levels are now available as is the scope and sequence chart for 8 levels. Levels 3-8 are being prepared.
2. In 1972 Dr. Alexander Moore, Assistant Superintendent for Curriculum, Indianapolis Public Schools, placed SEE in the system curriculum as an enrichment subject. Under the supervision of Dr. Magdalene A. Davis, all kindergarten rooms began using SEE in 1972. During school year 1973-74, levels one and two will be used in grades k-1-2 in Indianapolis. Selected teachers will pilot higher levels of SEE in grades K-6.
3. Numerous small workshops (1 day to 3 days) have been held to introduce SEE and the SEE activities to K-12 teachers, Cooperative Extension Service leaders, summer camp staff personnel, and others.

4. In 1972 and again in 1973 authors conducted a summer Environmental Education Institute for teachers (8 hours credit granted by Ball State University). The institutes, motivational and process oriented, were developed around the SEE scope and sequence and included many of the SEE student oriented activities.

L. PLANS FOR THE FUTURE:

1. Levels 3-8 will be published as soon as time permits revision of the old SEE material.
2. Various workshops and other in-service training will be presented.
3. The Summer Institute with Ball State University will reach 15 teachers per year.
4. SEE, as a support project of the Hayes Research Foundation, will continue to be used in service of K-12 teachers through the facilities of Hayes Arboretum.

A. PROJECT TITLE: PROJECT ECO - AN ENVIRONMENTAL CURRICULUM OPPORTUNITY

B. PROJECT DIRECTOR: Dr. Luther Kiser, Assistant Superintendent for Curriculum and Instruction, Ames Community School District, 120 South Kellogg, Ames, Iowa 50010. (515)232-3400

C. PROJECT HEADQUARTERS:

1. Ames Community School District, 120 South Kellogg, Ames, Iowa 50010.
2. Special facilities or activities available for visitor viewing: Yes.

D. PRINCIPAL STAFF: 3 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Ames Community Schools under the direction of Dr. Luther Kiser, Director of Curriculum and Instruction; funded under Title III, ESEA.
2. Date and place of Initiation: May 1971 - Ames, Iowa.
3. Overall project purpose: To broaden and enrich the base of activities in schools, elementary and secondary, relative to a knowledge of the environment and an awareness of the need for its preservation. The major emphasis is to develop a controlled system that provides for learning outside the traditional classroom. An important component for that system is a mobile laboratory housed in a 40-foot semi-trailer which supports on-site investigations into various environments at a variety of seasons of the year. Teacher in-service is another component which assists in the accomplishment of student-oriented objectives.

F. PRESENT COMMERCIAL AFFILIATIONS: None.

G. PROJECT OBJECTIVES:

1. Objectives of the project:
 - a. Students will engage in activities appropriate to their level of maturation which will include observation, investigation and evaluation of a variety of ecological relationships and conservation practices in central Iowa in order to develop the concept of stewardship of natural resources.
 - b. Teachers will support the major objective and assist in its accomplishment as a result of the activities of this project.
2. New instructional materials being produced: Yes.
 - a. Elementary, both primary and intermediate (in process).
 - b. Junior high (in process).
 - c. Senior high (summer 1972).

H. MATERIALS PRODUCED:

1. K-6: Field activity packets - coordinated as to grade level, time of year, and location.
2. 7-12: Field activity packets - coordinated as to grade level, time of year, and location.
3. Others:
 - a. Guide sheets for local historical museums and science centers for use by teachers.

- b. Key to Common Snakes of Iowa.
- c. Guide to Wildflowers of Iowa, illustrated.
- d. Guide to Winter Birds of Iowa, illustrations only.
- e. Winter Twigs of Iowa, illustrations only.
- f. Soils Lab Booklet - student experiments.

I. MATERIALS AVAILABLE FREE:

- 1. Newsletters - report of field activities.
- 2. Brochures - depicting mobile laboratory.
- 3. Two-page hand-out giving brief description of project.

J. MATERIALS PURCHASABLE:

Teacher Field Trip Activity and Resource Booklet for elementary and junior high classes. Specific materials organized separately for grades 1, 3, 5, 7, and 9, but applicable to a broader age span. This spiral bound, 145-page booklet is available for \$10.00 from the project office.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

- 1. Other materials currently being developed: Super 8 mm film to describe project; color slides of all activities of the field trips; black and white photos of field activities.
- 2. Development of other materials anticipated: Independent photo study packets giving step-by-step techniques involved in various activities.

L. PROJECT IMPLEMENTATION:

- 1. Number of schools now involved in project activities: 12.
- 2. Number of teachers having adopted all of the project materials: 90.
- 3. Number of teachers using some of the project materials: 90.
- 4. Total number of students using project materials: 4,200.
- 5. Totals stated are definite.
- 6. Names and locations of schools where the course is being taught:
 - a. Northwood Elementary School, 601 28th Street, Ames, Iowa 50010.
 - b. Whittier Elementary School, 120 South Hazel, Ames, Iowa 50010.
 - c. Central Junior High School, 515 Clark Avenue, Ames, Iowa 50010.
 - d. Ames Senior High School, 20th and Ridgewood, Ames, Iowa 50010.

M. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 half-day sessions.
 - b. Summer Institute: Yes. 4 weeks.

- c. Evening classes: Yes. 6 two-hour sessions.
- d. Others: Field trips with project teacher - model.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

Evaluation document of first year of operation available for \$8.00 printing cost.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

- 1. Project developed during school year 1970-71. Approved by Iowa State Board of Education for funding under Title III ESEA in May, 1971. Mobile units were developed during summer and fall, 1971, and field trips started fall, 1971. Living laboratory on a school site started in summer, 1971.
- 2. Junior and senior high schools students took prolonged field-research trips during the summer of 1972. Funding approval allowed other groups of students in elementary and junior high to participate in field experiences during the 1972-73 school year.
- 3. The second 40-foot mobile science lab has gone into operation, increasing the number of students included in project activities.
- 4. Activities development based on the prolonged field-research trips of junior and senior high students during the summers of 1972 and 1973 will continue.

P. PLANS FOR THE FUTURE:

- 1. Teacher training workshop - CCSS project with EGO and Iowa State University. Three weeks during summer, 1973, and monthly meetings during the 1973-74 school year. Twenty-six teachers, elementary and junior high, will receive leadership training for use with other teachers in the future.
- 2. Continue field trips for grades 1, 3, 5, 7, and 9 by expanding on experiences of the first two years.
- 3. Prepare more materials for dissemination on the in-service-for-teachers component of the project.

Q. ERIC DOCUMENTS:

Teacher Resource Guide, Project EGO. SE 016 495

- A. PROJECT TITLE: OUTDOOR EDUCATION DEPARTMENT - BETTENDORF (IOWA)
COMMUNITY SCHOOLS
- B. PROJECT DIRECTOR: Don W. Jurgs, 635-21st Street, Bettendorf,
Iowa 52722. (319)355-5381
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Two resident outdoor school programs (winter - 7th grade, spring - 6th grade).
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Don W. Jurgs.
2. Date and place of Initiation: Spring 1967.
3. Overall project purpose: To introduce the out-of-doors to the children of the school district and to help the district teachers better teach their students in an outdoor setting.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
Simple work sheets in a variety of subjects for a variety of grades.
- H. MATERIALS IMPLEMENTATION:
We do not attempt to publish materials. We have two men in our department who are teacher-bus drivers. Upon request of a classroom teacher these men will work with an individual class in any way helpful to this class. This most often takes the form of activities in the field using simple outdoor activities that fit into the teachers lesson plans. We are not printed materials oriented but rather action oriented. All of the schools in our district use our services quite extensively.
- I. TEACHER PREPARATION:
A consultative service and an in-service education program is available for teachers.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
1. Field trips - all grades (approximately 500 per year).
2. Grades 4 and 5 (at least one full day field activity each year - usually more).
3. 6th grade outdoor school (one week) - spring.
4. 7th grade outdoor school (four days) - winter.
5. 8th grade - tent camping program - summer.
6. High school - wilderness canoe experiences. Boundary waters - Canada - summer.
7. High school learn-to-ski program.
8. Consultatn work with classroom teachers including lesson planning and providing materials to be used in outdoor work - nets, rock hammer, lens, etc.)

L. PLANS FOR THE FUTURE:

1. The possibilities of more wilderness activities for high school students.
2. An increase in activities with high school students. Hopefully this will be possible due to a new high school building and a new high school curriculum that will break down the five period day that had been used until recently.

- A. PROJECT TITLE: CURRICULUM CONCEPTUALIZATION AND DEVELOPMENT OF INTEGRATED PEST MANAGEMENT CONTROL
- B. PROJECT DIRECTOR: Hal W. Walter, Kirkwood Community College, 6301 Kirkwood Blvd., S.W., Cedar Rapids, Iowa 52406. (319)398-5503
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: Approximately 25 consultants employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: Project proposal was a response to an RFP.
2. Date and place of Initiation: Not applicable.
3. Overall project purpose: To conduct a workshop to develop curriculum for all levels of education in Integrated Pest Control Management.
- F. PROJECT OBJECTIVES:
1. To develop specific training programs for careers in Integrated Pest Control Management.
2. To identify and develop those areas appropriate for MDTA and high school programs.
3. To develop curriculum for A.A., B.S., and M.S. programs.
4. To develop a core curriculum appropriate to all levels.
5. To identify career ladders.
- G. MATERIALS:
1. Materials produced: Not applicable at this time. The result of the project will be a detailed curriculum for all levels.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. As indicated before, curriculum guides for all levels in Integrated Pest Control Management.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
This information will be available at a later date.
- I. TEACHER PREPARATION: None at this time.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
A workshop was conducted at the Durant Hotel in Berkeley, California on October 21-26, 1973.
- L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: HANDICAPPED CHILDREN'S NATURE STUDY CENTER
- B. PROJECT DIRECTOR: David N. Lanaghan, 1226 E. Rusholm, Davenport,
Iowa 52803. (319)322-3060
- C. PROJECT HEADQUARTERS:
1. 1523 S. Fairmount, Davenport, Iowa 52802.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 1 person employed full-time, 2 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: The program was originally conceived in 1968 by Joe Moore, Science Consultant, and Jim Kav, Assistant Director of Special Education, both of the Muscatine-Scott County School System.
2. Date and place of Initiation: The idea was presented to Dr. Paul Staskey, Director of Research and Development and application for federal funds was made in early 1969.
3. Overall project purpose: The purpose of environmental or outdoor education and the Handicapped Children's Nature Study Center is to provide actual learning experiences in, about, and for the out-of-doors for handicapped students throughout Area IX.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. A major objective of the program is to provide these students with experiences and knowledge that they can use outside their school classes on their own, with friends, and/or with their families.
b. To develop in children an awareness of and appreciation for their natural environment.
2. New instructional materials being produced: Yes. Instructional materials for Special Education programs Pre-School through 12th grade.
- H. MATERIALS PRODUCED: Special Education Programs - Pre-School through 12th grade:
1. Mini-Explorations of Our Environment.
2. Observing Our Environment Through Our Senses.
3. Teacher Guide - Winter Wander.
4. Teacher Guide - Spring Saunter.
5. Teacher Guide - Tree Planting.
6. Teacher Guide - Fall Walk.
7. The Acorn - Periodic Newsletter.
8. Teacher Guide - Tracking.
9. Teacher Guide - Dike Hike.

I. MATERIALS AVAILABLE FREE:

All materials listed are available free except:

1. Mini-Explorations of Our Environment.
2. Observing Our Environment Through Our Senses.

J. MATERIALS PURCHASABLE:

Unit I - "Observing Our Environment Through Our Senses".

Unit II - "Mini-Explorations of Our Environment".

Cost - \$2.00 per unit or \$3.50 for the two units combined.

Checks should be made payable to: Chuck Wester, Fairmount School,
1523 S. Fairmount, Davenport, Iowa 52802.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: None.
2. Development of other materials anticipated: Materials which would expand our environmental education program for pre-school through 12th grades.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 4.
2. Number of teachers having adopted all of the project materials: 12.
3. Number of teachers using some of the project materials: 105.
4. Total number of students using project materials: 144.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Kennedy School, 899 Climber Street, Muscatine, Iowa.
 - b. Taylor School, 1430 Warren Street, Davenport, Iowa.
 - c. Mid-Park School, Welton, Iowa.
 - d. Center for Children with Learning Problems - Fairmount School, 1523 S. Fairmount Street, Davenport, Iowa.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 week.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Materials listed under H.
6. Commercial availability of materials: Muscatine-Scott County School System, Fairmount School, 1523 S. Fairmount Street, Davenport, Iowa 52802.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Consultant, Assistant Director of Special Education, Teachers, Program Director.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. 20' x 40' building is complete.
2. Paved trails complete.
3. Consultant travels to schools working with teachers and students in their own immediate environment.
4. Expanded program making our services available to more schools.
5. More general education classes have visited site, in addition to Head Start classes, hearing impaired classes. Field trip and camping experiences have been provided to outside groups such as church, scouts, and others in the summer.
6. Muscatine and Scott County Schools assumed financial cost of project.

P. PLANS FOR THE FUTURE:

1. Six week environmental education summer program is in the planning.
2. Currently working on more specific activities and experiences for the pre-school and secondary special education students.
3. Site markers in braille and manuscript writing will be installed.

Q. ERIC DOCUMENTS:

1. Observing Our Environment Through Our Senses, Unit I.
ED 046 709
2. Mini-explorations of Our Environment, Unit II. ED 065 349

- A. PROJECT TITLE: RESIDENT OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Dean Halverson, 1500 Locust, Dubuque, Iowa 52001.
- C. PROJECT HEADQUARTERS:
1. Dubuque Community Schools, 1500 Locust Street, Dubuque, Iowa 52001. (319)557-2908
2. Special facilities or activities available for visitor viewing: Only if students are actually camping out.
- D. PRINCIPAL STAFF: No extra personnel - except for 2 people during summer. All people are regular classroom teachers or other volunteers.
- E. PROJECT HISTORY:
1. Principal Originators: Dean Halverson, Luetta Johnson, Steve Geisert, Janaan Redmond, Al Roth, Joyce Mathews.
2. Date and place of Initiation: May 1972 - 1st implementation, Planning began December 1971.
3. Overall project purpose: Provide students with an opportunity to experience learning in an outdoor setting.
- F. PROJECT OBJECTIVES:
1. Democratic living with people outside own family circle.
2. Develop more fully a sense of responsibility and cooperation.
3. Provide experience that will promote a deeper appreciation of our natural environment.
4. Provide opportunities for children to use previously learned concepts in a practical way.
- G. MATERIALS:
1. Materials produced: 6th grade - Handbook for Resident Outdoor Education.
2. Free materials available: None.
3. Materials produced that can be purchased: Handbook for 6th Grade Resident Outdoor Education. Order from: Dean Halverson, Dubuque Community Schools, 1500 Locust Street, Dubuque, Iowa 52001.
4. New instructional materials being developed: No.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 13.
2. Number of teachers having adopted all of the project materials: 33.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 750+.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
a. Kennedy Elementary School, 2135 Woodland Drive, Dubuque, Iowa 52001.
b. Marshall Elementary School, 1450 Romberg Avenue, Dubuque, Iowa 52001.

- c. Bryant Elementary School. 1280 Rush Street, Dubuque, Iowa 52001.
- d. Lincoln School, 1101 W. 5th Avenue, Dubuque, Iowa 52001.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Only subjectively by parents, students and staff.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

A local school district project to serve as a guide for planning and implementing an outdoor education camping experience (3 days, 2 nights). The materials produced merely contain suggestions dealing with the following areas:

1. Objectives.
2. Preparation check list.
3. Curriculum ideas.
 - a. Art.
 - b. Language Arts.
 - c. Math.
 - d. Science
 - e. Rainy day.
4. Camp descriptions.
5. Resource persons and places.
6. Sample correspondence to parents.
7. Evaluation.

L. PLANS FOR THE FUTURE:

No additional activities are planned.

- A. PROJECT TITLE: OSBORNE CONSERVATION EDUCATION CENTER
- B. PROJECT DIRECTOR: Don R. Menken, Rural Route, Elkader, Iowa 52043.
(310)245-1516
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. There is a Visitor Center with many conservation/ecology displays plus two trails for interpretive hiking and animal exhibits.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: The Clayton County Conservation Board and its Director Don R. Menken.
 2. Date and place of Initiation: January 1, 1969 - Osborne Center.
 3. Overall project purpose: To acquaint visitors with the inter-relationships of plants, animals, and man and how man can alter these relationships for good and bad.
- F. PROJECT OBJECTIVES:
1. To acquaint visitors with their surroundings in a conservation/ecology concept.
 2. To provide a site for schools to use for conservation education.
- G. MATERIALS:
1. Materials produced: We have trail guides for two trails (Nature Trail and Conifer Trail). Both guides are directed at the grade six level, intending that they will be understood by most visitors.
 2. Free materials available: The above Trail Guides.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: None at present, but future plans do call for development of birdwatching guides, wild-flower guides, and native small mammals guides.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 20.
 2. Number of teachers having adopted all of the project materials: 50.
 3. Number of teachers using some of the project materials: 80.
 4. Total number of students using project materials: 5,000.
 5. Totals stated are estimated from last year's records.
 6. Names and locations of schools where the program materials are being used:
 - a. Central Community Schools, Elkader, Iowa.
 - b. M-F-L Community Schools, Monona, Iowa.
 - c. Starmont Schools, Strawberry Point, Iowa.
 - d. Garnavillo Community School, Garnavillo, Iowa.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Only by those using the facilities.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

We have accomplished our goal of offering a fairly comprehensive conservation/ecology education program to the people of our county--our primary concern area. All schools in the county are using the facilities at an increased rate each year. Our intended purpose of developing displays, exhibits, and trails in addition to a Visitor Center is being met. Our trails total about $1\frac{1}{2}$ miles. Animal exhibits are being constructed at this time.

L. PLANS FOR THE FUTURE:

We will continue to expand all facets of the program, our intentions are to develop facilities that will best fit the needs as expressed by teachers that use them. Eventually many facets of conservation will be displayed i.e., strip cropping, terraces, farm ponds, forests and related facilities.

- A. PROJECT TITLE: CONSERVATION EDUCATION CENTER
- B. PROJECT DIRECTOR: Curtis G. Powell, Box 138C, RR #1, Guthrie Centre,
Iowa 50115. (515)747-8380
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: The Center itself.
- D. PRINCIPAL STAFF: 5 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Iowa General Assembly.
2. Date and place of Initiation: 1967 with operation beginning spring of 1971.
3. Overall project purpose: Conservation and wise use of natural resources.
- F. PROJECT OBJECTIVES:
1. To instruct those visitors and program participants in the wise use of resources, including natural, man-made, and human.
2. To develop within each individual a concern, awareness, and interest in the environment as a whole through direct experience.
3. To build within each individual an environmental ethic and a resolve to seek solutions to problems confronting man through direct experience.
4. To present conservation concepts in natural settings for better understanding and appreciation of the natural world.
5. To show the interrelationship and inter-dependency between man and the natural world.
6. To provide experiences for visitors and program participants which will cause them to be appreciative of, aware of, and commence positive collective action for a better environment in which to live.
7. To provide a setting and facility for learning conservation and conservation education.
8. To promote, promulgate and publicize Iowa Conservation Commission programs, objectives, and policies.
9. To build support for the policies of the Iowa Conservation Commission and programs of other governmental and non-profit conservation-oriented agencies.
10. To act as a center for the sharing of ideas, information, training, research, and enjoyment for the lay-public, school, colleges, conservation-oriented groups and for in-service training for ICC personnel.
11. Finally to provide sustenance to the following: "what can best be learned inside the classroom should be learned there; what can best be learned outdoors through direct experience, dealing with native materials and life situation, should be learned there."
- G. MATERIALS:
1. Materials produced: All materials are produced by the central office.
2. Free materials available: Not answered.

3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. All levels.
5. Additional materials being developed: Programmed learning materials.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 400.
2. Number of teachers having adopted all of the project materials: 2,000+.
3. Number of teachers using some of the project materials: 2,000+.
4. Total number of students using project materials: 100,000+.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Iowa Falls High School, Iowa Falls, Iowa.
 - b. Perry Community Schools, Perry, Iowa.
 - c. Maurice-Orange City Community Schools, c/o Phil Bach, Orange City, Iowa.
 - d. Woodrow Wilson Elementary School, Newton, Iowa.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3-5 weeks.
 - b. Summer Institute: Yes. 3 weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. There has been a great demand by the public for one-day programs in the field of conservation education. Educators are interested in taking their students to a learning center, such as the Conservation Education Center, for a day's activities in an outdoor classroom. The facilities and the staff of the Conservation Education Center are available from August 15 until October 30 and April 1 until June 1 for one-day programs. Although the Education Center is open year-round, these times of the year seem most suitable for these types of programs. Science classes, art classes, social studies classes and elementary grades will find that sufficient observation, field work, and learning takes place to provide materials for post-work in the school classroom.
2. The elementary overnight program is geared basically for students in grades five through eight. Because of the nature of this outdoor experience, it is felt that this age level is best suited to it. Students and chaperons generally arrive in the

late afternoon of the first day and depart for home in the afternoon of the second day. Teachers who are interested in this type of activity will receive instruction sheets on what students should bring, activities, etc. More information may be secured by writing to: Conservation Education Center, Route 1, Box 1380, Guthrie Center, Iowa 50115.

- L. PLANS FOR THE FUTURE:
Unknown at this time.

- A. PROJECT TITLE: JASPER COUNTY SOIL CONSERVATION DISTRICT ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Marvin Koeper, Jasper County Soil Conservation District, P.O. Box 122, Newton, Iowa 50208. (515)742-9780
- C. PROJECT HEADQUARTERS:
1. P.O. Box 122, Court House Blvd., Newton, Iowa 50208. (515)74209780
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: One person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: John G. Wilson, District Conservationist; Jasper County Environmental Education Committee.
 2. Date and place of Initiation: August 1, 1973.
 3. Overall project purpose: To conduct a series of workshops to prepare teachers in environmental education techniques.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: A teacher's resource guide to environmental activities. One guide for K-2, one for 3-4, and one for 5-6.
 - b. 7-12: None.
 - c. Others: None.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Grades K-6.
 5. Additional materials being developed: Add to guides already produced. Teachers will do this in workshops.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 12.
 2. Number of teachers having adopted all of the project materials: 300.
 3. Number of teachers using some of the project materials: 50.
 4. Total number of students using project materials: 3,500.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Emerson Hough School, Newton, Iowa 50208.
 - b. Lincoln School, Newton, Iowa 50208.
 - c. Lynville Sully Schools, Sully, Iowa 50251.
 - d. New Monroe Schools, Monroe, Iowa 50170.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: No.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. Length to be determined.

b. Summer Institute: No.

c. Evening classes: Maybe.

d. Other: This is a new program and still in development stages.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Have generated several field activities since our beginning several months ago. Have prepared the first edition of "Teacher's Resource Guide to Environmental Activities."

L. PLANS FOR THE FUTURE:

In-service institutes of semester duration, others of one day in length.

- A. PROJECT TITLE: NEW HAVEN POTHOLES OUTDOOR CLASSROOM
- B. PROJECT DIRECTOR: Roger W. Stevenson, Court House, Osage, Iowa
50461. (515)732-4849
- C. PROJECT HEADQUARTERS:
1. Project facilities are located six miles east and $1\frac{1}{2}$ miles north of Owage, Iowa.
2. Special facilities or activities available for visitor viewing: Yes. Nature trail winding through the 168 acre site that consists of deciduous woodland, coniferous woodland, grassland, a river, two marsh areas and several ponds.
- D. PRINCIPAL STAFF: Two full-time employees devote part of their time to this project as well as to the other eight areas under the County Conservation Board Program.
- E. PROJECT HISTORY:
1. Principal originators: Roger Stevenson, Director of Mitchell County Conservation Board; Roger Link, SCS and District Conservationist.
2. Date and place of Initiation: Spring of 1973, work was started at the site and a series of meetings with the teachers in the school districts within the county.
3. Overall project purpose: To make available a site on which several different environmental studies could be done. The project site was selected because of the diverse habitat.
- F. PROJECT OBJECTIVES:
To create within our young people an awareness and appreciation of our natural world. Some of the history and past uses of our area and its life forms, what we are doing to our environment and what the students can do to keep this world we live in.
- G. MATERIALS:
1. Materials produced: Tour of the area by slide set (informal narrative is varied according to age group).
2. Free materials available: None at present. Guide sheets are planned but not completed.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. 6th grade.
5. Additional materials being developed: Intergrated guide sheets.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using your (we are using Soil Conservation Service Workbooks and Environmental Workbooks) entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 4.
3. Number of teachers using some of the project materials: 4.
4. Total number of students using project materials: 165.
5. Totals stated are estimated.

6. Names and locations of schools where the program materials are being used:

- a. Osage Community Schools, Osage, Iowa 50461.
- b. Sacred Heart School, Osage, Iowa 50461.
- c. Riceville Community Schools, Riceville, Iowa.
- d. Visitation School, Stacyville, Iowa.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Sponsor local teachers at summer conservation courses on state level.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The project is still in its infancy and organization and planning is still taking place. We have created approximately three miles of trail, planted approximately 5,200 trees and shrubs, and reclaimed marsh and prairie land on the project site. Inventories are being compiled on life forms to be found on the site. All of the school systems in the county have shown intense interest and are in the process of incorporating this in their curriculum. Most of the work done on the project has been with volunteer labor and the county furnishing materials either by purchase or donations of suppliers.

L. PLANS FOR THE FUTURE:

1. A building is planned for the site that will feature environmental displays that will include plant life, animal life, geology, and anthropology. From this would evolve studies of wildlife conservation, and soil and water conservation.
2. Our project will be basically dealing with tours that will be taken by classes at the end of a classroom course on environmental education at the schools.
3. We are in the process of creating an educational committee dealing with conservation. This will be made up of representative teachers from all school systems in the county, county agencies, and interested lay people. It will include about 20 people.

- A. PROJECT TITLE: ARNOLD M. VOTH NATURE TRAIL AND OUTDOOR LABORATORY
- B. PROJECT DIRECTOR: Lloyd Fugate, 724 S. 53rd St., Kansas City,
Kansas 66106. (913)287-4462
- C. PROJECT HEADQUARTERS:
1. Turner Unified School District, 1800 South 55th Street,
Kansas City, Kansas 66106.
2. Special facilities or activities available for visitor
viewing: No.
- D. PRINCIPAL STAFF: None, specifically for project.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Sanford Witter, Mr. T. R.
Palmquist, Mr. Lloyd Fugate.
2. Date and place of Initiation: Not answered.
3. Overall project purpose: To provide an accessible nature
area for use by teachers, students, and the general public.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Not answered.
2. New instructional materials being produced: For grades 7-12
and for the public.
- H. MATERIALS PRODUCED:
1. K-6: Not answered.
2. 7-12: Not answered.
3. Others:
a. Teachers Guides to the use of the trail.
b. Public Guide to the use of the trail.
- I. MATERIALS AVAILABLE FREE: Teachers Guides and Public Guide.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: A series of 35mm
slides.
2. Development of other materials anticipated: Not answered.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 7.
2. Number of teachers having adopted all of the project
materials: Unknown.
3. Number of teachers using some of the project materials: 12.
4. Total number of students using project materials: 1,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being
taught:
a. Morris Elementary School, Kansas City, Kansas 66106.
b. Turner High School, 1312 S. 55th Street, Kansas City,
Kansas 66106.

- c. Turner Elementary School, S. 55th Street, Kansas City, Kansas 66106.
- d. Pierson Junior High School, 1800 S. 55th Street, Kansas City, Kansas 66106.

M. TEACHER PREPARATION: None.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES:

- 1. Completion of trail.
- 2. Work on booklets for use by teachers and public.

P. PLANS FOR THE FUTURE:

- 1. More work on booklets for students and teachers.
- 2. Planting of more trees, especially native trees.
- 3. Providing more wild life cover.

- A. PROJECT TITLE: ENVIRONMENTAL STUDIES WORKSHOPS
- B. PROJECT DIRECTOR: Mr. Gregory A. Copeland, Girl Scouts of the United States of America, 4210 Johnson Drive, Suite 302A, Shawnee Mission, Kansas 60205. (913)236-6677
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 regular employees, 2 hired for project.
- E. PROJECT HISTORY:
1. Principal originator: Materials originated and developed by Dr. Rosebery.
2. Date and place of Initiation: October 1973.
3. Overall project purpose: To increase environmental awareness throughout our 10 state region.
- F. PROJECT OBJECTIVES:
1. To develop a cadre of trained personnel to transmit environmental education methods on to hundreds of others, non scout as well as scout in their communities.
2. To bring the problem solving method in environmental education to as many persons as possible in the 10 state region.
3. To teach these persons through a realistic neighborhood approach.
- G. MATERIALS:
1. Materials produced: Using environmental studies packet produced by the American Geological Institute.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
First workshop was held in Denver. Results at this point seem to meet the initial objectives.
- L. PLANS FOR THE FUTURE: No additional activities are planned.

- A. PROJECT TITLE: SHAWNEE MISSION ENVIRONMENTAL SCIENCE LABORATORY
- B. PROJECT DIRECTOR: Jerry P. Murray, 5800 W. 107th, Shawnee Mission, Kansas 66207. (913)381-8690
- C. PROJECT HEADQUARTERS:
1. 5800 W. 107th, Shawnee Mission, Kansas 66207.
 2. Special facilities or activities available for visitor viewing: Yes. 25 acre outdoor laboratory.
- D. PRINCIPAL STAFF: 11 persons regularly employed as biology teachers in adjacent Shawnee Mission South High School.
- E. PROJECT HISTORY:
1. Principal originators: Biology Teachers' committee chaired by Jerry Murray; Assistant Superintendent of Shawnee Mission Schools, Dr. Leonard Molotsky; Superintendent of Schools, Dr. Arzell Ball.
 2. Date and place of Initiation: Spring, 1968.
 3. Overall project purpose:
 - a. First-hand experience in a variety of habitats, through two day and five day labs and experimental studies in biology program.
 - b. Tours and programs available for students from other district schools, K-12.
 - c. Enhance positive environmental attitudes and understanding of ecological relationships.
 - d. Prepare students to be active citizens in environmental causes.
- F. PROJECT OBJECTIVES:
1. Setting up environmental labs easily available to all district schools.
 2. Students in biology and life science spend at least 20 hours at all seasons in field studies.
 3. Elementary students have two visits per year in environmental lab.
 4. Students will work to protect environment.
 5. Students will prepare effective communications to convince others to ecological viewpoints.
- G. MATERIALS:
1. Materials produced: 7-12:
 - a. Two sound filmstrips.
 - b. Science and Survival course.
 - c. Operations Manual - 1968.
 - d. Field Study Units for small group work by Jerry Murray and Dean Jermigan, 1971.
 - e. About 80 modules developed through Title III Project CLEAN, an outgrowth of this program, all subjects, K-12.

2. Free materials available:
 - a. Sample issues of "The Web", newsletter.
 - b. Science and Survival course objectives, tests, schedule, contact, etc.
3. Materials produced that can be purchased:
 - a. 80 Project CLEAN K-12 multidisciplinary modules, field and classroom, from Project CLEAN, 980 Rosehill Road, Shawnee Mission, Kansas. \$1.50 each.
 - b. Environmental Survival and Citizen Action - correspondence course. Extramural Independent Study Center, University of Kansas, Lawrence, Kansas 66044. \$7.00.
 - c. Project Ideas in Ecology and Natural History - Order from Richard Dawson, 5600 E. Gregory, Kansas City, Missouri 64132. \$1.00.
 - d. Ecology: Spaceship Earth, and Ecology: Balance of Nature. 15 min. sound filmstrips. Marsh Film Enterprises, P.O. Box 8082, Shawnee Mission, Kansas. \$15.00 each.
4. New instructional materials being developed: Yes. K-12 programs in Project CLEAN will continue production in 1973-74.
5. Additional materials being developed: None.
6. Present commercial association: See G.3.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 8.
3. Number of teachers using some of the project materials: 100.
4. Total number of students using project materials: 8,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Shawnee Mission South High School, 5800 W. 107th, Shawnee Mission, Kansas.
 - b. Shawnee Mission Northwest High School, 12701 W. 67th, Shawnee Mission, Kansas. 20 acre environmental laboratory and some use of Project CLEAN modules.
 - c. Shawnee Mission North High School, 7401 Johnson Drive, Shawnee Mission, Kansas. Use some of Project CLEAN modules.
 - d. Ray Marsh Elementary School, 5642 Rosehill, Shawnee Mission, Kansas. Have 8 acre environmental laboratory and use some Project CLEAN modules.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: If requested.
2. In-service education program for teachers using the materials: If requested.
3. Pre-service training program for teachers desiring to use the materials: If requested.
4. Kinds of teacher preparation programs available:
 - a. Workshop: No.
 - b. Summer Institute: Yes. 1 week camp.
 - c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Extensive evaluation of Project CLEAN modules as part of federal requirement - by IDEA, Washington, D.C. Environmental Lab and related activities by student evaluation forms and analysis by Jerry Murray and Dean Jernigan.
2. Pertinent published research studies: The "Environmental Survival and Citizen Action" course was judged top high school correspondence course in the nation in 1973 by National University Extension Association.

K. PROJECT SUMMARY:

1. 25-acre Environmental Laboratory began by serving high school biology students at Shawnee Mission South with four to eight weeks of small-group study of variety of habitats and programs. This has continued since 1968, with expansion of research and gardening studies.
2. Field Techniques in Environmental Education course for juniors and seniors, one semester, involves research problems in the outdoor lab and also planning field trips for visiting elementary and junior high groups. They provide the leadership for these groups, allowing breaking down from 5 to 10 younger children per group. Began in 1972.
3. Visiting elementary students in one hour tours emphasizing first-hand observations, both morning and afternoons, handling 3,000 students from 50 schools.
4. Science and Survival course began in 1969, one semester, for juniors and seniors. Also taught at Shawnee Mission North, a similar course at Shawnee Mission East, and correspondence school version for University of Kansas.
5. Project CLEAN, district-wide K-12 multidisciplinary curriculum project under Title III, 1971-1974, will have published about 100 three to nine week modules written by 85 teachers in school district area. Modules on World Environmental Forecasting and on Metropolitan Planning and Land Use have been developed.
6. Ten other environmental laboratories at other elementary, junior high, and senior highs designated in district, 1972.

L. PLANS FOR THE FUTURE:

1. More units, development of more activities in outdoor lab, development of more outdoor labs at other schools.
2. Further use of Project CLEAN modules in additional schools.
3. More use of 5-day resident Outdoor School program at a nearby non-profit camp.

- A. PROJECT TITLE: OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Larry L. Bowser, 1124 West Lyman Street, Topeka,
Kansas 66608. (913)233-3045
- C. PROJECT HEADQUARTERS:
1. 1124 West Lyman Street, Topeka, Kansas 66608.
2. Special facilities or activities available for visitor viewing: On an individually scheduled basis.
- D. PRINCIPAL STAFF: 3 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: Dr. Frank E. Colaw, Larry Bowser.
2. Date and place of Initiation: May 1968.
3. Overall purpose:
a. To permeate outdoor learning experiences, where appropriate, throughout the curriculum.
b. To make learning about the outdoors a vital factor in all areas of curriculum.
c. To instill concepts and values in students which will develop their desire to preserve and improve our environment.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED:
1. K-6: Teachers guide.
2. 7-12: Teachers guide.
3. Others: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Yes.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 4.
2. Number of teachers having adopted all of the project materials: 10.
3. Number of teachers using some of the project materials: 40.
4. Total number of students using project materials: 500.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
a. East Indianola Elementary School, 2000 No. Fillmore, Topeka, Kansas 66608.
b. Lyman Elementary School, 2032 N. Kansas, Topeka, Kansas.
c. Elmont Elementary School, 6432 NW Elmont Road, Topeka, Kansas 66618.
d. Rochester Elementary School. 3421 NW Rochester Road, Topeka, Kansas 66617.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 5 days.
 - b. Summer Institute: Yes. 3 weeks.
 - c. Evening classes: None.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers:
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
 - a. Local School District.
 - b. State Department of Public Instruction E.S.E.A. Title III.
2. Pertinent published research studies: None.

O. PROJECT SUMMARY:

This program has provided an enthusiastic atmosphere for learning. Students and teachers both have adapted readily to the atmosphere of outdoor learning. It has become a vital part of the learning experience for students in this school district.

P. PLANS FOR THE FUTURE:

Attempting to expand and improve the curriculum and facilities. Degree of success depends upon financial matters.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION DEMONSTRATION PROJECT,
ESEA, TITLE III, SECTION 303
- B. PROJECT DIRECTOR: Donald French, 1601 Van Buren, Topeka, Kansas
66612. (913)232-9374
- C. PROJECT HEADQUARTERS:
1. 1601 Van Buren, Topeka, Kansas 66612.
 2. Special facilities or activities available for visitor viewing: Yes. Environmental field trip sites, curriculum materials for 4-6th grade, handicapped, and junior and senior high science courses, and field trips which can be observed.
- D. PRINCIPAL STAFF: 6 full time persons employed.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Stanley Martin, Science Supervisor; Mr. W. I. Green, Director of Special Education; Dr. Quentin D. Groves, Director of Health, Physical Education, Safety and Athletics; Mr. C. L. Kellogg, Physical Education Consultant; members of the Community Council and other technical assistance.
 2. Date and place of initiation: June 28, 1971 federal funding was received. Introduction of the project occurred from early planning stages in April, 1971 through the present time.
 3. Overall project purpose: The Environmental Education Project seeks to create in every student an emotional and intellectual appreciation of man's role within his environment.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Show how man influences the balance of nature in both positive and negative ways.
 - b. Develop an understanding of why and how economic considerations influence our interaction with nature.
 - c. Instruct and involve students toward actions which will lead to a wiser use and conservation of our natural resources.
 - d. Help students determine effective and constructive methods of working for positive environmental actions by all groups.
 - e. Develop a knowledge of geological interactions.
 2. New instructional materials being produced: Yes. 4th, 5th, and 6th grades, Special Education, Level 2, 3, and 4, junior and senior high science classes, and 7th grade social studies.

H. MATERIALS PRODUCED:

1. K-6: Elementary Units.
 - a. Knowing and Using Your Environment.
 - b. Fundamentals for Understanding Environmental Problems.
2. 7-12: Secondary Science Modules.
 - a. Forests and Man.
 - b. Tire Production and Pollution Control.
 - c. Cellophane Production and Pollution Control.
 - d. Environmental Geology.
 - e. Adaptations, Life Zones, Paleontology, and Man.
 - f. Nutrition and the Growing Population.
 - g. Electrical Production and Pollution Control.
 - h. Ecology-Geology Field Study.
 - i. Water, Transportation, and the Urban Environment. (7th grade Social Studies Module).
3. Special Education Units.
 - a. Balance of Nature.
 - b. Winter.
 - c. Air Pollution.
 - d. Insect-Spider.
 - e. Camping Skills.
 - f. Weather.
 - g. Solid Waste Pollution.
 - h. Water Pollution.

I. MATERIALS AVAILABLE FREE: A limited supply of copies of project developed curriculum are available.

J. MATERIALS PURCHASABLE: Curriculum units can be purchased as they are developed.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: Audiovisual materials will be developed for all curriculum units. These will include Super 8 mm films, tapes, slides, transparencies, etc.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 45.
2. Number of teachers having adopted all of the project materials; None.
3. Number of teachers using some of the project material: 200.
4. Total number of students using project materials: 7,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Highland Park High School, 2424 California, Topeka, Kansas 66605.
 - b. Topeka High School, 800 West 10th, Topeka, Kansas 66612.
 - c. Topeka West High School, 2001 Fairlawn, Topeka, Kansas 66604.
 - d. All Elementary Schools in Topeka, Kansas.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service training program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 10 hours.
 - b. Summer Institute: Yes 1 week.
 - c. Evening classes: No.
 - d. Others: In-service is held after school and the length varies with the teacher and the unit.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. A list of materials used.
 - b. An outline of information covered in each session.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: This project has a written accountability factor, including an educational auditor and evaluator. The Institute for the Development of Educational Auditing is doing the evaluation. Curriculum and instructional techniques are evaluated continuously.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. During April, 1971 a Community Council was formed and has met monthly.
2. The project was written during April and May 1971.
3. The project was funded June 29, 1971 by U.S.O.E.
4. Staff for the project was secured by July 10, 1971.
5. The staff had a two week orientation session.
6. The project staff conducted a preservice workshop for 45 target teachers.
7. Curriculum has been continuously developed since July 20, 1971. This work will continue throughout the project.
8. The target date for getting the first curriculum unit in the schools was September 20, 1971.
9. The project staff have written and implemented eight special education units, two elementary units (4 and 6) and eight secondary science modules.

P. PLANS FOR THE FUTURE:

1. The staff will conduct in-service sessions continuously throughout the year for elementary teachers, junior and senior high science teachers, 7th grade social studies teachers, and teachers of exceptional children.
2. Curriculum will be continuously developed and revised throughout the project.
3. The project staff will conduct at least three demonstration lessons at distant points throughout the nation.
4. The staff and Community Council will be involved in dissemination activities.

Q. ERIC DOCUMENTS:

1. Balance of Nature. SE 016 908
2. Environmental Fundamentals. SE 016 909
3. Insects and Spiders. SE 016 910
4. Knowing and Using Your Environment. SE 016 911

- A. PROJECT TITLE: ECOLOGY SPEAKERS BUREAU
- B. PROJECT DIRECTOR: Mary Honeyman, 1009 Stratford, Wichita, Kansas
67206. (316)683-3487
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Visitors may observe or participate in speaker training workshops.
- D. PRINCIPAL STAFF: 2 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: The Wichita Junior League.
2. Date and place of Initiation: June 1973.
3. Overall project purpose: To provide, to the community, speakers on various facets of the environment.
- F. PROJECT OBJECTIVES:
1. Make available a comprehensive list of environmental speakers to the community.
2. Train speakers in the area of environmental education.
3. Provide consulting services for environmental needs.
- G. MATERIALS:
1. Materials produced: None.
2. Free materials available:
a. Curriculum outline for training workshops.
b. Basic outline for speakers bureau project.
c. List of speakers.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Materials developed will be for specific speakers only.
- I. TEACHER PREPARATION: Program not teacher centered although many teachers are involved.
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: A 6 month workshop, includes 11 sessions.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

1. More than 75 speakers have been contacted and asked to include their name and topics into the speakers bureau.
2. A workshop, starting in September 1973, has been developed to train speakers.
 - a. Six months (11 sessions) of intensive training.
 - b. Two hours of graduate credit from Wichita State University is optional.

L. PLANS FOR THE FUTURE:

1. More training.
2. More informational services.

- A. PROJECT TITLE: EDUCATION OVERLAND
- B. PROJECT DIRECTOR: Mike Jones - Pat Jones, Co-Directors, 200
Petroleum Building, Wichita, Kansas 67202. (316)267-7394
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Pat Jones, Mike Jones, Jim Matson, Victor Forbes, Mike Thorne.
2. Date and place of Initiation: June 1973.
3. Overall project purpose: To make extensive field excursions and study the biology and geology of areas traveled through.
- F. PROJECT OBJECTIVES:
1. To develop positive attitudes toward the environment.
2. To gain knowledge of specific ecological habitats.
3. To develop skills in collecting and analysing field data.
4. To develop camping and hiking skills.
- G. MATERIALS:
1. Materials produced:
a. K-6: None.
b. 7-12: Slides, films and tapes will be developed.
2. Free materials available: Trip information and itineraries.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 7-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Materials are being developed. No implementation as yet.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: None.
6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. Two extensive field excursions for all high school students 9-12. No prerequisite required.

2. Trip to Alaska:
 - a. 4 week bus camping tour to Alaska (flight home).
 - b. One unit of lab science credit.
 - c. Study of desert, grassland, deciduous forest, taiga and mountain biomes.
 - d. Study of geology in these biomes.
 - e. Night studies of astronomy.
 - f. Development of camping skills.
 - g. Twelve students now involved.
3. Trip to Grand Canyon:
 - a. Two week bus camping trip to Grand Canyon.
 - b. $\frac{1}{2}$ unit of lab science credit.
 - c. Study desert, grassland and mountain biomes.
 - d. Study geology of these biomes.
 - e. Study astronomy at night.
 - f. Develop camping and hiking skills.
 - g. About 40 students involved.

L. PLANS FOR THE FUTURE:

1. Continue trips to Alaska and Grand Canyon.
2. Develop trips to other areas of USA, Mexico, Central America, Canada and Kenya.

- A. PROJECT TITLE: ENVIRONMENTAL STUDIES
- B. PROJECT DIRECTOR: Neil Miller, 640 N. Emporia, Wichita, Kansas
67214. (716)268-7828
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 9 persons regularly employed with the school system.
- E. PROJECT HISTORY:
1. Principal originators: H. O. Sanderson, George Potts.
2. Date and place of Initiation: Fall 1970.
3. Overall project purpose: To encourage independent studies of the environment.
- F. PROJECT OBJECTIVES:
1. To develop positive attitudes toward the environment.
2. To gain and share knowledge about the environment.
3. To develop scientific skills.
- G. MATERIALS:
1. Materials produced: Slides, study mounts, videotapes for grades 7-12.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Tapes, slides, study materials.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Materials developed individually and are used in specific schools.
Schools where materials are used:
1. North High School, 1437 Rochester, Wichita, Kansas 67203.
2. South High School, 701 W. 33rd St. South, Wichita, Kansas 67217.
3. Wichita West High School, 820 S. Osage, Wichita, Kansas 67213.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Environmental studies - independent research projects.
2. $\frac{1}{2}$ unit lab science credit open to all students 10-12.
3. Significant projects:
 - a. Complete pollution survey of Wichita and Sedgwick county.
 - b. Complete survey of point sources of pollution in Chisolm Creek canal.
 - c. Chemical and biological study of Arkansas River from 15 miles north of city to 15 miles south of city.
 - d. Chemical, physical and biological study of beaver pond (10 months in duration).
 - e. Vegetation studies of Meade Island, Oak Park, Sims Park and Big Ditch.
 - f. Lecture slide preparations.
 - g. Photomicrography studies of algae.
 - h. Soil analysis studies.
 - i. A-V studies of environmental sites.
 - j. Studies of biological, chemical and physical aspects of local sand pits.
 - k. Preparation of plant, mammal and insect mounts.

L. PLANS FOR THE FUTURE:

Environment problem studies and nature activities.

- A. PROJECT TITLE: FIELD ECOLOGY
- B. PROJECT DIRECTOR: Neil Miller, 640 N. Emporia, Wichita, Kansas.
67214. (316-268-7828)
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Visitors may observe or participate in the activities of the program.
- D. PRINCIPAL STAFF: 5 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: James Matson, Neil Miller, Merle Gates, H. O. Sanderson, George Potts, Gerald Tague, Fred Amein, Bobby Gilpin, L. O. Breckenridge, Robert Jackson.
 2. Date and place of Initiation: June 1971.
 3. Overall project purpose: To introduce high school students to a variety of biological habitats and to areas of environmental concern in order to sharpen their awareness of and appreciation for their environment.
- F. PROJECT OBJECTIVES:
1. To instill positive attitudes toward the environment.
 2. To increase knowledge about the environment.
 3. To develop skills in the collection and analysis of field data.
- G. MATERIALS:
1. Materials produced: Grades 7-12.
Several slide sets: Basic ecology, plant taxonomy, mammal studies, field techniques, and field ecology program.
 2. Free materials available: Course outline and calender.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Slides - grades 9-12.
 5. Additional materials being developed: Field manual.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 3.
 2. Number of teachers having adopted all of the project materials: 6.
 3. Number of teachers using some of the project materials: 12.
 4. Total number of students using project materials: 300.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Wichita North High, 1437 Rochester, Wichita, Kansas 67203.
 - b. Wichita South High, 701 W. 33rd St. South, Wichita, Kansas 67217.
 - c. Wichita West High, 820 S. Osage, Wichita, Kansas 67213.
 - d. Wichita Southeast High, 903 S. Edgemoor, Wichita, Kansas 67218.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Two 7 week ones during the summer.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: No formal evaluation as yet.

K. PROJECT SUMMARY:

1. Field ecology is offered to all students 9-12 in the city of Wichita.
2. No prerequisites required.
3. Course offered for 7 weeks at the six public high schools for one unit of lab science credit. Course is offered on Saturdays at South and West high school during the spring semester for $\frac{1}{2}$ unit of lab science credit.
4. The students are in the field 90% of the time and are exposed to a combination of the strand approach and taxonomic approach to field ecology. Data is collected and analysed.
5. Extensive travel includes trips to desert and marshland communities in Oklahoma, short grass prairies and marshland communities in western Kansas, mixed grass prairies in central Kansas and tall grass prairies and deciduous forests in eastern Kansas. Numerous trips to parks, lakes, streams, ponds and various museums are made near the Wichita community and throughout Kansas.

L. PLANS FOR THE FUTURE:

1. Additional training for instructors.
2. Extension into the lower grades with some modifications.

- A. PROJECT TITLE: SUMMER ENVIRONMENTAL WORKSHOPS FOR TEACHERS
- B. PROJECT DIRECTOR: George Potts - Merle Gates, Co-Directors,
1437 Rochester, Wichita, Kansas 67203. (316)264-7351
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Visitors may observe or participate in activities.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: George Potts and Merle Gates.
2. Date and place of Initiation: June 1973.
3. Overall project purpose: To encourage more educators to participate in environmental education.
- F. PROJECT OBJECTIVES:
1. To learn basic fundamentals of field studies.
2. To promote greater awareness of urban and rural environmental problems.
3. To develop positive attitudes toward the environment.
4. To develop environmental teaching units.
- G. MATERIALS:
1. Materials produced: Teaching units for K-12.
2. Free materials available: Calendars of workshops.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: We are starting to develop materials for a comprehensive K-12 environmental curriculum.
5. Additional materials being developed: Films, filmstrips, tapes, etc.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
The program is just starting. Numbers are not available at this time.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes.
b. Summer Institute: No.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Program is under way at this moment. First workshop started June 11, 1973.
2. Workshop: Field Studies for Educators.
 - a. 4 weeks, 4 hours graduate credit from Wichita State University.
 - b. Field experiences comprise 90% of the curriculum.
 - c. Combination of strand and taxonomic approaches used.
 - d. Extensive field trips to desert, grassland, forest and aquatic communities in Kansas and Oklahoma.
 - e. Members of workshop are teachers and administrators from all disciplines K-12. No prerequisite required.
 - f. Environmental education units prepared.
3. Workshop: Man and the Environment for Education.
 - a. 3 weeks, 3 hours graduate credit from Wichita State University.
 - b. Emphasis put on environmental problems.
 - c. Field trips to sewage plant, landfill, water plant, electric plant, farms, feed lots, strip pits, etc.
 - d. Speakers, panels, environmental games, individual research in industrial pollution.
 - e. Workshop members are teachers and administrators K-12 from all disciplines. No prerequisites are required.
 - f. Environmental problem units prepared.

L. PLANS FOR THE FUTURE:

1. Concentrated curriculum development workshops.
2. Development of a definitive program in outdoor education including purchase of a 160 acre environmental study area site, week-end camping excursions, week-long natural history camping experiences and training in non-taxonomic approaches to environmental studies such as those developed by the National Park Service.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION FOR MIDDLE SCHOOLS AND ENVIRONMENTAL EDUCATION FOR EDUCABLE STUDENTS
- B. PROJECT DIRECTOR: Dr. Ernest G. Thro, 110 South Main Street,
 Elizabethtown, Kentucky 42701. (502)765-4186
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Mini Environmental Education Center.
- D. PRINCIPAL STAFF: Not answered.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Ernest G. Thro, Mr. Embry Lay, Mr. Robert Greenwell, Mr. Bobby Williams.
 2. Date and place of Initiation: September 1971.
 3. Overall project purpose:
 - a. To provide an integrated curriculum at grades 7 and 8.
 - b. To provide a program educable students at grades 9 and 10.
- F. PROJECT OBJECTIVES:
1. Development of a contributing, self-sufficient, responsible citizen.
 2. Development of a citizen with a knowledge that includes:
 - a. An awareness that man is a part of a complex system comprised of individuals, culture, and natural environment.
 - b. An appreciation of his environment.
 - c. An understanding of environmental problems and possible solutions.
 - d. An awareness that certain attitudes on his part help foster a "good environment".
- G. MATERIALS:
1. Materials produced: 7-12.
 - a. Harvest of Hope - Slide Show.
 - b. Curriculum Guide - Grades 9-10.
 2. Free materials available: Curriculum Guide - Grades 9-10.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Curriculum Guide for Grades 7-8.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 2.
 2. Number of teachers having adopted all of the project materials: 3.
 3. Number of teachers using some of the project materials: 5.
 4. Total number of students using project materials: 120.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Sonora Elementary School, Sonora, Kentucky 42776.
 - b. West Hardin High School, Stephensburg, Kentucky 42781

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Curriculum Guide - Grades 9-10.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Union College, Barbourville, Kentucky.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

This program has been developed to provide environmental education for the potential high school drop out. Often this is the student who has been socially promoted and is now well behind the others in his class in academic achievement. Yet like others in his group this student will become part of a community, marry, and begin to raise a family. It is important that he too will recognize his dependence on the environment and the need to use it wisely.

L. PLANS FOR THE FUTURE:

Expanding the present middle school program.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION CENTER - LAND BETWEEN THE LAKES - TVA
- B. PROJECT DIRECTOR: John R. Paulk, Operations Office, Golden Pond, Kentucky 42231. (502)924-5602
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 10 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Tennessee Valley Authority.
 2. Date and place of Initiation: 1960 - Knoxville, Tennessee.
 3. Overall project purpose: A demonstration in outdoor recreation and environmental education.
- F. PROJECT OBJECTIVES:
1. To introduce outdoor and environmental education to school systems as good education which is a part of the total curriculum and is integrated with all areas of the on-going school program.
 2. To promote an attitude of environmental awareness and develop a sense of responsibility and interest toward our environment and natural resources.
- G. MATERIALS:
1. Materials produced:
 - a. K-12: Teacher training materials.
 - Bear Creek, Alabama - Teachers' Workshop in Environmental Education. June 14-18, 1971.
 - Murray State University - Teachers' Workshop in Environmental Education. August 8-14, 1971.
 - Murray State University - Teachers' Workshop in Environmental Education. August 7-12, 1972.
 - b. Others: Pamphlets.
 - Use That Campus - an appeal to teachers and administrators. A Quality Environment in the Tennessee Valley.
 2. Free materials available:
 - a. Youth Station - Guidelines for Use.
 - b. Woodland Walk.
 - c. The Iron Industry in Land Between the Lakes.
 - d. Long Creek Trail.
 - e. Bald Eagles in Land Between the Lakes.
 3. Materials produced that can be purchased:
 - a. Field Guide to Mammals of Land Between the Lakes - \$.05.
 - b. Field Guide to Wading and Upland-Game Birds of Land Between the Lakes - \$.05.
 - c. Spring Wildflowers of Land Between the Lakes - \$1.25.
 - d. Amphibians and Reptiles of Land Between the Lakes - \$1.50.
 - e. Summer and Fall Wildflowers of Land Between the Lakes - \$1.25.
 4. New instructional materials being developed: Yes. For teacher training purposes- teachers in turn produce their own materials to meet their needs.

5. Additional materials being developed: Not answered.
6. Present commercial association: Not answered.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 25.
2. Number of teachers having adopted all of the project materials: 100.
3. Number of teachers using some of the project materials: 50.
4. Total number of students using project materials: 2,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Not answered.

I. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 2-10 days.
 - b. Summer Institute: Yes. In cooperation with Murray State University - 2 weeks.
 - c. Evening classes: Yes. In cooperation with Murray State University - 1 day per week, 3 hours per day.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

J. PROJECT EVALUATION:

Has the effectiveness of the materials been evaluated: Yes. Only by user.

K. SUMMARY OF PROJECT ACTIVITIES SINCE 1960:

1. Provided an off-site assistance in planning for outdoor, conservation or environmental education activities with public schools, colleges and universities.
2. Provide consultant assistance to public schools and institutions, also private foundations.
3. Work closely with other Federal organizations in the area of environmental education.
4. Resident facility fully scheduled since January 1970.

L. PLANS FOR THE FUTURE:

Expanded environmental education program in Tennessee Valley.

M. ERIC DOCUMENTS:

1. Youth Station - Guidelines for Use. SE 016 139
2. Bear Creek, Alabama - Teacher's Workshop in Environmental Education. June 14-18, 1971. SE 016 140
3. Murray State University - Teachers' Workshop in Environmental Education. August 8-14, 1971. SE 016 141
4. Murray State University - Teachers' Workshop in Environmental Education. June 19-23, 1972. SE 016 142
5. Murray State University - Teachers' Workshop in Environmental Education. August 7-12, 1972. SE 016 143

- A. PROJECT TITLE: ENVIRONMENTAL INFORMATION DISSEMINATION
- B. PROJECT DIRECTOR: Dr. Jerry F. Howell, Jr., Director of Environmental Studies, Box 780, Morehead State University, Morehead, Kentucky 40351. (606)783-3328
- C. PROJECT HEADQUARTERS:
1. Lappin Hall, Morehead State University, Morehead, Kentucky 40351.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 5 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Jerry F. Howell, Jr., Dr. Madison Pryor, Dr. Morris Norfleet.
 2. Date and place of Initiation: July 1, 1971 - Morehead State University.
 3. Overall project purpose: To disseminate information designed to raise the environmental awareness of the populace and to close known awareness gaps.
- F. PROJECT OBJECTIVES:
- Through informational packets and television programs, we are attempting to raise the general level of awareness of the populace and, specifically, those groups listed below in a 49-county area of eastern and southcentral Kentucky.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Annotated bibliographies.
 - b. 7-12: Annotated bibliographies. 43 half-hour television programs.
 - c. Others: Businesses, civic groups, scouts, industry, political officials, churches, government and state agencies - annotated bibliographies and half-hour television programs.
 2. Free materials available: Free distribution to the people in a 49-county area of eastern and southcentral Kentucky.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. For grades 9-12 and general public use.
 5. Additional materials being developed: More bibliographies.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Distribution just beginning.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: No.
 3. Pre-service training program for teachers desiring to use the materials: No.

4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Most are materials we have purchased in bulk from various agencies and groups. Some (bibliographies) are ours.
6. Teaching materials commercially available: Yes. Many firms.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Part I of the project involved the production, revision and distribution of 43 one-half hour environmental television programs. These programs, all of which have been produced, concentrate on current environmental problems. They consist of slide show productions, interviews, and panel discussions. The tapes will be made available to interested stations, schools and groups statewide. Some of the topics covered are air pollution, water pollution, energy resources, the effects of radiation, noise pollution, general ecology, land use programs, the philosophy and politics of ecology, the legal aspects of ecology, rare and endangered species, conservation, occupational opportunities, solid waste disposal, pesticides, mining, and topics in applied ecology such as forestry, wildlife management and dam building.

Part II of the project is concerned with the distribution of environmental information to various adult and youth groups and schools. This will be accomplished through individually designed environmental information packets. The packets will contain information on various phases of the present environmental crisis and will include lists of available literature for further information.

The participants in this phase of the project will consist of people and groups whom we have contacted while working on our last project. This phase is not restricted to schools or the young, but is cosmopolitan.

L. PLANS FOR THE FUTURE:

1. A pending proposal to the Office of Environmental Education for third year funding is concerned with community involvement in a particular environmental problem.
2. Another pending proposal to the same agency involves teacher workshops during 1973-74.

- A. PROJECT TITLE: KING ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Peggy Hyland, Assistant Director, King Education Center, Nazareth, Kentucky 40048. (502)348-5931
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Dairy farm; ponds; nature trails; historical buildings.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mr. George Dunstorf, Director, King Educational Center; Dr. Charles E. Kupchella, Environmental Education Consultant.
 2. Date and place of Initiation: Summer 1973 - Nazareth, Kentucky.
 3. Overall project purpose: Not answered.
- F. PROJECT OBJECTIVES:
1. To develop a resident environmental education center.
 2. To serve a 21 county area in central Kentucky.
 3. To include teacher training and K-12 programs.
- G. MATERIALS:
1. Materials produced: None at the present time. We anticipate some development by December.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. K-12.
 5. Additional materials being developed: Yes.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
- Our facilities are available for teachers use. A two day workshop for teachers will be available in the Spring of 1974.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
1. King Environmental Center is one program of the King Educational Center (named for Martin Luther King). King Educational Center was formed from the campus of Nazareth College which closed in 1971. King Center is an independent corporation presently financed by the Sisters of Charity of Nazareth. It is non-profit and non-denominational. A Montessori school, summer camps, and a religious education program are all part of King Center activities, along with business conferences and managerial institutes held at the Center by private businesses.
 2. The Center contains approximately 1,000 acres which include wooded areas, at least seven ponds, some streams, a dairy farm,

water and sewage treatment plants. Dorms and laboratories are fully equipped from the college days. It is hoped that the Center will combine the urban and rural in a unique way to portray basic ecological principles and their applications to one third of Kentucky's school children within an hours drive of the Center.

L. PLANS FOR THE FUTURE:

1. Organization of an advisory committee composed of individuals from the field of education, industry, and general citizenry from the 21 surrounding counties.
2. An orientation workshop for this committee.
3. Curriculum development for the Center specifically in conjunction with the University of Louisville.
4. Teacher consultation and workshops - at the schools and at the Center.

- A. PROJECT TITLE: PADUCAH PUBLIC SCHOOLS ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: James M. Major, 10th and Clark, Paducah, Kentucky
42001. (502)442-6121
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Resident groups of 5th graders at T.V.A.'s L.B.L Youth Activities Station.
- D. PRINCIPAL STAFF: 75 teachers and supervisors plus 41 high school junior and seniors are employed in the project.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Maring McCullough, Assistant Superintendent; James M. Major, Ralph Colby, Charles A. Cissell, Doris Crutchfield, Jane McCool and Robert Farmer.
 2. Date and place of Initiation: October 1966.
 3. Overall project purpose: To bring about a total awareness of ecological interrelationship of all things, both living and non-living.
- F. PROJECT OBJECTIVES:
1. Knowledge of: Natural resources, historical background of area, interrelationships of living organisms and their physical environment, observation and measurement of pollution by man.
 2. Skills: Social, recreational, use of five senses, training of teachers to use resources outside their classrooms, manifest the cognitive processes of comprehension, analysis and synthesis through stimulating and creative learning experiences.
 3. Attitudes: Appreciation of natural resources, historical background, real life situations found in local surroundings, a desire and will to protect living and non-living resources.
 4. Process: Make environmental education resources more accessible to all students by taking students out of the four walls of a classroom.
- G. MATERIALS:
1. Materials produced: K-12 - Curriculum Guide "Environmental Education - Objectives and Field Activities" - 5th edition 1973.
 2. Free materials available: None.
 3. Materials produced that can be purchased: "Environmental Education - Objectives and Field Activities" - 5th edition 1973. \$7.00 per copy. Available from: Paducah Public Schools, 10th and Clark, Paducah, Kentucky 42001.
 4. New instructional materials being developed: Yes.
 - a. New exercises at all levels.
 - b. On-site environmental education projects at all elementary schools.
 5. Additional materials being developed: None.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Our materials have been sold all over the United States and Canada. Some also to Japan, Ireland and Saudia Arabia. Schools where the program materials are being used:

1. Paducah Tilghman High School, 2400 Washington, Paducah, Kentucky 42001.
2. Walter C. Jetton Junior High School, 10th and Clark, Paducah, Kentucky 42001.
3. Cooper-Whiteside Elementary School, 1350 South Sixth Street, Paducah, Kentucky 42001.
4. Andrew Jackson Elementary School, 21st and Park Avenue, Paducah, Kentucky 42001.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 4 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. We can furnish consultants for a fee.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers who use them - written subjective evaluations.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Since 1967 5th grade students have been involved in resident stays at the T.V.A.'s land between the lakes Youth Activities Station.
2. High school juniors and seniors have been trained and used as assistant instructors, over 250 have been so used.
3. Over 150 teachers have been involved.
4. One day field trips for students at all levels and curriculum areas have been in progress.
5. All ecology based high school biology classes make two or more one day field trips to T.V.A.'s land between the lakes.
6. We have conducted many in-service training sessions for other school systems.

L. PLANS FOR THE FUTURE:

1. Develop on-site environmental education areas at every school in the system.
2. Develop our own resident facility.

M. ERIC DOCUMENTS:

Environmental Education - Objectives and Field Activities.

ED 049 026

- A. PROJECT TITLE: ESEA, TITLE III, ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Harold Grooms, Bourbon County Schools, Paris,
Kentucky 40361. (606)987-2521
- C. PROJECT HEADQUARTERS:
1. Bourbon County Schools Materials Center, Paris, Kentucky
40361.
2. Special facilities or activities available for visitor
viewing: Yes. Outdoor Laboratory and a Materials Center.
- D. PRINCIPAL STAFF: 1 coordinator and 1 secretary regularly em-
ployed.
- E. PROJECT HISTORY:
1. Principal originators: John Elkins, Supervisor of Instru-
ction.
2. Date and place of Initiation: Bourbon County Schools, Paris,
Kentucky. August, 1970.
3. Overall project purpose: See F.
- F. PROJECT OBJECTIVES:
1. To teach students that man in a part of a system, consisting
of man, culture and biophysical environment and that man has the
ability to improve, alter or destroy the relationship that exists
in this system.
2. To teach students to understand that our environment is both
natural and man made in the role that each plays in our society.
3. To teach students to see the problems that confront man as
he approaches his environment and to seek answers to these prob-
lems.
- G. MATERIALS:
1. Materials produced:
a. K-6:
Environmental Exercises - Elementary 1-3.
Environmental Exercises - Elementary 4-6.
b. 7-12:
Environmental Exercises - Junior High 7-8.
Environmental Exercises - Senior High 9-12.
c. Others:
Environmental Knowledge Proficiency Test.
Environmental Concepts Test.
2. Free materials available:
a. Environmental Films Booklet.
b. Environmental Teaching Aids Booklet.
c. Outdoor Laboratory Guide Booklet.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials you anticipate developing: None.
6. Teaching materials commercially available: Xerox University
Microfilm reproduced our "Unit Guides". Ann Arbor, Michigan.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 8 in our school district and 87 districts throughout the United States and Canada.
2. Number of teachers having adopted all of the project materials: 367.
3. Number of teachers using some of the project materials: 358.
4. Total number of students using project materials: 10,024.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Jessamine County Junior High School, Nicholasville, Kentucky 40356.
 - b. Lebanon Elementary School, Lebanon, Kentucky 40033.
 - c. St. Leo School, Versailles, Kentucky 40383.
 - d. Shelby County Upper Elementary School, Shelbyville, Kentucky 40065.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Environmental Education Units for grades 1-12 and test information.
6. Teaching materials commercially available: Yes. From Bourbon County Schools Materials Center.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the individual who used the materials, and consultant evaluations.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

Have had various workshops, in-service training, visitation to other Environmental Education Centers, have conducted projects, have set up displays, etc.

L. PLANS FOR THE FUTURE:

Workshops, in-service training.

M. ERIC DOCUMENTS:

1. Environmental Education Exercises, Elementary 1-3. SE 016 609
2. Environmental Education Exercises, Elementary 4-6. SE 016 630
3. Environmental Education Exercises, Junior High 7-8. SE 016 631
4. Environmental Education Exercises, Senior High 9-12. SE 016 632
5. Environmental Education - Grades 1-12. Experimental Curriculum Guide (1973). SE 016 794

- A. PROJECT TITLE: PINE MOUNTAIN ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Peter Westover, Pine Mountain Settlement School,
Pine Mountain, Kentucky 40864. (606)558-4481
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Our primary functions include receiving visitors, usually for extended stays.
- D. PRINCIPAL STAFF:
- Environmental Education: 6 + volunteers.
Settlement School: about 20 others.
All are regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Project grew out of earlier settlement-school programs after county grade school moved from here to new consolidated facility.
 2. Date and place of Initiation: March 15, 1973. Pine Mountain.
 3. Overall project purpose: Environmental education for citizens of eastern Kentucky mountains and surrounding region, including school children K through high school, college (December-January seminars), adults, and miscellaneous groups. Also function as conference center and research center, etc.
- F. PROJECT OBJECTIVES:
- Teach ecological consciousness and knowledge and awareness of cultural traditions to students; acquaint teachers with environmental education ideas; open the Settlement School to groups and individuals with interest in the environment and in local folk traditions.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: About 35 basic lesson plans (with variations on each) tailored to our own area. Unpublished so as to remain flexible.
 - b. 7-12: Variations on the above.
 - c. Other: Nature trail guides; nature guides to local roads for automobile circles; and miscellaneous brochures, newsletters, etc.
 2. Free materials available: Brochures.
 3. Materials produced that can be purchased: 8¢/page for xeroxing lesson plans and other material. Trail guides 5¢, road guides 10¢.
 4. New instructional materials being developed: Yes. Are contemplating super-8 film on operations here; we have collection of 70-100 slides on the program. For teaching purposes, we have several sets of our own slides for all ages.
 5. Additional materials being developed: See above.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Materials have been circulated to approximately 350 teachers through 1972-73 series of Title III-sponsored teacher workshops here.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes. Workshops scattered throughout year.
3. Pre-service training program for teachers desiring to use the materials: Yes. Entire month of January devoted to pre-service training.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Two day workshops.
 - b. Summer Institute: Yes. Three weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. During first year and a half, 3,822 participants including 3,024 students, 798 teachers and other adults. Nine teacher workshops with total 250 different teachers; in-service presentations in many different counties. December and January college seminars on Appalachian Environment. Miscellaneous activities.
2. Most visiting groups come for stays of one to five days. Cost of trips is borne by students and by our own scholarship fund; no aid from school systems other than bus transportation; no Federal aid other than Title III sponsorship or workshops.

L. PLANS FOR THE FUTURE:

In planning stages.

- A. PROJECT TITLE: PEECE - PROJECT FOR ENVIRONMENTAL AND EARLY CHILDHOOD EDUCATION
- B. PROJECT DIRECTOR: Sam P. Jones, Tradewind Center, Somerset,
Kentucky 42501. (606)678-5561
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Limited to area satellite teams and special requests.
- D. PRINCIPAL STAFF: 5 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Area educators and project personnel.
2. Date and place of Initiation: July 1, 1972.
3. Overall project purpose: Environmental education curriculum development and pilot testing.
- F. PROJECT OBJECTIVES:
1. The staff of each Environmental Curricular Pilot School will apply planned environmental education instructional techniques in accordance with monthly schedules, as determined by monthly monitoring reports.
2. At the end of each completed unit, teachers will evaluate the environmental education curriculum activities in accordance with the measurement strategies stated in the student performance objectives in each unit and a narrative description of the unit's effectiveness.
3. The teachers of the pilot programs will value the planned environmental curriculum as demonstrated by carrying out their commitment to its implementation throughout the school year, as measured by monthly monitoring records.
4. By the end of the school year, students participating in the environmental education program will demonstrate cognitive gains in environmental awareness to the level of cognition specified in the curriculum guide performance objectives, as measured by those instruments stated in those objectives and a pro-post criterion reference test.
5. By the end of the school year participating students will demonstrate a significant positive response to the environmental education activities, as determined by the instrumentation summary of the curriculum performance objectives and a pre-post attitude inventory.
6. The satellite curriculum development team will respond favorably to the environmental education curriculum implementation, as determined by significantly positive reaction on a PEECE checklist to be completed at the end of each visit to the pilot schools.
7. By the end of the school year the satellite curriculum development team will evaluate the environmental curriculum by making decisions of what curricular activities would be suitable to incorporate in their local school program, with at least 50% committing to program implementation the third project year.

8. By the end of the school year curriculum development teams will apply concepts of environmental education curriculum development as a result of visits to pilot schools and participation in seminar and workshop sessions, as demonstrated by at least 50% adapting or adopting the piloted curriculum and generation of additional activities to be incorporated in curriculum guides.

G. MATERIALS:

1. Materials produced: Curriculum Guide Grades 1-12.
2. Free materials available: Experimental Curriculum Guide on a very limited basis.
3. Materials produced that can be purchased: None yet.
4. New instructional materials being developed: Yes. Grades 1-12.
5. Additional materials being developed: Films and tapes.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Number of schools and teachers using our materials will be determined this year. Schools where the program materials will be used are:

1. Highland Elementary School, Waynesberg, Kentucky - grades 1-8.
2. John Adair Elementary School, Columbia, Kentucky - grades 5-8.
3. Rockcastle County High School, Mt. Vernon, Kentucky - grades 9-12.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.. Limited to this region.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 hour to 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: Periodic workshops and seminars for regional personnel.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: None yet.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

1. Pilot test the curriculum.
2. Validate instrumentation.
3. Revision and modifications of guides.
4. Training of other school staffs for implementation in other schools.

M. ERIC DOCUMENTS:

Environmental Education Curriculum Guide, Grades 1-12, Experimental
Draft. SE 016 794

- A. PROJECT TITLE: ENVIRONMENTAL AWARENESS THROUGH THE ARTS
- B. PROJECT DIRECTOR: Mrs. Myrtle Kerr, Supervisor of Art, State
Department of Education, P.O. Box 44064, Baton Rouge, Louisiana
70804. (504)389-5265
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF:
No one person is actually employed. Approximately 75 teachers were paid per diem and substitute fee for four meetings. Five or six teachers have been paid per diem for several weeks during the summer to compile information into finish form. Two consultants were brought in for several days and their travel and per diem was paid.
- E. PROJECT HISTORY:
1. Principal originators: The Louisiana Council for Music and Performing Arts, our State Arts Council.
2. Date and place of Initiation: Initial meeting was held in the A. D. Smith Auditorium at the State Department of Education in Baton Rouge, November 3, 1972.
3. Overall project purpose: To experience activities and from these publish a guide for teacher use in the classroom and/or in-service workshops.
- F. PROJECT OBJECTIVES:
To create environmental awareness throughout the schools and communities through the use of the arts.
- G. MATERIALS:
1. Materials produced:
a. K-16:
The Guide (K-12).
Film (original play) 3rd graders.
TV segment (original play) 6th graders.
Slides (environmental week) elementary.
b. 7-12:
The Guide (K-12)
Film (original story) 11th grade.
Slides (environmental week) high school.
c. Other:
Slide - tape to go with guide.
Extensive compilation of books, film, etc.
2. Free materials available: None.
3. Materials produced that can be purchased: Guide, when finished.
4. New instructional materials being developed: No.
5. Additional materials being developed: A second guide as projects are developed by classes in the State.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

We will print enough for every school to have one copy (1,419).
At this time the guide has not been distributed.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $2\frac{1}{2}$ -3 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Slide-tape programs from our Slide Lending Library: Man and His Environment, Center for Humanities, White Plains, New York; Moths, Butterflies, Etc., Singer Company, Chicago, Illinois.
6. Teaching materials commercially available: Yes. Center for Humanities; Singer Company.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Four workshops have been held: one day at State level; three days at State Department Youth Camp; three days at State Forestry Park; two days at State Department.
2. Two out-of-state, well known, environmental consultants have been brought in to conduct workshops. Several state university educators, in related fields, have had discussions with the teachers at their workshops.
3. Teachers and students in various schools in seventeen parishes have held an environmental program of study, using the arts, that they felt would have impact on their fellow students, other schools and community. They were successful, from written reports of these activities, as teachers not originally involved joined the studies.
4. A selected group of teachers have been spending part of their summer compiling the material into a final accepted form.

L. PLANS FOR THE FUTURE:

1. Many teachers report students can hardly wait to start activities this year. Activities will be varied, original and will fit needs of the parish school involved.
2. Reports of these activities will be published from time to time through different offices, such as State Department newsletter, Louisiana Art Education Association newsletter, and workshops.

- A. PROJECT TITLE: WORKSHOP IN LOUISIANA'S NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT EDUCATION
- B. PROJECT DIRECTOR: William B. Knipmeyer, Dept. of Social Sciences, Northwestern State University, Natchitoches, La. 71457. (318)357-6195
- C. PROJECT HEADQUARTERS:
1. Dept. of Social Sciences, Northwestern State University, Natchitoches, La. 71457.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: One person employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Howard P. McCollom, George Ware.
 2. Date and place of Initiation: 1967 Natchitoches, La.
 3. Overall project purpose: Improve and supplement teacher training.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Improve and supplement teacher training in the nature of resources, conservation, and environmental problems.
 2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: By state agencies.
- I. MATERIALS AVAILABLE FREE: Apply to state agencies.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 30.
 2. Number of teachers having adopted all of the project materials: 50.
 3. Number of teachers using some of the project materials: 50.
 4. Total number of students using project materials: Not answered.
 5. Totals stated are approximate.
 6. Names and locations of schools where the course is being taught: Not answered.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 weeks.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Yes. 18 weeks.
 - d. Others: Not answered.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teacher participants.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

The project was begun and developed by the North Louisiana Supplementary Education Center which was funded by Title III ESEA. The center employed a full-time staff including directors, supervising teachers, demonstration teachers, and other staff. Materials were produced by the staff and distributed free. These and personnel from state agencies and private industry produced source materials, teacher's guides, lesson plans, etc. The North Louisiana Supplementary Education Center was discontinued in 1970. The project has been continued by Northwestern State University as a single summer workshop without funds or staff. It consists of about 40 representatives from the state agencies of Conservation, Wild Life and Fisheries, Forestry, Soil and private industry.

P. PLANS FOR THE FUTURE:

Continue as a summer workshop only.

Q. ERIC DOCUMENTS:

1. A Guide for Teaching Conservation Education in the Schools of Louisiana; Soil and Water Section. ED 033 051
2. Readings in Wildlife and Fish Conservation, High School Conservation Curriculum Project. ED 051 992
3. A Guide for Teaching Conservation and Resource-Use Education in the Schools of Louisiana; Forest Section. ED 051 993
4. Free and Inexpensive Materials for Teaching Conservation: Forests. ED 051 994
5. Free and Inexpensive Materials for Teaching Conservation: Fish and Wildlife Section. ED 051 995
6. Free and Inexpensive Materials Available for Teaching Conservation Education: Soil and Water. ED 051 996

A. PROJECT TITLE: ENVIRONMENTAL EDUCATION CURRICULUM DEVELOPMENT PROGRAM

B. PROJECT DIRECTOR: Mr. Isadore Inman, Jr., St. Martin Parish School Board, 305 Washington Street, St. Martinville, Louisiana 70582.
(318)394-6967

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Nature trail and planetarium.

D. PRINCIPAL STAFF: 11 persons regularly employed during the school session.

E. PROJECT HISTORY:

1. Principal originators: Staff members of the St. Martin Parish School Board.
2. Date and place of Initiation: June 1, 1972 - Science Center, St. Martinville, LA.
3. Overall project purpose: To write environmental curriculum guides for grades K-12, and to implement them in the existing curriculum.

F. PROJECT OBJECTIVES:

1. To help students acquire a basic understanding of the natural and manmade component of the biophysical environment.
2. To understand man's relationship with his environment.
3. To acquire basic understanding of associated environmental problems.
4. To help students acquire strong feelings fundamental to developing a concern for the quality of the environment.
5. To help students develop critical thinking and action skills necessary for them to help prevent and solve environmental problems.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Guides are being written.
 - b. 7-12: Intermediate (5-8) rough draft copies have been written, curriculum guides are being written for grades 9-12.
2. Free materials available: A limited number of nature trail guides.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Curriculum guides for grades K-12.
5. Additional materials being developed: Films, slides, and transparencies.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

- 10 teachers and 500 students are using our materials. Names and locations of schools where the program materials are being used:
1. Teche Elementary School, Rt. 2, Box 243, Breaux Bridge, LA. 70517.

2. Breaux Bridge Junior High School, Breaus Bridge, LA. 70517.
3. Parks Elementary School, Parks Rural Station, St. Martinville, LA. 70582.

I. TEACHER PREPARATION: Not implemented at the present.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. State evaluation team, classroom teachers within parish.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

The St. Martin Parish Environmental Education Curriculum Development Program is concerned with writing curriculum guides for grades K-12. Upon completion of the guides the materials will be implemented into the existing curriculum.

In initiating the writing phase of the program a tremendous amount of research was involved. This was necessary to gain some knowledge of what materials were available in environmental education. The first year curriculum guides were written for grades 5, 6, 7 and 8. They contain the following units: Ecology, water pollution, air pollution, soil, wildlife, minerals, solid waste, noise, and pesticides. These units will be field tested during the 1973-74 school year. To enhance the effectiveness of these guides, slides, 8mm films, and transparencies will be produced.

Evaluation of participating students involved in the program is as follows: Pre-test, post-test, questionnaires, and teacher observations.

The second year emphasis will be placed on writing curriculum guides for grades K-4 and 9-12.

L. PLANS FOR THE FUTURE:

1. Write curriculum guides for grades K-4, and 9-12.
2. Produce slides, films, and transparencies.
3. Workshop for teachers.
4. Prepare individual environmental study packs.

- A. PROJECT TITLE: VIEWER-ACTIVE TELEVISION PROJECT
- B. PROJECT DIRECTOR: Grayce Papps, Project Director, Erik Van de Bogart, Executive Director, Maine Public Broadcasting Network, Alumni Hall, University of Maine, Orono, Maine 04473.
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: At projects completion, tapes will be available for viewing, discussion with staff, etc., at MPBN.
- D. PRINCIPAL STAFF: 2 full-time, 2 part-time.
- E. PROJECT HISTORY:
1. Principal originator: Erik Van de Bogart, Director of Educational Services.
 2. Date and place of Initiation: 12/1, '72. MPBN, Orono, ME.
 3. Overall project purpose: To develop a national model for an environmental education topic, using a multi-media approach featuring viewer-active television.
- F. PROJECT OBJECTIVES: See purpose.
- G. MATERIALS:
1. Materials produced:
 - a. K-6:
 - b. 7-12: Teacher's Guide (to project use), Viewer's Guide (school viewers use), Eco-Acres board game, Videotape Programs (to be telecast) -
 - c. Others: Viewer's Guide (home viewers), Eco-Acres board game, Videotape Programs (to be telecast).
 2. Free materials available: All will be available free within the state.
 3. Materials produced that can be purchased: Prices on materials will be developed during project.
 4. New instructional materials being developed: Yes. Secondary school level and adult.
 5. Additional materials being developed: Teacher's Guide, Viewer's Guide, Eco-Acres Board Game, Videotaped Programs (5).
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: No.
 4. Kinds of teacher preparation programs available: Teacher's Conference Workshop, Statewide Broadcast on TV.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Teacher's Guide.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Statewide survey for topic selection.
2. Research into prime topics.
3. Topic selection.
4. Research and topic development.
5. Writing scripts.
6. Development of Multi-Media Approach.

L. PLANS FOR THE FUTURE:

1. Production of television.
2. Development of auxiliary materials.
3. Printing and distribution of materials.
4. Broadcast of programs.
5. Evaluation of programs and other project elements.
6. Writing final report, including video.

A. PROJECT TITLE: MAINE ENVIRONMENTAL EDUCATION PROJECT, TITLE III, E.S.E.A

B. PROJECT DIRECTOR: Dr. Dean B. Bennett, 111 West Main Street, Yarmouth,
Maine 04096. (207)846-3051

C. PROJECT HEADQUARTERS:

1. Intermediate School, Mc Cartney Street, Yarmouth, Maine 04096.
2. Special facilities or activities available for visitor viewing: Yes. A resource center, some work in school site development.

D. PRINCIPAL STAFF: Two persons regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Dr. Dean B. Bennett, Project Director; Frank H. Harrison, Superintendent of Schools.
2. Date and place of Initiation: Fall of 1968, Yarmouth School System.
3. Overall project purpose: To begin to establish in the schools of Maine a K-12 Environmental Education Curriculum, emphasis tailored to and related to each local community. Program was recently funded for a fourth year under Title III, E.S.E.A.

F. PRESENT COMMERCIAL AFFILIATIONS: Yes.

G. PROJECT OBJECTIVES:

1. Overall objectives of the project:

- a. To establish, in addition to the model program in the Yarmouth area, four coordinator-implemented K-12 demonstration programs in environmental education covering a wide geographic area of Maine.
- b. To assist schools and communities establish committee-implemented K-12 demonstration programs in environmental education covering a wide geographic area of Maine.
- c. To initiate contacts with schools and communities throughout Maine for the purpose of beginning to stimulate a widespread integration of environmental education learning experiences into curriculums which may eventually affect all youth.
- d. To stimulate the development of and assist in the implementation of teacher education programs in environmental education at undergraduate and graduate levels.
- e. To strengthen the concept and contribution of environmental education in Maine and elsewhere through an exchange of information and ideas with related programs and activities.

Student Behavioral Objectives:

- f. The student will be able to and will continue to seek to discover and investigate the components and characteristics of his total environment and human demands being made upon it.
- g. The student will be able to and will continue to develop criteria to evaluate data related to his total environment and identify opportunities for maintaining and improving his environment.

- b. The student will be able to and will continue to participate in carrying out successful environmental problem-solving activities.
- 2. New instructional materials being produced: Grades K-12.

H. MATERIALS PRODUCED:

- 1. K-6: Environmental education program organization and operation blueprints for environmental problem-solving K-12. K-6 curriculum guides.
- 2. 7-12: Blueprints for environmental problem-solving K-12.
- 3. Others:
 - a. Environmental Education in Maine (A Title III ESEA Project).
 - b. The Environmental Education Committee.
 - c. The Community Environmental Inventory.
 - d. Yarmouth, Maine Community Environmental Inventory.
 - e. The School Site in Environmental Education.
 - f. The Environmental Education Resource Center.
 - g. Guidelines for Evaluating Student Outcomes in Environmental Education.

I. MATERIALS AVAILABLE FREE: All of the above except K-6 Curriculum Guides.

J. MATERIALS PURCHASABLE: K-6 Curriculum Guides.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

- 1. Other materials currently being developed: None.
- 2. Development of other materials anticipated: Environmental education learning process sheets related to major man-made and natural environmental components.

L. PROJECT IMPLEMENTATION:

- 1. Number of schools now using entire set of materials: 7 school systems.
- 2. Number of teachers having adopted all of the project materials: 75.
- 3. Number of teachers using some of the project materials: 1,000.
- 4. Total number of students using project materials: 10,000.
- 5. Totals stated are estimated.
- 6. Names and locations of schools where the program is being taught:
 - a. Yarmouth Intermediate School, McCartney Street, Yarmouth, Maine 04096. Mr. Wesley H. Willink, Coordinator.
 - b. Bangor Elementary Schools, Mr. Robert Ervin, Environmental Education Coordinator, 183 Harlow Street, Bangor, Maine 04401.
 - c. Oxford Hills Elementary and Secondary Schools, Mr. John B. Craig, Jr., Environmental Education Coordinator, S.A.D. #17, 2 Pine Street, South Paris, Maine 04281.
 - d. Kennebunk-Kennebunkport Schools, Mrs. Susan M. Braun, Environmental Education Coordinator, Park Street School, Kennebunk, Maine 04043.
 - e. Cape Elizabeth School System, Mr. J. Michael Madden, Environmental Education Coordinator, Middle School, Cape Elizabeth, Maine 04103.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ - full day.
 - b. Summer Institute: Yes. 3 weeks.
 - c. Evening classes: Yes. 2 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Blueprints for environmental problem solving K-12.
 - b. Environmental Education Program Organization and Operation.
 - c. The Community Environmental Inventory.
 - d. The School Site in Environmental Education.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Currently being evaluated by teachers and community groups.
2. Pertinent published research studies: Research in evaluation has been carried out as a Ph.D dissertation at The University of Michigan. An evaluation model for the development of instruments and evaluative techniques has been completed and utilized.
3. Unpublished research: Publication of research in progress.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

The project is sponsored by the Yarmouth School Department which initiated its own K-12 Pilot program in 1968. The following year the program became a regional one, financed by and serving the towns of Falmouth, Freeport, Cumberland, North Yarmouth, and Yarmouth. At present this successful program serves as a model and resource center for four other demonstration programs in Maine being established by the project. These programs are currently being initiated in Bangor, Kennebunk-Kennebunkport (SAD #71), Oxford Hills (SAD #17), and Cape Elizabeth.

In addition to these schools systems, which were selected on the basis of location and commitment to finance a program, teachers were selected from the systems. During the past year the four coordinators were trained at the University of Michigan in a Masters Degree program. Recently, the project staff has helped establish a special Masters degree program at the University of Maine, in Orono, in which a Cape Elizabeth trainee is now enrolled.

The project director and a field consultant assist the demonstration programs in the implementation of their programs. In addition, they will be helping other communities establish programs through the organization of environmental education committees and local in-service teacher curriculum workshops utilizing local resources.

Another aspect of the project has been to work with the Conservation Education Foundation of Maine and the University of Maine at Farmington to develop a pilot student teacher training program at Maine's Conservation School in Bryant Pond.

P. PLANS FOR THE FUTURE:

1. Teacher pre-professional and in-service education programs for the fall of 1972, cooperatively financed by the Maine Environmental Education Project, the Regional Environmental Education Project sponsored by the local communities, and the University of Maine at Portland-Gorham through a grant from the Environmental Education Act.

2. Cooperation with the Woolwich, Maine, Conservation Commission under a Ford Foundation Grant to begin a comprehensive community resource inventory in conjunction with a teacher in-service workshop. The inventory will begin to provide a basis for community planning as well as a focus for an environmental education program in the public elementary schools.

Q. ERIC DOCUMENTS:

1. The School Site in Environmental Education. ED 066 308
2. Guidelines for Planning and Implementing a Comprehensive Community Environmental Inventory. ED 067 233
3. Comprehensive Community Environmental Inventory, Yarmouth,
ED 067 233

- A. PROJECT TITLE: REGIONAL ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Wesley H. Willink, 25 Main Street, Yarmouth, Maine 04096.
- C. PROJECT HEADQUARTERS:
1. Yarmouth Intermediate School, Yarmouth, Maine 04096.
 2. Special facilities or activities available for visitor viewing: Yes. A Resource Center in the Yarmouth Intermediate School. All welcome at any time to view the on-going program and examples of student projects in the area.
- D. PRINCIPAL STAFF: 1 full-time coordinator, 1 part-time assistant.
- E. PROJECT HISTORY:
1. Principal originators: Dean B. Bennett.
 2. Date and place of initiation: September 1968. Yarmouth, Maine.
 3. Overall project purpose: To facilitate an emphasis in the curricula of the participating school systems in order that the students will become knowledgeable concerning the total environment and the role of man, able to participate in activities for maintaining and improving the quality of the environment while meeting human needs, and motivated to do so.
- F. PROJECT OBJECTIVES:
1. To help individuals acquire strong feeling fundamental to developing concern toward and motivation to participate in environmental improvement.
 2. To help individuals acquire basic understandings of the total natural and man-made environment.
 3. To help develop thinking and behavioral skills related to the prevention of environmental degradation, correction of abuses, and the enhancement of existing function and quality of the environment.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Teacher's Grade Level Guide; Composite Teaching Guide (both being revised).
 - b. 7-12: None.
 - c. Others: Environmental Education in Maine; The Environmental Education Committee; Environmental Education Program - Organization and Operation; The Community Environmental Inventory; The School Site in Environmental Education; Yarmouth, Maine - Community Environmental Inventory; The Environmental Education Resource Center; Guidelines for Evaluating Student Outcomes in Environmental Education. All materials were recently developed through Title III, by the Maine Environmental Education Project.
 2. Free materials available: All materials listed under G-3.
 3. Materials produced that can be purchased: Can be purchased when revision is completed.
 - a. Grade Level Teaching Guide - one for each grade level K-6. \$1.00 each.

- b. Composite Teaching Guide - composite of all grades K-6.
\$5.00.

Order copies from Regional Environmental Education Program,
Intermediate School, Yarmouth, Maine 04096.

4. New instructional materials being developed: Slides and super-8 movies made in the communities for classroom use (primarily produced by interning students from the University of Maine and local volunteers).
5. Additional materials being developed: Materials are developed as needed - no plans for formal curriculum.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 15.
2. Number of teachers having adopted all of the project materials: 130.
3. Number of teachers using some of the project materials: 170.
4. Total number of students using project materials: 3,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught: This is not a course, but an emphasis.
 - a. Yarmouth Intermediate School, Yarmouth, Maine.
 - b. Morse Street School, Freeport, Maine.
 - c. Mabel I. Wilson School, Cumberland, Maine.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-4 hours average.
 - b. Summer Institute: 3 weeks summer of 1971. None in 1972 or 1973.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Title III evaluation team and U.S.O.E. validation team.
2. Pertinent published research studies: Guidelines for Evaluating Student Outcomes in Environmental Education. Available on request.

K. PROJECT SUMMARY:

1. 1969-1970 - Program development on a regional basis with emphasis on elementary field trips and presentations for all students K-6. Teacher workshops at beginning of year.

2. 1970-1971 - Emphasis on elementary grade levels, expansion into junior high field trips. Mid-year workshops for "key teachers" K-12, summer session for in-service teachers.

3. 1971-1972 -

- a. A tripling of student environmental improvement activities.
- b. Expansion of services to elementary grade levels to include over a doubling of classroom and field trip contacts.
- c. Initiation of two pilot junior high courses focusing on the community environment.
- d. Greater responsibilities and involvement opportunities for community volunteers (52 participated at one time or another).
- e. Development of joint cooperation with the University of Maine to involve greater numbers of pre-service teachers in actual teaching situations.
- f. Selected students participated in a week long camp experience in Bryant Pond, Maine (these were Junior High level).

4. 1972-1973 -

- a. Much the same as 1971-72 only with continued expansion at elementary level.
- b. Greater number of secondary services (field experiences, speakers bureau, assemblies, etc.)
- c. Co-sponsor of a pre-service-in-service teacher environmental program with University of Maine funded by Environmental Education Act grant.

I. PLANS FOR THE FUTURE:

1. Teacher workshops.
2. Student designed learning activities.
3. Community environmental inventories as the backbone of the program.
4. Equal involvement of social studies in determining program direction.

- A. PROJECT TITLE: OUTDOOR SCHOOL
- B. PROJECT DIRECTOR: Kendrick Y. Hodgdon, Supervisor of High Schools,
Board of Education, 108 Washington Street, Cumberland, Maryland
21502. (301)722-6695
- C. PROJECT HEADQUARTERS:
1. Board of Education, 108 Washington Street, Cumberland, Mary-
land 21502.
2. Special facilities or activities available for visitor
viewing: Yes. University of Maryland camp facilities.
- D. PRINCIPAL STAFF: 15 regular classroom teachers.
- E. PROJECT HISTORY:
1. Principal originators: Allegany County Bird Club and volunteer
teachers. Jack Petry, Assistant Superintendent of Schools; Jack
Elliott, Bruce May, Kendrick Y. Hodgdon.
2. Date and place of Initiation: 1948.
3. Overall project purpose:
a. Awareness of environment.
b. Social skills.
c. Physical development.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Learning appreciation of beauty of nature, respect and
living with nature.
b. Living together - social implications.
c. Learning new games and developing emotionally and physi-
cally.
2. New instructional materials being produced: For 6th grade.
- H. MATERIALS PRODUCED:
1. K-6:
a. Booklet for students in 6th grade at outdoor school -
KEKEWH.
b. Booklet for teachers - VESPER TIPS.
c. Materials for teachers, students and parents.
2. 7-12: None.
3. Others: None.
- I. MATERIALS AVAILABLE FREE:
1. Letter to parents.
2. Letter to counselors.
3. Aims and objectives, schedules, etc.
4. KEKEWH - self directing outdoor book for 6th graders.
5. VESPER TIPS - planning of evening programs for teachers.
- J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED: None.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 30.
2. Number of teachers having adopted all of the project materials: 50.
3. Number of teachers using some of the project materials: 50.
4. Total number of students using project materials: 1,300.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught: Outdoor School, Swanton, Maryland. All county schools go to above address to use materials.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops:
 - b. Summer Institute:
 - c. Others: Staff meets during winter holidays to make preparations.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes, by students and teachers.
2. Pertinent published research studies: None.

O. PROJECT SUMMARY:

We have introduced special education classes as well as educable groups to our outdoor over-night and weekly programs.

P. PLANS FOR THE FUTURE:

Plans are to include non-public school participations.

- A. PROJECT TITLE: FREDERICK COUNTY OUTDOOR SCHOOL FOR GRADE 6
AND GRADE 8
- B. PROJECT DIRECTOR: David Marple, Board of Education, Frederick,
Maryland 21701. (306)662-9200
- C. PROJECT HEADQUARTERS:
1. Board of Education, Frederick, Maryland 21701.
2. Special facilities or activities available for visitor
viewing: Yes. Camp Greentop and Mar-Lu-Ridge Camp.
- D. PRINCIPAL STAFF: One outdoor school principal and five outdoor
education teachers are regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Dr. Warren Evans.
2. Date and place of Initiation: Camp Greentop - spring 1957.
3. Overall project purpose: The outdoors has great potential
for motivating students. Social possibilities are more important,
teacher to student, student to teacher. Direct learnings are more
meaningful. Initially the programs emphasized science, the inter-
disciplinary approach has become more evident through the years.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Involvement in group situations.
b. Develop self confidence.
c. Develop awareness of surroundings.
d. Develop awareness of wonders of nature.
e. Understand man's place in total environment.
f. Have students look and see.
g. Sharpen the use of the senses.
h. Better use of leisure time.
i. Develop independence.
j. Help overcome fears.
k. Develop responsibility.
l. Develop camping skills.
m. Develop good personal grooming and hygiene.
n. Develop ability to reason.
o. Understand man's future dilemma.
p. To give each student a chance to develop increased knowl-
edge and interest in several areas of science, mathematics,
history, English, art and music.
2. New instructional materials being produced: Guide for Teachers.
- H. MATERIALS PRODUCED:
1. K-6: Grade 6 Outdoor School Guide.
2. 7-12: Grade 8 Outdoor School Guide.
3. Others: Not answered.
- I. MATERIALS AVAILABLE FREE: None.

- J. MATERIALS PURCHASABLE: Guide is available for \$2.00.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Behavioral objectives for both programs.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 33.
 2. Number of teachers having adopted all of the project materials: 80.
 3. Number of teachers using some of the project materials: 10.
 4. Total number of students using project materials: 3,000.
 5. Totals states are definite (1 & 2), estimated (3 & 4).
 6. Names and locations of schools where the course is being taught:
 - a. North Frederick Elementary School, Frederick, Maryland.
 - b. Walkersville Elementary School, Walkersville, Maryland.
 - c. South Frederick Elementary School, Frederick, Maryland.
 - d. New Midway Elementary School, New Midway, Maryland.
- M. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Not answered.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Commercial availability of materials: No.
- N. PROJECT EVALUATION: None.
- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
1. All 6th graders and all 8th graders attend the Outdoor School during the year.
 2. Grades 1-5 attend the Outdoor School for one day during the school year.
- P. PLANS FOR THE FUTURE:
1. Expansion of grade 8 program for all students.
 2. Resume study on local school grounds in science and other studies by visiting outdoor education teachers.
 3. Expanded budget for one day field trips for more resource teachers and transportation costs.
 4. Laying nature trails at all schools.
 5. Cooperating with State Forester in planting trees on school grounds.

6. Equipping school bus as mobile science lab (microscopes, field guides, etc.), to be moved from school to school.
7. Expanded use of materials such as Audubon tree charts and state topographic and geologic maps for all schools.

Q. ERIC DOCUMENTS:

Outdoor Education, Action Model. ED 022 605

- A. PROJECT TITLE: SCIENCE, TECHNOLOGY, AND SOCIETY PROJECT
- B. PROJECT DIRECTOR: David Harrison, Teacher Specialist, Division of Environmental Education, Montgomery County Public Schools, 850 Hungerford Drive, Rockville, Maryland 20850. (301)279-3500
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Not answered.
- D. PRINCIPAL STAFF: Not answered.
- E. PROJECT HISTORY:
1. Principal originators: Montgomery County Public Schools, jointly with the American Association for the Advancement of Science.
 2. Date and place of Initiation: Summer 1972 - Montgomery County, Maryland.
 3. Overall project purpose: The development of learning materials based on the interrelationship between science and various social problems.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
1. Materials produced: Two modules: Science, Technology, and Privacy and Weather Modification. Grade level not specified.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Yes. More modules.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Schools in Montgomery County are using the materials.
- I. TEACHER PREPARATION: Not answered.
- J. MATERIALS EVALUATION: Not answered.
- K. PROJECT SUMMARY:
1. The following topics have been identified for development into learning units (termed modules):
 - a. Aging and Death.
 - b. Genetic Engineering and Society, Technology, Work, and Leisure.
 - c. Science, Technology, War, and the Arms Race.
 - d. Behavior Modification and Society.
 - e. Science, Technology, Mathematics, and the Arts.
 - f. Science, Technology, and Privacy.
 - g. Weather Modification and Society.

These topics were chosen because they raise complex, controversial issues, or, in the case of letter e, not controversy but consciousness.

2. The STS project has also developed a model for the learning modules designed to provide maximum ease and flexibility for the teacher and foster a spirit of inquiry on the part of students. Each module consists of a number of teacher-initiated starting activities that will help students to define a particular science, technology, and society issue, to propose tentative solutions to the problems involved, and to explore appropriate lines of inquiry. The class materials necessary for these activities are to be provided in the module.

3. Modules also contain an "Activity Array" that assists teachers and students who wish to pursue the issue in greater detail. The activity array is composed of 25-50 activities that students may conduct individually or in small groups. Suggested activities include laboratory experiments, community surveys, interviews with public officials, simulations, community action projects, and art projects.

4. A unique feature of the STS project is that it has been a cooperative venture on the part of both teachers and students. The contribution of students in the planning and production of written materials has been outstanding.

5. Two modules were scheduled for field testing in county schools in Autumn 1973: "Science, Technology, and Privacy" and "Weather Modification." Other modules are in various stages of development and will be utilized in schools as they are completed.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: HABITAT INC. - SCHOOL OF ENVIRONMENT
- B. PROJECT DIRECTOR: William Phillips, 10 Juniper Road, Belmont,
Massachusetts 02178. (617)489-3850
- C. PROJECT HEADQUARTERS:
1. 10 Juniper Road, Belmont, Massachusetts 02178.
2. Special facilities or activities available for visitor viewing: Yes. 25 acres of gardens, ponds, forest, etc.
- D. PRINCIPAL STAFF: 10 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: D. Dickenson Henry, William Phillips.
2. Date and place of Initiation: September 1971 - Belmont, Mass.
3. Overall purpose:
a. An alternative way of learning.
b. To facilitate significant local improvements in the environment.
c. An alternative way of financing education.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: Primarily technical and implementation reports.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Modular elements which focus on techniques related to Environmental Problem Solving - tapes, films and written material will be used. This material is now in a formative stage and is not ready for distribution.
2. Development of other materials anticipated: Case histories in environmental studies.
- L. PROJECT IMPLEMENTATION:
30 students are using all of the materials.
- M. TEACHER PREPARATION:
Workshops for 50 teachers per year plus our own staff development program.
- N. PROJECT EVALUATION: Not applicable.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Designed and implemented an environmental education program in one public school
2. Ran an environmental workshop for teachers.

P. PLANS FOR THE FUTURE:

1. Expansion of pilot school.
2. Development of materials and workshops for a larger audience.
3. Growth of environmental consultancy in land management, natural resource inventories, and water pollution.
4. Growth of educational consultancy in workshops.

- A. PROJECT TITLE: PROJECT SURVIVAL - AN EXPERIENCE IN THE NEW HUMANITIES
- B. PROJECT DIRECTOR: Richard Todd, Allen Road, Billerica, Massachusetts
01821. (617)667-6633
- C. PROJECT HEADQUARTERS:
1. Locke Middle School, Allen Road, Billerica, Massachusetts.
2. Special facilities or activities available for visitor viewing: Yes. Actual class presentation, units of study, and project information.
- D. PRINCIPAL STAFF: 15 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Richard Todd, Leo Vanis, Thomas DiMare, James Duffy.
2. Date and place of Initiation: Locke Middle School. September 1970.
3. Overall project purpose: Course designed to develop attitudes based upon basic skills of communication relevant to student interests and needs. Allowing students experiences within the performing arts which would help clarify or define social studies. Concepts related to their interest areas.
- F. PROJECT OBJECTIVES:
1. Course determined by expressed student interests concerning world conditions.
2. Course allowing students to learn at maximum individual capacity.
3. Course utilizing the basic skills of artistic expression.
4. Course offering both independent study and small work group options.
5. Classroom situation with variable teacher-student ratio as small as one to one.
- G. MATERIALS:
1. Materials produced: Not answered.
2. Free materials available: Course objectives, units of study (objectives-activities).
3. Materials produced that can be purchased: Activity Manual - all classroom activities used to date. Includes approximate time (in days) strengths-limitations and materials used. \$1.00 per copy.
4. New instructional materials being developed: Not answered.
5. Additional materials you anticipate developing: Not answered.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 2.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 15.
4. Total number of students using project materials: 650.
5. Totals stated are estimated.

6. Names and locations of schools where the program materials are being used:
 - a. Locke Middle School, Allen Road, Billerica, Massachusetts 01821.
 - b. Marshall Middle School, Salem Road, Billerica, Massachusetts 01821

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes. Scheduled during school year.
3. Pre-service training program for teachers desiring to use the materials: Yes. For teachers in the program.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. For teachers in program. 3 weeks during the summer.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Psychometrics, Falmouth, Mass.
2. Pertinent published research: None.

K. PROJECT SUMMARY:

1. Project has expanded from 4 teachers-140 students (1970) to include two schools, 15 teachers and approximately 650 students (1973).
2. We have replaced geography on the seventh grade level in that our course is required by all students in the grade level.
3. In replacing geography, school department has agreed that our objectives and concepts within the realm of social studies is far more pertinent to today's youngsters.
4. The decision is reflected in the support we received from town and administration with their expansion of the project.

L. PLANS FOR THE FUTURE:

1. Current plans include expansion of program in other grade levels. We are currently operating on the seventh grade level but plan to introduce elective courses for eighth grade.
2. In-service workshops will be scheduled and will be open to any interested teacher or administrator within the local communities.
3. For the first time in our project the Billerica School Department is planning a Department Coordinator within the town.

- A. PROJECT TITLE: ENVIRONMENTAL SCIENCE PROGRAM
- B. PROJECT DIRECTOR: Donald Schall, Director, Cape Cod Museum of Natural History, RTGA, Brewster, Massachusetts 02631.
(617)896-3867
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Library, walks, films, lectures, workshops, displays, etc.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Local school principals and museum staff.
 2. Date and place of Initiation: September 1970. Brewster and surrounding school systems.
 3. Overall project purpose: To institute the incorporation of environmental education materials into elementary school curriculum.
- F. PROJECT OBJECTIVES:
1. Awareness of natural surroundings.
 2. Incorporation of curriculum materials.
 3. Workshops for teachers in K-6.
- G. MATERIALS:
1. Materials produced: Environmental Education Guide for Elementary Schools.
 2. Free materials available: 26 weekly unit outline (ditto).
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Guides for K-6 grades.
 5. Additional materials you anticipate developing: None.
 6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 7.
 2. Number of teachers having adopted all of the project materials: Not answered.
 3. Number of teachers using some of the project materials: All.
 4. Total number of students using project materials: 1,600.
 5. Totals stated are definite.
 6. Names and locations of schools where the program materials are being used:
 - a. Mr. George Higgins, Principal, Brewster Elementary School, Main Street, Brewster, Massachusetts 02631.
 - b. Mr. Walter Morley, Principal, Ezra Baker School, Box 85, Dennisport, Massachusetts 02639.
 - c. Mr. James Kelley, Eastham Elementary School, Eastham, Massachusetts 02642.
 - d. Mrs. Gertrude Bell, Trinity School of Cape Cod, 10 Charter Street, South Yarmouth, Massachusetts 02664.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 hours, bi-monthly.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. The library carries most of the current and better guides in the environmental sciences.
6. Teaching materials commercially available: Yes.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. 1970-1971: Environmental science program in 6 schools.
2. 1971-1972: Environmental science program in 7 schools.
3. 1972-1973: Environmental science program in 7 schools. Received federal funds to conduct the program and to develop materials for use in the elementary schools.
4. Opened the following facilities to teachers: workshops, field walks, film series, lectures, library materials.

L. PLANS FOR THE FUTURE:

1. Increased use of the museum's buildings and facilities to further encourage the use and incorporation of environmental education into the local schools.
2. To have the teachers further their knowledge in the environmental sciences.

- A. PROJECT TITLE: THE NATURAL SCIENCE SERIES
- B. PROJECT DIRECTOR: Publisher: Independent School Press, 51 River Street, Wellesley Hills, Massachusetts 02181.
- C. PROJECT HEADQUARTERS:
1. Francis Wyman Junior High School, Burlington, Mass. 01803.
 2. Special facilities or activities available for visitor viewing: Yes. Classrooms in operation.
- D. PRINCIPAL STAFF: Science department personnel - 8.
- E. PROJECT HISTORY:
1. Principal originators: Barbara A. Scott, John Ayres.
 2. Date and place of Initiation: Published 1968, begun 1965.
 3. Overall project purpose: A Junior High Curriculum, integrated earth-life science. To introduce the student to the idea of the regularity and interdependence of nature.
- F. PROJECT OBJECTIVES: See E-3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Booklet - 5th grade.
Text - 6th grade.
 - b. 7th: Life I - Lab Manual J "Natural Science" Series.
Earth I - Lab Manual J "Natural Science" Series.
 - 8th: Life II - Lab Manual J "Natural Science" Series.
Earth II - Lab Manual J "Natural Science" Series.
 - c. Other: Equipment and materials available for "Earth" Texts, Bird-Songs for "Life" Test.
 2. Free materials available: Samples from publisher, with teacher's guides.
 3. Materials produced that can be purchased:
 - a. Life I - \$2.25
 - b. Life II - \$2.75
 - c. Earth I - \$2.50
 - d. Earth II - \$2.50
 - e. 5th grade Booklet - \$1.00.
 - f. 6th grade text - \$3.00.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: None.
 6. Present commercial association: Yes.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 35-40 nation-wide.
 2. Number of teachers having adopted all of the project materials: Not known.
 3. Number of teachers using some of the project materials: Not known.
 4. Total number of students using project materials: Not known.

5. Totals stated: This is the 3rd year of using published materials, involving 3600 pupils. Before publication approximately 5,000 pupils, in Burlington, Mass.

6. Names and locations of schools where the course is being taught:

- a. Francis Wyman Junior High School, Terrace Hall Avenue, Burlington, Mass. 01803.
- b. Bancroft School, Worcester, Mass.
- c. Isidore Newman School, New Orleans, Louisiana.
- c. Agens Irwin School, Rosemont, Pennsylvania.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Available on request.
2. In-service education program for teachers using the materials: Available on request.
3. Pre-service training program for teachers desiring to use the materials: Not answered.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Teachers' Guides.
6. Commercial availability of materials: Publisher.

J. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Only informally. Names of those using it can be supplied on request.
2. Pertinent published research studies: Not answered.

K. SUMMARY OF PROJECT ACTIVITIES SINCE 1969: Not answered.

L. PLANS FOR THE FUTURE:

Further lab manuals, water pollution, health.

- A. PROJECT TITLE: OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Arnold Clickstein, Headmaster, Charles River Academy, 5 Clinton Street, Cambridge, Massachusetts 02139.
(617)868-5380
- C. PROJECT HEADQUARTERS:
1. Charles River Academy, 5 Clinton Street, Cambridge, Mass.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Richard Wainwright, former administrator; Arnold Clickstein, Headmaster.
2. Date and place of Initiation: 1966 - Cambridge.
3. Overall project purpose: To get students involved and interested in the "great outdoors" without the usual classroom pressures by developing experiences which encourage learning through group interaction as well as confrontation with our physical and biological environment.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To develop an environmental program geared to helping adolescents relate to their environment, ecologically, emotionally, intellectually and physically.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE: Reprint of article about program.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION: 40 students are using all of the materials.
- M. TEACHER PREPARATION: A consultative service is available for teachers using the materials.
- N. PROJECT EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. By the staff.
2. Pertinent published research studies: None.
- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
Experiences were provided in two unique settings: the New England wilderness and the New England coast. The program was carried out on weekends, afternoon training sessions, and the last week of school. The understanding of the relationships between living

things and their environment helped to understand relationships between themselves and the world they live in. They also learned techniques related to survival in wilderness areas in various seasons. Search and rescue techniques, mountain climbing techniques, forest fighting techniques, navigational instruction, emergency aid and group living techniques were involved in the program run in the wilderness areas. Sailing, navigational instruction, emergency aid and group living techniques were provided during the Marine Studies part of the project.

P. PLANS FOR THE FUTURE:

To develop a program for student experiences on a dairy farm in Upstate N.Y. and at a Marine station in northern Maine.

- A. PROJECT TITLE: FISKE HILL ENVIRONMENTAL STUDY AREA
- B. PROJECT DIRECTOR: Douglas Sabin, Minuteman National Historical Park, P.O. Box 160, Concord, Massachusetts 01742. (617)259-9240
- C. PROJECT HEADQUARTERS:
1. Minuteman NHP, P.O. Box 160, Concord, Mass. 01742.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 3 persons employed. They do not work full time on the ESA Project as they have many other varied duties within the park.
- E. PROJECT HISTORY:
1. Principal originators: National Park Service.
2. Date and place of Initiation: 1968.
3. Overall project purpose: We are trying to make people, especially children, aware of their total environment and the individuals relationship to it. Hopefully, we will help develop attitudes which will gradually take the shape and form of an environmental ethic, an understanding and commitment for the person to act upon all his life.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To expose as many school groups as possible to our ESA and pre-site study materials.
b. To assist teachers in any way we can in order to make their environmental teaching program more effective.
c. To aid schools in establishing their own ESA areas.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED:
1. K-6: FISKE HILL pre-site booklet designed for grades 5 and 6 but flexible to the extent that it can be used for higher and lower grades.
2. 7-12: FISKE HILL pre-site booklet.
3. Others: FISKE HILL Environmental Study Area Teachers Manual.
- I. MATERIALS AVAILABLE FREE:
1. Booklets:
a. Fiske Hill.
b. Fiske Hill Environmental Study Area.
2. Films available for loan:
a. Urbanissimo.
b. A Matter of Time.
c. Why Man Creates.
d. The Persistent Seed.
e. Children and Trees.
f. Conservation Shorts.

3. Cameras available for loan. 6 Polaroid "By Swinger" Type.
Students provide own film.

J. MATERIALS PURCHASABLE:

MAN, EARTH AND CHANGE by Jean Worth. This hardcover book can be purchased for \$3.64 from our Eastern National Park and Monument Associations outlets in the park. It is published by Coward - McCann Inc. of New York.

K. ADDITIONAL MATERIALS BEING DEVELOPED: None at present.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 17.
2. Number of teachers having adopted all of the project materials:
Not answered.
3. Number of teachers using some of the project materials: 81.
4. Total number of students using project materials: 600.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught:
Not applicable.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials:
Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 6 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Not answered.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers:
 - a. NEED (National Environmental Education Development).
 - b. Fiske Hill ESA Teachers' Manual - Adventure in Environment.
 - c. Man and His Environment.
6. Commercial availability of materials:
 - a. NEED from Silver Burdette Company, Order Processing Department, 250 James Street, Morristown, New Jersey 07960.
 - b. Man and His Environment from NEA Publications - Sales Section 34, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
Teacher questionnaire.
2. Pertinent published research studies: None.
3. Unpublished research: None.

O. PROJECT SUMMARY:

1. Our environmental program is closely tied in with the National Environmental Education Development (NEED) program and the National Environmental Study Area (NESA) program which operates within several bureaus and agencies of the Federal government.
2. Fundamental to these programs is our 50 acre Fiske Hill Environmental Study Area (ESA) which is available to visiting school groups, who are conducted through the ESA by their teachers. The children are given study materials and assignments by their teachers before visiting the ESA, and are also given post-visit assignments.
3. The Fiske Hill is open daily the year round until one hour to sunset, weather permitting.
4. To assist the teachers, who carry the burden of this environmental instruction, we have conducted "workshop" sessions at the park. Teachers of the elementary grades in the local area, as well as leaders of such organizations as the Girl Scouts have received guidance from Minute Man staff at past sessions.

P. PLANS FOR THE FUTURE:

We hope to expand our ESA services to include use by non-educational groups.

- A. **PROJECT TITLE:** P.T.A.'S NATURE TRAILS - PARMENTER AND KENNEDY
- B. **PROJECT DIRECTOR:** Mrs. Joannah Brunelli, P.T.A. Coordinator,
71 Brook Street, Franklin, Massachusetts 02038. (617)528-5229
- C. **PROJECT HEADQUARTERS:**
1. Parmenter Nature Trail - Parmenter School, Wachusetts Street,
Franklin, Massachusetts 02038 - % Mrs. Bonnie Lindholm.
Kennedy Nature Trail - Kennedy School, Pond Street, Franklin,
Massachusetts 02038 - % Mrs. Mary Meeker.
2. Special facilities or activities available for visitor view-
ing: Trails and walks with children when scheduled.
- D. **PRINCIPAL STAFF:**
18 volunteers for Parmenter nature trail, 15 for Kennedy nature trail.
- E. **PROJECT HISTORY:**
1. Principal originator: Principals of each school plus P.T.A.
2. Date and place of Initiation: Parmenter - Spring 1970;
Kennedy - Spring 1973.
3. Overall project purpose: To bring children out on trail to
observe, have contact with, and learn about nature in its original
setting.
- F. **PROJECT OBJECTIVES:**
The objectives revolve around what is on the trail to see; each
season bringing something different - each day a new experience: a
smell - a feel - a sight - a sound - a taste.
- G. **MATERIALS:**
1. Materials produced: Teachers go back to their classrooms and
use their science books to follow up what they learned, saw, felt,
etc., but the trail was the first point of interest.
2. Free materials available: The training guides which we use for
the trails for the volunteer parents, developed by volunteer origi-
nators.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. **MATERIALS IMPLEMENTATION:**
630 students have been on the Parmenter Nature Trail and 290 on
the Kennedy Nature Trail. Other schools using the nature trails
are: Four Corners School, East Central School, Horace Mann School,
all of Franklin, Massachusetts.
- I. **TEACHER PREPARATION:**
We ask teachers to coordinate materials of trail to their own
subject on science.
- J. **MATERIALS EVALUATION:**
1. Has the effectiveness of the program been evaluated: Yes.
By the teachers, students, and volunteers.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Parmenter School - Each grade level (K-4) had a specific activity and lesson. For example: K had a walk with concentration on ground and rocks with a craft made out of rocks. Grade 3 had a walk with points of a compass, animal interview, and bug search with hand-crafted bug catchers.
2. Kennedy School - Along the trail were ten points of interest each with its own lesson plan. No crafts were used.

L. PLANS FOR THE FUTURE:

Additional schools to be added to existing program when and if we can find a volunteer coordinator for each school involved.

- A. PROJECT TITLE: LANESBOROUGH SCHOOL EXPERIENCE IN OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Anthony J. Boyer, Summer Street, Lanesborough,
Massachusetts 01237. (413)443-0027
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. During September, May and June the program is in full swing at Hawley State Forest.
- D. PRINCIPAL STAFF: 7 persons are regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Neil Anderson, George St. Pierre, Aureola Sheldon.
 2. Date and place of Initiation: September 1967.
 3. Overall project purpose: To complement and enrich the content areas of the school curriculum with first hand observation and multi-sensory experiences outside of the limitations of the classroom. It allows the child to become personally and actively involved in learning, and provides a wide variety of situations which will give depth and meaning to subject matter.
- F. PROJECT OBJECTIVES:
1. Create a highly stimulating setting.
 2. Reinforce abstract knowledge with concrete experience.
 3. To create an endless variety of resources and teaching techniques.
 4. To re-establish the vital bond between man and his earth.
 5. To make a major contribution to the cause of increased physical fitness.
 6. To make the child sensitive to his surroundings.
- G. MATERIALS:
1. Materials produced: A Curriculum Study and Manual for Outdoor Education. Can be adapted for any grade level.
 2. Free materials available: None.
 3. Materials produced that can be purchased: The manual can be purchased from the principal of Lanesborough School at \$6.50 per copy.
 4. New instructional materials being developed: Yes. Primarily for grades five and six but all will be adaptable for all grade levels.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 5 or 6.
 2. Number of teachers having adopted all of the project materials: 15.
 3. Number of teachers using some of the project materials: 15-20.
 4. Total number of students using project materials: 800-1,000.
 5. Totals stated are estimated.

6. Names and locations of schools where the program materials are being used:
 - a. Lanesborough School, Summer Street, Lanesborough, Mass. 01237.
 - b. Williamstown Public Schools, Williamstown, Mass.
 - c. Rice School, c/o Mr. Jeffery Daury, Pittsfield, Mass.
 - d. Stearns School, Pittsfield, Mass.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2-3 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No, although the manual could serve that purpose.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: No.
2. Pertinent published research studies: Articles in the Berkshire Eagle, newspaper and the Instructor magazine (October, 1968).

K. PROJECT SUMMARY:

During the Spring and Fall students from the 5th and 6th grades take part in the outdoor education program at separate times. The students along with a number of teachers are taken to Hawley State Forest (Mass.) where they spend two or three days at a time. During this time the students and teachers live at Hawley and thus become a part of the great outdoors. Classes are conducted in the outdoors during the day and somewhat at night (astronomy). Subjects such as English, Math., Science, Art, for example are all used together in conjunction with the environment. There is a pond available for research as well as the wooded area and fields. The students investigate many aspects of their environment with the teachers aid. Such things as aqua biology, archaeology, survival, art, measurement, etc. are included in the activities. The students are also encouraged to investigate the area on their own. It should be added that the students sleep overnight in buildings, so that for one or two nights they are completely in the forest.

Recently, a new program was instituted that involves a trip to Cape Cod. It is called the Cape Cod Experience and involves a five day trip. The students visit various places of interest in Boston, Plymouth and on Cape Cod. The students and teachers stay at Brewster State Park in tents. The students visit museums as well as the seashore and marsh lands. We at Lanesborough feel that this program serves a distinct purpose in that our school is situated in

the Berkshire Hills and this trip gives the students a chance to view another important aspect of their environment.

It should be added that by no means does the outdoor program end with both the Hawley Program or the Cape Cod Experience. The entire program encompasses the whole school and at one time or another all teachers, administrators, and other specialists. The program itself involves trips to museums, private homes, planetariums, industries, businesses, field, woodlots, as well as the school grounds itself. Generally speaking this program is a way of teaching other than the traditional way. We believe that if we can bring the students to the environment, they will learn much more than if they had to learn the same materials in the classroom. Overall we feel that this entire program has been a remarkable success and the Hawley Program along with the Cape Cod Program are only the most noticeable aspects of our Outdoor Program of Education.

L. PLANS FOR THE FUTURE:

We are in the early stages of planning for hiking and survival activities to coincide with our Hawley Programs.

- A. PROJECT TITLE: STUDENT COALITION FOR THE ENVIRONMENT OF NEW ENGLAND (SCENE)
- B. PROJECT DIRECTOR: Stephen Joyce, SCENE Coordinator, % Trust for Environmental Education (Massachusetts Audubon Society), Lincoln, Massachusetts 01773. (617)259-9500
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 or 2 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Steve Joyce, students and advisors.
2. Date and place of Initiation: October 1972 - Boston Museum of Science.
3. Overall project purpose: To facilitate the flow of information among New England high schools.
- F. PROJECT OBJECTIVES:
1. Hold an ecology conference for high school students.
2. Form a coalition of high school ecology clubs with a circulating newsletter.
- G. MATERIALS: Not answered.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION:
A 60-90 minute workshop is available where teachers may participate with students.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
On April 7-8, 1973, the Student Coalition for the Environment of New England (SCENE) conducted its first New England-wide conference at the Boston Museum of Science and the Boston Center for Adult Education. The conference consisted of slide presentations, lectures, symposia, and workshops on a wide variety of environmental issues.
- L. PLANS FOR THE FUTURE:
This year's activities will be similiar to last year's with a conference in the spring, a newsletter and possibly some workshops.

- A. PROJECT TITLE: FOX RUN - NATURAL SCIENCE AREA
- B. PROJECT DIRECTOR: Thomas J. MacDonald, Science Coordinator, Esten School, 733 Summer Street, Rockland, Mass. 02370. (617)878-8336
- C. PROJECT HEADQUARTERS:
1. Hartsuff Park, Hingham Street, Rockland, Mass. 02370.
 2. Special facilities or activities available for visitor viewing:
 - a. Natural Science Museum.
 - b. Amphitheatre.
 - c. Wildflower Area.
 - d. Moss and Fern Area.
 - e. Herb Area.
 - f. Tree Farm.
 - g. Two Nature Trails.
 - h. Swim Area.
 - i. Conservation Building.
 - j. Natural Science Programs.
- D. PRINCIPAL STAFF: Two volunteers.
- E. PROJECT HISTORY:
1. Principal originators: John J. Rogers, Superintendent of Schools; Thomas J. MacDonald, Science Coordinator.
 2. Date and place of Initiation: 1966 - Rockland.
 3. Overall project purpose: To instruct children and adults about their own environment and ecological background in Rockland.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Completion of a small Natural Science Museum and Zoo Area.
 - b. Educational Programs.
 2. New instructional materials being produced: Yes. Grades K-6.
- H. MATERIALS PRODUCED: In the process of producing materials.
- I. MATERIALS AVAILABLE FREE: Slide Program, Movie Program.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Not answered.
 2. Development of other materials anticipated: Booklets.
- L. PROJECT IMPLEMENTATION: Using area at the present time only.
- M. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Slides only.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. PROJECT SUMMARY:

1. In 1966 a Natural Science Committee was formed to convert a 15 acre piece of school property into an outdoor classroom. Many hours of volunteer work and donations have created the facilities listed under C.2. Over half of the work has been done by school children themselves and is still being carried on by them.
2. A monthly bulletin called "Timber" is distributed to teachers and other interested persons to keep them informed about the progress and activities at the park as well as important conservation items of interest.
3. Newly constructed wild life observation platform overlooking pond.
4. Expansion of exhibits in our small museum.
5. Continuation of our summer natural science program for grades K-6.
6. New ball field.
7. Connection of two small ponds for boat rides.
8. Newly constructed duck pond by the National Guard.
9. New wildflower and aquatic bird plantings by Girl Scouts and local Garden Club.

P. PLANS FOR THE FUTURE:

We are planning more adult programs in natural science.

- A. PROJECT TITLE: PROJECT PART-TIME (PUPILS AS RESPONSIBLE TEACHERS TO INCREASE MUTUAL ESTEEM)
- B. PROJECT DIRECTOR: Mary F. Toomey, 1615 Commercial Street, E. Weymouth, Massachusetts 02189. (617)335-6331
- C. PROJECT HEADQUARTERS:
1. Union Street Elementary School, South Weymouth, Massachusetts 02190.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 6 adults, 4 students regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Mary F. Toomey.
2. Date and place of Initiation: 1965 - Johnson School, North Weymouth.
3. Overall purpose: To utilize qualified high school students as supplementary teachers of special subjects in elementary schools, including science, math, and ecology.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To enrich the education of elementary school children, pre-school children, and special class children through the involvement of qualified high school students.
2. New instructional materials being produced: Yes. Grade 4.
- H. MATERIALS PRODUCED:
An ecology unit for grade 3 now being tested.
- I. MATERIALS AVAILABLE FREE: Booklet concerning program is available.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: K-6 ecology units.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 9.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 96.
4. Total number of students using project materials: 3,750.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
a. Johnson School, North Weymouth, Mass. 02191.
b. Nevin School, South Weymouth, Mass. 02190.
c. Child Care Center, East Weymouth, Mass. 02189.
d. Union Street School, South Weymouth, Mass. 02190.

M. TEACHER PREPARATION:

Consultative service is available for teachers using the materials. An in-service program for teachers will be available in the fall of 1973.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By a professor of ecology.
2. Pertinent published research studies: None.

O. PROJECT SUMMARY:

1. Organization of DAY CORPS (Developing American Youth) consisting of 60 high school students interested in sharing specialized knowledge with elementary children in their classroom.
2. Organization of a Tutor Corps to tutor on a one to one basis children who are below class levels in various subjects.
3. Organization of a summer tutorial school for children who wish to improve in special subject areas.
4. Organization of a big brother-sister program for children in need of emotional support.
5. Organization of two summer environmental programs: Great Esher Park Nature Center, servicing approximately 500 children; and Bradford Torrey Nature Center, servicing approximately 150 children per summer.
6. Persuasion of Weymouth Town Meeting members to hire two ecology specialists to coordinate the growing environmental education program.
7. Sponsoring of a camp-out for 6th graders to give them an opportunity to study nature at close range.

P. PLANS FOR THE FUTURE:

1. A completely coordinated year-round environmental program utilizing all conservation areas in Weymouth and areas adjacent to elementary schools. This program would extend from K-12 through adults.
2. The preparation of live and taped foreign language units for use by elementary children - tapes being made by students particularly qualified in languages.
3. The preparation of history and government tapes for elementary students.

- A. PROJECT TITLE: ENVIRONMENTAL CENTER FOR OUR SCHOOLS - E.C.O.S.
- B. PROJECT DIRECTOR: Clifford A. Phaneuf, Springfield Public Schools,
195 State Street, Springfield, Massachusetts 01103.
(413)733-2132
- C. PROJECT HEADQUARTERS:
1. Ecology Center, Skate House, Forest Park, Springfield,
Massachusetts. (413)733-8161
2. Special facilities or activities available for visitor view-
ing: Yes. Visitors are invited to participate with school
children in outdoor classroom activities held in 745 acre class-
room.
- D. PRINCIPAL STAFF: 16 full time persons employed plus community and
park resource people.
- E. PROJECT HISTORY:
1. Principal originators: Mrs. Lorraine B. Ide, Elementary Science
Supervisor, Springfield Public Schools.
2. Date and place of Initiation: Trial sessions Fall of 1970
and Spring of 1971 for Grade 4 students only. Title III funding
began July '71 - June '72 for Grades 4,5, and 6.
3. Overall project purpose: To help Springfield children in the
the intermediate grades appreciate the beauties of the forest,
pond and field, to have them observe and understand the interde-
pendence and interrelationships of living things in each community,
and to see the vital role each member plays in maintaining an
ecological balance in that community as will be evidenced by the
students cumulative evaluation activities.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To develop environmental awareness in the city child and
educate for survival.
b. To assist teachers in re-defining their roles and using
the outdoors as a teaching resource. In-service, pre-
service.
c. To make the curriculum more relevant to student needs and
wants.
d. To expand the learning and teaching environments.
e. To use a variety of organizational patterns from large
groups to individualized learning experiences.
f. To provide a social and academic mingling of children from
all sections of the city.
g. To develop community and parental involvement in public
school programs.
2. New instructional materials being produced: Yes. Grades K-6.

H. MATERIALS PRODUCED:

1. K-6:
 - a. Environmental Center Curriculum for Grades 4,5,6.
 - b. Pre and post activities for all groups attending E.C.O.S.
 - c. Teacher and parent informational materials.
 - d. Student and teacher evaluations.
2. 7-12: None.
3. Others: None.

I. MATERIALS AVAILABLE FREE: Brochure of program.

J. MATERIALS PURCHASABLE:

Curriculum Guide - Grade 4,5,6 - \$5.00.

K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 38.
2. Number of teachers having adopted all of the project materials: 300.
3. Number of teachers using some of the project materials: 150.
4. Total number of students using project materials: 9,000.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught:
 - a. Elias Brookings School, 367 Hancock Street, Springfield, Mass. 01105.
 - b. Alfred M. Glickman School, 128 Ashland Avenue, Springfield, Mass. 01119.
 - c. Sixteen Acres School, 50 Empress Court, Springfield, Mass. 01129.
 - d. Warner School, 493 Parker Street, Springfield, Mass. 01129.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day - 5 days.
 - b. Summer Institute: No.
 - c. Evening classes. Yes. 10 week college co-operative course - 1 class per week.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Pre- and Post-Activity materials:
 - a. College course outline.
 - b. Individual units adapted to school sites.
 - c. Ecology kits in each school's Media Center containing 30 workbooks, 2 film strips (2 films available at each grade level).

6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: In the process. Psychometrics Incorporated, Falmouth, Mass.
2. Pertinent published research studies: Not answered.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

- 1969 - Approved by School Committee for funding a Spring/Fall Grade 4 program for 2400 students to spend 5 days at the Environmental Center.
- 1971 - May - Title III E.S.E.A. approval for
Grade 4 - 4 days at the Center
Grade 5 - 2 days at the Center plus 1 day in school program
Grade 6 - 1 day at the Center plus 1 day in school program.
- 1972 - Grade 4 - 3 days at the Center.
Grade 5 - 2 days at the Center.
Grade 6 - 3 days at the Center.

P. PLANS FOR THE FUTURE:

1. Diffusion beyond local schools.
2. Extend program into Junior High School level - Grades 7,8 and 9.
3. More in-school environmental activities.

Q. ERIC DOCUMENTS:

1. A Guide To Establishing Environmental Education Programs in Municipal Parks. SE 016 953
2. Environmental Center for Our Schools (ECOS). Curriculum Guide Grades 4-5-6 (1971). ED 063 151

- A. PROJECT TITLE: WALTHAM SUMMER ENVIRONMENTAL SCIENCE PROGRAM
- B. PROJECT DIRECTOR: Dr. Alan Aymes, Waltham High School, 617 Lexington Street, Waltham, Massachusetts 02154. (617)893-8050 Ext. 320.
- C. PROJECT HEADQUARTERS: Summers only. (Otherwise above).
1. Northeast School, Putney Lane, Waltham, Mass. 02154.
2. Special facilities or activities available for visitor viewing: Yes. During the summer.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Alan Aymes, Mrs. Elizabeth French, Mr. Emmanuel Mello.
2. Date and place of Initiation: July 1968. Waltham, Mass.
3. Overall project purpose: Sensitize children to the concept of "Environment" and to some environmental problems.
- F. PRESENT COMMERCIAL AFFILIATIONS: No.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Acquaint children with the plant and animal life in a given region.
b. Allow children to investigate the interdependence of these life forms.
c. Allow children to investigate the possible adverse effects of man's altering the environment.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: Not answered.
- I. MATERIALS AVAILABLE FREE: General program description.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Teacher's Guide.
2. Development of other materials anticipated: Presently, this is a summer program only. We are working on a K-6 academic year, environmental awareness program.
- L. PROJECT IMPLEMENTATION: Summer program only.
1. Number of schools now using entire set of materials: Not applicable.
2. Number of teachers having adopted all of the project materials: Four.
3. Number of teachers using some of the project materials: 4.
4. Total number of students using project materials: 50-60.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught: Northeast Elementary School, Putney Lane, Waltham, Mass. 02154. Summers only.

- M. **TEACHER PREPARATION:** One two day workshop is held prior to the beginning of the summer program.
- N. **PROJECT EVALUATION:**
1. Has the effectiveness of the materials been evaluated: Yes. By the program staff and parents.
 2. Pertinent published research studies: None.
- O. **SUMMARY OF PROJECT ACTIVITIES SINCE 1969:**
- The program follows the same general format each summer: two three-week sessions are offered, with a new group of 25-30 students each session. The course meets mornings, five days per week. Most of the day is spent outdoors investigating a particular topic. Pupils then return to the classroom for microscopic analyses, building terraria, etc.
- It is largely a pressure-free course. There are no tests or grades of any kind; nor is there any formally assigned homework. Dozens of reference books are available so that pupils can pursue topics of interest to them. There is usually one field trip to a salt water beach area to examine tidepools.
- P. **PLANS FOR THE FUTURE:**
1. We are working on a K-6 environmental awareness program for the academic year. Essentially, the program will involve the investigation of land areas in the vicinity of each school.
 2. We are also adding to the program a "survival-in-the-outdoors" component.

- A. PROJECT TITLE: STUDENT DEVELOPMENT OF A PROCESS CURRICULUM FOR THE COMMUNITY
- B. PROJECT DIRECTOR: Ronald G. Broman, 348 North Elm Street,
West Bridgewater, Massachusetts 02379. (617)584-7355
- C. PROJECT HEADQUARTERS:
1. River Street, West Bridgewater, Massachusetts 02379.
2. Special facilities or activities available for visitor viewing: Yes. Ecology Action Service Center.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Advisors and student members.
2. Date and place of Initiation: August 1972.
3. Overall project purpose: Development of environmental literacy.
- F. PROJECT OBJECTIVES:
1. Pre-school and elementary: To instill within students an awareness and appreciation of their total environment and the balance of nature.
2. Secondary level: To help students develop an awareness and to understand the relationship of man to his total environment.
3. Adult education: To establish, through adult evening education program, a course in environmental survival and to conduct activities aimed at environmental literacy of this segment of the community.
4. Establishment of a Community Environmental Service Center.
- G. MATERIALS: Not applicable.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. Assembly programs have been conducted in our elementary schools followed by small group meetings on a variety of topics including recycling, land use, and nature trail development.
2. At the primary level a poster contest to bolster the recycling campaign was conducted.
3. Nature trail plans have been finalized by the elementary council and will be completed in the near future.
4. Elementary level students are now deeply involved in the recycling program at the local sanitary landfill.
5. Within the public secondary school a course offering entitled "Environmental Studies" encompassing traditional ecology, nutrient cycles, population, and political and social problems.
6. A junior high school ecology club has been formed to act as a feeder group to the W.B.S.C.G. and to continue interest generated in grades 5 and 6.

7. A course entitled "Environmental Survival," free of charge, was offered through the adult evening education program in the fall of 1972 and again in the spring of 1973.
8. SA-SOE, the student conservation newsletter, was sent out to a large number of people within the community.
9. Speakers, knowledgeable in the area of environmental education, were retained to deliver programs at the Ecology Action Service Center (EASC).
10. The student developed program was presented to many civic groups within this and surrounding towns.
11. This center has been established, redecorated by the students and is in full use as a resource center for interested citizens to bring their questions or problems regarding environmental matters.

L. PLANS FOR THE FUTURE: Not answered.

M. ERIC DOCUMENTS:

Final Report. Student Development of a Process Curriculum for the Community West Bridgewater Student Conservation Group Environmental Education Act (PL 91-516) Project #R021109, June 30, 1973. SE 016 986

- A. PROJECT TITLE: TRAINING INDUSTRIAL WORKER ACTIVISTS AND THEIR FAMILIES TO BE EFFECTIVE ENVIRONMENTAL LEADERS
- B. PROJECT DIRECTOR: Olga M. Madar, John Yolton, 8000 E. Jefferson Avenue, Detroit, Michigan 48214. (313)926-5271
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. At Family Education Center, Onaway, Michigan where environmental education programs are conducted.
- D. PRINCIPAL STAFF: 2 full-time employees for one year not previously employed, paid by government grant and 11 partial-time regularly employed by grantee.
- E. PROJECT HISTORY:
1. Principal originators: Olga M. Madar, John Yolton.
 2. Date and place of Initiation: June 21, 1973.
 3. Overall project purpose: Personnel development - to furnish additional environmental leaders.
- F. PROJECT OBJECTIVES:
- The training of Union Activists to become environmentally aware and active to solve community environmental problems.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Nature Trail, Nature Education materials (limited quantity available Spring 1974).
 - b. 7-12: Same as above.
 - c. Other: Pass-out one pagers on numerous environmental problems - Guides for worker environmentalists, etc.
 2. Free materials available: Available on limited quantity, Spring 1974.
 3. Materials produced that can be purchased: None planned at this time.
 4. New instructional materials being developed: Yes. Adults.
 5. Additional materials being developed: See G.1 - c.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Questions premature.
- K. PROJECT SUMMARY: Questions premature.
- L. PLANS FOR THE FUTURE:
- Continue ongoing training program and then implement follow-up program with individuals trained in coalitions in various geographic areas to solve community environmental problems.

- A. PROJECT TITLE: EDUCATION AND TRAINING SECTION, INFORMATION AND EDUCATION DIVISION, MICHIGAN DEPARTMENT OF NATURAL RESOURCES
- B. PROJECT DIRECTOR: Rod Smith, Supervisor - Education and Training, Department of Natural Resources, Mason Building, Lansing, Michigan 48926. (517)373-1214
- C. PROJECT HEADQUARTERS:
1. Mason Building, Lansing, Michigan 48926.
 2. Special facilities or activities available for visitor viewing: Yes. Conservation School at Higgins Lake.
- D. PRINCIPAL STAFF: Conservation School - 7; Staff and Field - 2. All regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Department of Natural Resources with support of organizations and educators.
 2. Date and place of Initiation: Lansing - 1921.
 3. Overall purpose: Serve as catalyst to encourage maximum understanding of environmental affairs by all citizens.
- F. PROJECT OBJECTIVES:
1. Provide consultant help to educators in the area of natural resources and environmental affairs.
 2. Coordinate workshops and seminars.
 3. Prepare and disseminate supplementary materials.
 4. Maintain monthly newsletter on environmental education.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Environmental Education for Elementary Grades - Teachers' Manual.
Environmental Education for Intermediate Grades - Teachers' Manual.
 - b. 7-12: Environmental Education for Junior High Grades - Teachers' Manual.
 - c. Other: Hundreds of titles of a specific nature.
 2. Free materials available: All free except several cost items distributed through a publisher.
 3. Materials produced that can be purchased:
 - a. Michigan Trees Worth Knowing - \$2.00.
 - b. Rocks and Minerals of Michigan - \$2.25.
 - c. Wildlife Sketches - \$1.20.Order from: Hillsdale Educational Publishers, Inc., P.O. Box 245, Hillsdale, Michigan 49242.
 4. New instructional materials being developed: Yes. Process Approach to environmental education for teachers - all levels.
 5. Additional materials being developed: Single page flyers on specific environmental areas and concerns - illustrated and aimed at grades 4-8.
 6. Present commercial association: Hillsdale Educational Publishers, Inc., P.O. Box 245, Hillsdale, Michigan 49242.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: Unknown number using our materials, we have no "entire set".
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: Teachers in each of 4,700 buildings.
4. Total number of students using project materials: Unknown.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught: There is no "course" in Michigan; however, many schools have well organized environmental education programs.
 - a. Ann Arbor Schools, 1220 Wells Street, Ann Arbor, Michigan 48104.
 - b. Utica Schools, 52188 Van Dyke, Utica, Michigan 48087.
 - c. Bloomfield Hills Schools, 4175 Andover Road, Bloomfield Hills, Michigan 48013.
 - d. Grand Rapids Schools, 143 Bostwick N.E., Grand Rapids, Michigan 49502.

I. TEACHER PREPARATION :

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Varies from $\frac{1}{2}$ to 3 days.
 - b. Summer Institute: Yes. Six weeks.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Many titles depending on demand.
6. Teaching materials commercially available: Yes. Hillsdale Educational Publishers, Inc., P.O. Box 245, Hillsdale, Michigan 49242. However, as almost none of our materials is copyrighted, it may appear in commercial form at any time.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Some were included in the study of Dr. Carl Johnson at The Ohio State University.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Conservation Education Reserve.
2. Teachers' Environmental School.
3. Liaison with agencies and institutions.
4. Governor's Task Force to prepare a State Environmental Education Plan.

L. PLANS FOR THE FUTURE:

Activities will remain about the same.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION HUMAN RESOURCES CENTER
- B. PROJECT DIRECTOR: Mr. H. Mansour, Human Resources Center, 60 Parkhurst, Pontiac, Michigan 48058. (313)335-9461
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Community school - 2000 children in open classrooms.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Ad Hoc E² committee.
 2. Date and place of Initiation: August 1971.
 3. Overall project purpose: Community awareness, curriculum development, site development.
- F. PROJECT OBJECTIVES: See above.
- G. MATERIALS:
1. Materials produced: Guide K-4 - basic ecology - not used.
 2. Free materials available: None.
 3. Materials produced that can be purchased: Description of project.
 4. New instructional materials being developed: Yes. Grade 3.
 5. Additional materials being developed: Monthly system-wide newsletter.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Not answered.
 3. Pre-service training program for teachers desiring to use the materials: Not answered.
 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 hour.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. Political poster clean-up after November 1972 election. County-wide. 4,000+ posters recycled - The Big Rip Off.
 2. Site development subcontracted with University of Michigan School of Natural Resources.

3. Telephone directory collection - 33,000 telephone books recycled in return for a (5 books for one seedling) white pine seedling.
4. 12,000 lbs. of glass recycled.

L. PLANS FOR THE FUTURE:

Total consultant services for whole district with emphasis on encounters in the neighborhood environment.

A. PROJECT TITLE: A COMMUNITY ACTION MODEL TO REDUCE AQUATIC POLLUTION

B. PROJECT DIRECTOR: Donald E. Maxwell, 1325 Crescent Lake Road,
Pontiac, Michigan 48054. (313)674-4241

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.

D. PRINCIPAL STAFF: 4 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originator: Mr. Donald E. Maxwell, Mr. Ronald E. Arnold.
2. Date and place of Initiation: June 1972.
3. Overall project purpose: Reduce aquatic pollution.

F. PROJECT OBJECTIVES:

1. Using community action teams who will focus on aquatic pollution, one objective is to develop, validate and replicate a model to effect environmental change.
2. Establish Drayton Plains Nature Center as an environmental training and resource center for Northern Oakland communities and schools.
3. Develop and implement a K-9 student activity-centered science curriculum that will improve students' awareness of environmental problems, knowledge of scientific processes and cognitive learning skills.
4. Develop a commitment to modify environmental conditions.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Teacher's Handbook; SCIS Objectives; A Programed Text (Populations--Regs, Paperworms); Nature Center Field Trips.
 - b. 7-12: Objectives; ISCS Attitude Measure; Criterion Reference Measure; Supplementary Environmental Activities; Audio-Tapes-ISCS.
 - c. Other: Multi-Media Environmental Education Project Presentation; Community Action Team Handbook (CAT); CAT Brochure; Environmental Newsletter.
2. Free materials available:
 - a. Project Abstract.
 - b. CAT Brochure.
 - c. Newsletter.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: None.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 9.
2. Number of teachers having adopted all of the project materials: 85.

3. Number of teachers using some of the project materials: 35.
4. Total number of students using project materials: 2,585.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. David E. Grayson School, 3800 W. Walton Blvd., Drayton Plains, Michigan 48020.
 - b. Frank J. Manley School, 2989 VanZandt, Drayton Plains, Michigan 48020.
 - c. Our Lady of the Lakes, 5495 Dixie Highway, Waterford, Michigan 48095.
 - d. Crary Junior High School, 501 North Cass Lake Road, Pontiac, Michigan 48054.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Not answered.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 15 hours-each level.
 - b. Summer Institute: Yes. 15 hours.
 - c. Evening classes: Yes. 12 week course.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Waterford School's Teacher's SCIS Handbook.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
2. Pertinent published research studies: Michigan Department of Education State Evaluation - 1973.

K. PROJECT SUMMARY:

The project has completed its first year with grades 1,2,4, and 7 in SCIS and ISCS with the Community Action Teams monitoring pollution on three inland lakes in Waterford. Last year's activities included the development of an Environmental Education Multi-Media Presentation of our project; an environmental education all-day seminary on pollution of lakes which drew much community interest; development of Criterion Referenced Measures for evaluation. With the implementation of grades 3, 5, and 8, the program now ranges with students 1 through 8th levels in our environmental education project. The Community Action Teams are continuing on with once-a-month testing of the three lakes it monitored this summer. Curriculum materials have all been received for this semester's use. Live materials are ordered as needed for classroom use. Revisions are being made for the in-service training of new Community Action Teams.

L. PLANS FOR THE FUTURE:

1. Training for additional "action teams".
2. Implementation of levels K and 9 to complete K through 9.
3. Development of junior high level supplementary activities in environmental education.
4. Another environmental education all-day seminar.
5. Community survey for project awareness.

- A. PROJECT TITLE: MOBILE SCIENCE LABORATORY
- B. PROJECT DIRECTOR: Charles Carpenter, Brookside School, Albert
Lea, Minnesota 56007. (507)373-1040
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Two mobile laboratories in 40 foot semi-trailers.
- D. PRINCIPAL STAFF: 30 persons employed at different times during the year.
- E. PROJECT HISTORY:
1. Principal originators: Charles D. Carpenter, Russell E. Harding.
 2. Date and place of Initiation: 1964 - plans. 1965 - as a Title III project at Albert Lea, MN.
 3. Overall project purpose: To improve the science offerings K-12 in our local school district and extend the summer program offerings for extensive independent problem studies.
- F. PROJECT OBJECTIVES:
1. To provide field facilities.
 2. To expand the summer program to include more students and to use the mobile laboratory on a year round basis.
 3. To provide tools and procedure for individual study.
 4. To give insight and appreciation in the ways of science research.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Various units on K-6 levels. Contact: M. Lawrence, Lakeview Elementary School, Albert Lea, MN. 56007.
 - b. 7-12: Film. 1966. Mobile Science Laboratory program. 35 min. color.
 - c. Others: None.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: No.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 7.
 2. Number of teachers having adopted all of the project materials: 150.
 3. Number of teachers using some of the project materials: 350.
 4. Total number of students using project materials: 4,300.
 5. Totals stated are definite.
 6. Names and locations of schools where the program materials are being used:
 - a. Ames Public Schools, Ames, Iowa. c/o Director, Title III.
 - b. Merlen Lawrence, Principal, Lakeview Elementary School, Albert Lea, MN. 56007.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3-5 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Information on independent problem studies and many specific elementary units (interdisciplinary).
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. In workshops and seminars by the participants.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Additional activities are not planned at this time.

- A. PROJECT TITLE: NORTHEASTERN MINNESOTA ENVIRONMENTAL LEARNING CENTER
- B. PROJECT DIRECTOR: John Pichotta, Box 191A Isabella, Minnesota
55607. (218)293-4185
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Have guest quarters for persons interested in our program - provide tours.
- D. PRINCIPAL STAFF: 13 persons employed full-time, up to 8 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Gerald Foldenauer and John Pichotta.
 2. Date and place of Initiation: July 1, 1972 - on site.
 3. Overall project purpose: Provide a live-in facility and curriculum for approximately 15,000 persons per year. The experience is designed to achieve a set of goals and objectives.
- F. PROJECT OBJECTIVES:
1. Increase students attention span and observation skills.
 2. Increase an appreciation for the fact that design in nature is functional.
 3. Discover the interdependence of living and non-living things.
 4. Foster an appreciation of nature and a desire to protect it.
 5. Support students classroom knowledges with application to the environment.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: We have developed about 75 units of study. Many are designed for specific levels, but equally as many seem to do well for all levels.
 - b. 7-12: We have a PROGRAM PLANNER which says everything that is necessary for users.
 - c. Other: We furnish everything users need except instructors.
 2. Free materials available: We will send a brochure to anyone interested, and follow up with the Planner if the interest continues.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Yes. All participants - youngsters to adults.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 100+.
 2. Number of teachers having adopted all of the project materials: Unknown.
 3. Number of teachers using some of the project materials: 2,000+.
 4. Total number of students using project materials: 10,000+.

5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Washington Junior High School, Duluth, Minnesota.
 - b. New London Elementary School, New London, Minnesota.
 - c. Silver Bay Elementary School, Silver Bay, Minnesota.
 - c. Deephaven Elementary School, Excelsior, Minnesota.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Weekend.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Our Program Planner.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Educational Management Services.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

We have hosted over 12,000 persons during the past year. All participants are involved in some form of environmental education. The average length of stay was four days. We furnish everything needed except teachers and chaperones. The activities we furnish number over 50 at this time, and are increasing by 4-8 each month. We furnish necessary equipment for all activities.

L. PLANS FOR THE FUTURE:

Activities will be designed to meet goals previously stated. Selected outdoor activities may include art, utilizing student constructed media, scientific exploration of a variety of communities, mathematics as it applies to populations and descriptions of objects, the relationship of social studies to the outdoor environment and the creative language arts in story construction, poetry and drama.

- A. PROJECT TITLE: THE ENVIRONMENTAL INSTITUTE
- B. PROJECT DIRECTOR: Dr. H. Roger Smith, box 007, Mankato State College, Mankato, Minnesota 56001. (507)389-6454
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. 9.0 million dollar science and research center.
- D. PRINCIPAL STAFF: 20 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Consortium of physical and social scientists.
2. Date and place of Initiation: October 1971.
3. Overall project purpose: Research, education, problem identification and community service to the upper midwest.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
1. Materials produced:
a. K-6: Aware, Bergan and Schmidt (a series of sensitivity experiences for environmental studies).
b. 7-12: Aware.
2. Free materials available: None.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. Film - six parts on environmental studies - college level.
5. Additional materials being developed: T.V. tapes, basic introduction text.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Schools where the program materials are being used are:
1. Wilson Campus School, Mankato State College, Mankato, Minnesota 56001.
2. Moorhead Junior High School, Mrs. Allan Borgan, Moorhead, Minnesota.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 3 weeks.
b. Summer Institute: 5 weeks.
c. Evening classes: Yes. 10 weeks.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Many are available.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
Minnesota State Department of Education - Environmental Studies
Section.

2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: DEPARTMENT OF INTERPRETIVE SERVICES, HENNEPIN COUNTY PARK RESERVE DISTRICT
- B. PROJECT DIRECTOR: Jack Mauritz, Route 1, Box 32, Maple Plain, Minnesota 55359. (612)473-4693
- C. PROJECT HEADQUARTERS:
1. Nature Centers (3) of the Hennepin County Park Reserve District.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 11 persons employed full-time, 1 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Began as single Nature Center - under auspices of Metro Nature Centers - now three centers and program "adopted" by Hennepin County Park Reserve District.
2. Date and place of Initiation: Spring 1968.
3. Overall purpose: Programming in two phases - educational and recreational to function in Interpretive Services for Henn. Co. Parks.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Educational - to provide programs of value in environmental education curricula of surrounding schools, (Public and Private).
b. Recreational - to provide programs of significant recreational value for citizens of the metropolitan (Twin Cities) area.
2. New instructional materials being produced: Yes. Primarily as support materials for our educational programs - where emphasis has been on upper elementary educational levels. They are in current use at other levels however (often through application by other agencies).
- H. MATERIALS PRODUCED:
1. K-6: "Teacher's Packet" - materials include programmed learner and activity suggestions plus "activities" which vary with programs we develop for each class.
2. 7-12: None.
3. Others: Some special interest materials for the general public.
- I. MATERIALS AVAILABLE FREE: Single complimentary copies to interpretive, educational, or recreational agencies - all other materials have a cost.
- J. MATERIALS PURCHASABLE:
1. Teachers Packet - \$1.00.
2. "Working with Children in the Outdoors" - \$.25.

3. "Nature Oriented Games, Crafts and Activities" - \$.50.

K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: Unknown.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: 1,000.
4. Total number of students using project materials: 30,000.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught: Programs are taught at the Nature Center.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available.
 - a. Workshops: Yes. 1 day to 1 week.
 - b. Summer Institute: 1 week.
 - c. Evening classes: Yes. Six 2 hour sessions, quarterly.
 - d. Others: In-school by arrangement.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None published.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Provided programs (in and out of nature centers) for approximately 75,000 students.
2. Opened three nature centers.
3. Expanded services into two other Park Reserves.

P. PLANS FOR THE FUTURE:

Expansion of services and materials as needs become evident and funding available.

- A. PROJECT TITLE: INDUSTRY-EDUCATION CONFERENCE ON ENVIRONMENTAL
IMPACT IN MINNESOTA
- B. PROJECT DIRECTOR: Edmund C. Bray, Executive Vice Chairman, Conference
Committee, 3100 38th Avenue S., Minneapolis, Minnesota 55406.
(612)721-3391
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originators: Committee of the Board of Directors of the Minnesota Academy of Science.
2. Date and place of Initiation: Proposal submitted in February 1973; funded in May, planning for conference started thereafter.
3. Overall project purpose: Conference - 3 day: 200 representatives of industry, education, government, and citizen groups meet to explore the environmental problems of Minnesota and suggested ways that industry, government, and education can improve the quality of life.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced: A report of the conference and its conclusions will be produced and made available to those interested.
2. Free materials available: None until program and later the report are published.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: Only report of conference.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
Not applicable - selected teachers will participate in the conference.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
Conference committee of 25 representatives of industry, education, government and citizen groups has been organized and subcommittees appointed. First stage plans for the conference to be held in May 1974 have been initiated.
- L. PLANS FOR THE FUTURE:
1. Completion of plans for the conference.
2. Selection of participants.

3. Three-day conference, chiefly in the form of small group workshops.
4. Publication of the report.
5. Hopefully, development of a program for continuing cooperation of the groups involved in the conference.

- A. PROJECT TITLE: ENVIRONMENTAL INFORMATION PACKETS
- B. PROJECT DIRECTOR: JoAnn Dennis, 300 Nicollet Mall, Minneapolis,
Minnesota 55401. (612)372-6637
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. The collection of the Environmental Conservation Library.
- D. PRINCIPAL STAFF: 1 person regularly employed, 1 part-time.
- E. PROJECT HISTORY:
1. Principal originator: Julia Copeland, Environmental Conservation Library librarian.
 2. Date and place of Initiation: August 1972.
 3. Overall project purpose: To organize and disseminate packets of environmental information on a variety of viewpoints and levels of difficulty primarily to 4th-9th graders, and secondarily to the public in general, over the entire state.
- F. PROJECT OBJECTIVES:
1. To become a central source of environmental information, for the purposes of answering student and teacher requests.
 2. To provide anyone teaching EE with materials to assist them in guiding investigations. This would basically be a curricula collection.
- G. MATERIALS:
1. Materials produced: Grades 4-9, and others requiring general background. 12 topics distributed among 500 9x12 vinyl double pocket portfolios containing 25-30 pamphlets, charts, reprints and other vertical file-type materials, accompanied by a list of the materials included and their sources, a bibliography, and a resource list of other aids and groups to contact in that subject area.
 2. Free materials available: None.
 3. Materials produced that can be purchased:
 - a. A list of pamphlets, reprints, documents, and charts that are contained in each packet, with information as to where to get them and how much they cost, if anything.
 - b. A bibliography for grades 4-9.
 - c. A list of agencies that provide some kind of information, not necessarily literature, on the topic.All available for 10¢ a page.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
909 packets were circulated to 295 people, about 1/3 students.
- I. TEACHER PREPARATION: Not applicable.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By the project director.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. 400 packets have been assembled on 10 topics: air, land, water, wilderness and wildlife, natural resources, leisure time and the environment, solid wastes and recycling, environmental action and environmental awareness. The packets are 9"x12" vinyl double pocket portfolios containing 25-30 vertical file type materials, a list of materials included, a bibliography, and a resource list of other aids and groups to contact in that subject area. Also included in the packet is a sheet on how to use the materials in the packet, a questionnaire for evaluation purposes, a card for requesting other packets to borrow, and instructions for returning the packet and a self-addressed label. Packets were publicized at teacher and librarian conventions and through ECOL News, the Environmental Conservation Library's newsletter.
2. From December to July, 1973, 912 packets were circulated to 300 people, half of whom were outside of the 27 mile radius of the 7 county metropolitan area.
3. Packet use has been evaluated in terms of returned questionnaires (22% were filled out) and statistics by zip code and topic.
4. Packets are now being revised.

L. PLANS FOR THE FUTURE:

1. Continue to update packets. The "land" packet materials are being phased into the natural resources packet. Three new topics, foods and gardening, power and the energy crises, and environmental careers, are being assembled.
2. Collect EE curricula and aids--and annotate them in ECOL News to make their availability known to EE people.

- A. **PROJECT TITLE:** COMMUNITY ENVIRONMENTAL STUDY PROGRAM
- B. **PROJECT DIRECTOR:** Edward Hessler, 5400 Glenwood Avenue,
Minneapolis, Minnesota 55422. (612)544-8971
- C. **PROJECT HEADQUARTERS:**
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Minnesota Environmental Sciences Foundation, Inc., Outdoor Learning Center, Dowling School (special education). School site development.
- D. **PRINCIPAL STAFF:** 3 persons regularly employed.
- E. **PROJECT HISTORY:**
1. Principal originator: Michael Naylon.
 2. Date and place of Initiation: June 1971.
 3. Overall project purpose: The intent of this three-year USDE Title III project is to develop a model which will encourage students, teachers and community members to develop materials that focus upon the local community environment.
- F. **PROJECT OBJECTIVES:**
1. To establish an in-service program wherein experience gained by project staff, citizens, students, teachers in the cooperative development of study guidelines based on urban-suburban environmental issues will provide for the participants attitudes, skills and a procedural model that will permit them to continue with similar cooperative endeavors that generate additional study guidelines based on local environmental problem areas.
 2. To involve volunteer students, teachers and members of an urban-suburban community in the development of study materials for grades 5-12 that focus upon political, economic, sociological and ecological phenomena related to an urban-suburban situation.
 3. To incorporate a select number of participants into the project curriculum and in-service activities who will direct their efforts toward the development of community environmental education study guidelines appropriate for use by handicapped children in urban-suburban schools.
- G. **MATERIALS:**
1. Materials produced: We have a total of approximately 100 plus units for all grade levels.
 - a. Community Awareness Program.
 - b. Community Environmental Materials for Special Education.
 - c. Classroom introduction for a community environmental studies program.
 - d. Dogwatching in Golden Valley: Homes, Habits, Lifestyles, Barking Up the Wrong Street.
 2. Free materials available: Some are free if we can be assured that they will be evaluated.
 3. Materials produced that can be purchased:
 - a. Community Awareness Program - \$1.50.
 - b. Community Environmental Materials for Special Education - \$1.50.

4. New instructional materials being developed: Guides for grades 7-12.
5. Additional materials being developed: Not applicable.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: Not applicable.
2. Number of teachers having adopted all of the project materials: Not applicable.
3. Number of teachers using some of the project materials: 100.
4. Total number of students using project materials: 2500-3000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Staples Public School, Staples, Minnesota.
 - b. LeSneer Public Schools, LeSneer, Minnesota.
 - c. Golden Valley High School, 5400 Glenwood Avenue, Minneapolis, Minnesota 55422.
 - c. Michael Dowling School, West River Road, Minneapolis, Minnesota.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Varies - 10 weeks to 1½ days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Workshop materials for program planning and for materials development.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Educational Management Services.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

Our first two years have been spent inviting students, teachers and community members in the development of study materials and evolving a materials development model and a program planning and analysis model. We have had students, teachers and community adults in in-service programs and participated in a week clean-up with several other agencies in the metropolitan area and a transportation symposium. We have also established community advisory centers at each of our sites and have helped them establish guidelines and a positive role in the project.

L. PLANS FOR THE FUTURE:

This is the third year of a Title III program. We will continue to operate in school districts. The emphasis this year is the field testing of a materials development model and a program planning model. The later is to help facilitate an on-going environmental education program after federal funding (with a strong community bias). Our materials develop from the live experiences of our participants and we want to ease the transfer of these experiences to materials which can be used by others. This year will also be a time of summative reporting and the writing of curriculum and program models which can be used by other communities to help install an environmental education program which has a community emphasis and which can help interested people transfer genuine environmental experiences/ investigations into transferable materials. In addition we hope to develop a community inventory technique to assist in the identification of appropriate community environmental studies. Program planning will include community members.

- A. PROJECT TITLE: MINNESOTA ENVIRONMENTAL SCIENCE FOUNDATION, INC.
- B. PROJECT DIRECTOR: Richard J. Myshak, Executive Director, 5400 Glenwood Avenue, Minneapolis, Minnesota 55422. (612)544-8971
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 20 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Golden Valley Public Schools under grant ESEA Title III.
 2. Date and place of Initiation: July 1, 1967.
 3. Overall project purpose: To improve the quantity and quality of education pertaining to man's relation to his environment.
- F. PROJECT OBJECTIVES:
1. To develop and test model staff development programs in the environmental sciences for elementary and secondary school teachers and administrators, college instructors, youth and adult organization leaders.
 2. To develop and test inquiry-oriented, interdisciplinary, instructional materials and programs based upon socio-ecological interrelationships.
 3. To assist schools and other agencies to identify, develop and utilize available natural areas and other community resources as environmental laboratories, i.e., the everywhere classroom.
 4. To combine environmental and career education concepts in a program which orients youngsters to environmental management occupations.
- G. MATERIALS:
1. Materials produced:
 - K-6:
 - a. Seeds to Cereal - \$1.50.
 - b. EE Activities grades 1-6 - activity sheets - \$3.00.
 - c. Photographs for Kids grades 4-8 - \$1.00.
 - d. Where Are the Animals? grades 3-8 - \$1.00.
 - e. Give Earth a Chance Series grades 5-8 - \$3.25.
 - f. Going Snowing grades 3-8 \$1.50.
 - g. Making Snowshoes grades 4-11 - \$1.50.
 - 7-12:
 - a. Population Perspectives - \$.75.
 - b. The Cemetery as a Social Document - \$1.00.
 - c. Aquatic Study - \$1.50.
 - Others:
 - a. School Site Development - \$1.25.
 - b. Interdependencies in the Environment - \$1.00.
 - c. Integrating Man and Land grades 7-adult - \$3.75.
 - d. Community Awareness Program - \$1.50.

2. Free materials available: Newsletter - ECGLOG and other handouts.
3. Materials produced that can be purchased: All materials listed under 1. Purchase orders accepted for amounts over \$10. Send orders and payment to: MESFI, 5400 Glenwood Avenue, Golden Valley, MN 55422.
4. New instructional materials being developed: Yes. Grades K-12.
5. Additional materials being developed: An environmental educational book. Series of monographs for National Park Service.
6. Present commercial association: National Wildlife Federation.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 2,000.
2. Number of teachers having adopted all of the project materials: 6,700.
3. Number of teachers using some of the project materials: 30,000.
4. Total number of students using project materials: 50,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Independent School District #28., 4148 Winnetka Avenue North, Minneapolis, MN. 55427.
 - b. Independent School District #275, 5400 Glenwood Avenue, Minneapolis, MN. 55422.
 - c. Minneapolis Public Schools, 807 N.E. Broadway, Minneapolis, MN. 55413.
 - d. Owatonna Public Schools, Owatonna, MN.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day - 2 $\frac{1}{2}$ days.
 - b. Summer Institute: Yes. 5-6 weeks.
 - c. Evening classes: Yes. 30 hours.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Workshop manuals.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Internal; Sierra Planning/Research Associates; Educational Research Information Agency (ERIC), Educational Planning and Programming Services, Inc.; Educational Management Services; NSTA.
2. Pertinent published research studies: None.
3. Unpublished research: Retrievable through ERIC.

K. PROJECT SUMMARY:

Each program of the Foundation seeks to develop delivery systems for environmental education. The diversity in programs is a recognition of the fact that there is more than one way to install and maintain programs. Systems developed to date are:

1. In-service.
2. Curriculum development.
3. School site development.
4. Environmental-career education.
5. Community based environmental education.

L. PLANS FOR THE FUTURE:

1. Work with park districts in a community youth conservation corps program.
2. Collaborative program with Boy Scouts.
3. Environmental health program.

M. ERIC DOCUMENTS:

1. Plants in the Classroom (1970). ED 042 634
2. Habitat Study - Insect Study (1970). ED 042 635
3. Photography for Kids; Vacant Lot Studies; Contour Mapping (1970). ED 042 636
4. Succession in a Micro-Aquarium; Minnows and Models; Brine Shrimp (1970). ED 042 637
5. Soil Sampling - Acidity/Alkalinity and Water Holding Capacity; Stream Profiles; Tree Watching; Plant Puzzles (1970). ED 042 638
6. Outdoor Activities (1970). ED 042 643
7. Man's Habitat - The City (1970). ED 042 644
8. Snow and Ice (1970). ED 042 645

- A. PROJECT TITLE: SIGURD F. OLSON OUTDOOR CLASSROOM
- B. PROJECT DIRECTOR: Donald W. Rantio, 1751 Kelly Drive, Minneapolis,
Minnesota 55427. (612)546-4416
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. A programmed trail system that children come to on field trips.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originators: Minnesota Environmental Sciences Foundation and parents and staff of the Sigurd F. Olson Elementary School.
 2. Date and place of Initiation: September 1972.
 3. Overall project purpose: A field trip center and a demonstration center for others interested in developing something special.
- F. PROJECT OBJECTIVES:
1. To bring an awareness of nature and the environment to students and adults.
 2. To be a model to others who are considering the development of a site for environmental education.
- G. MATERIALS:
1. Materials produced: None yet but are in the plans.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. A trail guide for grades 1-12 and adults.
 5. Additional materials being developed: We will develop a slide-tape presentation telling the story of the project.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: None.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: Yes. When they are developed.
 3. Pre-service training program for teachers desiring to use the materials: No.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 20 hours.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. We have completed the money-making stage of our project with \$11,000.00 worth of contributions.
2. We are now three-fourths of the way through the construction phase.
3. We are just beginning the implementation stage where we are developing curriculum materials and allowing students to use the center. Teachers are just beginning in-service training classes.

A. PROJECT TITLE: SOUTHEAST ALTERNATIVES ENVIRONMENTAL STUDIES PROGRAM

B. PROJECT DIRECTOR: Billie Jo Smith, Tuttle Science /E.S. Center,
1042 18th Avenue S.E., Minneapolis, Minnesota 55414.
(816)331-6465

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. We have a materials center which supplies equipment to seven schools and an ongoing program of activities in the school. Observations for visitors could be arranged.

D. PRINCIPAL STAFF: 3 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Provision for the program was made in the proposal for this federally funded experimental schools project. The environmental studies program has been developed by the environmental studies specialist working with teachers from the seven schools.
2. Date and place of Initiation: The project was initiated in the Southeast Alternatives schools in Minneapolis in September 1971.
3. Overall project purpose: To develop and implement a K-12 interdisciplinary environmental studies program in seven alternative public schools, each school representing a different type of education.

F. PROJECT OBJECTIVES:

To provide learning experiences in many disciplines which:

1. Develop an understanding of interrelationships in natural and social systems and how man affects them.
2. Develop a sensitivity to human needs and the importance of cooperation and respect among people.
3. Develop and apply the inquiry and action skills needed to answer questions and solve problems.
4. Develop an enthusiasm for learning and living.

These goals should aid the students in forming attitudes and values which will positively affect their total environment.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Themes, each containing approximately fifty activities are included in our curriculum organization. Each theme contains commercial as well as original materials.
 - b. 7-12: Commercial materials are used by the secondary classes.
 - c. Other: Most of the activities used in our program are commercially published. We have organized the materials into a meaningful pattern and developed the mechanism for supplying the materials, training teachers and really implementing the materials in to schools.
2. Free materials available: A detailed description of our program is being produced at the present time.

3. Materials produced that can be purchased: None available at this time.
4. New instructional materials being developed: Yes. K-6 thematic activities.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 7.
2. Number of teachers having adopted all of the project materials: None can use all of the materials as they are aimed at different levels.
3. Number of teachers using some of the project materials: 60.
4. Total number of students using project materials: 1,500.
5. Totals stated are estimated (4) and definite (1 and 3).
6. Names and locations of schools where the program materials are being used:
 - a. Tuttle Elementary School, 1042 18th Avenue S.E., Minneapolis, Minnesota 55414.
 - b. Pratt Elementary School, 66 Malcolm Avenue S.E., Minneapolis, Minnesota 55414.
 - c. Marshall University Junior High, 1313 S.E. 5th Street, Minneapolis, Minnesota 55414.
 - c. Marcy Elementary School, 711 11th Avenue S.E., Minneapolis, Minnesota 55414.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Developing.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Usually two hour blocks.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. We have an internal and external evaluation team as part of the federal experimental schools project.
2. Pertinent published research studies: Available in 1974.

K. PROJECT SUMMARY:

1971-72: Published activities for grades K-6 were compiled and tested. The result was a curriculum containing 80 units. The units included real experiences in the urban community and natural areas, introducing and applying skills and interests being developed in math, social studies, science, language arts, art, music and physical education. School site development and a camping program were also initiated.

1972-73: The K-6 program was fully implemented. A materials center was established, furnishing kits of materials to teachers as they used the activities. Scheduling, planning and teacher training was done by the environmental studies specialist. More than 500 kits were used by the teachers this year. School site development continued and an environmental studies field assistant helped with camping, snowshoeing, cross country skiing and canoeing experiences. Development of the secondary level of the program was initiated, teachers testing some materials and choosing many to be used the following year.

1973-74: We are refining the elementary program and implementing the secondary one. Field activities and camping are continuing with a field assistant. The materials with new ones are being organized along themes enabling a teacher in a traditional classroom to choose a theme with many activities for the year or semester and a teacher in open and free school to offer many options based on a theme. The themes contain inquiry activities, activities for fun, and action-value clarification activities. The activities fit into many curriculum areas.

L. PLANS FOR THE FUTURE:

Plans are being made this year for the expansion of the program into other Minneapolis schools.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION AND RECREATION
- B. PROJECT DIRECTOR: Robert M. Nixon, Long Lake Conservation Center,
Palisade, Minnesota 56469. (218)768-3873
- C. PROJECT HEADQUARTERS:
1. Long Lake Conservation Center, Palisade, Minn. 56469.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 1-15 persons employed on a part and full-time basis.
- E. PROJECT HISTORY:
1. Principal originators: Jim Marcum, Robert Burwell, Kern Ridlington.
2. Date and place of Initiation: 1961.
3. Overall project purpose: Environmental education for people of Minnesota with an emphasis on youth.
- F. PRESENT COMMERCIAL AFFILIATIONS: Yes. Used for brochures and posters.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Provide a place with staff and volunteers for people to come to study environmental problems while enjoying said environment through outdoor activities.
2. New instructional materials being produced: Yes. All grade levels.
- H. MATERIALS PRODUCED:
Basically our materials consist of outdoor workshops and activities involving trained men in the many varied fields of conservation.
- I. MATERIALS AVAILABLE FREE: Not possible.
- J. MATERIALS PURCHASABLE: Not applicable.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Not Applicable.
- L. PROJECT IMPLEMENTATION: Not applicable.
- M. TEACHER PREPARATION:
A two week workshop is available for teachers. We also run six two-week summer sessions for youths.
- N. PROJECT EVALUATION:
Self evaluation as well as evaluation by people who have completed the course.
- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
1. 4 or 5 summer sessions for youth per year.
2. 1 summer session for teachers per year.
3. Year-round weeklong workshops for elementary teachers and their students (1972-present).

P. PLANS FOR THE FUTURE:

Capital improvements, trail improvement, etc.

- A. PROJECT TITLE: WOOD LAKE NATURE CENTER
- B. PROJECT DIRECTOR: Donald A. Fondrick, Manager Naturalist, Wood Lake Nature Center, 735 Lake Shore Drive, Richfield, Minnesota 55423. (612)861-4507
- C. PROJECT HEADQUARTERS:
1. 735 Lake Shore Drive, Richfield, Minnesota 55423.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 5 persons employed full-time and 4 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Mayor and city council of Richfield and Brauer and Associates, Site Planners.
 2. Date and place of Initiation: Grand opening of nature center was May 23, 1971.
 3. Overall project purpose: To provide an area where people could cultivate an interest in nature either by participating in programmed activities or simply wandering and exploring on their own, and to preserve the marsh habitat and wildlife.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Educational - to provide an area for outdoor education through self discovery for all age levels either through naturalist guided activities or activities planned by the group at its own discretion.
 - b. Recreational - hiking, snowshoeing, cross country skiing, wildlife photography and other activities compatible to the area.
 2. New instructional materials being produced: Yes. All age levels, pre-schoolers to adults.
- H. MATERIALS PRODUCED:
- These materials are summaries of 1½ hour activities (field studies) that can be modified successfully for all age groups.
1. Grab bags and touch and see tables - Pre-schoolers.
 2. Predator-prey relationships.
 3. Animal homes.
 4. Ice ecology.
 5. Water ecology.
 6. Pre-schooler nature art activities (shapes and birds).
 7. Snow quality and animal tracking.
 8. Radio telemetry.
 9. Animal territories.
 10. Weather unit.
 11. General brochure.
 12. Blind trail.
 13. Terrarium.
 14. Succession.
 15. Trees.

I. MATERIALS AVAILABLE FREE:

One-page summaries of all activities listed under H are available free if asked for by the above titles.

J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: A self-guided nature trail for blind persons or sighted person, blindfolded. Trail utilizes tape and numbered stations along a guiderope. At present only a summer tape is available for use at our site.
2. Development of other materials anticipated: Self-guiding packet for general public for use here, consisting of a tape recording and small brochure of photographs which could be checked out by persons visiting the center.

L. PROJECT IMPLEMENTATION:

Our materials are not developed to serve as a curriculum for schools using our area, but only as 1½ hour activities which present a basic concept to students. At present most activities are naturalist guided, but it is hoped that as teachers become acquainted with the area, they will undertake the guidance of their classes using our materials or their own.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 2 hours - conducted by the Richfield School System, with our staff cooperation.
 - b. Summer Institute: Yes. 1 week - conducted by the University of Minnesota, with our staff cooperation.
 - c. Evening classes: Yes.- conducted by instructors teaching nature-related subjects.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Same units listed under H.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

- Development of:
1. Museum, touch and see tables.
 2. Trail for the blind.
 3. Education units for all seasons.
 4. Nature trail system.
 5. Self-guided brochure.

6. Teacher education.
7. Developing replica of living native prairie.
8. Basic wildlife management in areas (establishing Giant Canada Goose flock, planting of food shrubs, etc.).
9. Family film series.
10. Nature-oriented classes (astronomy, wildlife photography, taxidermy, nature art classes).
11. Kiddie corner in museum for pre-schoolers.
12. Self guiding brochure and tape for floating bridge.
13. Self guiding brochure and tape for the interpretive buildings.

P. PLANS FOR THE FUTURE:

Expansion of programs already initiated with emphasis on more educational units and activities for all types of groups and age levels.

- A. PROJECT TITLE: NATURAL RESOURCE EDUCATION
- B. PROJECT DIRECTOR: Bernard A. Fashingbauer, Science Museum of Minnesota, 30 E. Tenth Street, St. Paul, Minn. 55101 (612)222-6303
- C. PROJECT HEADQUARTERS:
1. Marine on St. Croix, R.R. 1, Washington County, Minn. 55047.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: Director - naturalist, Teacher - naturalist, 75 volunteer trail guides. Director and teacher are full-time.
- E. PROJECT HISTORY:
1. Principal originators: The Science Museum, St. Paul; Amherst H. Wilder Foundation, St. Paul; The Junior League of St. Paul, Inc.
2. Date and place of Initiation: June 1964 - St. Paul.
3. Overall project purpose: Quality Natural Resource Education aimed at instilling in our citizenry a concern for our Natural Resources which will eventually prompt demands for sound Natural Resource legislation at all levels.
- F. PRESENT COMMERCIAL AFFILIATIONS: Yes. Publishing only.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Help provide facilities for the various segments of our community whereby environmental education will retain the prominence it warrants.
2. New instructional materials being produced: Yes. Mimeo materials for local distribution. Primarily grades 3-8.
- H. MATERIALS PRODUCED:
1. K-6: Sporadic pre-visit mimeo materials to aid teacher in preparing the class for experiences at the Nature Center.
2. 7-12: Same as 1.
3. Others: Information to enable our volunteer trail guides to adequately interpret significant environmental aspects along our nature trails.
- I. MATERIALS AVAILABLE FREE:
Everything thus far has been designed for use by those visiting our Nature Center and is not suitable for more widespread distribution.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: None.
2. Development of other materials anticipated: Illustrated trail-guide booklets.
- L. PROJECT IMPLEMENTATION: Not applicable - as we have made only minor sporadic attempts at distribution of such material and we have no means of evaluating such use.

M. TEACHER PREPARATION:

We occasionally conduct an in-service workshop for various groups of teachers and we have 3 seasonal, in-service training sessions for our volunteer trail guides.

N. PROJECT EVALUATION: No. We have relied on the overwhelming response to our programs as indicative of their merit.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. School Term. Grades 3-8. Topics change seasonally.
Monday - Friday: Half-day sessions consisting of illustrated discussions and guided trail hike. (Snowshoe treks in winter).
Saturday: Similar activities for organizations such as scouts, campfire girls, 4-H, YMCA, church groups, etc.
Sunday: Similar activities for family groups and general public.
2. Summer.
8 week session for young people in grades 5-12. Each course consists of five consecutive days of instruction in a specific area of natural history. Students may pursue more than one topic. There are also half-day sessions for day campers during this 8-week period.

P. PLANS FOR THE FUTURE:

1. Quality in-service training sessions for trail guides and elementary grade teachers.
2. Expanded nature education program for adult segments of our community.
3. Addition of "all-day" nature education programs to our current half-day programs.

- A. PROJECT TITLE: MINNESOTA ENVIRONMENTAL EDUCATION COUNCIL
- B. PROJECT DIRECTOR: Robert A. Kimball, Executive Director, 647
Capitol Square Building, 550 Cedar Street, St. Paul, Minnesota
55101. (612)296-4078
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor
viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: The Governor, an ad hoc group of
interested citizens, State Department of Education, Natural
Resources personnel.
2. Date and place of Initiation: August 1971.
3. Overall project purpose: To develop and implement a com-
prehensive State Plan for Environmental Education for all the
residents of Minnesota.
- F. PROJECT OBJECTIVES:
To convince the public, through education, to begin thinking
and living environmentally.
- G. MATERIALS:
1. Materials produced: The Minnesota State Plan for Environ-
mental Education.
2. Free materials available: The State Plan, Proceedings of
two post-secondary symposiums on environmental education co-
sponsored by the Council.
3. Materials produced that can be purchased: None.
4. New instruction materials being developed: None.
5. Additional materials you anticipate developing: None.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
1. Surveyed all school districts in the state, voluntary or-
ganizations which list environmental activities as a major focus
and all municipalities with a population of 2500 or more.
2. Sponsored six regional fact-finding sessions in strategically
located communities throughout the state.
3. Co-sponsored two post-secondary symposiums on environmental
education.
4. Established a loose communications network, via the Council
newsletter, with environmentally concerned individuals and organi-
zations.

5. Completed the comprehensive State Plan for Environmental Education.
6. Sponsored a series of informational meetings (12) throughout the state to acquaint the public with the Plan and secure its reaction and suggestions.
7. Worked for the success of legislation which permanently establishes the state council and a system of regional environmental education councils in Minnesota.

L. PLANS FOR THE FUTURE:

In the immediate future the state environmental education council will concentrate on implementation of the provisions of the State Plan. This will happen primarily through the initiation and coordination of the regional environmental education councils. It is anticipated that one additional professional staff member will be employed to work primarily with the regional councils; however, state council staff will be providing most of the support services to the various regions. The State Council will continue to serve in an advisory capacity to State Department of Education and Natural Resources personnel, particularly in the development of K-12 curriculum materials. It will also continue to advise the Governor's Office, the State Legislature and the Environmental Quality Council on matters relating to environmental education. Plans also call for improving and expanding the communications network in the state among environmentally-concerned individuals and organizations.

M. ERIC DOCUMENTS:

Environmental Education...A State Plan for Minnesota, First Edition, 1972. SE 016 463

- A. PROJECT TITLE: MINNESOTA ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: John C. Miller, 644 Capitol Square Building,
St. Paul, Minnesota 55101. (612)221-6947
- C. PROJECT HEADQUARTERS:
1. 644 Capitol Square Building, St. Paul, Minnesota 55101.
2. Special facilities or activities available for visitor viewing: Yes. Curriculum materials, school district programs, outdoor sites.
- D. PRINCIPAL STAFF: 2 persons regularly employed, 4 persons part-time.
- E. PROJECT HISTORY:
1. Principal originators: Minnesota Environmental Education Steering Committee.
2. Date and place of Initiation: January 1, 1970, Minneapolis.
3. Overall purpose: To develop a comprehensive K-12 integrated, interdisciplinary curriculum and to implement it state-wide. (Curriculum is to serve as a model - hopefully, school districts would expand upon the program and include personalized materials).
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To research and develop environmental education curriculum materials for elementary and secondary schools.
b. To implement environmental education curriculum materials in the elementary and secondary schools statewide.
2. New instructional materials being produced: Yes. K-12.
- H. MATERIALS PRODUCED:
1. 42 instructional units and bibliography, grades 4-9.
2. "Learning to Live" - Environmental Education Workshop activities.
3. Outdoor Classroom Activity Guide.
4. Environmental Education Site Directory.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
Instructional units and bibliography available from the Minnesota Department of Administration, Documents Section, Room 140, Centennial Building, St. Paul, Minnesota 55155.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed:
a. Ancillary instructional materials (filmstrips currently).
b. TV tapes.
c. Elementary Environmental Education Individualized Activities.
2. Development of other materials anticipated: Films, tapes, etc.

L. PROJECT IMPLEMENTATION:

200 school districts, 4,500 teachers and 120,000 students are now using our materials. Schools where the course is being taught include:

1. Richfield School, Richfield, Minn.
2. Robbinsdale School, Robbinsdale, Minn.
3. Alexandria School, Alexandria, Minn.
4. Roseau School, Roseau, Minn.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1-5 days or portions of days.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 2-5 hours/2-5 weeks.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: Yes. Superintendent of Documents, St. Paul, Minn.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
 - a. 2,000+ teachers representing 150 Minnesota school districts.
 - b. 200 cooperating administrators and leadership team members.
2. Pertinent published research studies: Fall 1973.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Passage of environmental legislation 1969.
2. Passage of environmental legislation enabling funding 1971.
3. Establishment of Environmental Education Steering Committee 1969 (Education and Department of Natural Resources).
4. Development and implementation of Pilot Project.
5. Creation of Minnesota Environmental Education Council.
6. Appointment of Minnesota Environmental Education Council Executive Secretary.
7. Revision of K-6 Pilot Program Curriculum Units.
8. Development of new K-6 Curriculum Units (mini-units).
9. Implementation of K-6 Environmental Education Curriculum Materials - Delivery System.
10. Three summer leadership training programs held:
 - a. Bald Eagle Center - August 6-9, 1972.
 - b. Flandrau State Park - August 13-16, 1972.
 - c. Sibley State Park - August 20-23, 1972.
11. 200 local education agency (k-6) environmental education workshops-statewide 1972-1973.

P. PLANS FOR THE FUTURE:

1. Complete evaluation of elementary program 1972-1973.
2. Revision of curriculum materials.
3. Development of additional curriculum and support materials, (A.V., etc.)
4. Implementation (regionally) of Environmental Education curriculum materials (in-service).
5. Implementation of Environmental Education curriculum materials in higher education (pre-service).
6. Phase III - Secondary Program is scheduled to begin July 1973.

It will include:

- a. Revision of 7-12 Pilot Program Curriculum Units.
- b. Development of new 7-12 Curriculum Units.
- c. Implementation of 7-12 Environmental Education Curriculum Materials - Delivery System.

Q. ERIC DOCUMENTS:

Environmental Education Curriculum Materials. ED 056 336

- A. PROJECT TITLE: NORTHWOODS AUDUBON CENTER
- B. PROJECT DIRECTOR: Michael Link, Route 1, Sandstone, Minnesota
55072. (612)245-2648
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Marguerite Schwyzer - donor; Ed Perrigham, National Audubon Society.
2. Date and place of Initiation: 1968.
3. Overall project purpose: Nature education center for use by school, conservation organizations and education meetings.
- F. PROJECT OBJECTIVES:
1. Promote a better understanding of nature through first hand experience in the field.
2. Provide sound management for flora and fauna.
- G. MATERIALS:
1. Materials produced:
a. K-6: Field Study Guides.
b. 7-12: Field Study Guides.
c. Other: Guides for naturalists - prepared for training state park and camp naturalists.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Guides for Naturalists - \$5.00. Directly from the Center.
4. New instructional materials being developed: Yes. Geology textbook for 6th-9th grades - "Geology of Pine County".
5. Additional materials being developed: How to Research Community Natural Resources.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 2.
2. Number of teachers having adopted all of the project materials: 4.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: Unknown.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
a. Sandstone Elementary School, Sandstone, Minnesota.
b. Pine City Elementary School, Pine City, Minnesota.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1-2 days.
 - b. Summer Institute: Yes. 1 week.
 - c. Evening classes: Yes. 10 hours and 2 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Developed naturalist training course for state parks.
2. Developed naturalist training course for American Camping Association.
3. Teacher workshops for local schools.
4. Class field study programs.
5. Workshop for staff of mental hospitals.
6. Organized state naturalists and established newsletter.
7. Offer weekend education programs for adults around the state.
8. Taught nature classes in federal prison.
9. Work with state agencies in setting up and running their workshops.
10. Cooperating in statewide program for research.

L. PLANS FOR THE FUTURE:

1. Organize communications between state conservation organizations.
2. Develop pilot study programs in environmental education.
3. Expand evening classes for teachers.

- A. PROJECT TITLE: ENVIRONMENTAL INFORMATION FOR NON-BIOLOGISTS
- B. PROJECT DIRECTOR: Brother Charles Severin, St. Mary's College,
Winona, Minnesota 55987. (507)452-4430 Ext. 228
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Not answered.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Brother Charles Severin and Rory Vose.
2. Date and place of Initiation: September 1972. St. Mary's College.
3. Overall project purpose: To acquaint college faculty with environmental problems.
- F. PROJECT OBJECTIVES:
1. To present current environmental conditions.
2. To provide an opportunity for teachers to discuss and find solutions for environmental problems.
3. To promote better student cooperation through efforts of their instructors.
- G. MATERIALS: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Not answered.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 15 Saturdays.
b. Summer Institute: Yes. 6 weeks.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.
- J. MATERIALS EVALUATION:
Now being formulated.
- K. PROJECT SUMMARY:
Talks given and summaries have been made.

L. PLANS FOR THE FUTURE:

We will invite teams of four and a teacher from twenty high schools of this region for two 2-day sessions. We will lay plans for activities in September, 1973, and will hear results and evaluate them in March, 1974.

- A. PROJECT TITLE: A CURRICULUM BASED ON INTEGRATED PEST CONTROL
- B. PROJECT DIRECTOR: Dr. F. G. Maxwell, P.O. Drawer EM, Mississippi State, Mississippi 39762. (601)325-4541
- C. PROJECT HEADQUARTERS:
1. Clay Lyle Ent. Center, Mississippi State, Mississippi 39762.
 2. Special facilities or activities available for visitor viewing: Yes. New Ent. Building, Insect Museum, recently installed electron microscope, insect rearing activities.
- D. PRINCIPAL STAFF: 25 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. F. G. Maxwell and Dr. Aubrey Harris.
 2. Date and place of Initiation: September 1972.
 3. Overall project purpose: To train students to work in pest management projects.
- F. PROJECT OBJECTIVES:
1. Develop an outstanding pest management curriculum.
 2. Train entomologists for positions in pest management.
 3. Become a research center for pest management.
- G. MATERIALS:
- New instructional materials are being developed for university students. We anticipate developing films.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
- We had a two-week "Summer Institute for Biological Control of Insects, Diseases and Weeds" sponsored by the Southern Regional Educational Board and our department in June, 1972.
- L. PLANS FOR THE FUTURE:
- We may sponsor institutes on biological control of insects in the future.

- A. PROJECT TITLE: TUPELO ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: MacDonald Heebner, P. O. Box 557, Tupelo,
Mississippi 38801. (601)842-8527
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Tupelo Municipal Separate School System; National Park Service - Natchez Trace Parkway.
2. Date and place of Initiation: June 1, 1973.
3. Overall project purpose: To provide expert advice and assistance to the Tupelo Public School System and Itawamba Junior College in the development of environmental education programs. This is an experimental program which is hoped to be a model for the remainder of the state of Mississippi.
- F. PROJECT OBJECTIVES:
1. To develop environmental study area teacher guides in conjunction with each individual school site and grade levels, 1-12.
2. To integrate environmental education concepts into the total school curriculum.
3. To assist in preparing coming generations of citizens in making life decisions based on ecological principles while coping with problems of society and its resource utilization.
- G. MATERIALS:
1. Materials produced: None to date.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 1-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 7 hours.
b. Summer Institute: No.
c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. The Tupelo Environmental Education Program has been initiated through the interest of the Tupelo Municipal Separate School System and the Natchez Trace Parkway, a unit of the National Park Service. This mutual interest resulted in the assignment of a park ranger (environmentalist) to the Tupelo School System for the period June 15, 1973 to June 15, 1974. Such a personnel loan was enabled through the Intergovernmental Personnel Act of 1970 and is unique to both organizations.
2. To date the resulting environmental education program has consisted of acquisition of numerous resource materials and the establishment of an environmental education materials center for the school system. In addition, professional libraries have been established in each school facility for further dissemination of selected environmental education resource materials.
3. Since the initiation of this program, in-service workshops have been held for seventy-nine teachers and administrators. The primary activity of the program coordinator beyond the aforementioned has been individual consultation with teachers and administrators toward assisting implementation of environmental concepts and activities into individual classroom curricula.

L. PLANS FOR THE FUTURE:

1. In the future the program will pay particular attention to the development of curricular and grade level guides for the utilization of environmental study areas local to each school site; development of a 5/6 grade resident environmental education program; pre-service environmental education training in Mississippi colleges and universities; and advisory assistance to secondary school, student, environmental interest groups.
2. A one hundred acre environmental education center is presently being developed by the Natchez Trace Parkway for resident and day-use environmental education programming. This facility, the Tupelo Environmental Education Center, will serve the Tupelo Public Schools and surrounding county and municipal school systems within the northeast Mississippi regional area.
3. Beyond these inhouse program concerns, attention has been and will continue to be focused on attaining community support through a community advisory council, and liaison with community civic organizations and service clubs. Perpetuation of this program beyond the June 15, 1974 date of the intergovernmental personnel agreement is deemed essential for any impact that the program will have on the environmental education of the student body of the Tupelo School System.

- A. PROJECT TITLE: ROCKWOODS RESERVATION
- B. PROJECT DIRECTOR: Randall O. Herberg, Route 1, Box 1599,
Glencoe, Missouri 63038. (314)273-5436
- C. PROJECT HEADQUARTERS:
1. Glencoe Road, Glencoe, Missouri 63038.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 3 persons employed full-time, 3 temporary.
- E. PROJECT HISTORY:
1. Principal originators: A. P. Greensfelder and other St. Louis businessmen.
2. Date and place of Initiation: 1938 - Rockwoods Reservation.
3. Overall project purpose: Conservation education and demonstration, outdoor recreation.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To give people of the St. Louis area an opportunity to learn about the Missouri Department of Conservation and its programs.
b. To give these people an outdoor recreation experience.
c. To provide a place for learning about nature in the out-of-doors.
2. New instructional materials being produced: Yes. K-college.
- H. MATERIALS PRODUCED:
Materials are mostly in the form of interpretive trails and self-guiding lectures. No publications as such are produced.
- I. MATERIALS AVAILABLE FREE: Contact project headquarters.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed:
a. Fire prevention slide/tape series.
b. Slide/tape show about Rockwoods.
2. Development of other materials anticipated: New 1.65 mile interpretive trail.
- L. PROJECT IMPLEMENTATION:
We do not know how many schools or teachers are using our facilities or materials.
- M. TEACHER PREPARATION:
A 3 hour workshop is available.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Visitors numbered between 200,000 and 250,000 annually.
2. A few new exhibits have been added or updated in the Education Center.
3. About 35,000 children in organized groups visit annually.

P. PLANS FOR THE FUTURE:

Relocate three existing interpretive trails. Add and update more of the inside and outside exhibits.

- A. PROJECT TITLE: MISSOURI ENVIRONMENTAL STUDIES APPROACH (MESA)
- B. PROJECT DIRECTOR: Dr. Dean A. Rosebery, Science Division, Northeast Missouri State University, Kirksville, Missouri 63501.
(816)665-5121 Ext. 7204
- C. PROJECT HEADQUARTERS:
1. Science Hall, Room 159, Northeast Missouri State University, Kirksville, Missouri 63501.
2. Special facilities or activities available for visitor viewing: Yes. Special facilities include headquarters office with concentrated activities during three months of the summer with the remainder of the activities during the academic year.
- D. PRINCIPAL STAFF: 4 persons are employed on a full-time basis for three months of the summer. During the academic year, 3 of these faculty members are on a half-time basis.
- E. PROJECT HISTORY:
1. Principal originators: 50 administrators from 26 schools of northeast Missouri and Dean A. Rosebery, Head of the Science Division, Northeast Missouri State University. The ESEA Title III program was a continuation of a project supported originally by the Environmental Education Act.
2. Date and place of Initiation: July 1, 1972.
3. Overall project purpose: Teacher training activity for 270 teachers of 21 schools in northeast Missouri. The ultimate aim is that environmental studies will become an integral part of the curriculum.
- F. PRESENT COMMERCIAL AFFILIATIONS: No. We are using the published materials of a non-commercial firm which is the environmental studies materials of the American Geological Institute, Box 1559, Boulder, Colorado 80302.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. That each of the teachers who is trained in the program will use environmental studies materials.
b. That the environmental studies philosophy will modify the teacher's instructional methods.
c. That the student will have developed an improved attitude toward schools and teachers as a part of his total environment.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED: None.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 17.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 62.
4. Total number of students using project materials: 180.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught:
 - a. Kirksville R-III Schools, 401 E. McPherson, Kirksville, Missouri 63501.
 - b. Milan C-II School, Milan, Missouri 63556.
 - c. Boone Co. R-VI Schools, 801 S. Jefferson, Centralia, Missouri 65240.
 - d. Marion County Schools, 4700 McMasters Avenue, Hannibal, Missouri 63401.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: No.
 - b. Summer Institute: Yes. 4 weeks.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not answered.
6. Commercial availability of materials: Not answered.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. The program is being evaluated by the staff of the Environmental Studies Center at Boulder, Colorado.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

The ESEA Title III Project on the Missouri Environmental Studies Approach has concentrated on teacher preparation. 30 teachers are trained during each of the three summer months with in-service follow up activities during the academic year. This project should terminate in three years with approximately 270 teachers trained in northeast Missouri to either use or adapt from environmental studies materials.

- A. PROJECT TITLE: HIGH SCHOOL UNIT BOOKS
- B. PROJECT DIRECTOR: Penelope H. Royse, Committee for Environmental Information, 438 N. Skinker, St. Louis, Missouri 63130.
(314)863-6560
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Our library.
- D. PRINCIPAL STAFF: 5 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: The Committee for Environmental Information submitted a grant proposal to the U.S. Office of Environmental Education of HEW and was awarded the grant.
2. Date and place of Initiation: The unit books were produced at our office starting September 1972.
3. Overall project purpose: To educate high school students to make decisions regarding environmental problems, based upon an understanding of the benefits and losses resulting from these decisions.
- F. PROJECT OBJECTIVES:
Production of curriculum units for use in high schools.
- G. MATERIALS:
1. Materials produced: High school curriculum unit on external use products.
2. Free materials available: None.
3. Materials produced that can be purchased: Contact our office.
4. New instructional materials being developed: Yes. High school grades.
5. Additional materials being developed: Units on solid waste and pesticides.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Schools where the program materials were tested are:
1. Vashon High School, 3405 Bell Ave., St. Louis, MO. 63106.
2. Nerinx Hall High School, 590 E. Lockwood, St. Louis, MO. 63119.
3. Parkway Central Senior High School, 369 N. Woods Mill Road, Chesterfield, MO. 63107.
- I. TEACHER PREPARATION:
Plan to develop teacher preparation program when materials are ready for publication.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. By teachers, students, and Barbara Huff (the writer-coordinator).
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. One unit written, classroom tested and now being revised.
2. Two units being developed for classroom testing in the fall of 1973.

L. PLANS FOR THE FUTURE:

Uncertain due to funding.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION FOR WORKERS
- B. PROJECT DIRECTOR: Calla Smorodin, 438 N. Skinker, St. Louis, Missouri 63130.
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Our environmental library.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: The Committee for Environmental Information submitted a grant proposal to the U.S. Office of Environmental Education of HEW and was awarded the grant.
 2. Date and place of Initiation: September 1972.
 3. Overall project purpose: To educate workers on the environmental conditions of the workplace as well as on their general environment.
- F. PROJECT OBJECTIVES:
1. The production of two columns a month for distribution to labor newspapers throughout the country.
 2. Completion of the St. Louis Air Pollution Report for distribution to workers and others.
- G. MATERIALS:
1. Materials produced: Labor columns for workers and St. Louis Air Pollution Report for all adults.
 2. Free materials available: None at present.
 3. Materials produced that can be purchased: Contact office.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: The Labor Columns have appeared in numerous labor newspapers.
 2. Pertinent published research studies: None.
- K. PROJECT SUMMARY:
1. Production of two labor columns per month since September 1972 and distribution to the national publications of unions.
 2. Completion of the St. Louis Air Pollution Report.
- L. PLANS FOR THE FUTURE:
- We plan to expand our mailing list to include the publications of locals and districts within a given union and to set up a mechanism for getting feedback about the publication of these columns.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION IN THE BILLINGS PUBLIC SCHOOLS
- B. PROJECT DIRECTOR: Edward Heiser, Coordinator, Environmental Education Activities, 101 - 10th Street West, Billings, Montana 59102. (406)248-7421 Ext. 17
- C. PROJECT HEADQUARTERS:
1. 101 - 10th Street West, Billings, Montana 59102.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 75 persons involved - all volunteer.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Wilson Clark, Chairman of the Division of Science and Math; Professor Erick Erickson, Principal, Eastern Montana College Laboratory School, Eastern Montana College, Billings, Montana.
 2. Date and place of Initiation: May 1966 - Evangelical United Brethren Church Camp near Big Timber, Montana.
 3. Overall purpose:
 - a. To make conservation education an individual and public concern.
 - b. To enrich, vitalize, and compliment content areas of the school curriculum by means of a firsthand observation and direct experience outside of the classroom.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. To help children to become knowledgeable concerning their total environment (biological, physical, social, cultural, economic).
 - b. To help children to become skillful in how to ferret out the significant aspects of a problem or situation.
 - c. To help children to become sensitive to their own role in and responsibility to developing a productive and liveable environment.
 - d. To help children become motivated to work constructively towards the solution of environmental problems.
 2. New instructional materials being produced: Yes. Grades 1-6 in conjunction with Eastern Montana College.
- H. MATERIALS PRODUCED:
Exploring the World - a handbook of units for K-12.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
Exploring the World - \$4.25.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:
 - a. 16 mm Film.
 - b. Slide-tape presentation.
2. Development of other materials anticipated: None.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 30.
2. Number of teachers having adopted all of the project materials: 64.
3. Number of teachers using some of the project materials: 50.
4. Total number of students using project materials: 2,000.
5. Totals stated are definite.
6. Names and locations of selected schools where the course is being taught:
 - a. Grand Avenue School, 1320 Grand Avenue, Billings, Montana.
 - b. Campus School, Eastern Montana College, Billings, Montana 59101.
 - c. Newman School, 605 South Billings Block, Billings, Montana 59102.
 - d. Meadowlark School, 221 29th Street West, Billings, Montana 59102.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 30 semester hours.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. Time varies.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By workshop staff and participants.
2. Pertinent published research studies: Not answered.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. A teachers' workshop has been held each year since program started.
2. All sixth graders from District #2 have a two-day camp experience, with solid field instruction in Environmental Education. Teachers of the sixth grade rooms involved work with the workshop staff at camp when the children are at camp.
3. Received Distinguished Achievement Award given at the Annual Meeting of The American Association of Colleges for Teacher Education, Chicago, Illinois.

P. PLANS FOR THE FUTURE:

Exploration of Bureau of Land Management in reference to environmental activities - possibly leading to an environmental center.

- A. PROJECT TITLE: ENVIRONMENTAL AWARENESS
- B. PROJECT DIRECTOR: Torlief Aasheim, Montana State University,
Bozeman, Montana 59715. (406)994-3402
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed, 1 person part-time.
- E. PROJECT HISTORY:
1. Principal originator: Director of the Extension Service.
2. Date and place of Initiation: December 1972 - Glendive, Montana.
3. Overall project purpose: To demonstrate an approach to comprehensive community environmental education in a large, sparsely populated area far removed from large urban centers.
- F. PROJECT OBJECTIVES:
1. Involving broadly based citizen groups representing diverse segments of the population in understanding and identifying local and regional environmental problems.
2. Involving broadly representative community groups in identifying local and outside resource requirements needed to effect solutions to local and regional environmental problems.
3. Testing the effectiveness of including environmental considerations in total development plans of community and county-wide groups that are recently organized or currently being organized for total community resource development in the project area.
4. Testing the ability of the grantee agency to marshal the necessary resources of federal, state, and private organizations and agencies in assisting the local citizen groups in the educational program of identifying problems and the resources to deal effectively with the problems.
5. Developing methodology for youth-centered environmental programs, specifically through 4-H, Future Farmers of America, and other organized youth activities.
- G. MATERIALS:
1. Materials produced: None other than the free materials.
2. Free materials available:
a. Coal leasing publication.
b. Environmental Awareness Slide Set.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.

J. MATERIALS EVALUATION: Not applicable.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:
Additional activities are planned.

- A. PROJECT TITLE: BIG CREEK OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Garry O. Briner, Box 863, Columbia Falls,
Montana 59912. (406)892-4456
- C. PROJECT HEADQUARTERS:
1. Columbia Falls Elementary School, Columbia Falls, Montana
59912. (406)892-4321
2. Special facilities or activities available for visitor view-
ing: Yes. During May when the classes are in the field only.
- D. PRINCIPAL STAFF:
Ten 6th grade teachers are involved. Personnel hired specifically
for the program are two cooks and two substitute teachers. All
are employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: The Columbia Falls 6th grade staff
in cooperation with the school administration and Forest Service.
2. Date and place of Initiation: May 1971.
3. Overall project purpose: To put into practical application
some of the textbook and classroom learnings as a culmination
of the sixth grade science program.
- F. PROJECT OBJECTIVES:
To acquaint the student with the relationships that plants,
animals, water, and soil have with each other.
- G. MATERIALS:
1. Materials produced:
a. K-6: We have modified the materials put out by the For-
est Service in a booklet entitled "Environmental Education".
b. 7-12: None.
c. Other: None.
2. Free materials available: Worksheets that we use in the
field are available free.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. We are
continually modifying our worksheets and equipment. They will
also be for the sixth grade.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 5.
2. Number of teachers having adopted all of the project mater-
ials: 10.
3. Number of teachers using some of the project materials: 0.
4. Total number of students using project materials: 210.
5. Totals stated are definite.
6. Names and locations of schools where the program materials
are being used:
a. Columbia Falls Elementary School, Box 70, Columbia Falls,
Montana 59912.
b. Martin City School, Martin City, Montana 59926.

- c. Coram School, Coram, Montana 59913.
- c. Hungry Horse School, Hungry Horse, Montana 59919.

I. **TEACHER PREPARATION:**

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One day.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 4-5 one hour classes.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Teaching materials commercially available: No.

J. **MATERIALS EVALUATION:**

- 1. Has the effectiveness of the materials been evaluated: Yes. There is an on-going evaluation by teachers and administrators.
- 2. Pertinent published research studies: None.

K. **PROJECT SUMMARY:**

- 1. For three years there has been an outdoor education program held at the Big Creek Ranger Station where overnight facilities are available.
- 2. All of the sixth grade classes have taken part, one at a time. The first two years were one day and night, with last year being two days and one night. Main classes covered were: soil, water, animals, and plants. The last two years, the students have participated in an afternoon snowshoe trip during the winter to observe the forest environment in its winter setting.

L. **PLANS FOR THE FUTURE:**

The City of Columbia Falls and the Forest Service have made available 160 acres of land for school use on an indefinite term lease. Active planning and utilization will be carried on during the 73-74 school year.

- A. PROJECT TITLE: POWELL COUNTY ENVIRONMENTAL CENTER
- B. PROJECT DIRECTOR: Gary D. Swant, 710 Missouri Avenue, Deer Lodge,
Montana 59722. (406)846-2757
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Gary D. Swant.
2. Date and place of Initiation: January 1971.
3. Overall project purpose: K-12 environmental program.
- F. PROJECT OBJECTIVES:
1. To provide a K-12 interdisciplinary environmental education program.
2. To produce and assist teachers in the production of materials and field trips with related services.
- G. MATERIALS:
1. Materials produced: Not graded. 35mm slide series in carousel trays: Soil Survey; Why? Mr. Duck; Protist-3; Protists-2, Grasses of Powell County; Protist-1; Flowers and Fruits, Conifer Leaves; Cells and Cell Contents; Internal Anatomy of Plants; Glaciers; Clearcutting; Spring Flowers; Fold in Rocks, A Result of Mountain Building; Hermon the Heron; Conifer Study; Deer Lodge Antelope Study; Summer Ecology Program; Sewage Treatment; Pretest of Environmental Issues; Local Ecology--Who's Problem?; Flowers of Powell County-Tray 1; Flowers of Powell County-Tray 11; Birds of the South West Desert; Lockhart Meadows, Prehistoric Lake; The Little Known Plants; Desert Shrubs; Follow a Log; The Clark Fork and Silver Bow Creek; Winter Range; The Effects of Mining; Range Land; Warm Springs Geology; Highway Construction; Dams, Friend or Foe?; Biomes of Our Area; Land Slump; Two Biomes of Our Area; Physics Problems as seen by Students; Let's Learn about the Desert; How to Key a Flower; Hach Kit and its Use; Tin Cup Ecosite; Aerial Photo of Deer Lodge; Gordon the Golden Eagle; Common Birds of the Tiaga; Multiplication, Division of the Slide Rule; North vs. South Slope; A Wilderness Experience; Endangered Species; Organisms of the West Coast Tide Pools; Clark Fork River Pollution.
Booklets: Pond and Stream Organisms of Powell County; Geology Section; Rocks-Elementary Level; The Rock Cycle or It's Hard When You're a Rock; Common Birds Found in the Immediate Areas of the Schools of Powell County; Hermon the Heron; Count the Ways You Can Help; A B C's of Water; Ecky Says-Brush Up On Your Ecology; The Oxygen Cycle; Collecting Insects; Little Johnnie Raindrop; Common Trees in Powell County; Walter Waterdrop; Hal Hailstone; Dicotemous Key to the Identification of Small

Animals of Powell County; Dicotemous Key to the Identification of 55 Common Flowers of Montana; Dicotemous Key to the Identification of Large Fish in Montana; Flowers-Family Key; Environmental Education in Rural Setting; Key to Metamorphic Rocks; The Identification of Pollutants and Other Effects on the Biotics of a Stream; Taxidermy Methods; The Effect of Altitude on Distribution of Angiosperms.

2. Free materials available: All of the above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. All levels.
5. Additional materials being developed: Curriculum booklets, slide series.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 8.
2. Number of teachers having adopted all of the project materials: 8.
3. Number of teachers using some of the project materials: 400-600.
4. Total number of students using project materials: 2,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Deer Lodge Public Schools, District One, Deer Lodge, Montana.
 - b. Avon Grade School, Avon, Montana.
 - c. Garrison School, Garrison, Montana.
 - d. Helmville School, Helmville, Montana.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Not answered.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Yes. 10 nights.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. University of Montana Research Division.
2. Pertinent published research studies: Environmental Education in a Rural Setting - The American Biology Teacher, December 1972.

K. PROJECT SUMMARY:

1. K-12 discipline based on all subjects.
2. Curriculum booklets.
3. A-V slide and tape series.
4. Establishment of eco-sites.
5. In-service and credit training.
6. A series of field trips and related services.

L. PLANS FOR THE FUTURE:

We are working on plans and seeking funds for a state resident center for teacher training and student activities.

- A. PROJECT TITLE: HAMILTON ENVIRONMENTAL EDUCATION CURRICULUM PROJECT
- B. PROJECT DIRECTOR: Ron Skelton, 411 Daly Avenue, Hamilton, Montana
59840. (406)363-2280
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. An Environmental Education Resource Center which houses a variety of materials and equipment for student-teacher use. On campus and off campus environmental study areas.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Hamilton school teachers.
 2. Date and place of Initiation: Hamilton, Montana - September 1970.
 3. Overall project purpose: To establish an "environmental method" of teaching among staff members in the Hamilton schools.
- F. PROJECT OBJECTIVES:
1. Create an articulated and integrated environmental studies curriculum.
 2. Organize a cumulative guide to personnel, organizations, and agencies contributing to or participating in environmental education.
 3. Develop with each student the conceptual framework for understanding the interrelationships and interdependence of man with his total environment.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Sample lesson kit - 38 lessons for K-6.
 - b. Slide series for K-12: Anaconda Smelter, Beekeeping in Ravalli County, Bitterroot Game Range, Land Use - Ravalli County, Ritter Root Stock Farm, Mining in Montana, Pollution Problems, Range Management, Bird Refuge, Timber Industry, Water-Snow, Whose Garden Was This?, Wild Animals (Montana), Wild Flowers (Montana), Wilderness - A Concept, Wilderness Module, Environmental Education, Change, Water's Edge Trail, Woods Trail, Study Site I, Study Site II, Water Company, City Dump.
 - c. Other: Trail Kits: Water's Edge, Woods, Brook.
 2. Free materials available: Descriptive brochure, Conceptual Scheme.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Grades K-6.
 5. Additional materials being developed: Trail Kits: Geology, Soil, Game Range; slide series: Weather.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

40 teachers and 760 students are using our materials in the Hamilton, Montana schools. Names and locations of schools where the program materials are being used: Daly School, Jefferson School, Hamilton High School, Washington School.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes. In district.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Saturdays - all day.
 - b. Summer Institute: Yes. 7 days wilderness backpacking.
 - c. Evening classes: Yes. Two hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Wilderness workshop packet, slide series and overhead transparencies.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Base line information has been collected by Gary Hall, University of Montana.
2. Pertinent published research studies: Hammond, R. I. Evaluation at the local level, Tucson, Arizona: EPIC Evaluation Center.

K. PROJECT SUMMARY:

1. September 1970: Open meeting for community and teachers to outline a plan and determine the degree of public support for a school environmental education program.
2. February 1971: Application for ESEA Title III funds.
3. July 1971: Approval as an ESEA Title III project.
4. Summer 1971:
 - a. In-service programs for district staff.
 - b. Organization of an Environmental Education Resource Center and development of teaching materials.
 - c. Survey of outdoor study sites.
5. School year 1971-1972:
 - a. Resource Center operated by a full-time resource secretary.
 - b. Extension course in Environmental Education for local teachers.
 - c. Development of a conceptual scheme for an Environmental Education curriculum.
 - d. Construction of Ecology Center building (materials from local donations and America the Beautiful Fund. Constructed by the Trapper Creek Job Corps).
 - e. Ten day Wilderness Module (21 Hamilton students, team of 6 teachers - 10 days).
6. School year 1972-1973:
 - a. Full-time project director and part-time resource secretary working with students, teachers and resource personnel.

- b. In-service (Saturdays and evenings) for local teachers.
- c. Regular community-school advisory group meetings.
- d. Produced first prototype of Sample Lessons for Environmental Education (Card kit in a box).
- e. Organized a state conference on Environmental Education in cooperation with the Montana State Department of Public Instruction.

7. Summer 1973: Two, seven day, "Wilderness Workshops" open to any interested teacher. The workshops included five days of environmental studies and evening campfire seminars in a Montana Wilderness setting.

L. PLANS FOR THE FUTURE:

Continuation of those activities mentioned.

- A. **PROJECT TITLE:** CONSERVATION AND WILDLIFE PROJECT
- B. **PROJECT DIRECTOR:** Harold G. Knapp, South Avenue, Missoula, Montana
59801. (406)549-4889
- C. **PROJECT HEADQUARTERS:**
1. Same as B.
 2. Special facilities or activities available for visitor viewing: Yes. 140 acres of school developed land, 3,000 acres of Montana Fish and Game, School cooperative project lands.
- D. **PRINCIPAL STAFF:** 1-20 persons involved for field trips. School personnel work on Saturdays, after school, etc.
- E. **PROJECT HISTORY:**
1. Principal originator: Harold G. Knapp.
 2. Date and place of Initiation: October 1966 - Missoula County High School.
 3. Overall purpose: The primary purpose of this outdoor program is the exposure of students to meaningful conservation studies. Habitat development by students create an ecological awareness that opens up a natural world of life for the student.
- F. **PRESENT COMMERCIAL AFFILIATIONS:** None.
- G. **PROJECT OBJECTIVES:**
1. Objectives of the project:
 - a. Ecological awareness.
 - b. Habitat development for wildlife.
 2. New instructional materials being produced: Yes. A continual process (grades 9-12).
- H. **MATERIALS PRODUCED:**
1. K-6: Not applicable.
 2. 7-12:
 - a. A Guide To Outdoor Learning.
 - b. Conservation - Survival.
 3. Others: Many audio-tutorial systems have been prepared on the program.
- I. **MATERIALS AVAILABLE FREE:** None.
- J. **MATERIALS PURCHASABLE:** None.
- K. **ADDITIONAL MATERIALS BEING DEVELOPED:**
1. Other materials currently being developed: Landscape design materials.
 2. Development of other materials anticipated: A-T kits on Forest Management.
- L. **PROJECT IMPLEMENTATION:**
1. Number of schools now using entire set of materials: 3.
 2. Number of teachers having adopted all of the project materials: 15.

3. Number of teachers using some of the project materials: 15.
4. Total number of students using project materials: 800.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
 - a. Hillgate High School, Missoula, Montana.
 - b. Sentinel High School, Missoula, Montana.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 4 hours plus.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Title III people in Helena, Montana.
2. Pertinent published research studies: Not answered.

O. PROJECT SUMMARY:

1. Field habitat studies and development. Approximately 100-200 acres of land has been converted from minimum to maximum habitat for wildlife by our classes.
2. The forestry and Environmental Education summer program will permit learning experiences that would be most difficult to offer during the four quarter school term. This outdoor course will be open to 11th and 12th grade students who have a desire to learn about environmental systems, the management of our area resources; the public demand for recreation areas, and the values of a wilderness experience.

P. PLANS FOR THE FUTURE:

Habitat and environmental improvement.

- A. PROJECT TITLE: 6TH GRADE SCHOOL CAMPING
- B. PROJECT DIRECTOR: Mack Peyton, c/o HPER - Chadron State College,
Chadron, Nebraska 69337. (308)432-5571
- C. PROJECT HEADQUARTERS:
1. Chadron State College, Chadron, Nebraska 69337.
2. Special facilities or activities available for visitor viewing: Yes. Church camp leased to Chadron State Foundation.
- D. PRINCIPAL STAFF: 6th grade teachers, employed by the schools involved.
- E. PROJECT HISTORY:
1. Principal originator: Mack Peyton - HPER - Chadron State College.
2. Date and place of Initiation: May 1967.
3. Overall purpose: Provide outdoor educational activities involving 6th grade students - as follow up to classroom activities.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Same as E.3.
2. New instructional materials being produced: Yes. Elementary level.
- H. MATERIALS PRODUCED:
Publication by State Department of Nebraska.
- I. MATERIALS AVAILABLE FREE: Not answered.
- J. MATERIALS PURCHASABLE: Not answered.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 9.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 23.
4. Total number of students using project materials: 286.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
a. Chadron Middle School, Chadron, Nebraska.
b. Bridgeport Elementary School, Bridgeport, Nebraska.
c. Mitchell Elementary School, Mitchell, Nebraska.
d. Sioux County Elementary School, Harrison, Nebraska.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Two camps - 3 day duration.
 - b. Summer Institute: Yes. 12½ days in the wilderness.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Materials pertain to subject area of resource person - given out by resource person - available upon request.
6. Teaching materials commercially available: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. School administrators, consultant for HPER-State Department of Education.
2. Pertinent published research studies: None.

O. PROJECT SUMMARY:

1. 6th grade school camping program initiated in 1966 with 90 students from Chadron - now has over 1400 6th grade students from thirteen communities in western Nebraska. The unique technique of involving college students as planners and counselors for the school camping program has been utilized to the fullest. Activities include studies in science, social science, language arts, humanities, conservation and physical education (recreation).
2. The wilderness program has continued unabated for five years. Each year new activities are added to enhance the total program making it more meaningful and relevant to learning.

P. PLANS FOR THE FUTURE:

- Tie in with relevant studies in the outdoors.

- A. PROJECT TITLE: LINCOLN AREA ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Donald W. McGurdy, 211 Henzlik Hall, University of Nebraska, Lincoln, Nebraska 68152. (402)472-3151
- C. PROJECT HEADQUARTERS:
1. Same as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 4 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Donald W. McGurdy, Roger Macklem, Royal Vanhorn, Robert Reeder.
 2. Date and place of Initiation: August, 1972 - University of Nebraska.
 3. Overall project purpose: To provide for the in-service training of science and social studies teachers in the Lincoln, Nebraska area and to develop curriculum materials in environmental education.
- F. PROJECT OBJECTIVES:
1. To develop a core of science and social studies teachers who are aware and knowledgeable with regard to environmental education.
 2. To develop a basic set of curriculum materials in environmental education for Lincoln area schools.
 3. To provide an in-service program for Lincoln area teachers.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: L.A.E.E.P. Curriculum guide.
 2. Free materials available: Project description.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: A series of resource units.
 5. Additional materials you anticipate developing: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 15.
 2. Number of teachers having adopted all of the project materials: 25.
 3. Number of teachers using some of the project materials: Unknown.
 4. Total number of students using project materials: 600.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. East High School, 1000 South 70, Lincoln, Nebraska.
 - b. Southeast High School, 2930 South 37, Lincoln, Nebraska

- c. Centennial High School, Utica, Nebraska.
- d. Charles Culler Junior High School, 5200 Vine Street, Lincoln, Nebraska.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 4 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: 10 days scattered throughout the academic year.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

- 1. A one-week orientation and sensitization conference - August, 1972.
- 2. Five two-day mini-institutes scattered throughout the 1972-1973 academic year.
- 3. A three-week curriculum development workshop - June, 1973.

L. PLANS FOR THE FUTURE:

In-service and feedback sessions during academic year 1973-74.

M. ERIC DOCUMENTS:

Aerospace - Related Life Science Concepts for Use in Life Science Classes Grades 7-12 (1968). ED 041739

A. PROJECT TITLE: EXPERIMENTAL SCHOOLS PROGRAM - OUTDOOR EDUCATION PROGRAM

B. PROJECT DIRECTOR: Richard Peters, School Supervisory Union 58,
Groveton Elementary School, Groveton, New Hampshire 03582.
(603)636-2241

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Not answered.

D. PRINCIPAL STAFF: Not answered.

E. PROJECT HISTORY:

1. Principal originator: Planned in local district, funded by National Institute of Education.
2. Date and place of Initiation: Program became operational during 1973-74 school year.
3. Overall project purpose:
 - a. Man interacts with both natural and social environmental phenomena on a day-to-day basis. But interaction alone is not enough-if we are to intelligently conserve, manage, and protect our natural and human resources.
 - b. The natural environment of the geographical area(s) comprising Union 58 effects and contributes greatly to the economic condition(s) of the area: tourism, recreation, and the pulp-and-paper industry.
 - c. A well planned and executed introduction to an awareness of the natural surroundings provides a basis for direct human interaction with environmental phenomena and enhances leisure-time activities and recreation.

F. PROJECT OBJECTIVES:

1. Development of a physical site areas which will provide K-12 students opportunities to study the interrelationships existant between human and natural components of the community.
 - a. K-6 daytime field trips.
 - b. 7-12 week-end camping/hiking excursions.
 - c. Vacational education students construct site facilities.
2. Provide the opportunity for K-12 plus community involvement in the outdoor education program-the utilization of the developed physical area(s).
 - a. Volunteer adult assistance as field trip and excursion chaperones/guides.
 - b. Community membership planned field trips and excursions into the site areas(s).
 - c. Utilization of community resource people as site construction and/or environmental consultants.
 - d. Expose career education students to environment-oriented careers.
3. Provide the opportunity for the application of vocational skills to the construction and maintenance of outdoor education sites.

- a. Construction of lean-to shelters and sanitation facilities.
 - b. Maintenance of site facilities with an emphasis on carpentry, surveying, and forestry management.
4. Provide K-12 classroom and on-site learning activities which will develop individual perceptions of the natural environment and man's relationship(s) to it.
- a. Geology time-line.
 - b. Geology of the North Country (e.g., rock formations, soil composition).
 - c. North Country wildlife.
 - d. Animal and plant adaptation to the North Country.
 - e. North Country weather patterns.
 - f. Interdependence of living organisms.
 - g. Man's affect upon the natural environment of the North Country.
 - h. The development of towns and their relationship(s) to mountains, weather, and natural resources.
5. Provide K-12 classroom and on-site learning activities which will develop the individual's skills in communication, decision-making, and problem-solving, and develop a sense of SELF as related to social interaction situations.
- a. Field trips and week-end excursions; development of a group structure with emphasis on interpersonal activities and responsibilities.
 - b. Projects (e.g., map making and map reading, weather forecasting, foliage collection, making relief maps) which require group involvement and social interaction.
 - c. Trip planning. Involving students in determining routes, hiking procedures, group organization and responsibilities.
 - d. Utilizing graphic media devices (e.g., motion picture camera, slide camera) to record impressions and perceptions of the natural and social surroundings.
 - e. Writing narrative poems, short stories as well as reading local histories, folk-tales.
6. The K-6 daytime field trips can either be:
- a. 'Walk-through' trips of the immediate environmental area encompassing the school.
 - b. Exposure to the outdoor education environmental sites.
7. The 7-12 week-end camping/hiking excursions provide students with the opportunity to interact with and enjoy the pleasures of a natural area.
- a. Selection and screening of participants.
 - b. Pre-trip training activities.
 - c. Week-end excursion.
 - d. Post-trip evaluation.
8. ESP will completely outfit the student explorers. It is estimated that during the 1973-1974 academic year approximately 150 Union 58 students will be exposed to the natural environmental surroundings of the area.

G. MATERIALS: Not answered.

H. MATERIALS IMPLEMENTATION:

The entire program is centered in School Supervisory Union 58.

I. TEACHER PREPARATION: Not answered.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

ESP is funded by the National Institute of Education (HEW), Washington, D.C. and our emphasis is on rural schools. Our program consists of five components: Adult Education, Career/Vocational Education, Language Arts, Outdoor Education, and Psychological Services and became operational with the 1973-1974 academic year.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: Richard Wolfson; Kearsarge Regional High School,
North Sutton, New Hampshire 03260. (603)927-4261
- C. PROJECT HEADQUARTERS:
1. Kearsarge Regional High School, North Sutton, New Hampshire
03260.
2. Special facilities or activities available for visitor view-
ing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed. Project involves
1/5 of a regular teacher's time.
- E. PROJECT HISTORY:
1. Principal originator: Richard Wolfson.
2. Date and place of Initiation: September 1972. Kearsarge
Regional High School.
3. Overall project purpose: To give students an opportunity to
make a thorough environmental study of their region and to pre-
pare materials for presentation to the broader community.
- F. PROJECT OBJECTIVES:
1. Student awareness of local environmental problems.
2. Through the students, community awareness of local environ-
mental problems.
3. Student awareness of environmental problems throughout the
world, with emphasis on causes and potential solutions of the
problems.
4. Development of ability to deal effectively with environ-
mental problems through scientific, social, and political channels.
- G. MATERIALS:
1. Materials produced: Students produced films of ecological
phenomena, particularly of water pollution analysis and treat-
ment.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: None. Project only
lasted one year.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
Preparation by students of local environmental reports for
presentation to the public.

L. PLANS FOR THE FUTURE:

We expect to continue offering students the kind of activities performed as part of this project.

- A. PROJECT TITLE: CONSERVATION AND ENVIRONMENTAL STUDIES CENTER, INC.
- B. PROJECT DIRECTOR: Dr. V. Eugene Vivian, Box 2230, R.D. #2, Browns Mills, New Jersey 08015. (609)893-9151
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Cranberry/blueberry farm, pinelands environment.
- D. PRINCIPAL STAFF: 15 persons employed regularly.
- E. PROJECT HISTORY:
1. Principal originators: Dr. V. Eugene Vivian, Glassboro Board of Education.
 2. Date and place of Initiation: 1965 - Glassboro, New Jersey.
 3. Overall project purpose: To assist school districts install environmental education curriculums.
- F. PROJECT OBJECTIVES:
1. Provide pre-service/in-service teacher training.
 2. Provide demonstration type lessons for teachers and students.
 3. Develop environmental education curriculum materials.
- G. MATERIALS:
1. Materials produced: Material request forms available.
 2. Free materials available: Materials request forms available.
 3. Materials produced that can be purchased: Materials request forms available.
 4. New instructional materials being developed: Yes. K-12 and college undergraduate.
 5. Additional materials being developed:
 - a. Related Marine Science EEIP's.
 - b. An Environmental Education Instruction Plan on Anthropology.
 - c. Additional urban materials.
 6. Present commercial association: C. B. Mosby Company, St. Louis, Missouri - "Source Book for Environmental Education".
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 100.
 2. Number of teachers having adopted all of the project materials: Unknown.
 3. Number of teachers using some of the project materials: Many.
 4. Total number of students using project materials: 300,000+.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Vineland Public Schools, Vineland, New Jersey.
 - b. Mt. Holly Public School, Mt. Holly, New Jersey.
 - c. Ventnor Public Schools, Ventnor, New Jersey.
 - d. Cherry Hill Public Schools, Cherry Hill, New Jersey.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day to 10 weeks (1 session per week).
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 3 hours for 10 weeks.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Materials request forms available; teacher workshop manual.
6. Teaching materials commercially available: No. In house printing.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The project began with a resident program for school children and their teachers in 1965. Since that time the project has expanded into on-school site programs. Teacher training programs are an important aspect of present total programs. Curriculum materials production has increased as a major aspect of the project CESC is presently producing environmental material on a contractual basis for other projects and school districts.

L. PLANS FOR THE FUTURE:

1. A more extensive teacher training program is anticipated. Expansion of curriculum production is to take place. An on-site resident facility building drive is in progress also.
2. A family or individual membership to CESC was begun this last year and is expanding. A full year of activities has taken place for this group also.

M. ERIC DOCUMENTS:

1. Local Education Agency Guidebook for Resident. Environmental Education Programs (1969). ED 033 784
2. Observation Skills - Tuning Up the Five Senses (1968). ED 033 787
3. C.E.S.C. Teacher's Workshop Handbook for Resident Programs (1968). ED 033 788
4. Sourcebook for Environmental Education. SE 016 430

- A. **PROJECT TITLE:** UNION COUNTY OUTDOOR EDUCATION CENTER
- B. **PROJECT DIRECTOR:** Arthur J. Ryan, 525 Main Street - Apt. 3C,
Chatham, New Jersey 07928. (201)635-4963
- C. **PROJECT HEADQUARTERS:**
1. 2 Glenside Park, Berkeley Heights, New Jersey 07922.
 2. Special facilities or activities available for visitor viewing: Yes. Visitors restricted to personnel from participating schools including parent-teachers associations and local environmental action groups. These visitors are scheduled by appointment to observe the program in action.
- D. **PRINCIPAL STAFF:** 10 persons employed - temporary full-time.
- E. **PROJECT HISTORY:**
1. Principal originators: Dr. William H. West, Superintendent of Schools, Union County, New Jersey; Mr. Emanuel Bedrick, Superintendent of Schools, Linden, New Jersey.
 2. Date and place of Initiation: November 1966.
 3. Overall project purpose: To fulfill the great need for quality education about conservation of natural resources coordinated with an up-to-date environmental science program. These learnings and attitudes can be learned better in the out-of-doors using outdoor laboratory methods.
- F. **PRESENT COMMERCIAL AFFILIATIONS:** None.
- G. **PROJECT OBJECTIVES:**
1. Objectives of the project:
 - a. Appreciation and understanding of the need for conservation of our natural resources.
 - b. Acquisition and development of outdoor leisure skills which stimulate a spirit of confidence to explore, enjoy and appreciate our natural environment.
 - c. To develop an appreciation of the beauty of the natural world; the development of an inquiring, observing attitude toward the fruitful earth upon which man depends.
 - d. Provide an opportunity for our children to live, work and share together to develop the social skills necessary in our society.
 - e. Provide a natural learning situation for the practical application of knowledge gained in the classroom.
 2. New instructional materials being produced: Yes. Grades 3,4, and 5.
- H. **MATERIALS PRODUCED:**
1. K-6:
 - a. Pre-trip information in Entomology and Arachnology, Geology, Orienteering and Compass, Ornithology, Living off the Land, Pond Life, Soil Analysis, Survival.
 - b. Teacher Guide.
 - c. Follow-up materials for materials listed under a.

2. 7-12: None.
3. Others: None.

I. MATERIALS AVAILABLE FREE: Project resume.

J. MATERIALS PURCHASABLE:

1. School Guide - Day Program - \$4.00 each.
2. Classroom Follow-Up Activity Material - 35¢ each.
3. Local Items:
 - a. History of the Deserted Village - 25¢.
 - b. Guide to Birds of the Watchung Reservation 1970 - 50¢.
 - c. Cooking With Gifts from Mother Nature's Garden - 50¢.

Order from Union County Outdoor Education Center, 2 Glenside Park, Berkeley Heights, New Jersey 07922.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: None.
2. Development of other materials anticipated: Expanding and updating present material.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 46.
2. Number of teachers having adopted all of the project materials: 95.
3. Number of teachers using some of the project materials: 156.
4. Total number of students using project materials: 6,000 - 7,000 yearly.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught: The entire program is conducted at the Union County Outdoor Education Center, 2 Glenside Park, Berkeley Heights, New Jersey 07922.

M. TEACHER PREPARATION:

Consultative service is available for teachers using the materials.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Spring session - 3½ months.
2. Fall session - 3½ months.
3. Total number of pupils participated in program since March 1, 1969 - 13,902.

P. PLANS FOR THE FUTURE: No additional activities planned.

Q. ERIC DOCUMENTS:

Teacher's Guide to Outdoor Education. ED 020 129

- A. PROJECT TITLE: IDES - INTERDISCIPLINARY DEVELOPMENT OF ENVIRONMENTAL STUDIES
DEAP - DYNAMICS - ENVIRONMENTAL PROJECT
- B. PROJECT DIRECTOR: Mrs. Sylvia Halpern, Head of Secondary Science,
Cranford Public Schools, Thomas Street, Cranford, New Jersey
07016. (201)272-9100
- C. PROJECT HEADQUARTERS:
1. Cranford Public Schools, Thomas Street, Cranford, New Jersey.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 15 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Richard Poston, Mrs. Jean Murphy,
Mrs. Sylvia Halpern.
2. Date and place of Initiation: October 1970 - curriculum and
instruction office.
3. Overall project purpose:
To provide on-site and off-site experiences, curricularly and
co-curricularly, to:
a. Increase awareness of community problems.
b. Teach problem solving techniques.
c. To help solve community problems.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Stated in E.3.
2. New instructional materials being produced: Yes. Grades
7-12.
- H. MATERIALS PRODUCED:
1. K-6: None.
2. 7-12: Units.
a. Soil testing - grades 7-10.
b. Water pollution - grade 9.
c. Anthropology - grade 11.
d. Film on use of water testing kit - grade 9.
3. Others: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Interdisciplinary
Science - Social Studies Syllabus.
2. Development of other materials anticipated: None.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 3.
2. Number of teachers having adopted all of the project materials: 5.
3. Number of teachers using some of the project materials: 15.
4. Total number of students using project materials: 350.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Hillside Avenue Junior High School, Hillside Avenue, Cranford, New Jersey.
 - b. Orange Avenue Junior High School, Orange Avenue, Cranford, New Jersey.
 - c. Cranford High School, West End Place, Cranford, New Jersey.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service education program for teachers using the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Hach Kit, La Motte Kit, Master Plan for Environmental Education.
6. Commercial availability of materials: Yes.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Mrs. Jean Murphy and Mr. Richard Poston, teachers primarily involved in the project.
2. Pertinent published research studies: None.

O. PROJECT SUMMARY:

1. In class, training and activities in Life Science, Earth Science, Biology, Introductory Physical Science, and Chemistry.
2. Team teaching in Home Ec and Science, Social Studies and Science.
3. Ecological Biology and Environmental Science, grades 10-12, have been added to our programs.
4. Two other new courses: Advanced Biology and Medical Laboratory Techniques have specific laboratory techniques written into their course outlines dealing with environmental education.
5. Club activities.

P. PLANS FOR THE FUTURE:

Expanding the programs to mini-unit experiences to be team taught by the four major disciplines.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION KIT FOR THE PRIMARY GRADES
- B. PROJECT DIRECTOR: Ms. Judith Zimmerman - The Committee for a Better Environment, P.O. Box 209, Holmdel, New Jersey 07733.
(201)774-8686
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originators: Members of the Committee for a Better Environment, Inc.
2. Date and place of Initiation: Spring 1971, Monmouth County, New Jersey.
3. Overall project purpose: To stimulate continuing environmental education programs in the primary grades.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
K-6: The CBE Environmental Education Kit, a multimedia trunk of materials for K-3 environmental education, including equipment for simple experiments and demonstrations, posters, books, records, a slide show, toys and games, etc.
2. Free materials available: None.
3. Materials produced that can be purchased: None at present.
4. New instructional materials being developed: None.
5. Additional materials being developed: A teacher training film to accompany the Kit.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
Six schools at a time use our materials.
- I. TEACHER PREPARATION:
A consultative service is available for teachers using our materials.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. Spring 1971 - project began.
2. Winter-Spring 1972 - Kit rested in several schools.
3. July 1972-June 1973 - Kits rebuilt and used in Federally funded program of teacher training workshops, with Kits then loaned to participating teachers. (Grant was made through Brookdale Community College, Lincroft, New Jersey).
4. July 1973 - Kits will be loaned to schools in the Monmouth County, New Jersey area.

L. PLANS FOR THE FUTURE:

1. We are investigating the possibility of producing a film for use in teacher workshops.
2. We are investigating the possibility of commercial publication of all, or a portion of, our Kit.

- A. PROJECT TITLE: EDUCATION FOR SURVIVAL: ECOLOGY IN SCIENCE AND SOCIAL STUDIES
- B. PROJECT DIRECTOR: Ruth Grubman, North Jersey Conservation Foundation, 300 Mendham Road, Morristown, New Jersey 07960.
(201)539-7540
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Upon appointment, visitors may observe classroom activities.
- D. PRINCIPAL STAFF: 1 director and 1 assistant are regularly employed, other professionals are employed as needed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Gertrude G. Tempe, Curriculum Director, Madison, New Jersey Public Schools; Helen Fenske, Executive Director (formerly), North Jersey Conservation Foundation.
 2. Date and place of Initiation: November 1966, Madison, New Jersey.
 3. Overall project purpose: To make environmental education part of the daily classroom experience, starting in the first grade and continuing thereafter.
- F. PROJECT OBJECTIVES:
1. To incorporate ecology into standard science and social studies courses in a relevant and meaningful way.
 2. To provide the teacher with the background needed: in-depth facts on specific subjects and corresponding learning activities for classroom use.
- G. MATERIALS:
1. Materials produced:
 - a. Volume I for Grades 1,2,3.
 - b. Volume II for Grade 4.
 - c. Volume III for Grade 5.
 - c. Volume IV for Grade 6.
 2. Free materials available: None.
 3. Materials produced that can be purchased: All volumes may be purchased from: Education For Survival, Department C, 300 Mendham Road, Morristown, New Jersey 07945.
 - a. Grades 1,2,3 - \$6.00.
 - b. Grade 4 - \$4.00.
 - c. Grade 5 - \$6.00.
 - d. Grade 6 - \$5.00.
 4. New instructional materials being developed: Yes. Grades 7-12.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Approximately 1,400 schools have ordered one or more of the guides. We do not know to what extent they are being used. Four schools using the materials are:

1. Branch Brook School, Ridgely Road, Smithtown, New York 11787.
2. Carlisle Area School District, 623 West Penn Street, Carlisle, Pennsylvania 17013.
3. Miller School, 850 Spencer Road, Brighton, Michigan 48116.
4. Corvallis School District #509J, 1555 W. 5th Street, Corvallis, Oregon 97330.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Time varies.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Regional workshop planned for Spring 1974.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Our materials are used in teacher training courses at the undergraduate and in-service levels. They are written for the adult. They are not elementary student textbooks.
6. Teaching materials commercially available: Guides may be ordered from the Foundation as noted in G.3.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the editor, Ruth W. Grubman - via questionnaire.
2. Pertinent published research studies: To be published when sufficient response is available.

K. PROJECT SUMMARY:

1. Development of sequential curriculum guides for grades 1-6 incorporating ecology into social studies and science.
2. Evaluation questionnaires sent out in June 1972 and June 1973. Results to be published.
3. Consulting services provided.

L. PLANS FOR THE FUTURE:

1. Additional materials for upper grades and supplemental materials for primary grades.
2. Workshops.

- A. PROJECT TITLE: RIDGEWOOD PUBLIC SCHOOLS ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Clifford E. Knapp, 49 Cottage Place, Ridgewood,
New Jersey 07451. (201)444-9600
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Resident program for 10 weeks and teacher resource materials on display.
- D. PRINCIPAL STAFF: 10 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: Clifford Emanuelson.
 2. Date and place of Initiation: 1954.
 3. Overall project purpose: Develop environmental concepts and attitudes.
- F. PROJECT OBJECTIVES:
1. To enrich classroom learning.
 2. Increase socialization skills.
 3. Provide variety in learning settings.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: 6th grade resident teacher's manual.
 - b. 7-12: None.
 - c. Other: Assorted data collection and guide sheets.
 2. Free materials available: Teacher's reference packet.
 3. Materials produced that can be purchased:
6th grade Resident Teacher's Manual - \$2.50.
 4. New instructional materials being developed: Yes. Grades 7-12.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 10.
 2. Number of teachers having adopted all of the project materials: 25-30.
 3. Number of teachers using some of the project materials: 10-15.
 4. Total number of students using project materials: 1000/yr.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used: All Ridgewood Public Elementary Schools at the 6th grade level.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

- a. Workshop: Yes. Time varies.
- b. Summer Institute: Yes. Time varies.
- c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Teacher manual for outdoor education.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. By Clifford Knapp.
- 2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

The Ridgewood Public Schools are entering the 20th year of continuous resident outdoor education and community environmental education programming.

L. PLANS FOR THE FUTURE:

Experimental programs combining humanistic education approaches with environmental education.

M. ERIC DOCUMENTS:

Resident Outdoor Education Handbook - Curriculum Guide. SE 016 967

- A. PROJECT TITLE: PRE-SERVICE TRAINING OF TEACHERS FOR ENVIRONMENTAL EDUCATION - A DEMONSTRATION MODEL
- B. PROJECT DIRECTOR: Dr. Helen B. Warrin, Seton Hall University, School of Education, South Orange Avenue, South Orange, New Jersey 07079.
(201)762-9000 Ext. 250
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Exhibits of student projects; slides; tapes; pupil involvement in cooperating schools in the area under direction of students here.
- D. PRINCIPAL STAFF: All faculty members of School of Education, together with faculty from College of Arts and Sciences.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Helen B. Warrin, Associate Professor and Dr. Albert Reiners, Director of Research, School of Education.
2. Date and place of Initiation: Summer session 1972.
3. Overall project purpose: To train undergraduates, preparing to be teachers, to carry on environmental education programs in schools of New Jersey, implementing the Master Plan for Environmental Education in the State.
- F. PROJECT OBJECTIVES:
1. To make students aware of environmental quality, values and life styles which must be developing in an effort to improve the environment.
2. To help students, through an interdisciplinary program on campus develop strategies, techniques, and styles of facilitating learning in environmental education.
- G. MATERIALS:
1. Materials produced: At the present time, we are organizing materials produced by students for exhibition in our Curriculum Library.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Not answered.
5. Additional materials being developed: Not answered.
6. Present commercial association: No. We are not engaged in producing materials, per se, for publication. The Demonstration Model for pre-service teacher training is now being developed.
- H. MATERIALS IMPLEMENTATION:
We are training pre-service teachers here to take part in carrying on environmental education programs in schools, pre-school through secondary levels.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: In our Curriculum Library.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation program available:
 - a. Workshop: Not answered.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Yes. 2 hours a week.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not yet.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Materials will be evaluated by June 1974.

K. PROJECT SUMMARY:

1. Orientation of Faculty, School of Education Junior Practicum-workshops for developing styles, strategies, techniques of facilitating learning in field of environmental education - for rehabilitation of the environment and for survival.
2. Courses (interdisciplinary nature) relating to: values clarification; mental hygiene; moral values, communication, social studies, math, science, anthropology, sociology, art and music.
3. Juniors (pilot group) in field experience in ten schools in area, carrying on environmental education projects in all classes.

L. PLANS FOR THE FUTURE:

1. Student participation in campus beautification committee work.
2. Workshop in "clarification of values and attitudes in environmental education".
3. Field trips to study sites in New Jersey.
4. Use of consultants from many fields.
5. Development of evaluation tools.
6. Lectures, demonstrations, panel discussions.
7. Workshops for teachers in cooperating schools - to prepare guides for all levels - pre-school through secondary.

A. PROJECT TITLE: IMPLEMENTATION OF THE NEW JERSEY STATE MASTER PLAN FOR ENVIRONMENTAL EDUCATION

B. PROJECT DIRECTOR: Dr. Edward J. Ambry, New Jersey Council for Environmental Education at Montclair State College, Upper Montclair, New Jersey 07043. (201)744-0362

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Reference library including audio-visual materials, periodicals, curriculum guides, and books.

D. PRINCIPAL STAFF: 14 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originator: Carl L. Marburger, State Commissioner of Education, U.S. Department of Education, Newark Board of Education.
2. Date and place of Initiation: July 1971.
3. Overall project purpose: To assist and initiate the development of environmental education programs in the state, in accord with the State's Master Plan.

F. PROJECT OBJECTIVES:

A list of 46 overall objectives has been prepared, in three components - curriculum, training, and administration. Among these are:

1. By May 31, 1974, a K-12 curriculum in environmental education will have been developed and field-tested.
2. By May 31, 1975, 70 percent of the districts in New Jersey will have installed the K-12 curriculum developed by the Project or will have installed an alternative K-12 curriculum.
3. By May 31, 1974, an undergraduate curriculum for all colleges and universities in New Jersey will have been developed in cooperation with these institutions. (If funds are available.)
4. By May 31, 1974, 40 percent of the students majoring in teacher education, in New Jersey colleges, will be prepared to teach an environmental education program in schools. (If funds are available.)
5. By May 31, 1975, colleges, industries, and other agencies will have developed environmental internships and work-study for 500 students each year.
6. By May 31, 1973, a variety of programs in environmental education for adults will have been developed and put into practice for groups such as (a) middle management employees in business and industry, (b) members of municipal agencies such as planning boards, (c) special interest citizen organizations, (d) continuing education centers, (e) Concerned Citizens Committees for environmental education (CCCs).
7. By May 31, 1975, 12,000 classroom teachers a year will have completed a training program in environmental education and will have completed some project in their classroom to improve environmental quality.

8. By May 31, 1975, 20 percent of students in New Jersey will have been involved in some community agency dealing with the environment such as conservation commissions, model cities, zoning boards, through work-study programs and independent study.

9. The Council will assist the Commissioner of Education and the Technical Advisory Committee in reviewing environmental education programs and proposals; anticipating future needs; locating resources to strengthen state efforts; and advising on methods for extending the goals of the New Jersey State Master Plan (through May 31, 1976).

G. MATERIALS:

1. Materials produced: Computer-Based Resource Units and Man and Environment T.V. Programs. Under the general heading of "Environment and the Quality of Life", the following units will become available during the 1973-74 school year:

a. Population	8-12	10/73
b. Natural Resources	K-8	10/73
c. Industrial Growth and Economic Development	8-12	11/73
d. Pollution	K-12	11/73
e. Wetlands (case study)	4-12	1/74
f. River Basin (case study)	4-12	1/74
g. A Pine Barren (case study)	4-12	1/74
h. Environmental Legislation	4-12	3/74
i. Land Use	4-12	3/74

All New Jersey teachers will be able to order CBRU's in environmental education without cost.

2. Free materials available:

- a. Resource Guide to Environmental Education.
- b. A Professional Resource Directory in Environmental Education.
- c. New Jersey School Environmental Education Survey - 1972.

3. Materials produced that can be purchased:

- a. "Man and Environment" - Volume I, published by Prentice-Hall; modular in format; topics identical to TV series - \$4.30 + shipping.
- b. Multidisciplinary Teacher's Guide - \$1.05 + shipping.
- c. In-service Guide - \$1.05 + shipping.

All orders must be prepaid. Checks payable to: New Jersey Education Association, "Man and Environment", 180 W. State Street, Trenton, New Jersey 08608. Add shipping charge of \$.50 for the complete order from an individual.

4. New instructional materials being developed: Yes. Grade level of Computer-Based Resource Units (CBRU's) varies but span K-12 levels.

5. Additional materials being developed: See G.1.

6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Introduction of materials into schools has just begun. Target group is entire public school population of New Jersey - 603 school districts, 90,000 teachers, 1.5 million students.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 session 1-1½ hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Kit - "Instructional Planning through Computer-Based Resource Units" - includes 2 filmstrips, cassette and instructional manual.
 - b. Teachers guides for T.V. programs.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By University of Buffalo, Research and Development.
2. Pertinent published research studies: Not applicable.

K. PROJECT SUMMARY:

The major areas in which the Council has been involved include:
Curriculum Development: Preparation of Computer-Based Resource Units.

1. Teacher training:
 - a. Production of introductory film "Keeping Up".
 - b. Production of instructional kits for teachers.
 - c. Assisting in arranging teacher training format in cooperation with the State Department of Education and with the N.J.E.A.
2. Community:
 - a. Cooperated in planning and participating in local and statewide meetings and conferences.
 - b. Provided advice and assistance to organization on request.
3. Adult and higher education: Cooperated with 13 colleges to offer a televised series "Man and Environment" for credit.
4. General Public:
 - a. Provided information on project activities to the media via news releases and spot announcements.
 - b. Prepared series of public service radio programs on environmental topics for a local radio station.

L. PLANS FOR THE FUTURE:

1. Preparation of additional CBRU's.
2. Continued training workshops for teachers on CBRU's.
3. Continued dissemination of program and material information in State.

M. ERIC DOCUMENTS:

1. Pace Outdoor and Environmental Education Projects, National Listing (1968). ED 024 504
2. Evaluation for Environmental Education (A Systems Analysis Approach for Self Evaluation)(1969). ED 033 801

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION LABORATORY
- B. PROJECT DIRECTOR: John B. Cox, 724 Maple S.E., Albuquerque, New Mexico 87103. (505)842-3662
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Conducted tour.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Tom Lockwood, Charles Rontro, John Cox.
 2. Date and place of Initiation: Fall 1967.
 3. Overall project purpose: To provide direct, first-hand, outdoor and indoor, environmental education learning experiences for the purpose of developing appropriate knowledges and attitudes regarding man's relationship, interdependence, and responsibility to his total living and non-living environment.
- F. PROJECT OBJECTIVES:
1. High up in the Sandia Mountains the school becomes a tree stump, the ceiling the sky, and a clear mountain trail replaces linoleum tile and concrete. Here a student can actually see lichen and its related interdependencies spreading over bare rock faces. The importance of leaving the forest floor undisturbed becomes more meaningful than the usual "Stay-off-the-Grass" municipal park sign. Thus, the word humus becomes more than just a word in a book, and its true significance becomes an observable reality.
 2. The program begins in the classroom, pre-site phase, with the discussion of concepts called "strands," which are four basic principles of life and growth presented as change, adaptation, interaction/interdependence, and varieties and similarities. The student uses the strands as a framework on which to build tangible experience, and as an image through which he can understand the interwinding of all life processes like a rope or the root system of a plant.
 3. After introducing the "strands" and how they relate to the immediate, man-made environment, the class is taken on a one-day field trip to the outdoor laboratory to study the "strands" as they relate to the various forms of life in a pristine environment.
 4. From the knowledge gained in the first two phases it is now the responsibility of the teacher and students to integrate these newly acquired knowledges and attitudes into the total curriculum of the classroom.

G. MATERIALS:

1. Materials produced:
 - a. K-6: Teacher's Guide to Environmental Education, 5th and 6th grade; slide-tape talks, introductory-color film for TV; brochure on project; soil ecology guide.
 - b. 7-12: None.
 - c. Others: None.
2. Free materials available: Brochure.
3. Materials produced that can be purchased: Teacher's Guide - \$2.00.
4. New instructional materials being developed: Yes. 5th and 6th grade.
5. Additional materials you anticipate developing: Follow up guides to Museum.
6. Teaching materials commercially available: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 79.
2. Number of teachers having adopted all of the project materials: 280.
3. Number of teachers using some of the project materials: 280.
4. Total number of students using project materials: 8500.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Montgomery Elementary School, 3315 Louisiana Blvd., Albuquerque, New Mexico 87110.
 - b. Sandoval Elementary School, Corrales, New Mexico 87048.
 - c. Sombra Del Monte, 9110 Shoshone N.E., Albuquerque, New Mexico 87111.
 - d. Cochiti Elementary School, 3100 San Isidro S.W., Albuquerque, New Mexico 87107.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day - pre-site, 1 day - on-site.
 - b. Summer Institute: Yes. 3 days - pre-site, 2 weeks - on-site.
 - c. Evening classes: 2 three hour sessions, 1 eight hour session.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Evaluation is conducted each year by the instruments as shown in objectives. Results show objectives 1 and 2 are being met in a

highly satisfactory manner, and test results of objectives 3 and 4 show an unusually high significance of .005.

K. PROJECT SUMMARY:

1. Basic, core program - 8,560 students in the top grade level of the elementary schools (5th and 6th) at the Sandia Site.
2. Self-conducted soil ecology trail (Sandia site) - 2,000 students, 70 teachers.
3. Teacher in-service training - 150 trained by the staff each year at Sandia site (400 in three years). 300 trained each year by staff and the University of New Mexico via 3 and 1 hour workshops.
4. Resident summer - 4 day resident experience, 4th, 5th, and 6th grades. 600 students during 6 week period, 35 teachers trained as counselors. (Jemez site).

L. PLANS FOR THE FUTURE:

Program will be continued.

M. ERIC DOCUMENTS:

1. Outdoor Education Center, Planning Project Report (1966).
ED 017 445
2. Albuquerque Public Schools Teacher's Guide to Outdoor Education (1968). ED 027 983

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Miss Loucinda Arviso, E/E Program, P.O. Box #248, Ramah Navajo High School, Ramah, New Mexico 87321. (505)783-5801
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. We have tape recordings of Navajo stories, some of which are transcribed into the English language. We also have a collection of plants.
- D. PRINCIPAL STAFF: The director and assistant director are regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Abraham Plummer; Ramah Navajo School Board members; Mrs. Bernice Cojo; and Mr. Julian Cojo.
 2. Date and place of Initiation: September 1972 - Ramah Navajo High School.
 3. Overall project purpose: To re-identify the central objectives of Dine Bina ntin (transference of Navajo way of life).
- F. PROJECT OBJECTIVES:
1. To re-unify the family.
 2. To re-unify the neighborhood or the extended family.
 3. To re-unify the community, and as this re-unification is being achieved, to re-establish and re-create the harmonious interaction between people and their environment.
- G. MATERIALS:
1. Materials produced: We have plants, transcribed Navajo stories, and a few rocks for the school to use.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Tapes for grades 7-12.
 5. Additional materials being developed: Pamphlets of Navajo stories and films.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
 2. Number of teachers having adopted all of the project materials: 0.
 3. Number of teachers using some of the project materials: 35.
 4. Total number of students using project materials: 120.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Ramah Navajo High School, P.O. Box 248, Ramah, New Mexico 87321.
 - b. KTBD Ramah Navajo Radio Station, P.O. Box 248, Ramah, New Mexico 87321.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not yet.
6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

We are still gathering information on the Navajos and transcribing them from the Navajo into the English language. At the same time we are starting a rock and plant collection. For the rocks, we are identifying them by both their Indian and English names and putting them aside with their various usage in the whiteman's and the Indian world. The plants are being classified similar to the rocks. We are also taking pictures. These materials are being utilized by the teachers, the students, and the people of Ramah Navajo community.

L. PLANS FOR THE FUTURE:

1. We plan to set-up cages in the field for bugs with hopes to start a bug collection. This will be for classroom use. The students will be able to find out what bugs are native to the reservation and maybe even figure out the population densities of various bugs.
2. We plan to film demonstration of consultants as we record their information so that these films and recordings would be available in the future for class use and/or for people who are interested in the type of information.
3. We are planning to publish pamphlets on Indian stories and will include pictures related to them.

- A. PROJECT TITLE: SCIENCE RESEARCH AND RESOURCE CENTER
- B. PROJECT DIRECTOR: Robert K. Maxwell, 200 W. Chisum Street, Roswell,
New Mexico 88201. (505)622-8942
- C. PROJECT HEADQUARTERS:
1. 100 West 11th Street, Roswell, New Mexico 88201.
2. Special facilities or activities available for visitor viewing: Yes. Science Galleries in Natural History Section of the Museum.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Robert K. Maxwell, Director of Federal Programs; Jerry Bowen, Science Specialist with Roswell Schools.
2. Date and place of Initiation: June 1970 - Roswell, New Mexico.
3. Overall purpose:
a. Broaden the science program of the Roswell Schools.
b. Create a Natural History Section at the Roswell Museum.
c. Provide resource personel and materials in Science for the school district.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To expand the existing science curriculum through educational experiences that are activity oriented and directed toward the development of creative and inquiring minds.
b. To offer field oriented classes in biology and geology for high school credit with courses to be taught outside of the regular school environment.
c. To provide workshops and in-service training in the earth sciences for teachers.
d. To create in each student the desire for individual investigation and expression through adequate use of the science resource center and field study.
e. To create and maintain an up-to-date reference library in the earth and life sciences for use by teachers and students.
f. To provide equipment, supplies, live material kits and displays for student and teacher use to supplement other materials.
g. To build scientific collections and exhibits in zoology, botany, geology, archaeology and paleontology for student and teacher use.
h. To provide opportunity to all children who might not otherwise be able to afford this type of experience.
2. New instructional materials being produced: Yes. Grades K-12.

- H. MATERIALS PRODUCED:
1. K-6: Portable, traveling displays in the life and earth sciences.
 2. 7-12: Same as above.
 3. Others: Educational displays located at the museum:
 - a. Botanical garden.
 - b. Geology gallery.
 - c. Archaeology displays.
 - d. Live animal displays.
 - e. Natural History gallery.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed:
 - a. Tapes of wildlife sounds for the Natural History Museum.
 - b. Series of science demonstrations to be presented via TV.
 2. Development of other materials anticipated: Additions to the Natural History Section.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 22.
 2. Number of teachers having adopted all of the project materials: 20%.
 3. Number of teachers using some of the project materials: 80%.
 4. Total number of students using project materials: Not applicable.
 5. Totals stated are estimated.
 6. Names and locations of selected schools where the course is being taught: All special science classes are taught in the museum. Guest lectures are given in all of the other schools.
- M. TEACHER PREPARATION:
1. Consultant service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Two week.
 - b. Summer Institute: Yes. Two week.
 - c. Evening classes: Yes. Student - 2½ hours, twice weekly.
 - d. Others: None.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not applicable.
 6. Commercial availability of materials: No.
- N. PROJECT EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. State Department of Education, Santa Fe, New Mexico; Director of

Title Programs for New Mexico, Santa Fe, New Mexico.

- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
See objectives under G.I.
- P. PLANS FOR THE FUTURE:
Completion of objectives.

- A. PROJECT TITLE: WAVE HILL CENTER FOR ENVIRONMENTAL STUDIES
- B. PROJECT DIRECTOR: Richard A. Macigan, 675 W. 252nd Street, Bronx,
New York 10471. (212)KI9-2055
- C. PROJECT HEADQUARTERS:
1. 675 W. 252nd Street, Bronx, New York 10471.
2. Special facilities or activities available for visitor viewing: 26 acres of landscape grounds, open April-October.
- D. PRINCIPAL STAFF: 25 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Riverdale Outdoor Laboratories, Hannah Williams, Director.
2. Date and place of Initiation: Wave Hill was incorporated in 1965.
3. Overall purpose: The purpose is to further environmental awareness in the community and in the schools.
- F. PRESENT COMMERCIAL AFFILIATIONS:
Prentice Hall has published Open Education: Alternatives Within Our Tradition by Joseph Hassett and Arlene Weisberg. \$3.95.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. The training of teachers in open classroom method of teaching, to bring environmental awareness into the schools.
b. Nature studies.
2. New instructional materials being produced: Not answered.
- H. MATERIALS PRODUCED: Not answered.
- I. MATERIALS AVAILABLE FREE:
ECOTRIP - A multi-media environmental study aid including pamphlets, articles, etc.
- J. MATERIALS PURCHASABLE: Not answered.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Self-contained slide shows on environmental topics for all levels.
2. Development of other materials anticipated: Video taping of workshops.
- L. PROJECT IMPLEMENTATION:
Course is taught at Wave Hill and N.E. Bronx Educational Park for teachers from districts.
- M. TEACHER PREPARATION:
1. Consultant service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 18 sessions.
 - b. Summer Institute: Yes. 4 weeks.
 - c. Evening classes: No.
 - d. Other: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: Yes. Educational Development Center, Newton, Mass.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Ford Foundation, EDC, Bank Street College, Lehman College.
2. Pertinent published research studies: Joseph Hassett - Open Education: Alternatives Within Our Traditions, Prentice Hall, March, 1972.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Teacher training has expanded from 30 teachers, per semester, from two school districts to 80 teachers, per semester, from five school districts.
2. Nature studies - Air and Water Pollution Workshops for area school children.

P. PLANS FOR THE FUTURE:

1. Expansion of workshop idea to include more varied subject matter.
2. Development of Hudson River Aquarium to be used in schools - illustrate water resource problems.

- A. PROJECT TITLE: PRATT INSTITUTE CENTER FOR COMMUNITY AND ENVIRONMENTAL DEVELOPMENT
- B. PROJECT DIRECTOR: Ron Shiffman, 240 Hall Street, Brooklyn, New York 11205. (212)622-5026
- C. PROJECT HEADQUARTERS:
1. Same as above.
2. Special facilities or activities available for visitor viewing: Not answered.
- D. PRINCIPAL STAFF: 7 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Ron Shiffman.
2. Date and place of Initiation: January 1963.
3. Overall project purpose: Provision of community development information, training and technical assistance.
- F. PROJECT OBJECTIVES:
1. Increase the level of public understanding, awareness and knowledge of man's relationship to his total biophysical environment.
2. Instill a pragmatic understanding of urban environmental problem solving.
- G. MATERIALS:
1. Materials produced:
a. STREET Magazine on the environment. 7-12.
b. Environmental Resource Guide.
2. Free materials available: None.
3. Materials produced that can be purchased:
a. STREET - \$5.00 per year.
b. Environmental Resource Guide - \$2.00.
Order from The Pratt Institute for Community and Environmental Development, 240 Hall Street, Brooklyn, New York 11205.
4. New instructional materials being developed: Yes. Adult level.
5. Additional materials being developed: Video training tapes on community development problems and planning strategies.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not answered.
- K. PROJECT SUMMARY: Not answered.
- L. PLANS FOR THE FUTURE: Additional activities are being planned.

- A. PROJECT TITLE: COMMUNITY AWARENESS PROJECT IN ECOLOGY
- B. PROJECT DIRECTOR: Dr. Richard Bamberger, Maple Hill Road, Castleton,
New York 12033. (518)732-7701
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Classroom with projects and students.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Warren Applegate, Richard Bamberger, Robert Cross, and Rose Dill.
2. Date and place of Initiation: September 1972.
3. Overall project purpose: To familiarize high school students with the ecological characteristics and problems of the immediate community of Castleton-on-Hudson, the adjacent river, nearby urban and rural areas.
- F. PROJECT OBJECTIVES:
As a result of this project, students should become self-activated ecologists and, hopefully, individually will have developed the following personal, social and political skills:
1. Accurately narrow and define specific goals.
2. Ability to verbalize goals once set.
3. Determine and establish modes of operation that have greatest potential of gaining goals.
4. Speak clearly and concisely at public gatherings, community group meetings.
5. Meet, discuss and work with others from varying age and socio-economic and cultural backgrounds.
6. Contact and personally meet with members of industry to discuss constructive ways of cooperative action on environmental problems.
7. Attend town and village board meetings capable of discussing issues.
8. Determine when applicable and write to state senators, Department of Environmental Conservation and other government agencies.
9. Plan and carry out educational campaigns regarding current environmental status of town and possible solutions.
- G. MATERIALS:
1. Materials produced: Copies of the two proposals, the evaluation, the newspapers, and various position papers produced by the students.
2. Free materials available: All of the above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. K-adult.
5. Additional materials being developed: None.
6. Present commercial association: None.

H. MATERIALS IMPELMENTATION:

Materials are being used in our district only:

1. Maple Hill High School, Castleton, New York 12033.
2. Maple Hill Elementary School, Castleton, New York 12033.
3. Castleton Elementary School, Castleton, New York 12033.

I. TEACHER PREPARATION: None.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. As a result of a desire to have the name of the group illustrate their goals, the students chose the name TERRA - (The Earth's Rehabilitation and Restoration Activists).
2. Public response to monthly recycling increased, requiring additional recycling days and an increase in the kinds of materials being recycled.
3. Public response to State Environmental Bond issue was very positive in our community.
4. We had numerous requests for soil and water testing through forms originally included only in the TERRA Newspaper.
5. There were many direct requests to the school for TERRA speakers. These requests came from local clubs, state agencies, educational groups, environmental groups, and political groups.
6. Our assistance with established projects was requested by several community groups.
7. Within the school community, members of TERRA were sought out as teachers to correlate environmental science in the eighth grade curriculum, doing so over a one-month period of time. In addition the middle school requested TERRA members to participate in their three-week outdoor education experience.
8. Additionally TERRA members initiated and taught environmental science throughout the year in grades 4-6.

L. PLANS FOR THE FUTURE:

Continuation of program.)

- A. PROJECT TITLE: FIVE RIVERS ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Robert E. Budliger, Game Farm Road, Delmar,
New York 12054. (518)457-6096
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: 3 self-guided nature trails.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: New York State Department of Environmental Conservation.
 2. Date and place of Initiation: June 1972 - Delmar, New York.
 3. Overall project purpose: Establish an environmental education conservation in the Albany area that will offer curricular extension to schools, provide teacher training, and offer information to the public.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced: 3 trail guides for teachers.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: Not applicable.
 4. New instructional materials being developed: Yes. For elementary grades.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 40.
 2. Number of teachers having adopted all of the project materials: 100.
 3. Number of teachers using some of the project materials: 300.
 4. Total number of students using project materials: 10,000.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Bethlehem Central School, Delmar, New York.
 - b. Guilderland Central School, State Farm Road, Guilderland, New York.
 - c. Shalmon Central School, Schnectady, New York.
 - d. Scotia-Glenville Central School, Scotia, New York.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Variable up to 10 sessions.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. First year of operation - trail programs for 15,000 students, teacher workshop for 450.
2. First three months of second year - trail programs for 7,000 students, teacher workshops for 300.

L. PLANS FOR THE FUTURE:

1. Courses in natural history, ecology.
2. Workshops for youth group leaders (4-H, Girl and Boy Scouts).
3. Evening programs for general public.

- A. PROJECT TITLE: TOTAL EDUCATION IN THE TOTAL ENVIRONMENT (T.E.T.E.)
- B. PROJECT DIRECTOR: William R. Eblen, The Masters School, Dobbs Ferry, New York 10522. (914)693-3350
- C. PROJECT HEADQUARTERS:
1. The Masters School, Clinton Avenue, Dobbs Ferry, New York 10522.
 2. Special facilities or activities available for visitor viewing: Yes. School-community action models in slide-tape form.
- D. PRINCIPAL STAFF: 5 persons employed part-time plus consultants as required.
- E. PROJECT HISTORY:
1. Principal originator: William R. Eblen.
 2. Date and place of Initiation: August 1964 - Wilton, Conn.
 3. Overall project purpose: To help learners develop an understanding of their interdependence with their total environment with an emphasis on value clarification and its role in maintaining the quality of life.
- F. PROJECT OBJECTIVES:
- To stimulate and assist in the development of cooperative programs and to facilitate the creation, adaptation and redirection of materials that serve as useful and tangible multi-disciplinary learning techniques.
- G. MATERIALS:
1. Materials produced:
 - a. K-12: The Total Environment Kit: The ABC's of the Total Environment (Student Activity Manual)(Teacher's Instruction Manual) (study prints) 3 sound filmstrips: You and the Total Environment, Communication in the Total Environment, and Using the ABC's of the Total Environment.
 - b. Adult: Paperbacks: How Many Are Too Many?, Our Troubled Waters; The World's Exhaust; Our Wounded Land; The Body Breakers; Mist of Death; The Unseen Enemy; Ecology Primer Total Education in the Total Environment; Pollution, TETE.
 2. Free materials available: Flyers, press releases, summary sheets.
 3. Materials produced that can be purchased:
 - a. Paperbacks: Academic Paperbacks, Saw Mill Road, West Haven, Connecticut 06516 (\$.95 each).
 - b. The Total Environment Kit: Stack-Vaughn Company, P.O. Box 2028, Austin, Texas 78767 (\$48.50).
 - c. T.E.T.E. Materials from T.E.T.E, The Masters School, Dobbs Ferry, New York 10522 (prices on request).
 4. New instructional materials being developed: Yes. Pre K-Adult.
 5. Additional materials being developed:
 - a. The Total Environment Approach to Learning.
 - b. The Total Environment Approach to Natural Sciences.
 - c. The Total Environment Approach to Social Sciences.
 - d. The Total Environment Approach to Language Arts and to Creative Arts.

6. Present commercial association: Yes. See G.3.

H. MATERIALS IMPLEMENTATION:

Number of schools and teachers using our materials are unknown. Names and location of schools where the program materials are being used are:

1. Arlington Junior High School, Poughkeepsie, New York.
2. Alton W. Farnsworth Middle School, Guilderland, New York.
3. Parker Farms School, Wallingford, Connecticut.
4. Rogers High School, Rogers, Arkansas.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. As required.
 - b. Summer Institute: Yes. 2 weeks.
 - c. Evening classes: No.
 - d. Other: Regional and international workshops and seminars adapted to requirements.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Background materials on Total Environment School-Community Approaches; paperbacks, booklets, games, overhead transparencies, base maps, films, resource guides, slide-tape presentations.
6. Teaching materials commercially available: Yes. See G.3.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By T.E.T.; Southern Connecticut State College; Arkansas State Department of Education; Connecticut State Department of Education; USOE Regional Workshops for all 50 States; International Conference.
2. Pertinent published research studies: "Summated rating scale results indicating attitudinal changes in teachers exposed to the Total Environment Approach during an in-service workshop (August 1969) in New Hampshire."

K. PROJECT SUMMARY:

1. N.Y.S. Council on the Arts Grant to pilot project in N.Y.S. in 4 selected communities on Hudson River between N.Y.C. and Albany.
2. Title III Grant made by Connecticut State Department of Education to expand T.E.T.E. throughout Connecticut.
3. Application of T.E. Approach in all four Connecticut State Teacher Training Colleges (EPDA Grant).
4. HRSR CLEARWATER and T.E.T.E. cooperative environmental education program developed for N.Y. pilot schools.
5. Arkansas State Department of Education funded by Environmental Education Act to establish Statewide program in T.E.T.E. Approach.

6. T.E.T.E. case study requested for inclusion in official library of the U.N. Conference on the Human Environment in Stockholm June 1972.
7. Exhibit "The ABC's of Ecology" at the N.Y.S. Museum in Albany, Transportation Building, Poughkeepsie, Hudson River Museum, Yonkers and for 9 months under sponsorship by United Nations Association of the U.S.A. at United Nations Plaza.
8. Co-sponsored seminar for prep school headmasters and faculty deans from Northeast on "Environmental and Economic Aspects of Pollution - A Multidisciplinary Approach".
9. Conducted a workshop for supervisors of the Catholic School Board of Chicago on Total Environment Approaches.
10. Co-sponsored National-Regional Total Environment School-Community Workshops for all 50 states funded by USOE.
11. Conducted a T.E.T.E. International Conference for European educators from six nations including UNESCO, IUCN and WCOTP.
12. Endorsed by World Confederation of Organizations of Teaching Profession for field-testing worldwide.
13. IUCN/WCOTP proposal submitted to United Nations Environment Program for T.E.T.E. pilot seminar in Nairobi.
14. T.E.T.E. selected to develop model program for Environment Education Center for Evergreen Valley, Maine.

L. PLANS FOR THE FUTURE:

1. Increase and expand T.E.T.E. programs nationally and field-test pilot projects internationally.
2. Create, revise, modify and adapt instructional materials.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION PROGRAM, GRADES K-8,
LIVERPOOL CENTRAL SCHOOLS
- B. PROJECT DIRECTOR: William N. Legg, Wetzell Road, Liverpool, New York 13083. (315)635-7622
- C. PROJECT HEADQUARTERS:
1. Liverpool High School, Liverpool, New York 13088. (315)635-7622
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF:
- 16 persons on workshop committee, 102 elementary teachers in training, 31 middle school teachers in training. All are regularly employed by school district.
- E. PROJECT HISTORY:
1. Principal originators: Teachers (5) - Longbranch Elementary School and Chestnut Hill Middle School, principals of these schools; middle school coordinator.
 2. Date and place of Initiation: Approved by Board of Education, August 1972.
 3. Overall project purpose:
 - a. Increase environmental awareness.
 - b. Promote concern, attitudes, and action for environmental improvement.
- F. PROJECT OBJECTIVES:
1. The student perceives the normally functioning environment.
 2. The student compares and contrasts positive and negative ways in which man has interacted with the environment.
 3. The student investigates human concern for maintaining the vital balance at work on the earth.
 4. The student demonstrates positive changes in attitude which can create a framework for action.
 5. The student analyzes man's responsibility for maintaining and protecting the environment in which he lives.
 6. The student participates in active steps to protect and restore the environment.
- G. MATERIALS:
1. Materials produced:
 - a. Environmental Education Program, Grades K-8 Guide of Activities.
 - b. Series of color slides for K-5 environmental awareness-attitudinal survey.
 - c. Two teachers have produced a $\frac{1}{2}$ year course in Environmental Studies for 11th and 12th grade students.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: Other than revisions, nothing at this time.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 9.
2. Number of teachers having adopted all of the project materials: 16-40.
3. Number of teachers using some of the project materials: 16-133.
4. Total number of students using project materials: Difficult to estimate at this time.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Longbranch Elementary School, Longbranch Road, Liverpool, New York 13088.
 - b. Chestnut Hill Middle School, Saslon Drive, Liverpool, New York 13088.
 - c. Morgan Road Middle School, Wetzel Road, Liverpool, New York 13088.
 - d. Zogg Middle School, Soule Road, Liverpool, New York 13088.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No - nothing formal.
2. In-service education program for teachers using the materials: No. Trained teachers orient others during first 15 weeks of year.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Two full weeks for the past two years.
 - b. Summer Institute: Yes. Two full weeks for the past two years.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Tapes prepared by University of Southern Connecticut for background in environmental problems.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: No. The student surveys should be of value in this area once they are properly programmed by data processing.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. During the 1971-1972 school year a committee was appointed by the Superintendent to prepare a proposal for the development of a K-12 environmental education program. This group consisted of an elementary school principal, middle school principal, science supervisor, four elementary teachers, and four secondary teachers. After several meetings the committee constructed a proposal which was submitted to the Superintendent and approved by the Board of Education in May 1972.
2. The Environmental Education Program guide was developed in August 1972 for use in two pilot schools. Following a satisfactory pilot implementation in these schools, the decision was made to

orient representative teachers in four more elementary schools and the remaining three middle schools for 1973-1974. This and the revision of the activities guide were accomplished in August 1973.

3. The unique characteristic of this program is the incorporation of all the environmental activities into the existing social studies and science programs K-8. Through this approach we have avoided the addition of another course of study to an already crowded teaching day yet have reinforced the interdisciplinary nature of environmental education.

4. In the guide, each activity has been associated with an environmental (behavioral) objective, environmental concept, and the specific unit in the social studies or science program. A number of the activities have been designed by the teachers; many have been selected from other sources because of their excellence.

5. Although this guide has been developed for our youngsters in grades K-8, we should not discount the environmental education opportunities for high school students. These include: an environmental science unit in 9th grade, I.S.C.S. science; an ecology unit in 10th grade, biology; and a $\frac{1}{2}$ year elective in environmental studies for juniors and seniors.

L. PLANS FOR THE FUTURE:

1. Additional revisions to the Guide.
2. The remaining six elementary schools will be oriented to the program.
3. The student evaluation through attitudinal survey will be refined and improved.
4. The orientation and training of new teachers will be improved.

M. ERIC DOCUMENTS:

Environmental Education Program Grades K-8, A Guide (1973).
Liverpool Central Schools. SE 016 974

- A. PROJECT TITLE: PROJECT EARTH: AIRPORTS
- B. PROJECT DIRECTOR: Susannah Lippman, Education Division, WNET/13, 304 West 58th Street, New York, New York 10019. (212)262-5582
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person full-time, 3 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Shirley B. Gillette, Director, Education Division, Donald W. Skelton, Associate Director, Education Division, WNET.
 2. Date and place of Initiation: Education Division, WNET/Channel 13, Educational Broadcasting Corporation. Fall of 1972.
 3. Overall project purpose: To enable high school students to explore and help solve environmental problems through the use of media.
- F. PROJECT OBJECTIVES:
1. Students will learn about and develop concern about environmental problems in their communities.
 2. Students will learn journalistic and filmmaking skills.
 3. Interest in environmental problems will be stimulated in the local schools and their surrounding communities.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: Two ten minute color film documentaries about the effects of airports on the New York metropolitan environment.
 - c. Other: The above films may be of interest to adults and younger children as well as high school students.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: None.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Our films will be completed in Fall 1973. Information will not be available until June 1974.
- I. TEACHER PREPARATION:
- Workshops and consultation services for teachers and students were provided to the project participants. Workshops and consultation services for teachers are available to WNET/13 participating schools as a part of our ongoing utilization services.
- J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. The Education Division of WNET/Channel 13, with a grant from the U.S. Office of Education, has undertaken a project which involves high school students in exploring and helping to solve environmental problems in the metropolitan area through the use of media.
2. Student groups from two of our member school districts, working under the guidance of WNET staff and professional film consultants have investigated the effects of airports on the environment and created film documentaries in color which will be broadcast on WNET/Channel 13. The students chose their own approach to the story. Problems considered include noise levels, air pollution, transportation problems and land use.
3. Students of Union High School in Union, New Jersey, have studied Newark Airport while their counterparts in the Great Neck Public Schools on Long Island investigated Kennedy and La Guardia Airports.
4. In addition to learning about environmental problems, journalistic reporting and the use of media, the students will be able to present their findings to school and community groups. The two film reports will be broadcast and given special publicity among the member schools of Channel 13, School Television Service, and the press and community at large. Channel 13 will provide the two participating school districts with copies of the films for their use in the schools and community. In addition, they will be used by the School Television Service in work with other school districts to encourage similar activities.
5. At this time the films are in the final stage of editing.

L. PLANS FOR THE FUTURE:

We will plan future activities if funding for them becomes available.

A. PROJECT TITLE: CLEARWATER ENVIRONMENTAL EDUCATION PROGRAM

B. PROJECT DIRECTOR: Joseph R. Phillips, 88 Market Street, Poughkeepsie, New York 12601. (914)454-7673

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. The Clearwater, the Hudson River Sloop on which the education program takes place is available for public visitation almost always. Project heads can go and see the boat or perhaps see a video tape in the office on a typical day on board.

D. PRINCIPAL STAFF:

There are approximately five or six persons involved with the project through there is only one person specifically employed in connection with it. They are on the staff in the office and on the boat. The one person employed directly for the program is the on-board educator.

E. PROJECT HISTORY:

1. Principal originators: The Board of Directors of the Hudson River Sloop Restoration.
2. Date and place of Initiation: Fall 1970.
3. Overall project purpose: To reacquaint the public, especially the school children, with the Hudson River and the problems facing it today due to industrial and municipal pollution. The project not only initiates the children in the problems but involves them in the problem solving also by making them aware that it is their responsibility to help also.

F. PROJECT OBJECTIVES:

The main objective of the project is to get people involved with cleaning up the Hudson River and Long Island Sound. Also to make them aware of the overall environmental crisis facing us today. Hopefully, by having everyone who spends a day on the Clearwater for an education program tell one or two other people about what they learned, we can have a large force of interested and educated people working together for a cleaner and healthier earth.

G. MATERIALS:

1. Materials produced:
 - a. K-6: "Songs and Sketches of the First Clearwater Crew"; "Sloops of the Hudson"; Historic Map of the Hudson; "First Annual Report on the State of the Hudson"; Videotape of Clearwater's Beacon Education Program; Film strip entitled "Clearwater; A Dream for a River".
 - b. 7-12: Same as above but include Clearwater Polluter Reports.
2. Free materials available: State of the Hudson Reports, Film strip (borrowed free). The video tape can be viewed free by administrators and teachers.
3. Materials produced that can be purchased:
 - a. "Songs and Sketches of the First Clearwater Crew" - \$3.00.

b. "Sloops of the Hudson" - \$1.50.

c. Historic Map of the Hudson - \$1.50.

All of the above items may be purchased from the Hudson River Sloop Restoration, 88 Market Street, Poughkeepsie, New York 12601.

4. New instructional materials being developed: Yes. For grades 6-12. This is a filmstrip, cassette package developed with some assistance from the Restoration and it is concerned with the Hudson River and the Valley.

5. Additional materials being developed: We will also be publishing several more Clearwater Polluter Reports. These would be for high school level.

6. Present commercial association: We have had materials published by commercial publishers and film companies but we have done the bulk of distribution.

H. MATERIALS IMPLEMENTATION: Not applicable.

I. TEACHER PREPARATION:

We are available and willing to meet with teachers and administrators who are interested in or participating in our program to work together in developing a curriculum or program for on-board Clearwater.

J. MATERIALS EVALUATION: Not applicable.

K. PROJECT SUMMARY:

1. With the assistance of local School Boards, civic groups, Parents Teachers Associations and citizens' committees, the Clearwater has been able to visit several school systems in New York, New Jersey and Connecticut during the past three seasons, carrying an on-board environmental education program geared toward getting school children acquainted with the Hudson River and some of the problems facing it today.

The basic thrust of this program is involvement at all levels because it will take the hard work and dedication of all people concerned with the fate of the Hudson, to solve the problems facing it. When Clearwater sails away, the people of the city, town or village must remember this and carry on the work that the Clearwater visit began.

From the start, the community is involved with fund-raising. Craft fairs, membership drives, festivals concerts, cake sales, raffles - all of these and many more activities have provided funds to HRSR for use of the Clearwater in an education program. It takes a well-coordinated, united effort on the part of all the people in a community to make a drive like this successful. Often bonds created during this effort are maintained and strengthened afterwards through more community projects. Clearwater representatives also meet with school administrators and teachers to determine how the on-board education program can best be worked into the curriculum of each school. Local teachers work with the HRSR staff through pre- and post-sail classroom instruction as well as participation in the sail and on-board curriculum.

Because HRSR's education program is designed to reach the maximum number of children possible, each child has one day aboard the sloop. This instills a real curiosity and excitement about the river in the mind of the child and enables the individual teachers involved to recreate, back in the classroom, the excitement the student found on Clearwater. This applies to the entire community as well. Once the sloop has left, people in the area who have become members of HRSR through the school program, keep involved through their monthly newsletter, membership sails, their local sloop clubs, and the other activities which HRSR offers.

2. The Clearwater open-air classroom enables students and teachers to touch and feel, to smell and measure the environment - the winds, the water, the fish, the sails, the plankton, and the salt spray. By first hand contact with textbook topics like fish anatomy, estuarine plant life, Early American sailing craft, and geological map reading, the Clearwater hopefully incites sensitivity to our surroundings and provokes thoughtfulness and action in response to environmental abuse.

3. This program has already been carried out successfully in several school systems including those in Tenafly, New Jersey; New Haven, Connecticut; Beacon, New York; Englewood, New Jersey; Jersey City, New Jersey; New York City Public Schools and several other systems.

L. PLANS FOR THE FUTURE:

The Sloop Restoration has already carried on one "Hudson River Reawakening Workshop" which was geared towards the high school and adult community of the Hudson River Area. Other workshops are planned for experts in various field relating to environmental sciences. The workshops will include discussions with on-board experts in Hudson ecology, biology, art, environmental problems and battles as well as sailing. Workshops planned for experts will include discussion from a fellow expert who can give the most up to date information on their area of study. For example: experts on waste water disposal and treatment will hear latest methods and suggestions for new procedures from an expert while sailing on Clearwater.

A. PROJECT TITLE: ENVIRONMENTAL STUDIES INSTITUTE OF SYRACUSE UNIVERSITY

B. PROJECT DIRECTOR: Dr. William C. Ritz, 213 Huntington Hall, Syracuse University, Syracuse, New York 13210.

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Small environmental education curriculum materials centre and reference library.

D. PRINCIPAL STAFF: 4 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originator: Dr. James R. Manwaring.
2. Date and place of Initiation: December 1969.
3. Overall project purpose: The Environmental Studies Institute (ESI) is a multi-disciplinary unit of Syracuse University which is committed to environmental education. The activities of the Institute focus on incorporating meaningful environmental education into the formal and informal educational experiences of people of all ages. Thus, the efforts of ESI are directed at the education of the general population as well as at the formal schooling of elementary, secondary and post-secondary students.

F. PROJECT OBJECTIVES: See E.3.

G. MATERIALS:

1. Materials produced:
 - a. Environmental Education pamphlet for teachers (6 titles for teachers at several different grade levels) to become available December 1973.
 - b. Syracuse Environmental Awareness Tests (SEAT) Cognitive and Affective versions for high school students, to become available January 1974.
2. Free materials available:
 - a. ESI Newsletter, published 4-6 times per year.
 - b. Other materials are primarily for local distribution to schools and organizations.
3. Materials produced that can be purchased: See G.1.
4. New instructional materials being developed: Yes. Simulations for use in biology/general science classes.
5. Additional materials being developed: EE curricular modules at several grade levels.
6. Present commercial association: No.

H. MATERIALS IMPLEMENTATION:

We work closely with a number of local schools using materials from a variety of sources:

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Not answered.
 - b. Summer Institute: Yes. 6 weeks - summer 1973.
 - c. Evening classes: Yes. Semester or summer session length.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. Not for dissemination.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Pamphlets - in-house evaluation only. SEAT: Norming study was conducted in a nine state region, northeastern states.
2. Pertinent published research: Not answered.

K. PROJECT SUMMARY:

1. Workshops for teachers.
2. Speakers service for community action groups and service organizations.
3. In-service courses for teachers.
4. "In-service Course for Secondary School Teachers of Science" (funded by National Science Foundation and directed by Dr. Daniel F. Jackson, 1970-71).
5. Programs for students, School Board members, and administrative personnel.
6. "Syracuse Environmental Awareness Tests", Levels I and II currently being prepared; Level III (high school version) now available.
7. Syracuse University Summer Conference, 1970: "The Effects of Pollution on Man".
8. The First New York State Environmental Education Conference, co-sponsored and organized by the Institute.
9. "The Unintended Consequences of Development," an instructional unit developed and presented as part of a training program for A.I.D. representatives.
10. "The Environment and a Human Future" (a sourcebook for secondary school teachers); project endorsed by the AAAS Commission on Science Education, January 1972.
11. Environmental education curriculum and reference materials library.

L. PLANS FOR THE FUTURE:

Teacher workshops and in-service institutes; development of EE curricular materials and a teacher sourcebook entitled "The Environment and a Human Future"; and additional pamphlets.

- A. PROJECT TITLE: PROJECT TO ENHANCE THE LAYMAN'S AWARENESS OF THE ENVIRONMENTAL IMPACT OF PHYSICAL, SOCIAL, AND ECONOMIC CONDITIONS UPON THE QUALITY OF LIFE IN WEST-CHESTER COUNTY
- B. PROJECT DIRECTOR: Federated Conservationists of Westchester County, Inc., Mrs. Betty Lee, Executive Director, Box 1506, Marymount College, Tarrytown, New York 10591. (914)631-8336
- C. PROJECT HEADQUARTERS:
1. Marymount College, Tarrytown, New York 10591.
 2. Special facilities or activities available for visitor viewing: Yes. FCWC has a resource center and offices staffed by executive director, secretary and volunteers.
- D. PRINCIPAL STAFF:
- FCWC has 2 full-time paid employees, an executive director and secretary, implemented by volunteers.
- E. PROJECT HISTORY:
1. Principal originators: Federated Conservationists of Westchester County executive board.
 2. Date and place of Initiation: FCWC originally submitted a similar program April 1, 1972. The program was amended and re-submitted February 20, 1973.
 3. Overall project purpose: To enhance general public awareness of environmental problems and the means available for their solution.
- F. PROJECT OBJECTIVES:
1. Activate organizations not environmentally conscious to develop an environmental component as part of their principal areas of interest.
 2. Broaden the involvement of single-purpose environmental groups.
 3. Enhance FCWC's ability to stimulate and coordinate the activities of its member organizations.
- G. MATERIALS:
1. Materials produced:
 - a. Syllabus for course "Environmental Law and the Layman" as well as reading list and materials for course.
 - b. Slide show for community on proposed local park.
 - c. Westchester Environmental Directory.
 2. Free materials available:
 - a. Calendar.
 - b. Duplicates of materials in files when request for information is received.
 - c. Access to files.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes.
 - a. The environmental law course is being taped and will be transcribed. It is suitable for use by colleges and high schools.

- b. Environmental directory for County Environmental Management Council suitable for use by all school levels.
- 5. Additional materials being developed: Inventories of Westchester watershed.
- 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

- 1. Number of schools now using entire set of materials: Unknown.
- 2. Number of teachers having adopted all of the project materials: Unknown.
- 3. Number of teachers using some of the project materials: 4.
- 4. Total number of students using project materials: 200.
- 5. Totals stated are estimated.
- 6. Names and locations of schools where the program materials are being used:
 - a. Westchester Community College, Att. Judy Glazer, 75 Grasslands Road, Valhalla, New York.
 - b. College of White Plains, Att. Dr. Marian Weigold, White Plains, New York.
 - c. Roosevelt High School, Att. Mr. Drew Panku, Yonkers, New York.
 - c. State University of New York at Purchase, Att. Dr. Utter, Purchase, New York.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: No.
- 3. Pre-service training program for teachers desiring to use the materials: No.
- 4. Kinds of teacher preparation programs available: Not answered.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. "Aids to Teachers" - title of a packet.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

- 1. Conferences and workshops on transportation.
- 2. Course: "Environmental Law and the Laymen."
- 3. Aids for teachers.
- 4. Resource center.
- 5. Instant information service.
- 6. Task Forces that inventory county watersheds and then move to preserve significant areas.
- 7. Publication of Environmental Directory.

L. PLANS FOR THE FUTURE:

- Additional activities will be carried on.

- A. PROJECT TITLE: THE AREA EDUCATION AGENCY'S ROLE IN ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Dr. Francis J. Thompson, Bldg. 6, 845 Fox Meadow Road, Yorktown Heights, New York 10598. (914)245-4009
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 9 persons employed full-time.
- E. PROJECT HISTORY:
1. Principal originators: Board of Cooperative Educational Services.
 2. Date and place of Initiation: Spring 1971. N. Westchester and Putnam counties.
 3. Overall project purpose: Project ECOS is a demonstration project utilizing a multidisciplinary team of specialists to develop a regional program in environmental education. The project attempts to foster an understanding of the complexities and problems inherent in man's relationship to his environment. More specifically, the project aims to assist schools in restructuring, so they are capable of responding to the many facets of environmental problems. In addition the schools can be used to research and monitor environmental problems and to learn to deal effectively with present regional and local environmental needs and so launch action projects.
- F. PROJECT OBJECTIVES:
1. To develop an attitude of concern in students and teachers so that they become active in environmental matters and feel responsibility to maintain and improve this environment.
 2. To teach students and teachers the complexities of environmental problems and to recognize that each solution has disadvantages as well as advantages.
- G. MATERIALS:
1. Materials produced:
 - K-6:
 - a. Environment - A Humanistic Approach \$.90. (6th grade).
 - b. Historical and Ecological Study of a River Valley \$1.00.
 - c. Environmental Studies - Air-Land-Water \$1.00.
 - 7-12:
 - a. Environmental Education - Three High School English Electives \$1.50.
 - b. Local Environmental Study \$.90.
 - c. Multidisciplinary Environmental Curriculum \$2.60. (7th grade)
 - Others:
 - a. Sense Awareness Through Environment K-12 \$4.50.
 - b. Water Monitoring Handbook (Special groups or classes).
 - c. Curriculum Guide for Air Data Collection and Plant Study Program.

2. Free materials available: None.
3. Materials produced that can be purchased: Materials listed under G.1. Make check or money order payable to Project ECOS. Send orders to Laura Higgins, Resource and Research Assistant.
4. New instructional materials being developed: Yes. Grades K-12.
5. Additional materials being developed: Computer based curricula distribution.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 20.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: 180.
4. Total number of students using project materials: 3,600.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Katonah-Lewisboro School District including: John Jay Junior High School, John Jay Senior High School, Increase Miller Elementary School, Katonah and Lewisboro Elementary Schools. New York.
 - b. Pierre Van Cortlandt Middle School, Croton-on-Hudson, New York.
 - c. Carmel School District including: Carmel High School, George Fischer Middle School, Kent Primary School, Kent Elementary School, Patterson Elementary School. New York.
 - d. Copper Beach Middle School, Route 132, Shrub Oak, New York.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 4 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 15 weeks.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Magi, Inc., 2 Bell Place, Port Chester, New York.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. Water monitoring network.
2. Model for recycling depot.

3. Air monitoring model.
4. K-12 environmental model.
5. Middle School environmental model.

L. PLANS FOR THE FUTURE:

1. Computerization of curricula.
2. Replication of two K-12 curricula.
3. Establishment of a regional recycling depot.

- A. PROJECT TITLE: SCHOOL/COMMUNITY ENVIRONMENTAL STUDIES PROJECT
- B. PROJECT DIRECTOR: Dr. Fielding L. Fry, P.O. Drawer 600, Beaufort,
North Carolina 28516. (919)728-4651
- C. PROJECT HEADQUARTERS:
1. Beaufort Central School, Beaufort, North Carolina 28516.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 14 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Will Hon.
2. Date and place of Initiation: Summer of 1971 (in-service), and 1971-72 school year.
3. Overall purpose: To create for upperclassmen a genuine alternative to the pre-conceived curriculum courses, with the hope of giving some a working knowledge of how to approach real problems and really control their own educational process in the future.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To have teachers and students create a mutually acceptable learning environment on the basis of their needs.
b. To have students explore community issues, learn critical thinking and improve communication skills.
2. New instructional materials being produced: Yes. Grades 11-12.
- H. MATERIALS PRODUCED:
No curriculum materials as such.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: None.
2. Development of other materials anticipated: Case history studies of some student-generated activities are planned as a major thrust of dissemination.
- L. PROJECT IMPLEMENTATION: No actual "curriculum".
1. Number of schools now using entire set of materials: 2.
2. Number of teachers having adopted all of the project materials: 10.
3. Number of teachers using some of the project materials: 10.
4. Total number of students using project materials: 150.
5. Totals stated are definite.
6. Names and locations of selected schools where the course is being taught:
a. West Carteret High School, Country Club Road, Morehead

- City, North Carolina.
- b. East Carteret High School, Beaufort, North Carolina
28516.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 3 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: The only effective way to disseminate seems to be the present program of revolving regular classroom teachers into project for two week internships.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the project been evaluated: Yes.
By in-house evaluator, Marshall Brooks.
2. Pertinent published research studies: Regular Title III reporting procedures, checked by program auditor.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Pre-service training - August 1971, August, 1972, June/August 1973.
2. Program started in two high schools - September 1971.
3. Photographic laboratory established - January 1972.
4. Print shop set up - June 1972.

P. PLANS FOR THE FUTURE:

Since student projects are self-determined, their nature cannot be predicted. Therefore, the program will undoubtedly explore many new avenues within its present framework and even has the capability of shifting emphases as the year's work evolves.

Q. ERIC DOCUMENTS:

Student Project Work and Abstracts.

#1 SE 016 929

#2 SE 016 930

- A. PROJECT TITLE: ELEMENTARY ENVIRONMENTAL PILOT PROGRAM: VALUES CLARIFICATION
- B. PROJECT DIRECTOR: Charles T. Vizzini, Charlotte-Mecklenburg Schools, P.O. Box 149, Charlotte, North Carolina 28201. (704)372-8620
- C. PROJECT HEADQUARTERS:
1. Charlotte Nature Museum, 1658 Sterling Road, Charlotte, North Carolina 28209. (704)333-0506
 2. Special facilities or activities available for visitor viewing: Yes. Classroom activities using environmental encounters and values clarification strategies.
- D. PRINCIPAL STAFF: 25 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Project Director and an Environmental Education Committee representing education, business, industry, students, civic groups, and government.
 2. Date and place of Initiation: July 30, 1973 - Cotswold Elementary School, Charlotte, North Carolina.
 3. Overall project purpose: Development of interdisciplinary environmental packets based on clarifying values that will lead to an awareness and a better understanding of the community and of this "space-ship" earth.
- F. PROJECT OBJECTIVES:
1. To promote in teachers and children those sensitivities, concepts, and attitudes which will help them become better aware of environmental problems and to encourage development of the competencies necessary to seek adequate solutions.
 2. To establish the valuing process as the means to establish these sensitivities, concepts, attitudes, and skills.
 3. To encourage an increased awareness by the community of local educational problems and efforts by the school system to meet these environmental education needs.
- G. MATERIALS:
1. Materials produced: K-6. Environmental Education Packets (being developed, available by July 1975).
 2. Free materials available: Project description.
 3. Materials produced that can be purchased: Information not available at this time.
 4. New instructional materials being developed: Yes. Grades 1-6.
 5. Additional materials being developed: Planetarium program: "Viewing the Earth From Space".
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
 2. Number of teachers having adopted all of the project materials: 23.
 3. Number of teachers using some of the project materials: 23.
 4. Total number of students using project materials: 550.
 5. Totals stated are definite.

6. Names and locations of schools where the program materials are being used: Cotswold Elementary School, 300 Greenwich Road, Charlotte, North Carolina 28211.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 40 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The project started in July 1973 is a two year pilot program to develop interdisciplinary material based on values clarification strategies and to be used at the elementary level. A pre-service workshop has been completed with teachers that will use material developed by them and revised as needed during the year. Written material includes a pre-test for concepts and values, and the beginnings of environmental packets which will include the hierarchy chart, several environmental encounters, values-clarification strategies, and resource references.

In addition to the meetings held with the teachers at the pilot school, the planetarium teacher for the entire system is working with sixth grade teachers to develop a program that will fit into the sequential pattern of planetarium usage and environmental education objectives.

L. PLANS FOR THE FUTURE:

Materials when completed will be made available to seven additional elementary schools within the same feeder area for continued evaluation and revising as needed. After the second year the material will be made available to all elementary schools within the system.

Pre-service and in-service workshops will be conducted as necessary for teachers and administrators for total implementation of the program.

A. PROJECT TITLE: BLADEN COUNTY COOPERATIVE ENVIRONMENTAL STUDIES PROJECT

B. PROJECT DIRECTOR: Larry F. Sessions, P.O. Box 37, Elizabethtown,
North Carolina 28337. (919)862-4136

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Not answered.

D. PRINCIPAL STAFF: 1 person regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Central office staff, interested governmental and private agencies.
2. Date and place of Initiation: July 1, 1973. Central office.
3. Overall project purpose: Selected high school juniors and seniors who indicate a desire and the ability to work in a program of investigation-oriented studies in ecological-environmental areas will develop plans (contracts) with teachers and with public or private agencies to do action research on ecological problems using the unique, natural and man-made environment of Bladen County as a classroom and subject for study. Participants in the project are expected to acquire more knowledge in the fields of language, social studies, and science, demonstrate increased critical thinking skills development, and express more positive attitudes toward learning than their peers. Success of the project will be determined by an evaluation of the project group compared with a match-paired control group.

F. PROJECT OBJECTIVES:

1. To foster increased cooperation between the school and community through ecological-environmental studies.
2. To have students who are motivated by a need for information to solve environmental problems become competent in designing an individual program of investigation and to accept responsibility for carrying it out.
3. To promote ecological and environmental studies in the schools, to alleviate local problems related to the natural and man-made environment.

G. MATERIALS: Not yet developed.

H. MATERIALS IMPLEMENTATION:

Schools where the program will occur:

1. Bladenboro High School, Bladenboro, North Carolina 28337.
2. Clarkton High School, Clarkton, North Carolina.
3. East Bladen High School, Elizabethtown, North Carolina.
4. Tar Heel High School, Tar Heel, North Carolina.

I. TEACHER PREPARATION: Not answered.

J. MATERIALS EVALUATION: Not applicable.

K. PROJECT SUMMARY:

Our project is just beginning. At the present we have been organizing teams of teachers in the four high schools that will be working in this program. We are also in the process of selecting the initial students for the project. We have been meeting with some of the cooperating agencies in the county.

L. PLANS FOR THE FUTURE:

Future activities will be based upon the success of the program as it progresses.

- A. PROJECT TITLE: ENVIRONMENTAL ECOLOGICAL EDUCATION
- B. PROJECT DIRECTOR: Richard A. Peck, 121 North King Street,
Morganton, North Carolina 28655. (704)437-3571
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Visitors can go with staff and students on outdoor activities.
- D. PRINCIPAL STAFF: Five persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Fred Cranford, Herb Stevens, Ernest Morgan. Burke County Public Schools.
2. Date and place of Initiation: September, 1971. Burke County, North Carolina.
3. Overall project purpose: This project attempts to use the entire Burke County Region to bring students, teachers, and agencies throughout the area in contact with the environment.
- F. PROJECT OBJECTIVES:
We have both evaluation objectives and content objectives.
- G. MATERIALS:
1. Materials produced:
a. K-6: None.
b. 7-12: Information packets (information, diagrams, references, glossary, objectives, tests) on various topics: landfill, noise, water, air, Linville Gorge, solid waste, sewage treatment plant, water treatment plant, history and facts of Burke County - our culture and natural resources.
2. Free materials available: Booklets on packets.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials you anticipate developing: None.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION:
These packets are supplements for teachers, not entire programs. They are used in most Burke County Public Schools.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 10 weeks each fall and spring.
b. Summer Institute: No.

c. Evening classes: No.

d. Others: None.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Teacher seminars and workshops.

2. Work with teachers and students in classrooms.

3. Presented school and community programs.

4. Instituted paper recycling in county.

5. Study of environment through canoeing, rock climbing, hiking, camping, and visits to water treatment plant, sewage treatment plant, landfill, streams, local wilderness area, and local mountain areas.

L. PLANS FOR THE FUTURE:

Activities will be similar to those described under section K except we will try a more scientific approach to data gathering and program effectiveness. We will use a three-phased approach to environmental education consisting of a totally indoor attempt, an outdoor section, and a third consisting of both indoor and outdoor components. Target population will be biology and earth science classes in the Burke County Public Schools.

M. ERIC DOCUMENTS:

Educational Experiences Program - "E.E. Experiences". SE 016 623

A. PROJECT TITLE: ENVIRONMENTAL EDUCATION CENTER - ESEA TITLE III PROJECT

B. PROJECT DIRECTOR: Dr. Laurence R. Liggett, 13 Veterans Drive,
Oteen, North Carolina 28805. (704)298-3707

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes.

D. PRINCIPAL STAFF: 7 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originator: Not answered.
2. Date and place of Initiation: July 1, 1971 - Oteen, North Carolina.
3. Overall project purpose: To foster within sixth graders in participating school populations of Western North Carolina knowledge about and positive attitudes towards the environment and man's role in the environment.

F. PROJECT OBJECTIVES:

1. To help participating sixth graders become more informed about the environment and man's relationships with it.
2. To create among participating sixth graders positive attitudes toward the environment and man's relationships with it.
3. To develop among the teachers of participating sixth graders a competence to educate their students about the environment and man's relationships with it.

G. MATERIALS:

1. Materials produced:
 - a. Deer Lake Environmental Studies Guide - \$3.00.
 - b. Developing On-Site Nature Trails - \$1.50.
 - c. Art is a Way of Living - \$1.50.
 - d. Change: Environmental Social Studies Guide - \$2.00.
 - e. Earth Bound: Communications in Environmental Education - \$.75.
 - f. Environmental Education: An In-Service Workshop - \$.75.
 - g. Exploring the Nature of Language - \$2.00.
 - h. Heighten Student Interest in Science - \$2.00.
 - i. Population: A Position Paper on Population - \$2.00.
 - j. Environmental Education Bibliography - \$.50.
 - k. Environmental Education: Instructional Media - \$.50.
 - l. Air Pollution - \$.75.
 - m. America Runs on Electricity - \$.75.
 - n. City Planning - \$.75.
 - o. DDT in the Food Chain - \$.75.
 - p. Ecosystems - \$.75.
 - q. Energy Crisis - \$.75.
 - r. Flower Power - \$.75.
 - s. Gentle Living - \$.75.
 - t. The Grocery Bag as a Pollution Package - \$.75.
 - u. Have You Thanked a Green Plant Today? - \$.75.
 - v. The History of Population Growth - \$.75.

- w. Solid Waste: Everyman's Pollutant - \$.75.
- x. Thermal Pollution - \$.75.
- y. Using Land Environmentally - \$.75.
- z. Water Pollution: Where Does It All Come From? - \$.75.
- 2. Free materials available: A periodic newsletter.
- 3. Materials produced that can be purchased: The above materials can be purchased from the Environmental Education Center. Make checks payable to the Center.
- 4. New instructional materials being developed: Yes. 6th graders.
- 5. Additional materials being developed: None.
- 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION: Not answered.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 33 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: In-classroom programs - a cooperative program between the staff of the Environmental Education Center and the participating teachers. Usually for six weeks.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. By Carolina Educational Consultants, Rt. 6, Box 284, Chapel Hill, North Carolina 27514.
- 2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

- 1. Teacher education.
- 2. Community education.
- 3. University course in environmental education for teachers.
- 4. School in-service, renewal credit courses.
- 5. Resource center; audio-visuals.
- 6. Reference center.
- 7. Curriculum development in general environmental education.
- 8. Program development in topics of pollution.
- 9. Regional consultant service.
- 10. A regional community coordinating agency.
- 11. Classroom instruction.
- 12. Information dissemination agency.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: SUPPLEMENTARY EDUCATIONAL CENTER
- B. PROJECT DIRECTOR: Mrs. Nancy L. Raynor, 1636 Parkview Circle,
Salisbury, North Carolina 28144. (704)636-3462
- C. PROJECT HEADQUARTERS:
1. 1636 Parkview Circle, Salisbury, North Carolina 28144.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Public school representatives and local citizens.
2. Date and place of Initiation: July 1967. 14 North Ellis Street, Salisbury, North Carolina.
3. Overall project purpose: To provide innovative and exemplary experiences in Nature Studies and Natural Science, Local and Regional History, Visual Fine Arts, and Space Science.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To advance creativity in education and to provide varied and unusual experiences and programs in the areas listed above.
2. New instructional materials being produced: Yes. K - college and adults.
- H. MATERIALS PRODUCED: Not applicable.
- I. MATERIALS AVAILABLE FREE:
Resource materials on loan to teachers in preparation for program.
- J. MATERIALS PURCHASABLE: Not applicable.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: 16mm film, 8mm film, and video tapes for our own personal use.
2. Development of other materials anticipated: Same as above.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of programs: 42.
2. Number of teachers having adopted all of the project programs: 600.
3. Number of teachers using some of the project programs: 700.
4. Total number of students using project programs: 22,000.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
a. Rowan County Schools Administrative Unit, East Spencer, North Carolina.

- b. Davie County Schools Administrative Unit, Mocksville, North Carolina.
- c. Salisbury City Schools Administrative Unit, 314 North Ellis Street, Salisbury, North Carolina.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Some on daily basis, others 16-32 hours.
 - b. Summer Institute: Yes. 16-32 hours.
 - c. Evening classes: Yes. 2-3 hours.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Resources for all areas listed earlier.
6. Commercial availability of materials: All leading school suppliers.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
 - a. The State Department of Public Instruction.
 - b. School Administrators and Community Leaders.
2. Pertinent published research studies: Not applicable.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. The Center serves all the public and private schools in the Rowan-Davie area and other schools also.
2. Three colleges, Catawba, Livingstone, and Pfeiffer use the Center. Student teachers attend workshops here.
3. A Nature Area of approximately 35 acres is a part of the Center offering many opportunities for the study of biology, conservation, environmental problems, reforestation, and related subjects.
4. Local and Regional History receive much emphasis.
5. Astronomy is better understood through the use of the Planetarium and the Observatory.

P. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: ENVIRONMENTAL/ECOLOGICAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Mrs. Alene Gravitt, Yadkin Valley Economic Development District, Inc., P. O. Box 328, Boonville, North Carolina 27011. (919)367-7251
- C. PROJECT HEADQUARTERS:
 1. P. O. Box 417, Walnut Cove, North Carolina 27052. (919)591-4391
 2. Special facilities or activities available for visitor viewing: Yes. Nature trails--Outdoor Learning Centers.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
 1. Principal originators: Jimmie R. Hutchens, Roy L. Thomasson.
 2. Date and place of Initiation: 7/71-9/72. Stokes County, NC.
 3. Overall project purpose: Develop an experimentally oriented environmental education curriculum.
- F. PROJECT OBJECTIVES:
 1. To coordinate present and future environmental efforts in the local area.
 2. To develop an experimental curriculum for grades 4, 7, and 10.
 3. To conduct in-service training for teachers.
- G. MATERIALS:
 1. Materials produced:
 a. K-6: Teachers Guide-Grade 4, Student Guide-Grade 4.
 b. 7-12: Teachers Guides-Grades 7 and 10, Students Guide-Grade 7 and 10.
 c. Community Awareness Guide.
 2. Free materials available: All of the above.
- H. MATERIALS IMPLEMENTATION:
 1. Number of schools now using entire set of materials: 9.
 2. Number of teachers having adopted all of the project materials: 45.
 3. Number of teachers using some of the project materials: 12.
 4. Total number of students using project materials: 1995.
 5. Totals stated are definite.
 6. Names and locations of schools where the program materials are being used:
 a. Nancy Reynolds School, Westfield, N.C. 27052.
 b. Walnut Cove Grammar School, Walnut Cove, N.C. 27052.
 c. Lawsonville School, Lawsonville, N.C.
 d. Sandy Ridge School, Sandy Ridge, N.C.
- I. TEACHER PREPARATION:
 1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: No.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. 1 day.

b. Summer Institute: No.

c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By the N. C. Department of Public Instruction and by the EPA.

2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. Publication of Teachers and Students Guides-Grades 4, 7, and

10.

2. Community Clean-up Projects.

3. Completion of nature trails at local high schools.

4. Project ended September 30, 1972.

L. PLANS FOR THE FUTURE:

No additional activities planned.

M. ERIC DOCUMENTS:

1. Teachers Guide - Ecology - Grade 4. SE 016 626

2. Teachers Guide - Ecology - Grade 7. SE 016 627

3. Teachers Guide - Ecology - Grade 10. SE 016 628

- A. PROJECT TITLE: ENVIRONMENTAL SCIENCE STUDY CURRICULUM (ESSC)
- B. PROJECT DIRECTOR: Wende Allen, ESEA Title III, P.S. Jones Junior High School, Bridge Street, Washington, North Carolina 27889.
(919)946-8266
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
 - a. Classes in which our curriculum materials are taught.
 - b. Environmental studies resource center (films, books, etc.)
 - c. Workshops for teachers who would like to become familiar with our materials and methods for their own use.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Martha Ramsey, Wende Allen, William Moffitt, III.
 2. Date and place of Initiation: July 1, 1971 - P.S. Jones Junior High School, Washington, North Carolina.
 3. Overall project purpose: To develop, test, and disseminate environmental science curriculum materials, primarily in the form of 12-week courses for secondary schools, that will create in students an awareness, interest, and knowledge of environmental interrelationships and equip them with the skill necessary to formulate opinions, make decisions, and initiate change which considers those interrelationships in light of the natural balance.
- F. PROJECT OBJECTIVES:
1. Continuing objectives follow the project purpose described above.
 2. In-service workshops are being planned to assist other school systems in the adoption of our curriculum materials.
 3. New instructional materials will be developed, tested, and made available.
- G. MATERIALS:
1. Materials produced: 7-12 Curriculum guides for 12 week courses.
 - a. Conservation of North Carolina's Natural Resources.
 - b. Water Quality Control.
 - c. Ecological Investigations.
 2. Free materials available: The curriculum guides are all free.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Secondary grades.
 5. Additional materials being developed: Four or five additional mini-courses (12 week) for environmental science.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
 2. Number of teachers having adopted all of the project materials: 3.

3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 400.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used: Some of our curriculum materials have been distributed but we have no information concerning their usage.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Time varies to suit individual needs.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: We feel the curriculum guides are completely self-explanatory.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Internal evaluation by teachers who developed and implemented the materials; external evaluation by Carolina Educational Consultants, Box 284, Chapel Hill, North Carolina.
2. Pertinent published research studies: Not applicable.

K. PROJECT SUMMARY:

1. Three 12-week courses have been made available in the form of teacher's guides.
2. Four more 12-week courses are now being developed (two of these have already been tested in the classroom).
3. We have changed one school's eighth and ninth grade science program from Earth Science/Physical Science to a series of 6-week mini-courses that students choose 6 from 18 courses offered within a year's time.
4. There is available upon request a description of the philosophy and strategy employed in ESSC.

I PLANS FOR THE FUTURE:

1. More emphasis on teacher-preparation for the adoption of our curriculum materials by other school systems.
2. We intend to actively seek supervisors and teachers to attend 1½-day workshops at our school to observe Project ESSC in the classroom and obtain all necessary information about costs, strategy, and materials necessary for course implementation.

M. ERIC DOCUMENTS:

1. The Conservation of North Carolina's Natural Resources. SE 016 441
2. Ecological Investigations, Curriculum Guide. SE 016 415
3. Water Quality Control, Curriculum Guide. SE 016 416

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION - DISSEMINATION TO RURAL TARGET POPULATION
- B. PROJECT DIRECTOR: David E. Walsh, Box 2691, Fargo, North Dakota 58102. (701)237-7711
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 4 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: David E. Walsh, D. Scoby.
2. Date and place of Initiation: Summer 1972.
3. Overall project purpose: Set up Environment-Population booths at local and regional fairs.
- F. PROJECT OBJECTIVES:
Disseminate information and speak with rural people of environment-population problems of local areas.
- G. MATERIALS:
1. Materials produced:
a. Film and handouts.
b. Set of slides depicting North Dakota ecological problems.
c. Display of environmental/population data.
2. Numerous handouts, bumper stickers on a wide variety of topics.
3. Materials produced that can be purchased: Suggestion to Practice Ecology at Home.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
A series of booths were run at local, county, and regional fairs. Information, slide show and personal explanations were used to disseminate information on the rural environment, population and ecology.
- L. PLANS FOR THE FUTURE:
No additional activities are planned.

- A. PROJECT TITLE: ROBINSON ENVIRONMENTAL CENTERS
- B. PROJECT DIRECTOR: Brian G. Williams, 1156 Fourth Avenue, Akron,
Ohio 44306. (216)253-5664
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Home and practical arts laboratories.
- D. PRINCIPAL STAFF: 15 - directly employed, 17 - indirectly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Lloyd W. Dull, Assistant Superintendent, Curriculum and Instruction; Mrs. Jeanne S. Wahl, Executive Director of Specialized Education.
2. Date and place of Initiation: February 1971 - Akron, Ohio.
3. Overall project purpose: To totally effect the educational opportunities for a select inner-city population in one of Akron's largest elementary schools.
- F. PROJECT OBJECTIVES:
1. To field test the feasibility of mingling funds from several sources so as to totally meet student needs.
2. To improve student achievement in the reading and math areas measured by pre- and post-testing youngsters.
3. To implement a curriculum emphasizing the involvement of pupils.
4. To implement a multifaceted parent education and involvement program.
- G. MATERIALS:
1. Materials produced: K-6: Curriculum Conspectus Reports for six subject areas - Movement Education, Math-Science, Language Arts, Fine Arts, Home Arts, Practical Arts. Available in spring 1974.
2. Free materials available:
a. Brochures.
b. Filmstrip - a descriptive 43 frame filmstrip may be borrowed upon request.
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: Yes. Grades 2-6.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
The project staff only and 450 project pupils are using the materials.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
Annual reports to Title III are the only available research reports.

K. PROJECT SUMMARY:

1. Since February, 1971, Title III, of the Elementary Secondary Education Act of 1965 has financed a project locally known as the Robinson Action Program or R.A.P. Much as happened at Robinson Elementary School since that time.
2. Funded as an exemplary program for a three-year period by Title III of the Elementary Secondary Education Act (E.S.E.A.), the project employs new approaches for staff utilization, curriculum development, modification of pupil behavior, utilization of physical plant and the involvement of parents and the community.
3. An evaluation design which monitors achievement gains of pupils is being implemented. This design also involves teachers in an accountability process and reports pupil, teacher and parent changes in attitude as these attitudes relate to the school.
4. The third and final year of direct Title III funding began February 1, 1973. The major program components will be continued with funds from other local sources.

L. PLANS FOR THE FUTURE:

1. Continue implementation of curriculum components.
2. Final achievement testing.
3. Final attitude assessment.
4. Phase out local funds.
5. Submission of Curriculum Conspectus Reports in each subject

Report of conclusions to the Office of Title III.

- A. PROJECT TITLE: OUTDOOR EDUCATION CENTER
- B. PROJECT DIRECTOR: Robert C. Terwillegar, 723 Floral Avenue,
Terrance Park, Ohio 45174. (513)831-0147
- C. PROJECT HEADQUARTERS:
1. Shawnee Elementary School, 6100 Drake Road, Indian Hill,
Cincinnati, Ohio 45243. (513)561-8686
2. Special facilities or activities available for visitor view-
ing: Yes. 170 year old historic building. Currently, plans are
being made for the remodeling of this building for student use.
Lovely site, exhibits, and some classes may be visited.
- D. PRINCIPAL STAFF: 1 teacher (elementary science coordinator), and
1 volunteer from the community to direct the program; plus
teachers with their classes, and other volunteers from the com-
munity.
- E. PROJECT HISTORY:
1. Principal originators: Superintendent, a board member, and
present director.
2. Date and place of Initiation: May 1969 - Outdoor Education
Center.
3. Overall purpose:
a. Teaching facility in the out-of-doors for investigation,
experimentation, direct involvement of the children in
nature related activities of the curriculum, outdoor
science, math, art, music.
b. Social studies using pioneer and early farming tools and
homemaking equipment in our 170 year old building.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E-3.
2. New instruction materials being produced: Yes. Handouts
for teachers and students for use at or in activities related
to the center.
- H. MATERIALS PRODUCED: Not applicable.
- I. MATERIALS AVAILABLE FREE: Not applicable.
- J. MATERIALS PURCHASABLE: Not applicable.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Not applicable.
- L. PROJECT IMPLEMENTATION: Not applicable.
- M. TEACHER PREPARATION: Not applicable.
- N. PROJECT EVALUATION: None.
- O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:
A 40-acre camp has been secured. Some buildings have been removed,
others repaired or remodeled. Nature trails have been constructed,
teaching sites established, tree plantings and gardens started,

wildlife areas designated, maps made, and a teaching museum initiated. Classes from our four elementary schools visit the center regularly. Some classes establish study plots and re-visit all year. Each child will have the opportunity to do plot study during the upper elementary grades. Use occurs all year, but is heaviest in the spring. Some teams of more than 100 children spend all day at the center although groups as small as 10 have come. As many as 200 have come at one time for special events such as spring plowing.

Our activities are limited only by the physical characteristics of the site. We will plan and work on any activities a teacher might wish to try. A crew of trained volunteer leaders (parents and friends from the community) assist in leading small groups. We have worked with plants, animals, water, forest and field communities, birds, conservation, math, compass, mapping, farming, seasons, weather, history, art, music, physical education, and others. A high-school biology seminar uses the site regularly for field and pollution studies throughout the year.

Summer classes in outdoor science in the regular summer school curriculum are based at the site. The high-school summer school biology class has used the facility. Workshops for teachers are held occasionally and two university classes in outdoor education have met at the site.

P. PLANS FOR THE FUTURE:

We plan to continue to develop the site and the program along the lines previously suggested. We have established a library of resource materials in outdoor education for teachers and need to institute circulation procedures. We are working on integrating our offerings more specifically into the curriculum of each school. We are also considering a program that would include some high school students who would learn to work with the younger students.

- A. PROJECT TITLE: CUYAHOGA HERITAGE
- B. PROJECT DIRECTOR: Joseph Chadbourne, President, Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio 44106.
(216)231-5010
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Visitors welcome to visit school activities relative to their area of special interest.
- D. PRINCIPAL STAFF: 7 persons full-time, up to 10 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Joseph Chadbourne, Alan McGowan, Dr. Peter Gail, Thomas W. Offutt.
 2. Date and place of Initiation: June 30, 1972.
 3. Overall project purpose:
 - a. Working models of school programs pursuing community investigations in environmental education.
 - b. A national demonstration project for school systems in dissemination of experiences in the model school programs.
- F. PROJECT OBJECTIVES: Achieving our overall purpose.
- G. MATERIALS:
1. Materials produced:
Curriculum Activity Guide to Water Pollution and Environmental Studies. Grades 7-12.
 2. Free materials available: Descriptive brochure. See 3.b.
 3. Materials produced that can be purchased:
 - a. A Curriculum Activities Guide to Water Pollution and Environmental Studies, Volumes I and II. Written by teachers and students and based on results of summer programs. Available from Superintendent of Documents, Government Printing Office, Washington D.C. 20402.
 - b. "Come Learn With Me," a 16mm, 14 minute sound movie in color, produced by the U.S. Environmental Protection Agency in conjunction with the Cleveland Institute for Environmental Education. Shows teachers how the Cuyahoga project works and how they may start similar programs in their school districts. Prints of the film are available free on loan from Modern Talking Pictures, Inc., 160 East Grand Avenue, Chicago, Illinois 60611.
 4. New instructional materials being developed: Yes. Grades 5-12.
 5. Additional materials being developed: None.
 6. Present commercial association: Curriculum Activities Guide has been published by EPA through the Government Printing Office.
- H. MATERIALS IMPLEMENTATION:
- There is no way to determine this nationally as Government Printing Office distributes our materials. There are over 1,100 students in north east Ohio who are in this project.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 days.
 - b. Summer Institute: Yes. 6 weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Teaching materials commercially available: They will be available from us.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the teachers.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

In the first year of implementation Cuyahoga Heritage has involved over 1100 teachers and students from elementary and secondary schools throughout the 813 square mile watershed of the Cuyahoga River in explorations of their immediate environment. Seeking a working knowledge of the world around them, Project participants are initiating studies of their home, school, and community environment. They are learning to use professional and career skills as meaningful tools to help them understand contemporary issues that affect us all.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: LIFE SCIENCE INVESTIGATIONS: MAN AND THE ENVIRONMENT
- B. PROJECT DIRECTOR: Gary Day, Educational Research Council of America,
614 W. Superior Avenue, Rockefeller Bldg. 312, Cleveland, Ohio
44113. (216)696-8222
- C. PROJECT HEADQUARTERS:
1. Same as B.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None. This project has been completed.
- E. PROJECT HISTORY:
1. Principal originators: Science Department - Educational Research Council of America.
2. Date and place of Initiation: September 1966 - Cleveland, Ohio.
3. Overall purpose: To develop for teachers and learners, materials and strategies which would assist the latter in developing their "understanding of the world of living things and a greater ability and desire to investigate their environment."
- F. PROJECT OBJECTIVES:
As a result of their experiences in the program learners should:
1. Demonstrate an inquiry approach to biology and be able to design and carry out simple experiments with living organisms.
2. Understand the interaction between living organisms and their physical environment. They should recognize the complexities of ecological situations.
3. Be able to separate fact from opinion in a controversial ecological problem and state what social responsibilities are involved.
4. Be aware of individual variation in man and other organisms and recognize the uniqueness of each living thing. For example, they ought to predict that not all the organisms in a population will respond in the same way to a contaminant added to the environment.
- G. MATERIALS:
1. Materials produced: Life Science Investigations: Man and the Environment - Grades 7-8.
a. Student Edition - \$5.40.
b. Instructional Guide - \$5.85.
c. Checkpoint (for evaluation) - \$.96.
d. Checkpoint Solution Key - \$.96.
Four Games and Simulations.
a. "The Mouse in the Maze" - \$6.42.
b. "The Planet Management Game" - \$12.75.
c. "The Redwood Controversy" - \$7.95.
d. "The Pollution Game" - \$9.75.
Available from Houghton Mifflin Company.
Computer programs in BASIC available from ERC for the simulations Mouse in the Maze (MAZLER) and Planet Management (PLANMA). Both are \$8.00.

2. Free materials available: None.
3. Materials produced that can be purchased: See G.1.
4. New instructional materials being developed: Yes. For grades 7-8.
5. Additional materials being developed: A role playing game about strip mining and a simulation of photosynthesis.
6. Present commercial association: Houghton Mifflin Company, 110 Tremont Street, Boston, Massachusetts 02107.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 1,000.
2. Number of teachers having adopted all of the project materials: 2,500.
3. Number of teachers using some of the project materials: 9,000.
4. Total number of students using project materials: 105,300.
5. Totals stated are estimated (1 & 3), definite (2 & 4).
6. Names and locations of schools where the program materials are being used:
 - a. Ballard Junior High School, 1601 Chicago Road, Niles, Michigan 49120.
 - b. Lewis F. Mayer Junior High School, 21200 Campus Avenue, Fairview Park, Ohio 44126.
 - c. North Olmsted Junior High School, 27351 Butternut Ridge Road, North Olmsted, Ohio 44070.
 - d. Bay Village Middle School, 22727 Wolf Road, Bay Village, Ohio 44140.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Text and teacher's guide.
6. Teaching materials commercially available: Yes. Houghton Mifflin Company.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Educational Research Council of America.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

The program and other related materials have been available commercially since 1971. The program is presently undergoing major revision for a 1976 copyright.

L. PLANS FOR THE FUTURE: Major revision.

- A. PROJECT TITLE: INTERNATIONAL FIELD STUDIES
- B. PROJECT DIRECTOR: Walter B. Bohl, Capital University, 680 College Avenue, Columbus, Ohio 43209. (614)236-7179
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons employed full-time, 25-30 employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Walter B. Bohl, David Hall, Herbert Linzell, Robert McBurney.
 2. Date and place of Initiation: July 14, 1970 - Columbus, Ohio.
 3. Overall project purpose:
 - a. To provide opportunities for students to learn about their environment, in all disciplines, through direct field experiences.
 - b. To provide the structure for developing an intensive field study program with competent leadership.
 - c. To promote educational and scientific activities through direct field experiences.
 - d. To cooperate with school systems so that students may receive academic credit for field studies.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: Taxonomic Guide to the Invertebrates of Andros Island, Bahamas.
Road Guide to the Geology, Soils, and Vegetation on I-75 from Columbus, Ohio to Florida.
 - c. Other: None.
 2. Free materials available: Materials are available to those taking the field trips.
 3. Materials produced that can be purchased: Both guides are available for the price of copying.
 4. New instructional materials being developed: Yes. College and secondary schools.
 5. Additional materials being developed: Geologic guides to Andros Islands and to selected national parks.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 70.
 2. Number of teachers having adopted all of the project materials: 400.
 3. Number of teachers using some of the project materials: 400.
 4. Total number of students using project materials: 2,500.
 5. Totals stated are estimateu.

6. Names and locations of schools where the program materials are being used:

- a. Newark High School, Building C, Newark, Ohio 43055.
- b. Norton Middle School, 215 Norton Road, Columbus, Ohio 43228.
- c. The Kinkaid School, 201 Kinkaid School Drive, Houston, Texas 77024.
- c. Lexington High School, Lexington, Ohio 44904.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: Limited.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Limited.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Over the past year we have been involved in approximately 150 field trips to month long cross country and foreign study trips. Trip activities have included cultural studies, physical education activities (cycling, canoeing, caving, etc.) as well as science education activities - geology, ecology, marine biology, and fresh water biology.

L. PLANS FOR THE FUTURE:

1. Develop further our Andros Island marine biology site.
2. Develop a marine biology site at Grand Caymen Island.
3. Develop an itinerary for Ireland Studies.
4. Develop site for Spain Studies.
5. Expand field trip opportunities and make field trip experiences available for more students.

M. ERIC DOCUMENTS:

International Field Studies - A Bahamian Government Report,
August 1973. SE 017 064

- A. PROJECT TITLE: AULLWOOD AUDUBON CENTER - A FACILITY OF THE NATIONAL AUDUBON SOCIETY
- B. PROJECT DIRECTOR: Paul E. Knoop, Jr., 1000 Aullwood Road, Dayton, Ohio 45414. (513)890-9372
- C. PROJECT HEADQUARTERS:
1. 1000 Aullwood Road, Dayton, Ohio 45414.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 7 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: A gift of land and endowment from Mrs. John Aull to National Audubon Society.
2. Date and place of Initiation: November 1, 1957.
3. Overall project purpose:
a. An environmental education center with resident staff of teacher-naturalists.
b. Programs and staff assistance provided on-site as well as in local schools primarily working with children and teachers in area of environmental education.
c. An experimental center for developing and testing experimental programs.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E.3.
2. New instructional materials being produced: Yes. K-adult.
- H. MATERIALS PRODUCED:
Many materials are given to teachers of groups visiting the Center to be used as a follow-up to the things they saw while visiting the Center.
- I. MATERIALS AVAILABLE FREE: Not answered.
- J. MATERIALS PURCHASABLE:
A Book Store with the very latest in natural history, environmental books, chart, pamphlets, prints, study cards, etc., is open at the Center.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.
- L. PROJECT IMPLEMENTATION:
We don't deal with materials as much as with personal contact with teachers, administrators and students. Materials are an adjunct to this personal contact. Schools where we are working intensively include:
1. Edison Elementary School, 228 N. Broadway, Dayton, Ohio.
2. Shoup Mill School, 450 Shoup Mill Road, Dayton, Ohio.

3. Highview School, 2101 McArthur Avenue, Dayton, Ohio.

M. TEACHER PREPARATION:

1. Consultative service available for teachers: Yes.
2. In-service education program for teachers: Yes.
3. Pre-service training program for teachers: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day - 2 weeks.
 - b. Summer Institute: Yes. 2 weeks.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Visitation by school groups continues to be an important service of the Center.
2. Considerable time and effort was devoted to work with our three Ford Target Schools in Dayton - Shoup Mill, Edison and Highview.
3. The Saturday Audubon Explorer program for 5th and 6th grade children was available throughout the school year.
4. Summer workshops for teachers and youth leaders are held.
5. Two week environmental education workshops have been conducted in cooperation with Wright State University and Miami University.
6. A 13-week Naturalist Training Program continues to attract far more applicants than can be accepted.
7. Many special meetings have been conducted at the Center.
8. Many special community services have been provided by the Center staff.

P. PLANS FOR THE FUTURE:

1. Development of study kits that teacher and students can use on our site or at a local park.
2. Work within schools with administrators and teachers in developing an effective environmental education program that any teacher can use.

A. PROJECT TITLE: MADISON OUTDOOR EDUCATION

B. PROJECT DIRECTOR: Terry L. Wilson, 666 Gilbert Avenue, Mansfield,
Ohio 44907. (419)756-9444

C. PROJECT HEADQUARTERS:

1. 1515 Grace Street, Mansfield, Ohio 44905. (419)589-2600.
2. Special facilities or activities available for visitor viewing: Camp Avery Hand - in springtime.

D. PRINCIPAL STAFF: 2 persons regularly employed in spring.

E. PROJECT HISTORY:

1. Principal originators: Terry and Mary Beth Wilson.
2. Date and place of Initiation: March 1970.
3. Overall project purpose: To give an appreciation of nature and a base of comparison between the natural and man-made environments of our community.

F. PROJECT OBJECTIVES:

1. To give students an opportunity to gain first-hand knowledge of a natural environment.
2. To show the necessity of conservation and resource management.
3. To acquaint students with nature's way of solving its environmental problems.

G. MATERIALS:

1. Materials produced: Student Workbook - 6th grade.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: Student Workbook - \$1.00. Purchase from director.
4. New instructional materials being developed: Yes. Teaching modules for grade six.
5. Additional materials being developed: Video-tapes, slide presentations.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 6.
2. Number of teachers having adopted all of the project materials: 19.
3. Number of teachers using some of the project materials: 25.
4. Total number of students using project materials: 600.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Madison Elementary School, 1515 Grace Street, Mansfield, Ohio 44905.
 - b. Lincoln Heights School, Grace Street, Mansfield, Ohio 44905

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Behavioral objectives.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

We have a four-day day camp for 6th graders. During this time the students participate in 10 different activities. These are summarized below.

1. Group nature hikes.
 - a. Bird study.
 - b. Soils and conservation.
 - c. Plant life.
2. Individual Exploratory Activities.
 - a. Stream and pond hunt.
 - b. Rock hunt.
 - c. Math hike.
 - d. Field and woods "Hula Loop Hike".
 - e. Weather.
3. Observations hikes.
 - a. Abandoned farm expedition.
 - b. Senses hike (acclimatization).

L. PLANS FOR THE FUTURE:

No additional activities are planned.

M. ERIC DOCUMENTS:

Madison Outdoor Education Student Textbook. SE 016 976

- A. PROJECT TITLE: MOHICAN SCHOOL IN THE OUT-OF-DOORS
- B. PROJECT DIRECTOR: Ronald Reed, Box 150, Route #2, Perrysville,
Ohio 44864. (419)938-8621
- C. PROJECT HEADQUARTERS:
1. McCurdy Road - Route #2, Perrysville, Ohio 44864.
2. Special facilities or activities available for visitor viewing: Yes. Program in general.
- D. PRINCIPAL STAFF: 3 persons employed full-time, 5 part-time.
- E. PROJECT HISTORY:
1. Principal originators: Ronald Reed; D. D. Rummel, Local Superintendent; Richard Porter, County Supervisor.
2. Date and place of Initiation: 1965. Richland County.
3. Overall purpose: Environmental-Outdoor Education Resident Setting.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. First hand learning.
b. Experience centered education.
c. Community living.
d. Human understanding.
e. Adventure in education.
2. New instructional materials being produced: Yes. Grades 5,6 and 7.
- H. MATERIALS PRODUCED:
1. K-6:
a. "Pioneer" student textbook.
b. Handouts for outdoor study.
c. Curriculum guide.
2. 7-12: Same as above.
3. Others:
a. Materials for preparing for the resident experience.
b. Mohican Newsletter.
c. Picture Dissemination Booklet.
d. Poetry Booklet.
e. Evaluation.
f. Night Staff Manual.
g. Classroom Teacher Manual.
- I. MATERIALS AVAILABLE FREE: None.

J. MATERIALS PURCHASABLE:

1. Picture Booklet - \$.50.
2. Student Textbook - \$2.00.
3. Student Teacher Handbook - \$1.00.
4. Curriculum Guide - \$2.00.
5. Planning Proposal - \$1.00.
6. Operational Proposal - \$1.00.
7. Permanent Staff Manual - \$1.00.
8. School Packet - \$1.00.
9. Evaluation - \$2.00.
10. Mohican Newsletter - \$1.00
11. Poetry Booklets - \$.50.
12. Night Staff Manual - \$1.00.
13. Classroom Teacher Manual - \$1.00.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: Several tapes/ slide presentations on many subjects - ecology, apple butter making, etc.
2. Development of other materials anticipated: None.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 45.
2. Number of teachers having adopted all of the project materials: 100.
3. Number of teachers using some of the project materials: 100.
4. Total number of students using project materials: 2,800.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught: Schools send students to us.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: Weekend workshop only.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

Teachers, administrators, parents, students, visitors, and student teachers have evaluated the project.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. 2,000 students per year.
2. 50 teachers per year.
3. Resident outdoor education each week is different.
4. Over 13,000 students since 1965.

P. PLANS FOR THE FUTURE:

More of our students are now coming from large urban areas than before and we adjust to this as the situation arises.

- A. PROJECT TITLE: ENVIRONMENTAL CLEARING HOUSE
- B. PROJECT DIRECTOR: Mrs. Nancy Day, 5403 Elmer Drive, Toledo, Ohio
43615. (419)535-1650
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. We have a library with books and periodicals on environmental subjects.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Mrs. W. E. Thomas, Mrs. R. H. LeCron, Mrs. W. Gifford.
2. Date and place of Initiation: 1970.
3. Overall project purpose: Public environmental education, not through schools.
- F. PROJECT OBJECTIVES:
Education, co-ordination, involvement.
- G. MATERIALS:
1. Materials produced: None.
2. Free materials available: Environmental hand-outs from public agencies and environmental organizations.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: No work in educational curriculum.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
1. Newsletter.
2. Speakers bureau.
3. Library.
4. Co-ordination of existing environmental organizations.
5. Presentation of environmental films.
6. Air quality workshop.
7. Solid waste pilot project.
8. Annual training course.
- L. PLANS FOR THE FUTURE:
1. Establishment of Crosby Park as an environmental education center.
2. Development of flood plain education program.
3. Coordination of environmental groups.

A. PROJECT TITLE: CENTER FOR THE DEVELOPMENT OF ENVIRONMENTAL CURRICULUM

B. PROJECT DIRECTOR: Dennis M. Wint, 4284 Center Street, Willoughby,
Ohio 44094. (216)946-5000 Ext. 358

C. PROJECT HEADQUARTERS:

1. 4284 Center Street, Willoughby, Ohio 44094.
2. Special facilities or activities available for visitor viewing: Resource Center of Environmental Resources.

D. PRINCIPAL STAFF: 6 professional and 2 clerical persons regularly employed. Numerous contracted consultants.

E. PROJECT HISTORY:

1. Principal originators: ESEA Title III office - Columbus.
2. Date and place of Initiation: September, 1970 - initial planning; August, 1971 - funding.
3. Overall purpose:
 - a. Assist with development of the environmentally literate citizen.
 - b. Develop interdisciplinary environmental curriculum for grades K-12.

F. PRESENT COMMERCIAL AFFILIATIONS: None.

G. PROJECT OBJECTIVES:

1. Objectives of the project:
 - a. To survey the current philosophical environmental education concepts and to assess available resources which will be judged on a qualitative basis and a descriptive element.
 - b. To develop a set of instructional objectives for the cognitive and affective areas of learner achievement.
 - c. To develop an interdisciplinary curriculum for grades K-12.
 - d. To develop criteria for measuring instructional progress by program participants.
 - e. To provide for dissemination of the curriculum materials.
 - f. To conduct leadership conferences and in-service workshops to assist in the implementation of the curriculum.
2. New instructional materials being produced: Yes.
 - a. Grades K-6 completed.
 - b. Grades 7-12 in development.
 - c. Resource catalog for educators.

H. MATERIALS PRODUCED:

1. K-6:
 - a. Teacher's Guide - grade K-2.
 - b. Teacher's Guide - grades 3-4.
 - c. Teacher's Guide - grades 5-6.
2. 7-12: None to date.

3. Others:
 - a. Resource Catalog of Environmental Resources.
 - b. Towards a Philosophy of Environmental Education - report.
 - c. Statement of Philosophy - report.
 - d. Education is the Key - report (out of print).
 - e. Partial Compilation of Operational Environmental Education Programs in Ohio - survey report (out of print).
 - f. Interim Report #1: September, 1971 to February, 1972 - report.
 - g. First Continuation Application, June 15, 1972.
 - h. Second Continuation Application, June 15, 1973.
 - i. Summary Report of the Pilot and Revision of the Elementary Materials - report.

- I. MATERIALS AVAILABLE FREE:
 1. Towards a Statement of Environmental Education.
 2. Statement of Philosophy.

- J. MATERIALS PURCHASABLE:
 1. Teacher's Guide - grades K-2, grades 3-4, grades 5-6. Ohio Department of Education - price unknown.
 2. Resource Catalog of Environmental Resources - Ohio Department of Education - price unknown.

- K. ADDITIONAL MATERIALS BEING DEVELOPED:
 1. Teacher's Guide for grades 7-12.
 2. Cognitive and Affective Instruments to measure learner progress in the elementary grades.

- L. PROJECT IMPLEMENTATION:

Program not yet implemented. Pilot program just completed.

- M. TEACHER PREPARATION:

A consultative service is available for teachers if they visit the Center.

- N. PROJECT EVALUATION:
 1. Has the effectiveness of the materials been evaluated: Partially. By 69 teachers involved in the piloting of the materials, and by 20 teachers involved in the revision of the materials.
 2. Pertinent published research studies: Summary Report of the Pilot and Revision of the Elementary Materials.

- O. SUMMARY OF PROJECT ACTIVITIES:
 1. Completion of the development of the elementary materials.
 2. Completion of the first edition of the Resource Catalog of Environmental Resources.
 3. Field testing of the PACID and Affective Instruments to determine learner achievement with the elementary materials.
 4. Sponsoring of five leadership conferences for school administrators.
 5. Sponsoring of one booster conference for environmental educators in Ohio to exchange information.

6. Sponsoring of one workshop for pilot teachers using the elementary materials.

P. PLANS FOR THE FUTURE:

1. New edition of the Resource Catalog of Environmental Resources.
2. Revision and completion of the PACID and Affective Instruments to be used in conjunction with the elementary materials to measure learner achievement.
3. Development of the teacher materials for grades 7-12.
4. Piloting and revision of the secondary materials.
5. Preparation of the secondary materials for publication.

A. PROJECT TITLE: WORTHINGTON CITY SCHOOLS OUTDOOR EDUCATION DEPARTMENT

B. PROJECT DIRECTOR: John Dean Freund, 600 West Dublin-Granville Road, Worthington, Ohio 43085. (614)888-0357

C. PROJECT HEADQUARTERS:

1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. The Outdoor Education office is located at the above address. It is a remodeled "shelter house" on the Olentangy River flood plain. The building is both an office and classroom area.

D. PRINCIPAL STAFF: Two persons. A full-time outdoor teacher-director and a full-time secretary.

E. PROJECT HISTORY:

1. Principal originator: Three suburban Columbus school districts (Grandview Heights, Westerville, and Worthington) in conjunction with E.S.E.A. Title III.
2. Date and place of initiation: September 1967 in the three (Tri-District) school districts listed above. The staff was then expanded to three certified personnel and a full-time project secretary in the summer (June) of 1968.
3. Overall project purpose: To introduce outdoor education (and more recently, environmental education) methodology and materials to the Tri-District schools; and since the fall of 1971 to direct the growth and expansion of the program within the Worthington City Schools.

F. PROJECT OBJECTIVES:

1. To introduce outdoor/environmental education philosophy and methods to interested teachers.
2. To prepare demonstration units and do demonstration teaching.
3. To act as a resource teacher in the field.
4. To prepare units and activities for student use.
5. To "sell" the program to new teachers.

G. MATERIALS:

1. Materials produced:
 - a. K-6: The outdoor education department has developed numerous units and worksheets or activity sheets around many of the standard topics in outdoor education - i.e., "Let's Adopt a Tree", (a unit), "Sunprinting", the "Web of Life", "Leaf Rubbing", etc., (activity sheets). A first grade outdoor book for students is available (My Book of Things to See and Do in the Out-of-Doors.)
 - b. Other: For teacher reference: Resident Outdoor Education Manual for the Outdoor Teacher, Outdoor Study Units, A Guide to the School Land Laboratories, and etc., An Outdoor Education Newsletter.
2. Free materials available: None of the above. All have prices to defray printing costs.

3. Materials produced that can be purchased: Titles available are listed under G.1. They may be ordered by writing to the project address.

4. New instructional materials being developed: Yes. During the 1972-73 school year the outdoor education department ran a pilot program which correlated the currently popular educational technique (game and simulation) with a community study unit. A brief report and some sample materials should be available in the spring of 1974. A resident outdoor education student handbook was also prepared for our special education students and program.

5. Additional materials being developed: None at the present time. Refinements of the titles above are always under consideration. Some revisions (especially in Resident Outdoor Education) are being considered.

6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 3.

2. Number of teachers having adopted all of the project materials: 60.

3. Number of teachers using some of the project materials: 150.

4. Total number of students using project materials: 1,000.

5. Totals stated are estimated.

6. Names and locations of schools where the program materials are being used:

a. Brookside Elementary School, 6700 McVey Blvd., Worthington, Ohio 43085.

b. Colonial Hills Elementary School, 5800 Greenwich Street, Worthington, Ohio 43085.

c. Evening Street Elementary School, 885 Evening Street, Worthington, Ohio 43085.

c. Worthington Hills Elementary School, 1221 Candlewood Drive, Worthington, Ohio 43085.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:

a. Workshop: Yes. $\frac{1}{2}$ day to 1 day single session.

b. Summer Institute: No.

c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. All titles given would have some application for teaching teachers.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By participating teachers and "word-of-mouth" feedback. Thus most evaluation of materials has been subjective.

2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Resident outdoor education program for all 6th graders.
2. Land lab development.
3. Development of numerous fieldtrip activities.
4. Preparation of informational materials and worksheets for all of the above study sites.
5. Initiate a resident outdoor education program for special education classes.
6. Develop the Metropolitan Environmental Education Resources Study for the 5th grade classes. This phase was expanded by the introduction of community study through games and simulation.
7. Generally - to develop an outdoor/environmental education program that has been, and will continue to be an integral part of the elementary school curriculum.

L. PLANS FOR THE FUTURE:

The outdoor education department has worked very hard the last several years to develop many of the materials already discussed. It is now time to expand their use and up-date them where necessary. The ready availability of these materials will hopefully result in more activities by a greater number of teachers.

- A. PROJECT TITLE: ENVIRONMENTAL BIOLOGY
- B. PROJECT DIRECTOR: Mrs. Mary Guess, 4210 North Donald Street,
Bethany, Oklahoma 73008. (405)789-2139
- C. PROJECT HEADQUARTERS:
1. Bethany High School, 42nd and Asbury, Bethany, Oklahoma
73008.
2. Special facilities or activities available for visitor
viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Marvin Peterson, Principal, and
Mary Guess, biology teacher.
2. Date and place of Initiation: August 30, 1971.
3. Overall project purpose: To make advanced biology students
aware of the tremendous teaching problem we have in order to
maintain some quality of life for their children.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. Inform these students concerning local environment.
b. Enlist their help in informing others.
c. Start a clean-up program here and now.
d. Make them aware that this is their "frontier" and
that they can win.
2. New instructional materials being produced: None.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: Not answered.
- L. PROJECT IMPLEMENTATION:
1. Numbers of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project
materials: 1.
3. Number of teachers using some of the project materials: 1.
4. Total number of students using project materials: 22.
5. Totals stated are definite.
6. Names and locations of schools where the course is being
taught: Bethany High School, 42nd and Asbury, Bethany,
Oklahoma 73008.
- M. TEACHER PREPARATION: None. Only one teacher involved at present
so the project is based on her educational background.

N. PROJECT EVALUATION:

The course of study seems adequate for a beginning effort. With greater student involvement, more can be accomplished.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Participated in an environmental survey of the community.
2. Assisted in community clean-up project.
3. Began an area study of pollution problems.
4. Conducted a highly successful paper drive.

P. PLANS FOR THE FUTURE:

1. Begin a community ecological center to cooperate with the one in Oklahoma City.
2. Continue with projects begun during the past school years.

- A. PROJECT TITLE: MOORE OUTDOOR SCHOOL
- B. PROJECT DIRECTOR: Jimmie Pigg, Moore High School, Moore, Oklahoma
73160. (405)794-1531
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Visitors are welcome to go with our students in their field work.
- D. PRINCIPAL STAFF: 1 full-time director. All others are part of teaching staff - some high school students are used.
- E. PROJECT HISTORY:
1. Principal originators: Jimmie Pigg, Larry King.
 2. Date and place of Initiation: 1968.
 3. Overall project purpose: To teach our students a love and respect for nature and nature's laws.
- F. PROJECT OBJECTIVES:
1. Introduce our students to nature and the community part in the ecosystem.
 2. To understand man's influence upon forces of nature.
 3. What is need for wildlife and the balance in the ecosystem?
- G. MATERIALS:
1. Materials produced:
 - a. K-6:
 - Lesson plans for elementary teachers.
 - Film slide program of introduction to camp.
 - Teacher handbook.
 - A movie was made of outdoor school.
 - b. 7-12: Handbook for our outdoor school staff for high school students.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. New film slide lessons for pre-camp training (5th grade).
 5. Additional materials being developed: New lesson plans for pre-camp training.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 9.
 2. Number of teachers having adopted all of the project materials: 31.
 3. Number of teachers using some of the project materials: 31.
 4. Total number of students using project materials: 1,100.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Southgate Grade School, Moore, Oklahoma 73160.
 - b. Sky Ranch Grade School, Moore, Oklahoma 73160.

- c. Plaza Tower Grade School, Moore, Oklahoma 73160.
- d. Kelly Grade School, Moore, Oklahoma 73160.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day outdoor. Two 2 hour meetings.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. Two hours.
 - d. Other: In-service training for high school students.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. By our teaching staff and students.
- 2. Pertinent published research studies: One article - Moore Outdoor School - in the Oklahoma Educator.

K. PROJECT SUMMARY:

- 1. We have provided 1,100 grade school students a three day outdoor school training - in addition to providing three weeks of pre-camp training - one week of post-camp training.
- 2. We have trained 33 teachers and 66 high school students to conduct our outdoor school.

L. PLANS FOR THE FUTURE:

Continue our outdoor school this year with the possible addition of new program on the high school level.

A. PROJECT TITLE: PROJECT ECO (Environmental Coordinating Organization)

B. PROJECT DIRECTOR: Bud Lang, United States Jaycees, P.O. Box 7,
Tulsa, Oklahoma 74102.

C. PROJECT HEADQUARTERS:

1. 4 W. 21st Street, Tulsa, Oklahoma 74102.
2. Special facilities or activities available for visitor viewing: Yes. Conference rooms, meeting rooms.

D. PRINCIPAL STAFF: 2 persons regularly employed.

E. PROJECT HISTORY:

1. Principal originators: Staff, consultants, advisors of the U.S. Jaycees Environmental Improvement Programs.
2. Date and place of Initiation: July 1972 - Tulsa, Oklahoma.
3. Overall project purpose: Establish broad-based, community wide Environmental Coordinating Organizations for community awareness and education.

F. PROJECT OBJECTIVES:

1. Establish councils, State and locally.
2. Set community goals.
3. Set community priorities.
4. Establish education projects.
5. Establish involvement/participation projects.

G. MATERIALS:

1. Materials produced: Project Information Kits - community.
 - a. How to Form a Local Environmental Council.
 - b. The Energy Crisis.
 - c. Recycling Centers.
 - d. Land Use Planning.
 - e. City Beautification.
 - f. How to Harvest Abandoned Cars.
 - g. Introduction to Environmental Programming.
 - h. Clean Air.
 - i. Noise Control.
 - j. Environmental Education.
 - k. Vehicle Emissions Check Lanes.
 - l. Clean Water.
 - m. Solid Waste.
 - n. Mass Transit.
 - o. Family Planning.
2. Free materials available: All those listed above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. High school, Junior College, Adult Education - due for completion July 1974.
5. Additional materials being developed: A community education program allowing communities to establish long-term plans for volunteer action in continuing environmental education.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION: Not applicable.

I. TEACHER PREPARATION: Not applicable.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Summary not available until August 1974.

L. PLANS FOR THE FUTURE:

Development and test of the aforementioned programs, field test and evaluation.

- A. PROJECT TITLE: M.S. IN GENERAL STUDIES: OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Ronald D. Lamb, Director of Outdoor Education,
1250 Siskiyou Blvd., Ashland, Oregon 97520. (503)482-6345
- C. PROJECT HEADQUARTERS:
1. Southern Oregon College, 1250 Siskiyou Blvd., Ashland, Oregon 97520.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3-4 persons regularly employed plus regular college staff as program is multidisciplinary.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Irene Hollenbeck, Dr. Ronald Lamb.
 2. Date and place of Initiation: 1969 - Southern Oregon College.
 3. Overall project purpose:
 - a. To develop leaders in Conservation and Outdoor Education with a broad background in the sciences and the social sciences who have an understanding of the interrelationships of the ecological and economic aspects of conservation.
 - b. To develop personnel competent in the use of techniques and experiences suitable for teaching in the out-of-doors.
- F. PROJECT OBJECTIVES:
- Competencies to be expected of graduates of this program:
1. Understanding of the interrelationship of man and his natural and man-made environments.
 2. Understanding of the basic principles and information about natural resources and resource management problems.
 3. Ability to identify those aspects of the existing curriculum that can best be taught out-of-doors.
 4. Ability to plan and implement meaningful outdoor experiences in their own schools, such as:
 - a. Utilization of school grounds.
 - b. Utilization of natural areas away from school grounds.
 - c. Residential outdoor schools.
 - d. Field trips, nature trails and other outdoor laboratories.
 5. Ability to use the methods, tools, skills, and techniques of the naturalist, the scientist and the outdoorsman in enriching and extending the existing curriculum.
 6. Ability to integrate and coordinate outdoor experiences into on-going school programs.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: A variety of teaching aids, methods and techniques not published or collated at present.
 - b. 7-12: Film on the Youth Conservation Corps.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Not answered.

5. Additional materials being developed: Not answered.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: Not answered.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: Most of our graduates - 35.
4. Total number of students using project materials: 65-70.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Central Point School District, Central Point, Oregon 97520.
 - b. Ashland School District, Ashland, Oregon 97520.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Time varies - two weekends.
 - b. Summer Institute: Yes. 8 weeks.
 - c. Evening classes: Yes. 3 hours a week for 10 weeks.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Not systematically except for Youth Conservation Corps.
2. Pertinent published research studies: University of Michigan evaluation of Youth Conservation Corps.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

Development of new courses, methods and techniques.

- A. PROJECT TITLE: LANE INTERMEDIATE EDUCATION DISTRICT MCGOWAN CREEK FOREST STUDY AREA
- B. PROJECT DIRECTOR: Kermit F. Horn, 748 Pearl Street, Eugene, Oregon 97401. (503)343-3503
- C. PROJECT HEADQUARTERS:
1. 748 Pearl Street, Eugene, Oregon 97401.
2. Special facilities or activities available for visitor viewing: Yes. Nature trail 1 mile by 1½ miles. Forest Study Area.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Kermit F. Horn.
2. Date and place of Initiation: Spring 1971.
3. Overall project purpose: To establish a site specifically for local schools use and lesson plans introducing students to the natural and man-made aspects of the Forest Study Area.
- F. PROJECT OBJECTIVES:
1. Encourage teachers to utilize the out-of-doors as a learning laboratory.
2. Introduce students to the forest setting.
- G. MATERIALS:
1. Materials produced:
a. K-6: Miscellaneous lesson plans in soils, clear cutting, plants, etc.
b. 7-12: None.
2. Free materials available: Will exchange materials.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Intermediate 4th-6th.
5. Additional materials being developed: Film strips.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 5.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 30.
4. Total number of students using project materials: 500.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Washington Elementary School, 3515 Harlow Road, Eugene, Oregon.
b. Harris School, 1150 East 29th Avenue, Eugene, Oregon.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Field tested Spring 1973.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

The Forest Study Area project was initiated from the Environmental Education Department, Lane I.E.D., Spring 1971. Students visit the site with their teachers usually for one day and make field investigations. Field investigations are basically sense awareness oriented and focus on stream, plants, animals, clear cuttings, etc. Teachers may or may not utilize the specialists available for the I.E.D. during their field trip.

L. PLANS FOR THE FUTURE:

Developing curriculum K-12.

- A. PROJECT TITLE: WASHINGTON COUNTY INTERMEDIATE EDUCATION DISTRICT ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: James C. Gorter, 172 S. First Avenue, Hillsboro, Oregon 97123. (503)648-7191 Ext. 40
- C. PROJECT HEADQUARTERS:
1. 172 S. First Avenue, Hillsboro, Oregon 97123.
 2. Special facilities or activities available for visitor viewing: Yes. Outdoor School in Session, Counselor Training program.
- D. PRINCIPAL STAFF: 30 persons employed, 3 full time, remainder seasonal.
- E. PROJECT HISTORY:
1. Principal originators: Science educators, government resource personnel, industry representatives, Title III grant for Regional Outdoor Education 1966.
 2. Date and place of Initiation: 1969 - Washington County, Oregon.
 3. Overall project purpose: To develop a sense of wonder and spirit of inquiry concerning natural resources and commitment to learning about the out-of-doors which continues throughout life. Awareness of man's responsibility for a livable environment.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. To study natural resources in the outdoor environment.
 - b. To lead students to discover interrelationships of the natural resources.
 - c. To develop an understanding of man's relationship to his environment.
 - d. To develop in students self-learning skills by providing them an opportunity to learn by doing. (Observing, classifying, communicating, measuring, inferring, interpreting data, predicting and formulating models.)
 2. New instructional materials being produced: Yes, for 6th grade but much can be used for grades K-12.
- H. MATERIALS PRODUCED:
1. K-6: Field Study Notebook, Student Guidebook, (6th grade).
 2. 7-12: Counselor Handbook- grades 10-12.
 3. Others: Teacher Handbook, Counselor Training Handbook, Environmental Study Area guidebooks.
- I. MATERIALS AVAILABLE FREE: Agency materials.
- J. MATERIALS PURCHASABLE: Not answered.

- K. **ADDITIONAL MATERIALS BEING DEVELOPED:**
History of Environmental Sites - tapes, slides.
- L. **PROJECT IMPLEMENTATION:**
1. Number of schools now using entire set of materials: 100.
 2. Number of teachers having adopted all of the project materials: 150.
 3. Number of teachers using some of the project material: Many teachers at all levels K-12.
 4. Total number of students using project materials: 3,800.
 5. Totals stated are definite.
 6. Names and locations of schools where the course is being taught: Contact our office for information.
- M. **TEACHER PREPARATION:**
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. $\frac{1}{2}$ day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Handbooks, Student Guidebook, etc.
 6. Commercial availability of materials: No.
- N. **PROJECT EVALUATION:**
1. Has the effectiveness of the materials been evaluated: Yes, by the Washington County Testing Department.
 2. Pertinent published research studies: Not answered.
- O. **SUMMARY OF PROJECT ACTIVITIES SINCE 1969:**
60 weeks of Outdoor School, 15 weeks of Pilot Projects, Counselor training sessions, Administrative Advisory Council, Counselor Sounding Board, Parent's Conference, County Fair Booth.
- P. **PLANS FOR THE FUTURE:**
Implementing Environmental Education K-12 using Environmental Study Area concept.

- A. **PROJECT TITLE:** CATCH ENVIRONMENTAL EDUCATION PROGRAM
- B. **PROJECT DIRECTOR:** Timothy Ash, 3700 S.E. 92 Avenue, Portland,
Oregon 97266. (503)777-1760
- C. **PROJECT HEADQUARTERS:**
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. **PRINCIPAL STAFF:** One director plus student staff regularly employed.
- E. **PROJECT HISTORY:**
1. Principal originator: Timothy Ash.
 2. Date and place of Initiation: June 1970.
 3. Overall project purpose: Development of an environmental study area to be used by Portland schools and Oregon State people.
- F. **PROJECT OBJECTIVES:**
1. Development of a project site.
 2. Availability of alternative placement program for students.
 3. Integration of alternative into regular school curriculum - Portland Public.
- G. **MATERIALS:**
1. Materials produced: K-12: Activities lists, study packet cards, tapes, slide presentations.
 2. Free materials available: All of the above.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. A video tape presentation.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. **MATERIALS IMPLEMENTATION:**
1. Number of schools now using entire set of materials: 30 - directly.
 2. Number of teachers having adopted all of the project materials: 30-50.
 3. Number of teachers using some of the project materials: 30-50.
 4. Total number of students using project materials: 800-1000. 8000 people have used site in two years.
Totals stated are estimated (low figures).
 6. Names and locations of schools where the program materials are being used:
 - a. Fent Elementary School - Richard Fallaschetti, 5105 S.E. 97th Avenue, Portland, Oregon.
 - b. Clark School - Ted Hollingsworth, 1231 S.E. 92nd Avenue, Portland, Oregon.
 - c. Lincoln High School - Jim Johnsrud, 5210 N. Kerby Avenue, Portland, Oregon 97217
 - d. Whitaker Living Labs, Karen Mukann, 5135 N.E. Colombia Blvd., Portland, Oregon 97218.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: No.
 - b. Summer Institute: Yes. Some - work study - 4 weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By Warren Groh - evaluator; participating teachers.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. Summer work study programs for 5th through high school students.
2. Six miles of trails built by kids.
3. 240 acre site used by approximately 5500 people.
4. Cabins, shelters, study areas.
5. Placement for kids on an alternative basis.
6. Field trips with preparation, follow-up and activities in regular curriculum areas for schools.
7. Establishment of an ethic that environmental education is more than identification of bugs, leaves and birds. It's a life style.
8. Leadership training program for students as field guides to prep classes in school and at site.

L. PLANS FOR THE FUTURE:

- Inclusion of more people with more definite follow up and preparation of people using site.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION COMMITTEE OF THE OREGON ENVIRONMENTAL COUNCIL - A PRIVATE ENVIRONMENTAL ACTION ORGANIZATION
- B. PROJECT DIRECTOR: Ms. Gay Bower, 2637 SW Water, Portland, Oregon 97201. (503)222-1963
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Small "library" and extensive, informational, environmental files.
- D. PRINCIPAL STAFF: Strictly volunteer service - one full-time volunteer.
- E. PROJECT HISTORY:
1. Principal originators: Judy Faich and the executive committee of the Oregon Environmental Council.
 2. Date and place of Initiation: Late 1968, early 1969 - Portland, Oregon.
 3. Overall project purpose: Education of Oregon Environmental Council members, general public and advisory capacity to educators.
- F. PROJECT OBJECTIVES:
- Education of Oregon Environmental Council members, general public, advisory capacity to educators, awareness of one's environment and the care/concern for it.
- G. MATERIALS:
1. Materials produced: General age group information booklets on Recycling, Noise, Bibliographies of Noise, Wildlife and Forestry Books, "To Live with the Earth" booklet, Legislative evaluations. Oregon Environmental Council publishes a monthly newsletter.
 2. Free materials available: All of the above. One free copy of newsletter available. To receive it regularly, one must become an Oregon Environmental Council member.
 3. Materials produced that can be purchased: "To Live with the Earth" - 63 page booklet - \$.50. Order from: Oregon Environmental Council, 2637 SW Water, Portland, Oregon 97201.
 4. New instructional materials being developed: Yes. General age/grade level - bibliography of pertinent environmental literature.
 5. Additional materials being developed: Environmental questionnaire - test one's environmental "I.Q." Updating, rewriting of "To Live with the Earth".
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- It is impossible to tell how much of our materials are being used, by whom and in what schools.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. Only our general information booklets, etc.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Recycling switchboard and solid waste management programs: Recycling information office, Jane Lyle, Director, Department of Environmental Quality, 1234 SW Morrison - Room 431, Portland, Oregon 97205.
2. Speakers' Bureau - in most cases, free to those who request speakers-almost every environmental topic covered.
3. Serve as advisors on environmental education committees in metropolitan area and the State.
4. Constant expansion, updating and maintenance of our environmental information files.
5. Try to be present at all fairs and shows for distribution of our literature and information.
6. Put on a 3-day show for earth week, April 1973 - topic was noise pollution.

L. PLANS FOR THE FUTURE:

For the moment, completion of bibliography and questionnaire and expansion of our files. Due to very limited funds, new projects are not extensively undertaken. Main concern is with maintenance of what we have with inclusion of a few small, new projects. For further information regarding recycling, contact Recycling Information Office (see K.1.).

- A. PROJECT TITLE: ECO-AESTHETICS CONTINUUM
- B. PROJECT DIRECTOR: Roberta J. Caughlan, Manager, 1220 S.E. Madison Street, Portland, Oregon 97214.
- C. PROJECT HEADQUARTERS:
1. 7700 S.E. Reed College Place, Portland, Oregon 97202.
(503)775-4329
 2. Special facilities or activities available for visitor viewing: Yes. Resource center.
- D. PRINCIPAL STAFF: Project manager - full time; Graphic artist/ secretary - part time.
- E. PROJECT HISTORY:
1. Principal originator: Roberta J. Caughlan.
 2. Date and place of Initiation: Portland Public Schools, Art Department 1969-70.
 3. Overall project purpose: To increase awareness of the visual environment K-12 and beyond.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. To develop a high degree of sensitivity, appreciation and discrimination toward the visual environment on the part of instructional staff and students.
 - b. To create continuous learning experiences which will result in measurable growth of visual awareness and aesthetic judgment on the part of instructional staff and students.
 2. New instructional materials being produced: Yes. K-12.
- H. MATERIALS PRODUCED:
1. K-6:
 - a. Puzzles, games, kits.
 - b. Discussion packets.
 - c. Suggestion sheets.
 - d. Traveling exhibits.
 - e. Slide presentations.
 - f. Book of Poetry by students K-8.
 - g. Puppet plays.
 - h. Involvement activity brochure.
 - i. Search and See Tours.
 2. 7-12: All of the above at a more advanced level plus -
 - a. Complete bibliography of Childrens' Literature pertaining to environmental concerns or visual awareness.
 - b. Urban planning kit.
 - c. Visual production kit.
 3. Others: Secondary and adult.
 - a. Poetry kit.
 - b. Three slide visual presentation of Portland.

I. MATERIALS AVAILABLE FREE: Brochure.

J. MATERIALS PURCHASABLE:

All materials will be available for purchase by the close of the 1973-74 school year. Prices will be based upon production costs.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:
 - a. 3-Slide/Sound Presentation on Portland.
 - b. Syllabus for three-quarter in-service sequence.
 - c. Collection of Poems from secondary students.
 - d. Eco-Grams.
 - e. Continued development of materials already produced.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 12.
2. Number of teachers having adopted all of the project materials: 20.
3. Number of teachers using some of the project materials: 60.
4. Total number of students using project materials: 300.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Sellwood Elementary School, 9300 S.E. 15th Avenue, Portland, Oregon 97202.
 - b. Jackson High School, 10625 S.W. 35th Avenue, Portland, Oregon 97219.
 - c. Eliot School, 2231 N. Flint Avenue, Portland, Oregon 97227.
 - d. Washington High School, 531 S.E. 14th Avenue, Portland, Oregon 97214.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes. One quarter course, three quarter sequence, trainee course.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: 1 day, 2 days, five days.
 - b. Summer Institute: Seminar at Portland State University - two weeks - three credits.
 - c. Evening Classes: Upon request.
 - d. Others: Guest speakers.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: Not answered.

N. PROJECT EVALUATION:

Use of evaluation instruments have been initiated to continue over five-year period.

O. PROJECT SUMMARY:

1. Six in-service classes and three summer seminars have been attended by an average of twenty-eight teachers in each session.
2. Twelve pilot schools have developed the program for the buildings as a whole. Other schools in the district have initiated partial programs.
3. Four School/Community Action Groups are being formed to work on community environmental concerns.
4. Teacher committees have been active in developing resource materials and creating curriculum materials for all grade levels.
5. A multi-disciplinary approach has been emphasized in all activities.
6. Cooperation with the American Institute of Architects, the American Society of Landscape Architects, the Portland Planning Commission, the Portland Development Commission, the Soil Conservation Service and the United States Forestry Service has been enjoyed since inception.

P. PLANS FOR THE FUTURE:

1. Expansion of the program.
2. Continued development of materials.
3. Formation of the School/Community Action Groups.
4. Clarification and expansion of the evaluation program.

- A. PROJECT TITLE: MULTNOMAH COUNTY OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Warren C. Gilfillan, P.O. Box 16657, Portland,
Oregon 97216. (503)255-1841
- C. PROJECT HEADQUARTERS:
1. 220 S. E. 102nd Street, Portland, Oregon.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Local committee; Title III Pilot - Regional Outdoor Education.
2. Date and place of Initiation: 1966 - Portland, Oregon.
3. Overall purpose: Week-long, resident, coed, Outdoor School for 6th grade.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Provide environmental education to all 6th graders in Multnomah County.
2. New instructional materials being produced: Yes. 6th grade.
- H. MATERIALS PRODUCED:
1. K-6: Handbooks for 6th grade.
2. 7-12: None.
3. Others: None.
- I. MATERIALS AVAILABLE FREE: Brochure.
- J. MATERIALS PURCHASABLE:
1. Handbooks for Teachers, 6th Graders and Counselors.
2. Field Study Notebook.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 200.
2. Number of teachers having adopted all of the project materials: 320.
3. Number of teachers using some of the project materials: 320.
4. Total number of students using project materials: 9,000.
5. Totals stated are definite.
6. Names and locations of selected schools where the course is being taught: Every elementary school in Multnomah County.
- M. TEACHER PREPARATION:
1. Consultant service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Overnight and day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Field Study Notebook, Handbook for Teachers.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By the Multnomah County Evaluation and Testing Department.
2. Pertinent published research: None.

O. SUMMARY OF PROJECT ACTIVITIES:

1. 38,800 6th graders attendance to date.
2. 6,000 high school age counselors to date.

P. PLANS FOR THE FUTURE:

Restrictions on money discourage expansion of program.

- A. PROJECT TITLE: DEPARTMENT OF ENVIRONMENTAL QUALITY RECYCLING INFORMATION OFFICE
- B. PROJECT DIRECTOR: Barbara J. Seymour, 1234 S.W. Morrison, Portland, Oregon 97205. (503)229-5555
- C. PROJECT HEADQUARTERS:
1. Room 432, same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. The Recycling Switchboard can be viewed in action, and students and others may help answer phone.
- D. PRINCIPAL STAFF: 3 full-time (not including director, who has other responsibilities) are regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Education Committee of Oregon Environmental Council, a citizens' coalition of environmentally concerned individuals and groups.
 2. Date and place of Initiation: Began in October 1971 as a volunteer project of the Education Committee, Oregon Environmental Council, Portland.
 3. Overall project purpose: To make recycling as easy and effective as possible in Oregon--to provide the information and assistance needed to make recycling work in the state.
- F. PROJECT OBJECTIVES:
1. To reach through the Recycling Switchboard at least 10,000 people who call us for practical recycling information (how, where, and what to recycle).
 2. To form three regional transportation networks linking projects outside of Portland.
 3. To reach through practical recycling guides and handbooks at least 100,000 people and organizations--distributed through bulk mailings, booths, and speaking engagements.
- G. MATERIALS:
1. Materials produced: None of our materials were prepared for special age groups, but for the general public and they have been used by students of all ages.
 - a. Recycling Handbook.
 - b. A Guide to Running a Recycling Project.
 - c. There's No Such Thing as GARGABE.
 - d. ORION BULLETIN (newsletter).
 - e. Miscellaneous fact sheets on recycling.
 2. Free materials available: All of the above; donations are appreciated, however, for quantities.
 3. Materials produced that can be purchased: Quantities of the "Recycling Handbook" can be purchased at 8¢ each; send check with order to: Oregon Environmental Council--ORION Fund, 2637 SW Water, Portland, Oregon 97201.
 4. New instructional materials being developed: Yes. We develop our materials primarily for adult use, but we intend to write them simply enough so that most children can understand them.

5. Additional materials being developed: We are preparing a paper recycling videotape for recycling project organizers of all ages. We will be revising ORION literature and preparing new editions in the near future.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 20-25.
2. Number of teachers having adopted all of the project materials: 20-25.
3. Number of teachers using some of the project materials: 200.
4. Total number of students using project materials: Unknown.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Dallas Senior High School: Bob Shiopen, 500 E. Asti, Dallas, Oregon 97338.
 - b. Lake Oswego High School: Ken Becker, 2501 SW Country Club Road, Lake Oswego, Oregon 97034.
 - c. Cooper Mountain School: Lynn Grichbaum, P.O. Box 200, Beaverton, Oregon 97005.
 - d. Galapooya Junior High: Vic Brockett, Albany, Oregon 97321.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Not beyond the obvious demand for them--in one year, we needed three printings of the "Handbook", two printings of "Guide" and of "GARBAGE".

K. PROJECT SUMMARY:

1. Began Recycling Switchboard (phone-in referral service on how, what, and where to recycle in Oregon) as a volunteer project in October, 1971. Wrote a successful grant, through the Oregon Environmental Council, to the U.S. Office of Environmental Education in 1972--funded through June 1973, for the program ORION (Oregon Recycling Information and Organizing Network). ORION operated the Switchboard, coordinated recycling projects, wrote numerous recycling guides, communicated closely through personal contact and newsletters with recycling projects and industries, publicized recycling through TV and radio spots, posters, displays, news releases, and held meetings and field trips for recyclers.
2. As a result of legislation written by ORION in early 1973, the state's Department of Environmental Quality received \$60,000

for two years for a recycling information clearinghouse and the DEQ Recycling Information Office was opened on August 15, 1973. The Office will continue to run the Recycling Switchboard (with a new Centrex number and two lines), put out recycling literature, and work closely with recycling projects. It will also design and carry out communications campaigns encouraging the public and specialized groups within the public (including schools) to recycle.

L. PLANS FOR THE FUTURE:

We hope to emphasize "outreach" in addition to "response" to the demands made on us for information and assistance. We want to blanket the media with publicity about recycling and to reach target groups, such as hospitals, offices, schools, government agencies, which need recycling consultation and information. We would also like to assist to a greater degree than has been possible in the past projects outside the Portland metropolitan area.

M. ERIC DOCUMENTS:

A Guide to Running a Recycling Project, Recycling Handbook. SE 016 965

- A. PROJECT TITLE: NATIONAL DEMONSTRATION CENTER FOR SELF-LEARNING AND COMMUNITY INVOLVEMENT
- B. PROJECT DIRECTOR: Donald W. Stotler, 373 Lincoln Hall, Portland State University, Portland, Oregon 97207. (503)229-4682
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Portland Public Schools and Portland State University.
2. Date and place of Initiation: March 1972 - center opened.
3. Overall project purpose: Serve as a National Demonstration Center for Self-Learning and Community Involvement in environmental education.
- F. PROJECT OBJECTIVES:
1. Stimulate action by:
a. Helping people of all ages to know about environmental problems and the alternative solutions to them.
b. Helping to motivate people to do something to alleviate these problems.
2. Provide access to information, agencies, organizations, people, and resources that will assist people in their work concerning environmental issues.
- G. MATERIALS:
1. Materials produced: We stimulate others to develop materials.
2. Free materials available: Environmental Education Center brochure and goals.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service education program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Resource collection.
6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Sources of information in the form of:
 - a. Temporary displays created by volunteers.
 - b. Permanent charts locating environmental agencies, bicycle paths, structure of agencies, field trips, and so on.
 - c. Files that refer the user to environmental groups that have information on pollution, land use, transportation, recreation, city planning, consumer concerns, population, and so on. The files describe whether the information is printed in brochure form or in abstracts, whether speakers or films are available, and whether telephone information is given.
 - d. File of gatekeepers (key people in organizations) who will help people with their environmental concerns.
 - e. Handouts about issues and concerns available at the give-and-take rack.
 - f. Collections of games, simulations, futures materials, curriculum kits, bulletins, newsletters, exemplary environmental proposals, and sources of materials categorized on open shelves.
2. Video tape porta-pak equipment for use to:
 - a. Help groups or individuals in dealing with local environmental issues by assisting them in making their own tapes about the problem.
 - b. Bring awareness to the community by showing video tapes to groups and at meetings.
3. The EEC's staff and friends will serve as environmental consultants on:
 - a. Proposal ideas, funding sources, and strategies.
 - b. Community action.
 - c. Career and educational opportunities pertaining to environmental concerns.
4. The EEC's facilities may also be used by:
 - a. Contacting us about the availability for meeting, workshop, and laboratory space for individuals and groups.
 - b. Browsing/studying/researching on a drop-in or an arranged basis.
 - c. "People mixing" in many informal ways.

L. PLANS FOR THE FUTURE:

The Center is now being expanded from 2,000 to 5,000 square feet. This should help to continue the increase in community and student participation which the Center is enjoying.

- A. PROJECT TITLE: PROJECT KARE (KNOWLEDGEABLE ACTION TO RESTORE OUR ENVIRONMENT)
- B. PROJECT DIRECTOR: Mr. Matthew M. Hickey, Colony Office Building,
Route 73 and Butler Pike, Blue Bell, Pennsylvania 19422.
(215)643-7600 Ext. 60
- C. PROJECT HEADQUARTERS:
1. Colony Office Building, Route 73 and Butler Pike, Blue Bell,
Pennsylvania 19422.
2. Special facilities or activities available for visitor view-
ing: No.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Steering Committee representing the
participating school units in Bucks, Chester, Delaware, Mont-
gomery and Philadelphia Counties.
2. Date and place of Initiation: 1971 - Blue Bell, Pa.
3. Overall purpose: Cooperative, urban-suburban efforts toward
strengthening environmental education in participating schools.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To support local action programs (LAP's) in environmental
education in schools throughout the five-county south-
eastern Pennsylvania region, both financially and with
services.
b. To achieve effective awareness of environmental problems
and methods for restoring our environment.
c. To teach, experience, and learn urban-cooperation in en-
vironmental education.
d. To utilize learning approaches which are action-oriented
and interdisciplinary.
e. To foster community participation in environmental edu-
cation.
f. To identify and make use of local human and material
resources for environmental education.
2. New instructional materials being produced: Yes.
- H. MATERIALS PRODUCED:
1. K-12: Four Curriculum Activities Guides:
a. Solid Waste and Environment Studies.
b. Population and Environmental Studies.
c. Water Quality Equipment and Environmental Studies.
d. In-Depth Environmental Studies.
2. Others: Project KARE Enviroscope, a newsletter.
- I. MATERIALS AVAILABLE FREE: Newsletter and descriptive materials.

J. MATERIALS PURCHASABLE:

Guides available from Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio 44106.

K. ADDITIONAL MATERIALS BEING DEVELOPED: Various technical reports.

L. PROJECT IMPLEMENTATION:

Twenty elementary and secondary schools from throughout the five-county Southeastern Pennsylvania region were selected from among 44 applicant schools to receive grants for Local Action Programs of environmental education. Schools where LAP's are in operation are:

1. Thomas Edison High School, 8th Street and Lehigh Avenue, Philadelphia, Pennsylvania 19032.
2. Unionville - Chadds Ford Junior-Senior High School, Rte. 82, Unionville, Pennsylvania 19375.
3. Chester High School, 9th and Fulton Streets, Chester, Pennsylvania 19013.
4. Downingtown Area Secondary Schools, 450 Manor Avenue, Downingtown, Pennsylvania 19335.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes. Stress is placed here.
2. In-service education program for teachers using the materials: Yes. On request.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: Workshops are available on request.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

Performed per USOE Title III, Section 306 requirements.

O. SUMMARY OF PROJECT ACTIVITIES:

1. 17 LAP's were funded during the first year, and 20 during the second. Each receives a grant of up to \$5,000 to support a variety of instructional programs dealing with specific environmental problems.
2. An Environmental Resource Center (EERC) has been established at project headquarters, to provide students, teachers, industry, and community with information, research findings, and materials relating to environmental education. A central advisory council has been organized for the purpose of obtaining guidance and support to Project KARE activities. Services by the staff include local staff development, study-site analysis, curriculum design, in-service training, environmental problems assessment, program consultation, and environmental program evaluation.

P. PLANS FOR THE FUTURE:

Continuation of activities described above, with appropriate expansion including residential training and development of selected sites as large-scale outdoor laboratories and nature centers.

Q. ERIC DOCUMENTS:

1. A Curriculum Activities Guide to Population and Environmental Studies. SE 016 525
2. A Curriculum Activities Guide to Solid Waste and Environmental Studies. SE 016 524
3. A Curriculum Activities Guide to Water Quality Equipment and Environmental Studies. SE 016 614
4. A Curriculum Activities Guide to In-Depth Environmental Studies. SE 016 827
5. A Curriculum Activities Guide to Birds, Bugs, Dogs, and Weather. SE 017 108

- A. PROJECT TITLE: TAYAMENTASACHTA - A CENTER FOR ENVIRONMENTAL STUDIES
- B. PROJECT DIRECTOR: Fred C. Kaley, 370 South Ridge Avenue, Greencastle, Pennsylvania 17225. (717)597-2181 Ext. 31
- C. PROJECT HEADQUARTERS:
1. Leitersburg Road, Greencastle, Pennsylvania 17225.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Fred C. Kaley and science staff.
2. Date and place of Initiation: September 1, 1968.
3. Overall project purpose: To provide optimal opportunities for children and teachers so that they become fully appreciative of environmental awareness in their daily lives.
- F. PRESENT COMMERCIAL AFFILIATIONS: Yes.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To establish courses in ecological studies, timber resource management and field biology adapted to the elementary and secondary school instructional level.
2. New instructional materials being produced: Yes. Grades K-10.
- H. MATERIALS PRODUCED: Are being developed now.
- I. MATERIALS AVAILABLE FREE:
1. A brochure.
2. A brief history of center.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed:
a. 40 slides to show progress of center.
b. 40 slides showing student activities.
2. Development of other materials anticipated: Lesson plans will be developed (K-6) to be correlated with field trips to the center.
- L. PROJECT IMPLEMENTATION:
A total of 2,733 children in grades one through twelve in the Greencastle-Antrim School District will participate in this project. Fifty elementary and approximately twenty secondary teachers will be involved in the project. Fifteen teacher aides will assist with the project's educational programs. Numerous parents and resource persons will assist with small group instruction. The local community has an approximate population of 10,800 with a total school enrollment, grades K-12, of 2,920. The professional staff of the school district consists of an administrative staff of four supervisors, and 123 teachers serving in four elementary schools, a Middle School, and a high school.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: Workshops - two days.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. MATERIALS EVALUATION:

Evaluation procedures will continue. Monies will be appropriated for professional evaluation. Educational research indicates minimal progress towards the development of means to evaluate pupil attitudes towards such a project as described. Local teachers with high environmental studies interest will be encouraged to develop appropriate studies that could lead to structuring tests and measurements in this area of study. Professional evaluation has indicated that the Center and its activities are meeting the objectives. Areas of commendation are:

1. Conceptual and operational aspects are commended.
2. Local finances are appropriately being used.
3. Community interest continues to be an encouragement to the project.
4. Maximal use of local and Title III money is highly appropriate.
5. Opportunities for dissemination of information have increased because of greater state and national media interest.

Areas for improvement include:

1. Appointment of a full time director.
 2. Establishing a uniform system of record keeping.
 3. Continuous development of curriculum for all subject areas.
 4. Financial support to complete renovation of facilities will constitute an investment of "high return potential".
 5. Establish a system of managing visits by school and community groups.
 6. Increase teacher in-service use of facility.
 7. Regular meetings of the Advisory Committee will be scheduled.
- Beyond the professional evaluation, observation has indicated an expanding use of the Center by the community-at-large. There has been a continued increase in requests from civic groups and other organizations for lecture-slide presentations, on-site visits, educational seminars, and consultation services to other school district, farm groups, and colleges. Teacher and pupil activities have continued to increase as the facilities have been developed. Teacher evaluating devices (test, project appraisals, student reports, etc.) indicate satisfactory comprehension of objectives, learning goals, and behavioral reactions.

O. PROJECT SUMMARY:

1. Original plans continue with ever increasing developments. During the past year articles appeared in local newspapers, educational television, a state magazine (Fish Commission), and the April 1973 edition of the Instructor publication. Staff members served as consultants and conducted in-service programs in other school districts and colleges. Tour groups from other school districts have increased.
2. The Department of Environmental Resources will develop an article during the coming months. Xerox educational news articles will be developed during the 1973-74 school term.
3. Use of the Center for an on-going Lincoln Intermediate Unit pilot programs for gifted children continues to develop interest in other districts and state agencies.

P. PLANS FOR THE FUTURE:

Progression has been on schedule. The local Board of School Directors continues to give support. Teachers and administrators from other school districts visit the project to get ideas for the development of similar projects in their schools.

Q. ERIC DOCUMENTS:

Environmental Studies Concepts and Objectives, Science Equipment and Materials List. Teacher Guideline for Use of the Center.
SE 016 977

- A. PROJECT TITLE: OUTDOOR AND ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Charles A. Rosini, Harrisburg City Schools,
6200 Parkway East, Linglestown, Pennsylvania 17112.
- C. PROJECT HEADQUARTERS:
1. Camp Sertoma, 1.5 miles from Linglestown, Pennsylvania on Blue Mountain.
 2. Special facilities or activities available for visitor viewing: Yes. Entire program and center.
- D. PRINCIPAL STAFF:
- Charles A. Rosine, Director; Joel Robert Jacobs, Curriculum and Staff Development Specialist; V. Lee Hartwick, Diane I. Martin, E. Arnold Mahey, G. Henry Osborn, Barry R. Patterson, Connie Miller, Instructors in Environmental Education; Sara Hinton and Ron Hoy, Teacher Aides.
- E. PROJECT HISTORY:
1. Principal originators: ESEA Title I - George Bauman, Director, Dr. Parker, Superintendent of Schools.
 2. Date and place of Initiation: Pilot - winter, 1965.
 3. Overall project purpose: Outdoor and Environmental Education - Emphasis on outdoor living and life sciences.
- F. PROJECT OBJECTIVES:
1. Introduction to basic life sciences, environment and outdoor living.
 2. To stimulate an awareness of nature in city children.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: 4th, 5th, and 6th grade curriculum guides.
 - b. 7-12: Trial programs in planning stages, "Careers in Environment".
 - c. Other: "OEEcology News" - irregularly published newsletters distributed to all elementary students involved in the program.
 2. Free materials available: Limited number of above materials available on request.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. K-6. Filmstrips - "Nature in the City" - Series.
 5. Additional materials being developed: Guides K-3.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 17.
 2. Number of teachers having adopted all of the project materials: 275.
 3. Number of teachers using some of the project materials: 275.
 4. Total number of students using project materials: 8,000.
 5. Totals stated are estimated.

6. Names and location of schools where the course is being taught: Course is given at the Center and is co-ordinated with the schools participating.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes
4. Kinds of teacher preparation programs available:
 - a. Workshops: Planned.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: Summer - by the week.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Only our own situation.
6. Commercial availability of materials: No.

J. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Self - preparing a larger evaluation currently.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Grades involved were 4th and 5th grades from public and parochial schools within Harrisburg, Pennsylvania city limits.
2. Program involved two day visits in Fall, Winter and Spring.
3. Funding of program from ESEA Title I.

L. PLANS FOR THE FUTURE:

1. Preparation of urban environment materials.
2. Expansion to some degree to grades 7-12.
3. Career in the environment training.
4. Future of program dependent on continued funding.

M. ERIC DOCUMENTS:

1. Sixth Grade: Fall and Winter - Curriculum Guide. ED 068 310
2. Fourth Grade: Late Fall and Early Spring - Curriculum Guide. ED 068 367
3. Fifth Grade: Winter and Spring - Curriculum Guide. ED 068 368

- A. PROJECT TITLE: WESTERN PENNSYLVANIA CONSERVANCY ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Dr. John Hug, Director, Environmental Education,
R. D. 1, Box 97, Mill Run, Pennsylvania 15464. (412)329-4743
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY: Not answered.
- F. PROJECT OBJECTIVES:
1. Production of environmental education curriculum materials.
2. Consultant services to western Pennsylvania schools.
3. In-service teacher education for western Pennsylvania teachers.
- G. MATERIALS:
1. Materials produced: 9th and 12th grade, four-week Social Studies units.
2. Free materials available: Not answered.
3. Materials produced that can be purchased:
a. Environment and Change.
b. World Environmental Concerns.
Both will be available spring 1974 from Harcourt, Brace, and Jovanovich, Inc.
4. New instructional materials being developed: Yes. Six-week unit for a 11th grade slow learner program in conservation with Carnegie-Mellon University. (Environmental Concerns: A Historical View) Holt, Rinehart and Winston, Inc.
5. Additional materials being developed: Not answered.
6. Present commercial association: Different items will be published by different commercial publishers.
- H. MATERIALS IMPLEMENTATION: Not known.
- I. TEACHER PREPARATION:
We have not considered this question.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
Western Pennsylvania Conservancy has conducted environmental education activities for many years. The nature of the activities has changed as national trends and personnel have changed. Curriculum materials development is only one of our activities.
- L. PLANS FOR THE FUTURE: Indefinite.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION - A RELEVANT CURRICULUM
- B. PROJECT DIRECTOR: William S. Woehr, Pennridge School District,
601 North Seventh Street, Parkasie, Pennsylvania 18944.
(215)257-5011
- C. PROJECT HEADQUARTERS:
1. Perkasio Elementary School, 601 North Seventh Street, Perkasio,
Pennsylvania 18944.
2. Special facilities or activities available for visitor view-
ing: Environmental Education Center in a park area in Upper
Bucks County.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Pennridge School District, Bucks
County Park Board, Bucks County School Board.
2. Date and place of Initiation: January 1967 - Pennridge School
District.
3. Overall project purpose: To establish a major environmental
center for use by several school districts in the upper end of the
county and for community groups.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To establish a central environmental center for use by
several local school districts and community use.
b. To establish environmental centers at each local school
site.
c. To articulate environmental concerns with the science and
social science curricula.
2. New instructional materials being produced: None.
- H. MATERIALS PRODUCED:
An elementary science and elementary social science curriculum
guide has been published.
- I. MATERIALS AVAILABLE FREE:
Curriculum guides on a limited basis.
- J. MATERIALS PURCHASABLE:
Curriculum guides.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
Continual updating of curriculum guides (looseleaf).
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 8.
2. Number of teachers having adopted all of the project mater-
ials: 150.
3. Number of teachers using some of the project materials: 50.

4. Totals stated are estimated.
5. Names and locations of schools where the course is being taught:
 - a. Perkasio Elementary School, 601 North Seventh Street, Perkasio, Pennsylvania 18944.
 - b. J. M. Grasse Elementary School, 600 Rickert Road, Sellersville, Pennsylvania 18960.
 - c. M. M. Seylar Elementary School, R.R. #1, Box 68, Perkasio, Pennsylvania 18944.
 - d. Sellersville Elementary School, Ridge Avenue, Sellersville, Pennsylvania 18960.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 8 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 1 college semester.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. PROJECT SUMMARY:

1. Main environmental center has been partially developed.
2. Several schools have developed or are in the process of developing environmental sites.
3. Environmental education has been articulated with elementary science and social science curriculum.

P. PLANS FOR THE FUTURE:

Program will be continued and updated on a yearly basis.

- A. PROJECT TITLE: GEE! GROUP FOR ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Alan Levy, 1214 Arch Street, Philadelphia, Pennsylvania 19107. (215)564-4403
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 6-8 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Alan Levy, William Chapman, Richard Saul Wurman.
 2. Date and place of Initiation: 1968-69 School year - Philadelphia City School District.
 3. Overall project purpose: We are engaged in developing innovative resource materials and in providing teach support.
- F. PROJECT OBJECTIVES:
- To develop an understanding of the man-made environment in order to prepare the student to approach environmental problem-solving and to promote the individual's responsible participation in environmental change.
- G. MATERIALS:
1. Materials produced: Although intended for the junior high school level, our materials have been used from early grades through college. Current publications available from The MIT Press, Cambridge, Mass. 02142.
 - a. Our Man-Made Environment: Book Seven - \$4.95. ED 045 426
 - b. Additional punchouts for OMME 7 - \$12.50.
 - c. LeCadre de Vie Euvre de l'homme - \$5.95.
 - d. Yellow Pages of Learning Resources - \$1.95.
 - d. The Nature of Recreation - \$4.95.
 - e. Man-Made Philadelphia \$3.95.

Forthcoming publications available from The MIT Press, Cambridge, Mass. 02142.

 - a. The Process of Choice - \$10.00.
 - b. Something More You Can Learn From Your Schoolhouse - \$5.95.

Current publications available from GEE!, 1214 Arch Street, Philadelphia, Penn. 19107:

 - a. Teacher's Guide to OMME 7 - \$2.00.
 - b. A Collection of Experiences, Resources and Suggested Activities - \$2.00.
 - c. Suggested Activities Using the School and Its Surroundings as a Resource - \$1.00.
 - d. Community Resources for the Durham Child Development Center - \$1.00.
 - e. The Pennsylvania Advancement School Series - \$10.00.
 - f. A Guidebook to Guidebooks - \$2.00.
 2. Free materials available: Not answered.

3. Materials produced that can be purchased: See G.1.
4. New instructional materials being developed: Yes. Junior high level.
5. Additional materials being developed: Not answered.
6. Present commercial association: The MIT Press, Cambridge, Massachusetts 02142.

H. MATERIALS IMPLEMENTATION:

Because our materials are not intended as specific curriculum and are used as resource materials for an entire range of school subjects, we have no firm figures as to their adoption in school curriculum. However 55,000 copies of Our Man-Made Environment and 15,000 copies of Yellow Pages of Learning Resources have been printed and distributed and major programs have taken place in the Philadelphia School District, Hillborough County (Tampa) School District, and Cincinnati School District, as well as limited programs in numerous individual schools.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Our Man-Made Environment: A Collection of Experiences, Resources and Suggested Activities.
6. Teaching materials commercially available: The MIT Press.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

GEE! Group for Environmental Education Inc., a non-profit organization, has been producing educational materials about the urban environment since it was first asked to develop a workbook for art teachers in the Philadelphia school district. Since then, our emphasis has moved away from art education to a more comprehensive approach which is relevant to almost every school subject and reflects the broader concerns of society with the environment. GEE! has produced materials intended to develop a greater understanding of the man-made environment and to direct educational attention to the problem-solving abilities needed to effect environmental change. It has assisted teachers to develop their own materials and has provided resource personnel for workshops aimed at supporting and training teachers who are interested in developing their own resources and materials in the field of environmental education. It has provided materials to over 400 teachers and educators through two nation-wide dissemination programs.

L. PLANS FOR THE FUTURE:

We will continue to produce new materials as funding permits; we always have a lengthy list of projects which only await suitable

funding. We also intend to develop more intensive liasons with local teachers in order to be more responsive to their real needs in establishing an environmental education program.

M. ERIC DOCUMENTS:

1. The Nature of Recreation - A Handbook in Honor of Frederick Law Olmsted, Using Examples from His Work. SE 016 962
2. A Guidebook to Guidebooks - An Urban Environmental Education Resource Book. SE 016 961
3. Yellow Pages of Learning Resources, Resources Directory Area Code 800. Open for Learning. ED 064 806
4. Our Man-Made Environment - A Collection of Experiences, Resources and Suggested Activities, September 1971. SE 016 960
5. DRAFT - Preliminary Teachers Guide To Our Man-Made Environment - Book Seven. SE 016 959
6. Community Resources for the Durham Child Development Center. SE 016 958
7. Suggested Activities Using the School and Its Surroundings as a Resource for Environmental Education. SE 016 957
8. Learning to Get Around - An Urban Environment Mapping Unit. SE 016 956
9. Introductory Unit to the Urban Environment. SE 016 955
10. Housing in the Urban Environment. SE 016 954

- A. PROJECT TITLE: A PROGRAM TO DEVELOP A COURSE ON ENERGY AND SOCIETY FOR SECONDARY SCHOOL TEACHERS AND FOR COMMUNITY LEADERS
- B. PROJECT DIRECTOR: John H. Anderson, Department of Physics, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.
(412)624-4320
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 4 persons employed - temporarily-part-time.
- E. PROJECT HISTORY:
1. Principal originator: John H. Anderson.
 2. Date and place of Initiation: September 1973 - Pittsburgh.
 3. Overall project purpose: To provide teachers with information and materials for energy- and environment-related courses; to provide citizens with background in basic science for civic activities.
- F. PROJECT OBJECTIVES:
- Those taking the courses will become acquainted with the facts and principles of basic thermodynamics and energy-converting devices, world energy resources, will comprehend the economic importance of energy, will become acquainted with the environmental side-effects of energy production and use, and will know something of the governmental, industrial, and citizens' response to energy problems. Students will design courses and become involved locally or nationally in energy problems.
- G. MATERIALS:
1. Materials produced: None, as yet.
 2. Free materials available: None, as yet.
 3. Materials produced that can be purchased: None, as yet.
 4. New instructional materials being developed: Yes. Adult education.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: None.
 2. Number of teachers having adopted all of the project materials: None.
 3. Number of teachers using some of the project materials: Maybe three.
 4. Total number of students using project materials: Unknown.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used: Not answered.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Planned.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Not answered.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Not answered.
 - d. Other: Home study, through the External Studies Program of the University of Pittsburgh.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Planned.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

As you can see, the project is in its infancy. To date we have had one meeting with representatives of the two target groups in order to get their ideas on what needs they would like to have fulfilled in our course. We have begun and partially completed two sections of a text and study guide. The production of films, tapes and other materials will be, to some extent, contingent on the make-up and interests of the first class to take the course, since the course is supposed to be very much tailored to individual interests. The most novel feature of the course is that it will be given in a self-study (for use in the home or elsewhere) mode and that students will be offered a number of options so that they can design the course to meet their own interests and needs. The first offering of the course will take place in January 1974.

L. PLANS FOR THE FUTURE:

It is too early to answer this question.

- A. PROJECT TITLE: AN INTERDISCIPLINARY PROBLEM-SOLVING APPROACH IN ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Louis Ritrovato, R.D. #1, Box 392, Reading, Pennsylvania 19607. (215)775-1411
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. A complex trail system. Activities which involve participants in courses, seminars, workshops, etc.
- D. PRINCIPAL STAFF: 6 full-time; 10 part-time. Maintenance: 4 full-time; 6 part-time.
- E. PROJECT HISTORY:
1. Principal originators: The Pennsylvania Bureau of Parks of the Pennsylvania Department of Environmental Resources and Berks County Intermediate School Unit #14.
 2. Date and place of Initiation: 1969. Nolde Forest State Park.
 3. Overall project purpose: To develop a model Environmental Education Center which will provide a resource center for the design, development, and implementation of curricula and programs for environmental education in the southeastern part of Pennsylvania.
- F. PROJECT OBJECTIVES:
1. To develop an interdisciplinary problem-solving curriculum in environmental education utilizing the natural and man-made facilities of the Nolde Forest Park and surrounding communities.
 2. To provide participants with an opportunity to demonstrate or apply practical solutions to environmental problems, utilizing the developed curriculum and site facilities of the project and the environmental facilities of their local communities.
 3. To provide educational, civic, social, industrial and governmental agencies with the opportunity to visit, to participate in or observe a model environmental program in action.
- G. MATERIALS:
1. Materials produced:
 - a. K-6:
Elementary Science Guide to implement an Interdisciplinary problem-solving approach to Environmental Education.
Field Learning Activities.
Intermediate Curriculum Guide for Environmental Social Studies.
 - b. 7-12:
Field Learning Activities.
Models for implementation of the problem-solving approach on both the elementary and secondary level.
 - c. Others: Many materials available.
 2. Free materials available: Many available upon request.

3. Materials produced that can be purchased: Not applicable.
4. New instructional materials being developed: Yes. K-12 and college level.
5. Additional materials being developed: Working on models for implementing environmental education programs within the schools.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 150.
2. Number of teachers having adopted all of the project materials: 72.
3. Number of teachers using some of the project materials: 350.
4. Total number of students using project materials: 15,500.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Brecknock Elementary School, Box 813, Mohnton, Pennsylvania 19540.
 - b. 12th and Marion Elementary School, 12th and Marion Street, Reading, Pennsylvania 19601.
 - c. Shull Junior High School, Berwick and Seitz Streets, Easton, Pennsylvania 18042.
 - c. Boyertown Junior High School, South Madison Street, Boyertown, Pennsylvania 19512.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day to 1 week.
 - b. Summer Institute: Yes. 6 weeks.
 - c. Evening classes: Yes. 10 weeks.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Elementary Curriculum Materials.
 - b. Teacher Training Syllabus.
 - c. Teacher Instructional Materials.
 - d. Format for Teacher Strategy and Implementation.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Educational Research and Development Association, Professional Building, Office 9, 30 South High Street, West Chester, Pennsylvania 19380.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. The development of a viable model (An Interdisciplinary Problem-Solving Approach in Environmental Education.) This model will be used by the state of Pennsylvania in developing future Environmental Education programs.
2. The administrative support in establishing a Center consisting of 544 acres with a physical plant worth in excess of three million dollars and a non-project payroll of thirty-five thousand dollars.
3. The cooperation of area school districts and teachers in helping the Center to develop, evaluate and implement the problem-solving approach.
4. The development of a growing cadre of teachers, well trained in the essential skills of implementing and continuing with the problem-solving approach in environmental education. On their own initiative, over 65% of the teachers trained at the Center are continuing to implement this approach.
5. The development of a qualified, functional staff willing to offer a variety of services in environmental education.
6. The development of a strong, multi-faceted environmental educational program.
7. The development of an Evaluation Design, which provided process, product, and management components, sufficient for continuous monitoring, feed-back and evaluation of the program.
8. The development of both cognitive and affective instruments for use in evaluating environmental education.
9. The development of an Environmental Library containing audiovisual materials, periodicals, environmental curriculum guides and literature. These materials are made available to the community-at-large.
10. The availability of field study facilities and classrooms. Over 15,000 people have used these facilities.
11. The development and utilization of local community resource personnel and facilities. Sixteen speakers have honored over 150 requests.
12. The freedom and suggestions extended the project staff, when developing program activities, by the Central Advisory Council.

L. PLANS FOR THE FUTURE:

1. Expansion of the "Interdisciplinary Problem-Solving Approach in Environmental Education" to meet the increased demands being placed on our staff for these services.
2. Further development of the field learning program to include utilization of local community resources as well as those at the Environmental Education Center.
3. Further expansion of our curriculum materials development to include continued development of issue-oriented subject matter.
4. Continued implementation of consultant services to provide school districts help with curriculum development and site development for environmental education.
5. Improve and expand the facilities of Nolde Forest Environmental Education Center.

M. ERIC DOCUMENTS:

1. ERANDA - Interim Evaluation Report, Intermediate Unit No. 14's E.E. Projects, "An Interdisciplinary Problem Solving Approach to E.E." SE 016 619
2. E.E. Curriculum Guide for Intermediate Social Studies.4,5,6. SE 016 621
3. Elementary Environmental Education. SE 016 622
4. Elementary Activities. SE 016 620

- A. PROJECT TITLE: LUZERNE-LACKAWANNA ENVIRONMENTAL EDUCATION NETWORK
- B. PROJECT DIRECTOR: Barbara R. Swaczy, 700 Vine Street, Scranton, Pennsylvania 18510. (717)961-2033
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Upon advance written request, visitors can observe and interview students engaged in community environmental problem-solving.
- D. PRINCIPAL STAFF: 4 professional persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originator: Sandra Raymond, Executive Director, Luzerne-Lackawanna Environmental Council.
 2. Date and place of Initiation: Autumn 1971 - Workshop Series for School Districts in Environmental Education.
 3. Overall project purpose: With WVIA-TV (regional public TV), we are acting as a community organization to introduce environmental education into the formal school structure.
- F. PROJECT OBJECTIVES:
1. Develop a communication, resource, and training network of teachers throughout northeastern Pennsylvania.
 2. Utilize the resources of a community environmental organization and a public TV station to bring school-community interaction and cooperation in environmental education.
- G. MATERIALS:
1. Materials produced: Teacher-developed project descriptions for grades 7-12.
 2. Free materials available: Using the Contract Method in Environmental Education 7-12.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Yes. Field-tested curriculum materials developed by network teachers, in varied disciplines, 7-12.
 5. Additional materials being developed: Guide to Regional Environmental Measurement Activities.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Network participation.
1. Number of schools now using entire set of materials: 20+.
 2. Number of teachers having adopted all of the project materials: 33.
 3. Number of teachers using some of the project materials: 33.
 4. Total number of students using project materials: 3460.
 5. Totals stated are estimated (4) and definite (1,2,3).
 6. Names and locations of schools where the program materials are being used:
 - a. Riverside High School, Taylor, Pennsylvania 18517.
 - b. Wyoming Area Senior High, 100 Montgomery Avenue, West Pittston, Pennsylvania 18643.

- c. Wyoming Valley West High, Chester Street, Kingston, Pennsylvania 18704.
- d. Pittston Area Senior High, 5 Stout Street, Yatesville, Pennsylvania 18640.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: No.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Modular.
 - b. Summer Institute: Yes. 6 weeks.
 - c. Evening classes: No.
 - d. Other: In-service combination of workshops, field-testing with classes, curriculum writing--running throughout the school year.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Packet introducing environmental education through contract method.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. By teachers and students who participate in the network.
- 2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

- 1. Implementation of in-service teacher education programs in both process and content orientations; development and teaching of additional programs by experienced network teachers.
- 2. Regional environmental inventory activities, including dust-fall surveys and bioassays of the 30-mile Lackawanna River, coordinated by network participants.
- 3. Consultation on curriculum and classroom programs in 30 school districts.
- 4. Implementation of continuing monthly water quality network to gather baseline data for northeastern Pennsylvania.
- 5. Student filming and student media projects to build community awareness of environmental programs.
- 6. Student Speakers Corps programs at area elementary and secondary schools; and student-organized resident environmental workshop.
- 7. Student Coalition for Environmental Action, sponsored through LU-LAC for highly motivated students who wish to engage in service and in-depth environmental projects.

L. PLANS FOR THE FUTURE:

- 1. Development and coordination of "Northeastern Pennsylvania Environmental Education Council," bringing together the resource people and school people to address environmental education development in an organized fashion for our region.

2. Extension of LU-IAC/Intermediate Unit equipment bank for field studies.
3. Concentrated in-service education for administrators.
4. Filming of six half-hour environmental education films for teachers, in cooperation with WVIA-TV.
5. Spring 1974 - resident environmental education workshop, planned and staffed by network teachers and students.
6. Additional region-wide projects bringing schools and communities together as our dustfall, bioassay, and water conservation studies have done.
7. Continuation of present consultation and clearinghouse services.

- A. PROJECT TITLE: STATE COLLEGE ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Dr. Robert Campbell, 131 W. Nittany Avenue,
State College, Pennsylvania 16801. (814)237-6201
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: State College Area School District.
 2. Date and place of Initiation: October 21, 1971.
 3. Overall project purpose: Intergration of environmental education into the State College area schools.
- F. PROJECT OBJECTIVES:
- Provision for all students including disadvantaged, exceptional, handicapped, non-public, etc.; to develop environmental awareness, especially man's place in the natural order and man's relation to man.
- G. MATERIALS:
1. Materials produced:
 - a. Park Forest Trail Guide and Teacher's Supplement.
 - b. Walnut Springs Interest Unit, grades K-3.
 - c. Boalsburg Unit, grades 3-4.
 - d. An Ecology Unit-Park Forest Elementary, grades 4-5.
 - e. Elementary Environmental Education Curriculum Guide.
 - f. Resource Materials.
 - g. SCASC Outdoor School Booklet.
 2. Free materials available: All of the above materials may be obtained from RISE, Research and Information Services for Education, 198 Allendale Road, King of Prussia, Pennsylvania 19406.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes. Grades K-6.
 5. Additional materials being developed: More units.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 11.
 2. Number of teachers having adopted all of the project materials: 0.
 3. Number of teachers using some of the project materials: 144.
 4. Total number of students using project materials: 4,216.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Park Forest Elementary School, 2180 School Drive, State College, Pennsylvania 16801.

- b. Radio Park Elementary School, 800 Circleville Road, State College, Pennsylvania 16801.
- c. Fairmount Elementary School, 411 South Fraser Street, State College, Pennsylvania 16801.
- d. Lemont Elementary School, 675 Elmwood Street, Lemont, Pennsylvania 16851.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available: In-service. Time varies.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. By our staff.
- 2. Pertinent published research studies: A Study of Elementary Teacher's Opinions - An Evaluation.

K. PROJECT SUMMARY:

Each fifth grader is given the opportunity to spend one week with his class at the Outdoor School at Stone Valley. The Outdoor School is staffed and run by the Penn State University. Cost for the week is \$30, which includes instruction, medical services, insurance, room and board. The classroom teacher is in charge during the week, and has this opportunity to teach what is better taught in the Outdoor School's natural environment, and to utilize the staff and University students there to help him. Field trips are arranged for the teacher by the Environmental Education office. If the teacher has only a type of place in mind, a suitable location can often be suggested. Making bus, entrance fees, and tour guide arrangements through one office simplifies coordination of these experiences. Through a contract with the Penn State University, two graduate students are available at the teacher's request for help with setting up permanent or temporary trails on the school or adjoining lands, or developing activities for teaching units. As these units are developed, they are made available to other schools so that variety rather than duplication will be developed within the district. Also at the teacher's request, the Environmental Education office will provide help in developing teaching units which relate to the development of environmental awareness. To this end, the program has bought and is distributing many materials to the teacher upon request. The program has used many volunteers in its activities. University students and parents are the main source. In-service training is provided if at all possible. Increased use of parents is planned for the future, due to their

inherent interest in the education of their children, and the value of parental awareness and participation in the program of the school.

In-service training is also provided for the teachers. Last year released time was given for observation and training sessions. This year workshops will be set up for weekends, with possible accreditation by Penn State.

In addition to the coordinator, the Environmental Education staff consists of two graduate students available for on-site work, the co-directors of Stone Valley Outdoor School who are available for help in integrating the resident experience into the class's regular lessons, and usually a student from the University on Practicum with the Environmental Education coordinator.

L. PLANS FOR THE FUTURE:

To introduce our program into the secondary level.

M. ERIC DOCUMENTS:

Environmental Education (an Ecology Unit), Grades 4 and 5. SE 016 603

- A. PROJECT TITLE: TITLE III ESEA PROJECT LIFE - LIVING INSTRUCTION FOR ECOLOGY
- B. PROJECT DIRECTOR: Alberta R. Covert, East Franklin School, R.D. 2, Waynesburg, Pennsylvania 15370. (412)627-8151 Ext. 124
- C. PROJECT HEADQUARTERS:
1. Whitely School, R. D., Waynesburg, Pa. 15370, Perry School, Mt. Morris, Pa.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: Director and 2 directly involved teachers are regularly employed during the summer.
- E. PROJECT HISTORY:
1. Principal originator: Alberta Covert.
 2. Date and place of Initiation: Evolved into reality with receipt of federal funds in January 1972.
 3. Overall project purpose: Project LIFE is attempting to provide for ecological integration with the sciences, the arts, human interests, and human reactions, with the gamut ranging from physical activities through the aesthetic, scientific, and philosophical. Of parallel importance is an impetus toward inquiry and open classroom techniques.
- F. PROJECT OBJECTIVES: See E-3.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: A 22 minute 8mm film called Survival was produced by 6th graders.
 - b. 7-12: A similar film has been made by 7th graders. Pervasive theme is behavior (human environment).
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Not answered.
 5. Additional materials you anticipate developing: Not answered.
 6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: Not answered.
 3. Pre-service training program for teachers desiring to use the materials: Not answered.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 weeks - 3 credit courses.
 - b. Summer Institute: 1972 and 1973.
 - c. Evening Classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. The NEED materials have been placed in all 3rd through 6th grades. Project LIFE constantly supplies environmental information to all teachers and administrators.
6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

Environmental education has been mandated for Pennsylvania Schools from kindergarten through high school. Project LIFE serves the nine, K-8 elementary schools in Central Greene School District, with some spin-off such as teacher in-service, going to the High School. Two target areas provide trails, outdoor shelters, and trained student guides for all-schools' participation. The NEED materials developed by the National Park Service provide the philosophy and basis for the curriculum in Project LIFE.

L. PLANS FOR THE FUTURE:

1. Evaluation from the June 1973 Human Environment Workshop indicate interest in further development in this sort of thing.
2. During the last two weeks of June there has been a modified version of the teachers in-service for 6th through 8th grades which seems to be quite successful.
3. If there is a third year funding available, these two items will be continued.

- A. PROJECT TITLE: PROJECT EARTH
- B. PROJECT DIRECTOR: Robert T. Picchione, 845 Park Avenue, Cranston,
Rhode Island 02905. (401)785-0400
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Indoor Science Center of the University of Rhode Island is used as our facility.
- D. PRINCIPAL STAFF: 10 teachers are employed on a part-time basis.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Carlo A. Gamba, Dr. William Croasdale, Mr. Edward J. Slattery.
2. Date and place of Initiation: September 1968 - Alton Jones Campus of the University of Rhode Island.
3. Overall project purpose: Environmental-educational experiences.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
1. Materials produced:
a. K-6: Project activities - Project Earth.
b. 7-12: None.
c. Other: None.
2. Free materials available: Project Earth - brochure.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grade 5.
5. Additional materials being developed: A guide involving junior and senior high students.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 23.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: 46.
4. Total number of students using project materials: 1,200.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
a. William R. Dutemple School, 32 Garden Street, Cranston, Rhode Island 02910.
b. Eden Park School, 180 Oakland Avenue, Cranston, Rhode Island 02910.
c. West View School, 15 Mayberry Street, Cranston, Rhode Island 02920.
c. Edgewood Highland School, 160 Pawtuxet Avenue, Cranston, Rhode Island 02905.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop. Yes. 2-2½ hours.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By the teachers using them.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. Project Earth serves approximately 1,000 fifth year students annually giving them a 2½ day (overnight included) field experience. In addition, another 1,000 students in 1st-4th years have a days experience under the project. Utilizing the Youth Science Center of the University of Rhode Island, Alton Jones Campus, the facilities provide an outstanding natural setting to conduct the program.
2. Close liaison with the URI staff aids us in preparing our teachers who oversee the project during its seven week duration. When budget permits we engage naturalists to assist us in our program.
3. The program tends to provide basic understanding in the cycles of nature, interdependence of natural life, topography, history of the landscape, an experience in communal living and for many the first experience of being away from home.
4. The curriculum divided into kindergarten, primary, and intermediate levels was completed in January 1971 and deals in the area of air, water, soil, plants and animals in the environment. Additionally, ecological concepts are developed within this framework.
5. The project is in its third year of local funding and sixth of operation. Expansion to the junior and senior high schools is in the formative stages.

L. PLANS FOR THE FUTURE:

Expansion to the junior and senior high schools.

M. ERIC DOCUMENTS:

Project Earth - A Curriculum Guide - Kindergarten, Primary, Intermediate. A Conservation Education Program. Cranston School Department. Cranston, Rhode Island. Title III, E.S.E.A., 1965. January 1971. SE 016 966

A. PROJECT TITLE: MULTIDISCIPLINARY APPROACH TO LEARNING OUTDOORS (MALO)

B. PROJECT DIRECTOR: Ida Jackson-Richard Hayes, Co-directors, Warwick Veterans Memorial High School, Warwick, Rhode Island 02866.
(401)737-2600

C. PROJECT HEADQUARTERS:

1. Administration Building of Warwick School Department, 34 Warwick Lake Avenue, Warwick, Rhode Island 02889. (401)737-3300
2. Special facilities or activities available for visitor viewing: Yes. Outdoor program when in session. Also, trailer being constructed, to be equipped for expansion of program.

D. PRINCIPAL STAFF: Approximately 20 persons employed part-time for outdoor program.

E. PROJECT HISTORY:

1. Principal originators: Mr. Hayes and Ms. Jackson.
2. Date and place of Initiation: May 1971. W. Alton Jones Campus of University of Rhode Island.
3. Overall project purpose: To help students in developing a set of values based on the finiteness of the earth's resources.

F. PROJECT OBJECTIVES:

1. Students observe different kinds of ecosystems in Rhode Island.
2. Students spend two days and one night at outdoor classroom.
3. Students learn basic concepts and techniques of ecology.
4. Students will create a picture, essay, poem, etc. while relaxing in the outdoor classroom.

G. MATERIALS:

1. Materials produced: Units have been developed but not re-produced as yet.
 - a. K-6: Units for K-3, units for 4-6.
 - b. 7-12:
Junior High: Environmental Education and the English Language Arts.
Basic Needs of Man: An Ecological Approach Integrating Science, Social Studies, and English.
Environmental Education and the English Program, Grades 9-12.
 - c. Other:
Environmental Chemistry for High School students.
Ecology Unit for Primary Educable Mentally Retarded Class in Warwick.
2. Free materials available: Interim report of project.
3. Materials produced that can be purchased: Units to be re-produced - no price list available at present.
4. New instructional materials being developed: Yes. K-12.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 7.
2. Number of teachers having adopted all of the project materials: 14 involved directly in project.
3. Number of teachers using some of the project materials: Ideas from project are being used in other schools.
4. Total number of students using project materials: 420 each year.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Pilgrim High School, Pilgrim Blvd., Warwick, Rhode Island.
 - b. Tollgate High School, Tollgate Complex, Warwick, Rhode Island.
 - c. Drum Rock Elementary School, Tollgate Complex, Warwick, Rhode Island.
 - c. Winman Junior High School, Tollgate Complex, Warwick, Rhode Island.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No. Directors give freely.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One day at site.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By students, teachers, and Title III Minigrant Project Evaluation.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Presently we are conducting the project with funds made available by the school committee.
2. Warwick School Department also conducts a combined art-science program for elementary students during the summer.
3. An innovative marine environmental science program is being introduced this semester in the high schools, federally funded.

L. PLANS FOR THE FUTURE:

Expansion and refinement of present program to make possible the involvement of a greater number of teachers.

- A. PROJECT TITLE: MARINE ENVIRONMENTAL STUDIES
- B. PROJECT COORDINATOR: David M. Whitaker, Toll Gate High School,
575 Centerville Road, Warwick, Rhode Island 02886.
(401)738-9770
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Participation in typical three hour lab activity or field trip.
- D. PRINCIPAL STAFF: 2 persons regularly employed for nine months.
- E. PROJECT HISTORY:
1. Principal originators: Julius Breit, Maurice Blais - Toll Gate High School Science Department.
2. Date and place of Initiation: July 1973 - Toll Gate High School, Warwick, Rhode Island.
3. Overall project purpose: To study all aspects (physical, chemical, biological, economic, political, environmental, etc.) of the marine resources of Narragansett Bay.
- F. PROJECT OBJECTIVES: Broad goals.
1. To learn marine science by actual involvement.
2. To stimulate interest in science education.
3. The identification and development of a curriculum and an in-service teacher training program.
- G. MATERIALS:
1. Materials produced: Marine Science Curriculum Lab Book - complete activities, 150 pages. Grades 10-12.
2. Free materials available:
a. Brochure.
b. Lab manual of marine science.
3. Materials produced that can be purchased:
4. New instructional materials being developed: Yes. Grades 10-12.
5. Additional materials being developed:
a. Slide tape.
b. Brochure.
c. Film (tentative).
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 4.
2. Number of teachers having adopted all of the project materials: 5.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 150.
5. Totals states are definite.
6. Names and locations of schools where the program materials are being used:
a. Toll Gate High School, 575 Centerville Road, Warwick, Rhode Island.

- b. Warwick Veterans Memorial High School, West Shore Road, Warwick, Rhode Island.
- c. Pilgrim High School, Pilgrim Drive, Warwick, Rhode Island.
- d. Cranston High School East, Park Avenue, Cranston, Rhode Island.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One semester.
 - b. Summer Institute: Yes. Curriculum writing. Six weeks.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Marine Studies Lab Manual.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: In process. By Curriculum Research and Development Center, University of Rhode Island, Kingston, Rhode Island.
2. Pertinent published research studies: No.

K. PROJECT SUMMARY:

1. Summer curriculum committee has prepared Marine Science Lab Manual.
2. Equipment (19' Boston whaler, trailer, 12-passenger van, aquariums, etc.) and supplies (chemical, sampling devices, nets, etc.) and over 50 reference books have been ordered and are in the process of arriving.
3. Implementation of curriculum has begun.
4. In-service program for teachers has been conducted in the area of marine science.

- A. PROJECT TITLE: WOODFERN ENVIRONMENTAL CENTER
- B. PROJECT DIRECTOR: Jason E. Rucker, Box 439, Anderson, South Carolina 29621. (803)224-3244
- C. PROJECT HEADQUARTERS:
1. Lake Hartwell, Anderson, South Carolina 29621.
 2. Special facilities or activities available for visitor viewing: Yes. 7 miles of natural trails, 45 acre tract of land, Air pollution station.
- D. PRINCIPAL STAFF: 7 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: James Mahaffey, Jason Rucker, John Jackson.
 2. Date and place of Initiation: 4/19/71. Anderson, SC.
 3. Overall project purpose: To provide environmental awareness.
- F. PROJECT OBJECTIVES:
1. To create awareness and understanding of the environment.
 2. To supplement the textbooks with actual environmental experiences.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: 30 lesson plans.
 - b. 7-12: 40 lesson plans.
 - c. Booklet-Careers in Environmental Education, film on Woodfern, brochures on the center.
 2. Free materials available: Brochures on the center.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Lesson plans for primary, secondary, and special education.
 5. Additional materials being developed: Millipore equipment for water analysis kit.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 25.
 2. Number of teachers having adopted all of the project materials: 250.
 3. Number of teachers using some of the project materials: 300.
 4. Total number of students using project materials: 8500.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Whitehall Elementary School, Whitehall Road, Anderson, SC.
 - b. Centerville Elementary School, Whitehall Ext., Anderson, SC.
 - c. Southwood Junior High School, Southwood Street, Anderson, SC.
 - d. Westside High School, Pearman Dairy Road, Anderson, SC.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 weeks.
 - b. Summer Institute: Yes. 8 weeks.
 - c. Evening classes: No.
 - d. Others: Teacher requests granted.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Filmstrips, lesson plans, overall objectives.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Project evaluator-Roy Smith, Project auditor-Jack Harris.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

For the current year 8500 students participated in on-site activities. Experiences were provided in all phases of outdoor education. A city wide clean up campaign was conducted using approximately 7000 students. Several colleges and universities used Woodfern facilities. A summer session was offered for teachers with three credit hours given.

L. PLANS FOR THE FUTURE:

Indian site, weather station, braille trail are planned.

- A. PROJECT TITLE: CONSERVATION CURRICULUM IMPROVEMENT PROJECT
- B. PROJECT DIRECTOR: Albert H. H. Dorsey, 810 Rutledge Bldg.,
1429 Senate Street, Columbia, South Carolina 29201.
(803)758-2652
- C. PROJECT HEADQUARTERS:
1. 810 Rutledge Bldg., 1429 Senate Street, Columbia, South Carolina 29201.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: One full time consultant.
- E. PROJECT HISTORY:
1. Principal originators: South Carolina Advisory Council on Conservation Education.
2. Date and place of Initiation: 1965 - Columbia, South Carolina.
3. Overall project purpose: To develop materials for teachers to use in integrating Environmental Conservation Education into the total curriculum.
- F. PRESENT COMMERCIAL AFFILIATIONS: Yes.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Same as purpose of project.
2. New instructional materials being produced: Yes. Grades 1-12.
- H. MATERIALS PRODUCED:
1. K-6: People and Their Environment-Teachers' Curriculum Guides to Conservation Education Grades 1-2-3, People and Their Environment Grades 4-5-6.
2. 7-12:
a. People and Their Environment - Science - Grades 7-8-9.
b. People and Their Environment - Social Studies - Grades 7-8-9.
c. People and Their Environment - Social Studies - Grades 10-11-12.
d. People and Their Environment - Outdoor Laboratory - Grades 1-12.
e. People and Their Environment - Home Economics - Grades 9-10-11-12.
f. People and Their Environment - Biology.
3. Others: None.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
All materials listed under H.1 and 2 are available from:
J. G. Ferguson Publishing Company, 6 North Michigan Avenue,
Chicago, Illinois 60602.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: TV tapes for in-service use showing teachers some aspects of how to use "People and Their Environment" series.
2. Development of other materials anticipated: Student material.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 1300.
2. Number of teachers having adopted all of the project materials: 30,000.
3. Number of teachers using some of the project material: 30,000.
4. Total number of students using project materials: Unknown.
5. Totals stated are estimated and are for South Carolina only.
6. Names and locations of schools where the course is being taught:
 - a. Darlington District #1, Box 494, Darlington, South Carolina.
 - b. Clarendon District #3, Turbeville, South Carolina.
 - c. Marion District #1, Marion, South Carolina.
 - d. Greenville County Schools, Greenville, South Carolina.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day.
 - b. Summer Institute: Not at this time. They have been held in the past and if funding is available, will be held again in the summer.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: Yes. J.G. Ferguson Publishing Company.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Teacher inservice workshops through State Department of Education.
Work on inservice TV tapes.

P. PLANS FOR THE FUTURE:

Teacher workshops, Inservice TV programs, Development of student material.

- A. PROJECT TITLE: COMMUNITY EDUCATION AND ACTION PROGRAM
- B. PROJECT DIRECTOR: Mrs. W. Croft Jennings, Jr., P.O. Box 5761,
Columbia, South Carolina 29250. (803)253-1098
- C. PROJECT HEADQUARTERS:
1. 533 Harden Street, Columbia, South Carolina 29205.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 researcher, 1 secretary, 1 Director-volunteer.
- E. PROJECT HISTORY:
1. Principal originators: Columbia Environmental Coalition.
2. Date and place of Initiation: September 1972. Columbia, S.C.
3. Overall project purpose: To communicate to citizens their part in determining the preservation, restoration, and development of our environment. Awareness of their responsibility.
- F. PROJECT OBJECTIVES:
1. Speakers Bureau.
2. Office - central communications among groups and individuals in the state.
3. Use of TV and radio as educational media.
4. Workshops to educate people.
- G. MATERIALS:
1. Materials produced:
a. Annotated guide to all audio-visual aids available at little cost in State and Nation.
b. White papers on: Noise pollution, recycling in community, liquified petroleum gas, tidelands protection, monthly newsletter.
2. Free materials available: All of the above.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: For general public - slide shows on land use for South Carolina, channelization, beach erosion, local issues.
5. Additional materials you anticipate developing: Not answered.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: No.
b. Summer Institute: No.

c. Evening classes: Yes. 6 weeks.

d. Others: None.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

Ours is an environmental education program for the community and state. We have lectured across the state, set up an office for a central communications network among environmentalists, state agencies and public. We have prepared several research papers on issues for use by teachers and public. A speakers bureau for use by schools, groups and public. We have been active in educating legislators, state agency heads, governor's office people to environmental issues. A regular newsletter is sent to over 1000 people across the state, with research on a variety of issues. Several Action Alerts educate the voter to ways he can determine the outcome of issues. We monitor all A-95 projects for our area, all applications of permits to Army Corps of Engineers in Charleston and Savannah. We have held an environmental course through Adult Education programs.

L. PLANS FOR THE FUTURE:

1. More research papers available to the public.

2. More strenuous speakers bureau program.

3. Gather commitments from groups (of all types) for various issues.

4. Set up regular legislative watch on city and county council, and on new Board of Health and Environmental Control.

5. Produce larger and more comprehensive newsletter.

6. Formalize and organize the coordination of environmental groups activities in the state.

- A. PROJECT TITLE: ENVIRONMENTAL SCIENCE
- B. PROJECT DIRECTOR: Brice M. Latham, Consultant in Environmental Science, 420 N. Pleasantburg Drive, Greenville, South Carolina 29606. (803)242-6450
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: School superintendent, school trustees, School Conservation District (Greenville).
 2. Date and place of Initiation: August 1972.
 3. Overall project purpose: To enhance environmental education.
- F. PROJECT OBJECTIVES:
- Provide assistance to teachers in environmental science through workshops, nature trails, materials and direct help.
- G. MATERIALS: None.
- H. MATERIALS IMPLEMENTATION:
- We use "Curriculum Guide to Conservation Education - People and Their Environment" and other guides. Names and locations of schools where the materials are being used:
1. Grove Elementary School, Route 5, Piedmont, South Carolina 29673.
 2. Bryson Center (Middle) School, Fountain Mn, South Carolina 29644
 3. Tryon Street Elementary School, Tryon Street, Greenville, South Carolina 29651.
 4. Tanglewood Middle School, Route 8, Greenville, South Carolina 29611.
- I. TEACHER PREPARATION: I did not produce the materials being used.
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: No.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Five sessions - 1½ hours each.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Other: Special one day workshops.- 2 hours long - for individual schools.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
 6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

We have conducted two annual workshops - five sessions - $1\frac{1}{2}$ hours each, one 1 day workshop and five 2 hour workshops. We have set up 16 nature trails for 18 schools. We have conducted off-campus tours and special two to four day conservation camps.

L. PLANS FOR THE FUTURE:

We are considering establishing a Science Center for the district (94 schools).

- A. PROJECT TITLE: INTERLAKES ENVIRONMENTAL AND OUTDOOR EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Major L. Boddicker, Chester Area Schools,
Chester, South Dakota 57016. (605)489-2416
- C. PROJECT HEADQUARTERS:
1. Chester Area Schools, No. 34, Chester, South Dakota 57016.
2. Special facilities or activities available for visitor viewing: Yes. There are study sites and environmental education activities with teachers and students nearly every day throughout the school year, summer institutes and camp-outs during the summer months.
- D. PRINCIPAL STAFF: 1 persons employed full-time.
- E. PROJECT HISTORY:
1. Principal originators: James Simpson, Dakota State College, Madison, South Dakota and Cortland J. Carnes, Superintendent, Chester Area Schools.
2. Date and place of Initiation: September, 1970.
3. Overall project purpose: Set up and implement a viable, self-supporting and sustaining environmental education process and programs adaptable and transportable to other South Dakota school districts.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To develop and implement a practical and successful model environmental education program for schools in South Dakota.
b. To assemble from the environmental education groundwork laid by previous Title III and other public and private groups, a viable process and program which can be transported to other schools in this rural state.
c. Develop an environmental education process that will be accepted and implemented by 75%+ of in-service teachers at a minimal cost to school districts.
2. New instructional materials being produced: Yes. K-8, adaptable to 9-12 and college.
- H. MATERIALS PRODUCED:
1. K-6: Activity guides which follow the process and many of the ideas of the Environmental Science Center, Golden Valley, Minnesota. Teachers are encouraged to modify, rewrite, or write their own environmental education activities.
2. 7-12: 7-8 are adaptable to higher levels. Activities guides.
3. Others: Administrator's Environmental Education Evaluation Manual, Pretest for Administrators, Parents, Community Leaders and Teachers, A Process Questionnaire for Participant Teachers, A Survey of Teachers' Attitudes About Their Ability to Teach

Environmental and Outdoor Education Concepts, An Awareness and Attitude Survey Pretest for Grades 5 in Environmental Concepts, a newsletter for parents describing the program activities and purposes.

4. A 28 minute color film documentary entitled: "Environmental Education: An Educational Alternative".

5. A booklet of art activities, a booklet of rhymes to supplement environmental education activities, a booklet of bulletin board ideas in environmental education.

I. MATERIALS AVAILABLE FREE:

Copies of all materials listed are available free from the Interlakes Environmental and Outdoor Education Program of the Department of Public Instruction, Title III Office, Pierre, South Dakota 57501.

J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:

a. Additional activity guides.

b. A series of 4-8 filmstrips and sound tapes around the in-service training facet of the program.

2. Development of other materials anticipated:

a. An administrator's process guide for implementing environmental education.

b. A notebook of tips on environmental education implementation for teachers and administrators.

c. A guide to making environmental education equipment is being considered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 50+.

2. Number of teachers having adopted all of the project materials: 170.

3. Number of teachers using some of the project material: 300-500.

4. Total number of students using project materials: 3600.

5. Totals stated are estimated.

6. Names and locations of schools where the course is being taught:

a. Chester Area Schools, No. 34, Chester, South Dakota 57016.

b. St. Thomas Parochial School, Madison, South Dakota 57042.

c. Lake Central Schools, Madison, South Dakota 57042.

d. Ramona Independent School, Ramona, South Dakota 57054.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.

2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes. In cooperation with Dr. Clyde Brasher, Dakota State College, Madison, South Dakota 57042.

4. Kinds of teacher preparation programs available:

a. Workshops: Yes. 4 eight hour days for each grade teacher.

- b. Summer Institute: Yes. Two weeks.
- c. Evening classes: No.
- d. Others: On the job training in the field and classroom for each teacher in the program.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
- 6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes, by the participating teachers and administrators.
- 2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

- The following activities have been completed:
- 1. In-service teacher workshops - 2 hours after school - 24+.
 - 2. 1 - 5 day institute, April 1971 in cooperation with Dakota State College.
 - 3. 1 - 2 week workshop, July 1971 in cooperation with Dakota State College.
 - 4. 4 - 8 day workshops, K-8, with each teacher participating four days.
 - 5. 300+ "on the job" training sessions in the classroom and field trips.
 - 6. A pre-service training program established in March 1971 for 12 students who then worked in the Interlakes Environmental and Outdoor Education Program. Continued in 1972.
 - 7. A week long wilderness campout with 14 sixth graders, June 1971, was repeated in 1972 with 38 sixth graders.
 - 8. The environmental education activities units prepared and distributed.
 - 9. Four evaluation instruments assembled and tested.
 - 10. Five day workshop on individualizing environmental education instruction, May 1972.

P. PLANS FOR THE FUTURE:

Expand, test and improve, strive to improve content and process of activities. Emphasize problem solving using educators background and resources. Stress self reliance and development in teachers for making environmental education their show in their classroom. Refine and improve evaluation instruments and develop post-testing instruments.

Q. ERIC DOCUMENTS:

- 1. Nature's Alphabet. SE 016 950
- 2. Nature's Bulletin Board Ideas. SE 016 949
- 3. Nature's Art. SE 016 948

- A. PROJECT TITLE: THE CENTER FOR TEACHERS
- B. PROJECT DIRECTOR: Dr. John Czirr, McReynolds Hall, Austin Peay State University, Clarksville, Tennessee 37049.
(615)648-7187
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Teaching Materials and Media Production Facilities.
- D. PRINCIPAL STAFF:
10 full-time support and 28 part-time professors.
- E. PROJECT HISTORY:
1. Principal originator: M. R. Mayfield, Vice President for Development and Field Services.
2. Date and place of Initiation: June 1968.
3. Overall project purpose:
a. Preparation of teachers.
b. Retraining of in-service teachers.
- F. PROJECT OBJECTIVES:
To acquaint teachers, new and experienced, with new techniques and materials for teaching and to help teachers adapt such resources to their own needs.
- G. MATERIALS:
1. Materials produced: Our programs are mainly service oriented and utilize materials developed by other programs.
2. Free materials available: Not answered.
3. Materials produced that can be purchased: A wide variety of teaching aids are available to all pre-service science and math teachers at Austin Peay State University and are available, at cost, to teachers in our twenty-one county service region.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
We are involved with materials adaptation not materials development.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes: From one hour to one week.
b. Summer Institute: Yes. 3 weeks and 8 weeks, respectively.

c. Evening classes: Yes. 3 hours/week.

d. Other: Saturday workshops.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Many materials are available, etc., major curriculum project materials and equipment, laboratory apparatus, transparencies, slides, video tape recorders, films and film loops, sound recorders, environmental sampling kits.

6. Teaching materials commercially available: Yes. All sources.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Both internal and external evaluators--external were paid consultants but they were given a free hand.

2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. The Environmental Sciences Teacher Education Program of The Center for Teachers has produced twelve graduates who are now actively teaching, most of whom are teaching biology with curricula slanted to environmental topics. About twenty-four additional people who will become teachers upon graduation are currently in the program at various levels of development.

2. We have provided workshops dealing with environmental topics for approximately one hundred people who teach life science or biology. We have provided twenty-five high school students with four weeks of full-time involvement with their environment, teaching materials and audio-visual aids for both pre-service and in-service teachers at Austin Peay State University and within our immediate service region. We have provided special off-campus lecturers, some of whom conducted field trips for both pre-service and in-service teachers. We have provided free consultant service to twenty-one county school systems in Middle Tennessee and Southern Kentucky including free, full-day in-service programs in environmental science. We have also provided information workshops for approximately ninety-one principals, superintendents, and supervisors.

L. PLANS FOR THE FUTURE:

Whatever is requested by pre-service or in-service teachers and professors.

- A. PROJECT TITLE: MOBILE ENVIRONMENTAL EDUCATION LABORATORY PROJECT
- B. PROJECT DIRECTOR: Ronald B. Childress, 1701 E. Center Street,
Kingsport City Schools, Kingsport, Tennessee 37664.
(615)245-3155
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. The mobile environmental education laboratory is continuously available, either as a facility, or in use with students and teachers.
- D. PRINCIPAL STAFF: One person regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Ronald B. Childress, the Project Director and Jonathan Wert, Environmental Education's Specialist with T.V.A.
2. Date and place of Initiation: May 15, 1972. Kingsport City Schools.
3. Overall project purpose: To demonstrate and verify a new concept of environmental education for the Kingsport City School System. The purpose of a mobile laboratory for conducting environmental education is to provide in-service training to elementary, secondary, and post-secondary education personnel in environmental education.
4. Develop materials designed to assist the introduction of environmental studies in existing programs.
5. Develop curricula which will provide learning experiences leading to an understanding of environmental principles, problems and their causes, and possible solutions to those problems.
- F. OBJECTIVES:
1. Provide in-service training to elementary, secondary, and post-secondary education personnel in environmental education.
2. Develop materials designed to assist the introduction of environmental studies in existing programs.
3. Develop curricula which will provide learning experiences leading to an understanding of environmental principles, problems and their causes, and possible solutions to those problems.
- G. MATERIALS:
1. Materials produced: A collection of environmental investigations for grades K-12, and including in-service training activities. Entitled: Investigations for a Mobile Environmental Education Laboratory.
2. Free materials available: Information brochure describing the total project. Copies of the instructional activities as long as supply lasts.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 10.
2. Number of teachers having adopted all of the project materials: Not applicable.
3. Number of teachers using some of the project materials: 500.

4. Total number of students using project materials: Not applicable.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Washington-Lee Elementary School, 205 E. Sevier Street, Kingsport, Tennessee 37664.
 - b. Lincoln Elementary School, Summer Street, Kingsport, Tennessee 37664.
 - c. Robinson Junior High School, Jesse Street, Kingsport, Tennessee 37664.
 - d. Dobyms-Bennett High School, Legion Drive, Kingsport, Tennessee.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 8 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. A set of 3 activities included as a part of the instructional materials guide.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By project director, administrators, teachers, pupils.
2. Pertinent published research: None.

K. PROJECT SUMMARY:

The Mobile Environmental Education Laboratory Project was initiated in May, 1972. Initial actions included the designing and developing of the mobile unit. At the same time a summer workshop was held to develop materials for use with the unit. Project implementation was begun in September, 1972 and continued through June, 1973. Throughout project implementation, evaluation was carried out resulting in a final project evaluation available from the project director.

L. PLANS FOR THE FUTURE:

Although the official funding period for the project terminated as of June 15, 1973, the Kingsport City School System plans to continue increased implementation of the mobile unit project. As an example, the mobile unit will serve as a basic resource for conducting an experimental program based on a microwatershed approach to conducting environmental studies. In addition, multimedia resource materials will be developed to provide supplementary materials for mobile unit activities.

M. ERIC DOCUMENTS:

1. Investigations for a Mobile Environmental Education Laboratory.
SE 015 690
2. Mobile Environmental Education Laboratory. ED 073 922 (SE 015 689)

- A. PROJECT TITLE: UNIVERSITY OF TENNESSEE CONSERVATION EDUCATION WORKSHOP
- B. PROJECT DIRECTOR: A. Paul Wishart, University of Tennessee, College of Education, Knoxville, Tennessee 37916. (615)974-2433
Collaborates with James L. Barley, Department of Conservation, Nashville, Tennessee.
- C. PROJECT HEADQUARTERS:
1. Workshop held at Fall Creek Falls State Park, Pikeville, Tennessee. Otherwise, same address as above.
2. Special facilities or activities available for visitor viewing: Yes. State Park - three waterfalls, nature trails, visitor's center, state forests, strip mines, geological structures, etc.
- D. PRINCIPAL STAFF: 2 persons and secretaries regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: James L. Barley, Department of Conservation, Nashville and staff in College of Education, University of Tennessee, Knoxville.
2. Date and place of Initiation: Summer 1951 - Big Ridge State Park, Norris, Tennessee.
3. Overall project purpose: Teach conservation principles and practices to public school teachers of Tennessee.
- F. PROJECT OBJECTIVES:
1. Provide information relating to environmental issues - biology, geology, physical science, social sciences, etc.
2. Give practical field experience to teachers and graduate students interested in environmental education.
3. Learning how to organize and execute school camping programs.
4. Develop a personal commitment to the development of "action programs" at schools and in communities.
- G. MATERIALS:
1. Materials produced: Materials prepared by participants are reproduced and distributed for use in the students' community.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: No formal materials.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 2 weeks.

b. Summer Institute: No.

c. Evening classes: No.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

The University of Tennessee and the Tennessee Department of Conservation collaborative effort in conservation-environmental education has been in operation for 22 years. Enrollment in the summer of 1973 was 39. Average enrollment each year approximates 35. An effort is made to communicate via newsletters, periodic conferences and visits with former students.

L. PLANS FOR THE FUTURE:

Expansion of field visits to schools.

M. ERIC DOCUMENTS:

1. Investigations for a Mobile Environmental Education Laboratory.

SE 015 690

2. Final Report - Mobile Environmental Education Laboratory Project.

SE 016 928

- A. PROJECT TITLE: OUTDOOR EDUCATION DEPARTMENT
- B. PROJECT DIRECTOR: Miss Elizabeth Roller, 3912 Caylor Drive,
Nashville, Tennessee 37215. 298-3711
- C. PROJECT HEADQUARTERS:
1. Metro Board Annex-2601 Bransford Avenue, Nashville, Tenn.
37204.
2. Special facilities or activities available for visitor view-
ing: Yes.
- D. PRINCIPAL STAFF: 2 full-time persons, 1 part time person.
- E. PROJECT HISTORY:
1. Principal originators: Director of Special Projects and staff
of the Nashville Metro School System.
2. Date and place of Initiation: Summer 1966. Teachers workshop.
3. Overall project purpose:
a. To help teachers and students learn to use the out-of-
doors as a learning lab.
b. In this method of teaching the pupils may through obser-
vation and direct experiences develop appreciations,
skills, and understandings that will enrich and supplement
the indoor curriculum of the school.
- F. PROJECT OBJECTIVES:
1. To provide a teaching method for integrating specific subject
matter areas through the use of the out-of-doors.
2. To help students understand the problems of man and the environ-
ment and to deal with them on their own level.
- G. MATERIALS:
1. Materials produced:
a. K-6:
Outdoor Education Teachers Manual.
Manual for use at Nature Center (also student guides).
Using the School Site and Community as an Environmental
Study Area.
b. 7-12: None.
c. Others: Special units of study--Urban Ecology - What is
a City.
2. Free materials available:
a. Outline of project.
b. Lesson plans for on-school activities.
3. Materials produced that can be purchased:
a. Outdoor Education Manual K-6 - \$1.50.
b. Using the School Site and Community as an Environmental
Study Area - \$1.50.
c. Baggage tags for learning out-of-doors - \$1.00.
Obtain from Lib Roller, Environmental Education Department,
Nashville Metro Schools, Nashville, Tennessee 37204.

4. New instructional materials being developed: Yes. Grades K-6.
5. Additional materials being developed:
 - a. Units on History in the out-of-doors.
 - b. Nature crafts for the school site.
 - c. Outdoor education for the retarded.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 96.
2. Number of teachers having adopted all of the project materials: 1,000 plus.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 12,000 plus.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Berry School, 2202 Winford Avenue, Nashville, Tennessee 37211.
 - b. Dodson School, 4401 Chandler, Hermitage, Tennessee.
 - c. McKissick School, 915 38th Avenue N., Nashville, Tennessee.
 - d. Johnson School, 1200 2nd Avenue S., Nashville, Tennessee.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 week.
 - b. Summer Institute: Yes. 1 week.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. The teachers manuals are made available to the local colleges and University.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Not as such - only in relation to the program we offer.

K. PROJECT SUMMARY:

1. Started with Title I - 27 inner city schools.
2. One year under ESAP to help children being bussed across town learn to know and understand their school community.
3. Now a department under the school system.
4. School nature trails on 27 school sites.
5. Special unit teachings provided by staff for 26 schools (5th grade).
6. Manuals in hands of most of the teachers in 96 elementary schools.
7. Approximately 21 school gardens planted each year.

8. 1000 trees planted on school sites.
9. 23 conservation projects on school sites.
10. One week summer teacher workshop each summer.
11. Five years of school camping (not available now due to busing).
12. Nature center (not open this year due to busing).
13. 29 teacher kits available to teachers with materials and equipment - these go out about 176 times a year.

L. PLANS FOR THE FUTURE:

1. New program with 5th and 6th graders to make filmstrips of school and community problems - with script that can be added to kits now in use.
2. Reopen Nature Center and have week-end camping trips for 6th grades.
3. New units for use by teacher in school.
4. Archaeology digs for students at three school sites.
5. Work towards a nature trail on every school site.

M. ERIC DOCUMENTS:

Using the School and Community - An Environmental Study Area
(Teachers' Handbook). ED 071 917

- A. PROJECT TITLE: TEXAS ADVISORY COUNCIL ON ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: Joe B. Harris, Office of the Governor, Division of Planning Coordination, Box 12428, Capitol Station, Austin, Texas 78711. (512)475-2782
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Office of the Governor, Texas Education Agency, Coordinating Board, Texas College and University System.
 2. Date and place of Initiation: June 28, 1971.
 3. Overall project purpose: To design a state plan for environmental education in Texas.
- F. PROJECT OBJECTIVES:
1. Design of state plan.
 2. Design and conducting of statewide environmental education resources and needs surveys.
 3. Promotion of Environmental Education Week in Texas.
 4. Compilation of statewide annotated environmental speakers list.
- G. MATERIALS: Statewide annotated environmental speakers list.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
- The Texas Advisory Council on Environmental Education had as its main charge to design a comprehensive state master plan for environmental education in Texas. The Texas State Plan for Environmental Education was completed in the spring of this year and presented to the Governor in May for his consideration.

In conjunction with the writing of the State Plan, the Council engaged in several activities which are listed below:

1. A statewide environmental education resources and needs survey of public school principals, teachers and audio-visual specialists was conducted in cooperation with the Texas Education Agency.

2. A statewide environmental education resources and needs survey of business, industry, environmental groups, and appointed and elected officials was conducted in cooperation with The University of Texas at Austin.
3. The Council conducted a statewide resources and needs survey of colleges and universities.
4. The Council is in the process of compiling an annotated environmental speakers list.
5. The Council sponsored a statewide Environmental Education Week.
6. In cooperation with the Texas Education Agency, the Council published "Suggested Activities for Environmental Education" for distribution to schools during Environmental Education Week.
7. The Council published an environmental awareness brochure entitled, "Be Part of the Solution".

I. PLANS FOR THE FUTURE:

1. Completion of the environmental speakers list.
2. Analysis of data received in various environmental education surveys.
3. If the recommendations contained in the Texas State Plan for Environmental Education are accepted, the State will establish the Texas Office of Environmental Education.

- A. PROJECT TITLE: TEXAS WATER QUALITY BOARD TEACHERS WORKSHOP PROGRAM
- B. PROJECT DIRECTOR: Harold C. Jobes, Chief, Environmental Education Program, Texas Water Quality Board, P.O. Box 13246, Capitol Station, Austin, Texas 78711. (512)475-4686
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Visitors welcome to attend workshops.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Harold D. Jobes, Texas Water Quality Board.
2. Date and place of Initiation: September 1972 - Austin, Texas.
3. Overall project purpose: By the use of lecture, discussion, visual aids, demonstrations and practical experience, those classroom teachers of Texas charged with the responsibility of instructing conservation and environmental education courses will be provided a framework for developing an interesting and factual unit on water quality management.
- F. PROJECT OBJECTIVES:
1. To relate to the participant the unique physical and chemical properties of water on which all life depends.
2. To inform the participant of deleterious effects on water as it passes through the hydrologic cycle and by the advent of domestic and industrial pollution.
3. To provide the participant a basic knowledge of parameters used to determine water quality and the method by which each is determined.
4. To introduce the participant to the coordinated effort taking place in the field of water pollution abatement.
5. To suggest realistic efforts at water pollution abatement which can be made by the "average" citizen.
- G. MATERIALS:
1. Materials produced: Handouts, 35 mm slides, charts, graphs, test kits, etc. are used in the teacher training program. The participants of the teachers workshops are primary and secondary education.
2. Free materials available: Packets of material are prepared for each teacher participating in the training program.
3. Materials produced that can be purchased: Training materials are not for sale.
4. New instructional materials being developed: Yes. Primary and secondary.
5. Additional materials being developed: Teaching handouts and visual aids used in the program are constantly revised.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Statistical data not available.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers participating in one day workshop and the Texas Water Quality Board Environmental Education Program staff.
2. Pertinent published research studies: No publications prepared on evaluation.

K. PROJECT SUMMARY:

The Texas Water Quality Board Environmental Education Program staff, although involved largely in the training of water and sewage works operators and individuals actively engaged in the water pollution abatement, has an active teachers training program in progress. Over the past year 8 one day teacher workshop programs and 6 one-half day workshops have been conducted. These teacher training programs are scheduled through public schools, educational service centers and colleges and universities. Over 300 teachers have participated in these programs over the past year.

L. PLANS FOR THE FUTURE:

The teacher training program presently consists of approximately six to eight hours of classroom instruction at this time. In areas where interest warrants additional activities, the classroom instruction may be supplemented with field trips and field work which might include basic water analysis on stream programs, tours through wastewater treatment plants, etc.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION
- B. PROJECT DIRECTOR: M. T. McLean, Resource Specialist, 6100 N. Guadalupe, Austin, Texas 78752. (512)452-9331
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 person regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Dr. J. W. Edgar, Superintendent, Austin I.S.D.
2. Date and place of Initiation: 1948-1949.
3. Overall project purpose:
a. Awareness of natural resources, processes, cycles.
b. Consideration for consequences of environmental alterations.
- F. PROJECT OBJECTIVES:
1. Direct experiences in observation, investigation, etc. of environmental situations in the students' neighborhood or community.
2. Correlation of environmental study activities with concepts developed in the standard classroom curriculum guides.
- G. MATERIALS:
1. Materials produced:
a. K-6: Curriculum guides in social studies, slide program presentations (35mm), study trips.
b. 7-12: Slide program presentations, study trips.
2. Free materials available: None.
3. Materials produced that can be purchased: Sets of Social Studies (k-6) Teaching Guides which include Environmental Education Modules as well as other topics - \$48.00 per set. Purchase information: Assistant Superintendent, Division of Instruction and Development, Austin I.S.D., 6100 N. Guadalupe, Austin, Texas 78752.
4. New instructional materials being developed: Yes. For grades K-12.
5. Additional materials being developed: 35mm slide presentations, as environmental situations develop or change.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 60.
2. Number of teachers having adopted all of the project materials: 500.
3. Number of teachers using some of the project materials: 1,000.
4. Total number of students using project materials: 15,000.
5. Totals stated are estimated.

6. Names and Locations of schools where the program materials are being used:

- a. Pecan Springs Elementary School, 3100 Rogge Lane, Austin, Texas 78733.
- b. Sims Elementary School, 1203 Springdale Road, Austin, Texas 78721.
- c. Palm Elementary School, 706 E. First Street, Austin, Texas 78701.
- c. Doss Elementary School, 7005 Northledge, Austin, Texas 78731.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Movies, filmstrips; simulated games.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

35mm slide programs, resource speakers, study trips to make students aware of natural resources and community environmental situations and to reinforce standard curriculum concepts in an interdisciplinary fashion.

L. PLANS FOR THE FUTURE:

Same type of activities as present, but revised to fit changes in environmental situations in the community.

- A. PROJECT TITLE: TOWN LAKE ENVIRONMENTAL AWARENESS STUDY
- B. PROJECT DIRECTOR: Jo Fay Godbey, SMU Box 945, Dallas, Texas
75275. (214)692-2532
- C. PROJECT HEADQUARTERS:
1. Fondren Library West, Dallas, Texas 75275.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 5 persons were employed in the the project.
- E. PROJECT HISTORY:
1. Principal originators: Center for Urban and Environmental Studies, Dallas Chapter American Institute of Architects, Greater Dallas Planning Council.
2. Date and place of Initiation: August 1971.
3. Overall project purpose: To develop community awareness of the environment.
- F. PROJECT OBJECTIVES:
1. To create sensitivity in individuals to the environment.
2. To understand the need for an interdisciplinary approach to environmental problems.
3. To emphasize the need for social values to be included in making environmental decisions.
- G. MATERIALS:
1. Materials produced: A film, "If You Care Enough" for adult use.
2. Free materials available: Brochures on the project.
3. Materials produced that can be purchased: Town Lake Environmental Awareness Study Final Report - \$1.00.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION: Not applicable.
- K. PROJECT SUMMARY:
The two most recent conferences were:
New Perspectives on Dallas Public Transportation - March 22-24, 1973.
Humanizing the City Environment, May 1-2, 1973.
- L. PLANS FOR THE FUTURE:
Conferences on environmental issues.
- M. ERIC DOCUMENTS:
Town Lake Environmental Awareness Study Final Report. SE 016 988

- A. PROJECT TITLE: ECOLOGICAL APPROACH TO ADVANCED BIOLOGY - BIOLOGY 5-6
- B. PROJECT DIRECTOR: Earl R. Greathouse, Dallas Museum of Natural History, P.O. Box 26193 Fair Park Station, Dallas, Texas 75226.
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. The museum.
- D. PRINCIPAL STAFF: 1 persons regularly employed plus 7 teaching members of the museum staff.
- E. PROJECT HISTORY:
1. Principal originator: Earl R. Greathouse.
 2. Date and place of Initiation: November 1968.
 3. Overall project purpose:
 - a. Ecological approach to teaching advanced biology with aid the Dallas Museum of Natural History.
 - b. To teach ecology outside of the regular classroom.
- F. PROJECT OBJECTIVES:
1. To teach ecology to advanced high school students.
 2. To teach field techniques in collecting, preserving and measurements.
- G. MATERIALS:
1. Materials produced: Tapes and filmstrips for use in this class and for loan to other high school teachers in the system.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: None.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Twenty-three students a year use all of our materials. They are from ten different high schools and come to the museum for $\frac{1}{2}$ day. They take two courses and physical education in their home schools and receive one full credit each semester here at the museum.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: No.
 4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. $\frac{1}{2}$ day.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: None.

6. Teaching materials commercially available: None.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By Earl R. Greathouse.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: ENVIRONMENTAL AWARENESS: THE COMMUNITY/THE LIBRARY
- B. PROJECT DIRECTOR: Margaret Warren, 1954 Commerce, Dallas Public Library, Dallas, Texas 75201. (214)748-9071
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: No special personnel - only regular Community Education Staff of Dallas Public Library.
- E. PROJECT HISTORY:
1. Principal originators: Community Education Office, Dallas Public Library.
 2. Date and place of Initiation: July 1972 - publication, October 1972 - workshop.
 3. Overall project purpose: Open communication channels to provide better access to information about environmental problems and resources for their solution.
- F. PROJECT OBJECTIVES:
1. Involve libraries in the northeast Texas area in actively working with area environmental groups and agencies to improve the flow of environmental information.
 2. Increase public awareness of the Library as "community information resource."
- G. MATERIALS:
1. Materials produced:
 - a. "This Paper is About Ecology" prepared for the community and distributed in major metro newspapers.
 - b. Lists of publication and resources of special interest.
 2. Free materials available: Those listed above.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: Up to date directory of environmental groups.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
- Although not produced for schools, our paper has been used at all kinds of community programs and workshops including schools and universities.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes. By the Environmental Coalition of North Central Texas and the Environmental Protection Agency.
 2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

Our whole project was directed toward coordination of efforts to provide better access to environmental information. We were interested in raising awareness levels in the following areas:

1. The wide range of community and regional activity directed toward environmental matters.
2. The complexity of getting information necessary for sound planning for environmental projects.
3. The benefit of utilizing resources of a wide range of agencies for planning and implementing environmental projects.
4. The possibilities for improved communication and better information access if the public library functions as "Community Information Resource Center."

These aims were seen as beneficial to everyone interested in environmental matters and community groups were most willing and interested in the project as a cooperative venture.

L. PLANS FOR THE FUTURE:

Publication of lists of environmental organizations in the community and other environmental resources.

- A. PROJECT TITLE: LIVING CURRICULUM - GRADE 5
- B. PROJECT DIRECTOR: Ted Hofsiss, 3210 West Lancaster, Ft. Worth,
Texas 76133. (817)336-8311
- C. PROJECT HEADQUARTERS:
1. 5100 El Campo, Ft. Worth, Texas 76107.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 9 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Staff of Fort Worth Public Schools.
2. Date and place of Initiation: September, 1972.
3. Overall project purpose: To provide direct environmental experiences which are correlated with all subject areas.
- F. PROJECT OBJECTIVES:
To provide experiences for developing the appreciation, the attitudes, and the knowledge necessary for students to become informed citizens, willing to make intelligent decisions concerning environmental problems.
- G. MATERIALS:
Environmental Education Handbook - Level 5.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 73.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: 231.
4. Total number of students using project materials: 6500.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Not answered.
- I. TEACHER PREPARATION: None.
- J. MATERIALS EVALUATION: None.
- K. PROJECT SUMMARY:
1. Handbook distributed to all 5th grade teachers in district.
2. All 5th grade students participated in field trips to Fort Worth Public Schools Outdoor Learning Center during 1972-73 school year.
- L. PLANS FOR THE FUTURE:
1. Handbook reprinted and sent to every elementary school in 10 county ESC Region XI.
2. Fort Worth 5th grade students will participate in one day or 2½ day field trips to Outdoor Learning Center during 1973-74 school year.

- A. PROJECT TITLE: EARTH AWARENESS FOUNDATION
- B. PROJECT DIRECTOR: Eugene E. Horton, Suite 209, 1730 NASA Blvd.,
Houston, Texas 77058. (713)333-3101
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Traveling lecture/demonstration unit known as the Earthmobile - visits schools.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Astronauts Rusty Schweickart and Walt Cunningham, cartoonist John Hart (B.C. and The Wizard of Id) and key managers in aerospace industry.
2. Date and place of Initiation: May 1970.
3. Overall project purpose: To upgrade student/teacher understandings in areas of environmental education, and to stimulate motivation and involvement in meaningful community improvement programs throughout the United States and several foreign countries.
- F. PROJECT OBJECTIVES:
1. Increase public awareness of environmental issues through project involvement.
2. Design and distribute environmental information and training materials, including curriculum supplements and "How-To-Do-It" literature on successful broad-based community improvement programs.
3. Present awards, fellowships and other forms of recognition to participants working in Earth, I Care chapters and clubs.
- G. MATERIALS:
1. Materials produced: Booklets on Recycling, Land Use, Water Quality Study, Trash Dash, Resources, etc. (secondary and teachers). Little People's Litter Parties.
2. Free materials available: Materials available only to enrolled members of Earth, I Care.
3. Materials produced that can be purchased:
a. Starting a New Club - \$1.00.
b. Eco-Core Report - \$1.00.
c. Little People Litter Party - \$.50.
d. Trash Dash - \$.50.
e. Recycling - \$1.00.
f. Resources - \$1.00.
g. Water Study - \$2.00.
h. Slide Presentation Sets - \$5.00.
i. Earth, I Care Newsletter - \$5.00 annually.
4. New instructional materials being developed: Yes. Primary and secondary.
5. Additional materials being developed: Quarterly 4-color magazine on environmental awareness and community planning. \$6.00 per year or \$10.00 for two years. Name: TELESIS. First issue in circulation December 1972.

6. Present commercial association: Yes. The Mathis Company of Houston (lithographer). All artwork, editorial and production effort accomplished by the Foundation as staff work or under contract.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 70.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 4,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Clear Creek High School, League City, Texas.
 - b. Clear Lake High School, Clear Lake City, Texas.
 - c. Memorial High School, Houston, Texas.
 - d. Johnston Junior High School, Houston, Texas.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. One day each fall.
 - b. Summer Institute: Yes. Three one-week sessions planned for July 1974. Wimberley, Texas.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Booklets on water quality study techniques.
6. Teaching materials commercially available: Yes. Available at \$10.00 copy from this Foundation. (64 page report on methodology, organization, data acquisition, objectives and accomplishments).

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. NASA, University of Texas, University of Houston, Texas A&M, EPA.
2. Pertinent published research studies: 1973 report in preparation.

K. PROJECT SUMMARY:

1. Student fellowships - Summer Water Quality Surveys.
2. Earthmobile - Traveling lecture/demonstration van.
3. Marine Research Vessel - Student orientation for summer Water Quality Studies.
4. Newsletter to corresponding members (monthly).
5. Magazine 4-color quarterly - to corresponding members.
6. Conference Center (in planning) Wimberley, Texas for overnight use of Earth, I Care club members and adult advisers. Environmental workshops and seminars, community planning, land use studies.

L. PLANS FOR THE FUTURE:

Traveling 45 foot walkthrough exhibits van, partially funded by the EPA, to visit schools throughout the U.S. describing the President's Environmental Merit Awards Program. Due date for completion: January 1976.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION FOR ALL SEASONS IN UTAH COUNTY, UTAH
- B. PROJECT DIRECTOR: Lyle R. Tregaskis, 50 North Center, American Fork, Utah 84003. (801)756-3576
- C. PROJECT HEADQUARTERS:
1. 50 North Center, American Fork, Utah.
 2. Special facilities or activities available for visitor viewing: Yes. A new planting of a school landscape. Camp purchased in July 1972, complete with housing facilities. Camp manual is prepared.
- D. PRINCIPAL STAFF: All employees are from our regular staff.
- E. PROJECT HISTORY:
1. Principal originator: Calvin Walker about 15 years ago. The program is now broader than he considered.
 2. Date and place of Initiation: The federal grant was for 3 years starting in 1967.
 3. Overall project purpose:
 - a. A fifth grade summer camp expanded to upper grades grades through the school year.
 - b. Extension of the classroom K-12 by organizing the school ground for instruction; providing key-sort cards for field trip guidance; providing a teacher manual for school neighborhood use; providing kits of materials and equipment to support written ideas; provide behavioral objectives for grade level guidance in developing scope and sequence; organizing ecological sites for best use by students and teachers.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. To coordinate with government agency leadership on problems of common concern.
 - b. To provide teachers with field training in environmental education.
 - c. To develop information file and kits on environmental resources.
 - d. To develop field laboratory sites.
 - e. To develop a curriculum guide.
 2. New instructional materials being produced: We are extending them for all grades.
- H. MATERIALS PRODUCED:
1. K-6:
 - a. Teacher's Guide for developing school and neighborhood resources.

- b. Keysort card write-ups for some suggested field trip experiences.
 - c. Some film strips and tapes which have direct application to the local scene. One deals with the history of home development in the area - architecturally and by materials used.
- 2. 7-12:
 - a. Some application of the teacher's guide.
 - b. Keysort cards.
 - c. Some filmstrip development.
 - 3. Others: A camp manual in loose-leaf format.

I. MATERIALS AVAILABLE FREE: None.

J. MATERIALS PURCHASABLE:
Teachers Manual - \$5.00. Out of print.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

- 1. Other materials currently being developed:
 - a. Additional keysort cards.
 - b. Refinements in camp manual.
 - c. A brief on local habits of 80 species of birds.
- 2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION: Not known for sure. Teacher reception seems very positive.

M. TEACHER PREPARATION:

- 1. Consultant service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: None now scheduled.
- 4. Kinds of teacher preparation programs available: None now scheduled.
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Commercial availability of materials: No.

N. PROJECT EVALUATION: We had an evaluative device but the lateness of the published materials invalidated our measurements.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

- 1. Use of students as group leaders for younger students.
- 2. In-service classes of instruction not offered in our state previously:
 - a. Three week course of ecology in a local canyon - a different site daily, utilizing all available agency personnel with other specialists.
 - b. Field bird identification class.
 - c. Entomology - locating and mounting insects with simple identification.

3. Partial listing of behavioral objectives in several subject areas.

P. PLANS FOR THE FUTURE:

The district has recently purchased an outdoor facility which is available the year round to class groups. Each teacher organizes his own program, but the in-service training has been successful enough that most teachers can conduct a very successful overnight experience. Some groups have well trained high school students accompanying them who serve as small group leaders.

- A. PROJECT TITLE: THE CLEARFIELD ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: LaMont Jensen, 931 South 1000 East, Clearfield,
Utah 84015. (801)825-2216
- C. PROJECT HEADQUARTERS:
1. Clearfield High School, Clearfield, Utah 84015.
2. Special facilities or activities available for visitor viewing: Yes. Environmental Research and Project Laboratory open daily.
- D. PRINCIPAL STAFF: 2 persons employed full-time, 1 part-time.
- E. PROJECT HISTORY:
1. Principal originator: LaMont Jensen.
2. Date and place of Initiation: September 1970.
3. Overall project purpose: To motivate minority youth to become actively involved in environmental sciences.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
1. Materials produced:
a. K-6: None.
b. 7-12: Field Studies-Man and the Ecosystem Summer Environmental Studies Supplement.
c. Others: Several research studies on air, noise, population and ecosystem modification in general.
2. Free materials available: All materials above are free upon request.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. Full year.
b. Summer Institute: No.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Environmental Research Center.
6. Teaching materials commercially available: None.
- J. MATERIALS EVALUATION: Not applicable.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

1. Full year environmental ecology.
2. Open Lab. Environmental Research Center.
3. Evening courses.

- A. PROJECT TITLE: GRAND COUNTY ENVIRONMENTAL ADVISORY COMMITTEE
- B. PROJECT DIRECTOR: Mrs. Louise Hetzel, West 4th North, Moab, Utah
84532. (801)253-1871
- C. PROJECT HEADQUARTERS:
1. West 4th North, Moab, Utah 84532.
2. Special facilities or activities available for visitor viewing: Yes. Working on environmental study area.
- D. PRINCIPAL STAFF: 8 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Mrs. Louise Hetzel.
2. Date and place of Initiation: October 1969.
3. Overall project purpose: To help children become aware of what is around him. To help him make a sound judgement in dealing with not only the environment but industry.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
a. K-6: "The Grand Environment."
b. 7-12: "The Grand Environment." Summer program.
2. Free materials available: None.
3. Materials produced that can be purchased: "The Grand Environment - A Value for Life" \$1.00.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 4.
2. Number of teachers having adopted all of the project materials: 100.
3. Number of teachers using some of the project materials: 60.
4. Total number of students using project materials: 2,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Grand County Junior High School, Moab, Utah.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 3 days.
b. Summer Institute: Yes. 1 week.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. "The Grand Environment."

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

We have been holding classes for students from Granite and Salt Lake School District. During the summer of 1974 we have plans for a summer class of 150 4th grade students from Granite School District. Time - 4 days. Also have walks for children through the Park Service. These take place in the summer and each walk lasts two hours.

L. PLANS FOR THE FUTURE:

One of our teachers is writing a new program for our summer school. He is a member of our committee.

- A. PROJECT TITLE: BLUE MOUNTAIN ENVIRONMENTAL SCHOOL
- B. PROJECT DIRECTOR: Duane Keown, San Juan High School, Blanding,
Utah 84512. (801)678-2831
- C. PROJECT HEADQUARTERS:
1. Box 218, Monticello, Utah 84535. (801)587-2201
2. Special facilities or activities available for visitor viewing: Yes. Slide sound presentation - 25 minutes.
- D. PRINCIPAL STAFF: 5 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Dr. K. M. Topham, L. P. Bailey,
D. Keown, D. Rowley.
2. Date and place of Initiation: 1969 - summer.
3. Overall project purpose: Present the effects of man on the environment and contrast with his short existence on this planet.
- F. PROJECT OBJECTIVES: Not answered.
- G. MATERIALS:
1. Materials produced: A-V materials, complete curriculum (two week) for grades 7-12.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials being developed: Not answered.
6. Present commercial association: Yes. A recruitment film.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: .2.
3. Number of teachers using some of the project materials: 2.
4. Total number of students using project materials: Unknown.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Monticello High School, Monticello, Utah 84535.
b. San Juan High School, Blanding, Utah 84512.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
1. Has the effectiveness of the materials been evaluated: Yes.
By project staff.
2. Pertinent published research studies: None.
- K. PROJECT SUMMARY: Not answered.
- L. PLANS FOR THE FUTURE:
Summer workshops.

- A. PROJECT TITLE: HIDDEN HAVEN - ENVIRONMENTAL EDUCATION OUTDOOR CLASSROOM
- B. PROJECT DIRECTOR: Chester Benson, 128 W. 100 N., Parowan, Utah
84761. (801)477-3513
- C. PROJECT HEADQUARTERS:
1. Parowan Elementary School, Parowan, Utah 84761.
(801)477-3946
2. Special facilities or activities available for visitor viewing: A tour of the area can be arranged at the Parowan Elementary School.
- D. PRINCIPAL STAFF:
Participants are teachers on the staff at Parowan Elementary School.
- E. PROJECT HISTORY:
1. Principal originator: Chester Benson.
2. Date and place of Initiation: 1967-68.
3. Overall project purpose: To make students aware that the way man uses the natural resources is fundamental to the quality of his living and to the maintainance of a continuous satisfactory standard of living.
- F. PROJECT OBJECTIVES:
1. To understand that man and animals depend upon the natural resources.
2. To understand how natural resources are formed and used.
3. To learn that natural resources are damaged by wrong use.
4. To emphasize the need for proper use of the natural resources as the basis for any permanent program of conservation.
5. To learn the value of some common natural resource conservation practices and why they are used.
6. To develop an understanding of the deponce of man and civilization on natural resources.
7. To understand that man's health and well being depends upon the quality of the natural resources.
- G. MATERIALS:
1. Materials produced: We have been using resource materials from many different sources.
2. Free materials available: Trail Guide.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Am updating the trail guide.
5. Additional materials being developed: When funds become available we plan on developing a film strip or slide on specific things such as insects, flowers, trees, etc. which grow in the area.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 5.
2. Number of teachers having adopted all of the project materials: Unknown.

3. Number of teachers using some of the project materials: 10.
4. Total number of students using project materials: 265.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Parowan High School, Parowan, Utah.
 - b. Parowan Elementary School, Parowan, Utah.
 - c. North Elementary School, Cedar City, Utah.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: Yes - if requested.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. From the Southern Utah State College at Cedar City, Utah.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. About $1\frac{1}{2}$ miles of self guided trails.
2. A "Council Circle" seating approximately 50 people.
3. A "Fire Circle" seating 50 or more people.
4. A seating area for people doing creative writing.
5. Brochure for self guided tour listing, explaining and identifying 18 points of study.
6. Installed 18 numbered posts along self guided trail.
7. Six identifying and directional signs (all routed and stained) for trails and gathering areas.
8. A three part red wood routed name and area description sign.
9. Lay out (tentative) of in excess of four miles of combination hiking and ecology trails.
10. Four bridges over streams along trail.
11. An additional $1\frac{1}{2}$ miles of trails.
12. Development to date has been through student involvement.

L. PLANS FOR THE FUTURE:

Involving students in studies in the area.

- A. PROJECT TITLE: CLEAR CREEK SUMMER CAMP
- B. PROJECT DIRECTOR: Rowe Zwahlen, Raymond Rachele, 651 North 6th East, Price, Utah 84501. (801)637-1655
- C. PROJECT HEADQUARTERS:
1. 65 North 4th East, Price, Utah 84501. (801)637-1732
 2. Special facilities or activities available for visitor viewing: Yes. We welcome visitors for observation at the camp site.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: J. Grant Kilfoyle, Superintendent, Carbon School District; William J. Bates.
 2. Date and place of Initiation: 1962 - summer.
 3. Overall project purpose: To provide environmental, recreational, social, physical and avocational activities for boys and girls.
- F. PROJECT OBJECTIVES:
1. Environmental appreciation.
 2. Physical development.
 3. Social interaction.
- G. MATERIALS:
1. Materials produced: Not answered.
 2. Free materials available: Copies of camp formats are available upon request.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: Yes. Grades 4-6.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 6.
 2. Number of teachers having adopted all of the project materials: 3.
 3. Number of teachers using some of the project materials: 12.
 4. Total number of students using project materials: 600.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Durrant Elementary School, 651 N. 6E, Price, Utah 84501.
 - b. Price Elementary School, Price, Utah 84501.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
 2. In-service education program for teachers using the materials: No.
 3. Pre-service training program for teachers desiring to use the materials: Yes.
 4. Kinds of teacher preparation programs available: None.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Not answered.
6. Teaching materials commercially available: Not answered.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By individual teachers.
2. Pertinent published research studies: Not answered.

K. PROJECT SUMMARY:

1. Summer camp activities.
2. Extended year environmental camps.

L. PLANS FOR THE FUTURE:

Similar to the past, with added emphasis on the secondary age level.

- A. PROJECT TITLE: BIG SPRING
- B. PROJECT DIRECTOR: Monroe G. Gallier, 150 South 500 East, Provo, Utah 84601. (801)373-7650
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. We have a summer camp.
- D. PRINCIPAL STAFF: 30 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Monroe G. Gallier, Ned Allred.
 2. Date and place of Initiation: 1968 - Provo, Utah.
 3. Overall project purpose: An outdoor education program for elementary children of Provo City Schools.
- F. PROJECT OBJECTIVES:
1. To increase the students' appreciation and understanding of the interdependence and interrelationship of the earth's natural resources.
 2. To help students grow in ability to accept responsibility for doing all they can to maintain and make wise use of resources in their environment in order that people now and in the future may receive maximum benefit from these resources.
 3. To provide opportunities for students to develop and improve their skills and techniques in using natural resources.
 4. To guide students in developing understanding of the fact that, in improvement of present and future living, there is no substitute in science and technology for wise use and care of the earth's present resources.
 5. To enable students to develop respect for all resources, regardless of ownership, public or private.
 6. To help students increase their appreciation of the value of natural resources in preserving and improving ways of living.
 7. To assist students in developing an understanding of the interrelationships of conservation in the many subject matter fields.
 8. To guide students in developing an awareness for active conservation practices by everyone.
- G. MATERIALS:
1. Materials produced: We use materials developed by our teachers and administration staff. We use a wide variety of films and filmstrips. We go into the field and have children develop a lot of their own materials.
 2. Free materials available: None.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 10.
2. Number of teachers having adopted all of the project materials: 30.
3. Number of teachers using some of the project materials: 30.
4. Total number of students using project materials: 375 per year.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Our program is a summer program and is not developed for a fall school use.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Not answered.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 1 week each summer.
 - b. Summer Institute: Not answered.
 - c. Evening classes: Not answered.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Only a survey of children in program and their parents.

K. PROJECT SUMMARY:

1. This is a three week outdoor education program for 5th grade children with one week in a camp.
2. There are four field trips the first two weeks.
3. There are three groups of children.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: GRANITE SCHOOL DISTRICT MILL HOLLOW CENTER
- B. PROJECT DIRECTOR: Dr. Ronald S. Beckstrom, Granite School District,
340 E. 3545 South Street, Salt Lake City, Utah 84115.
(801)268-8213
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Displays, maps, printed matter.
- D. PRINCIPAL STAFF: 90 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Granite School District, Vinta National Forest, Utah State Department of Public Instruction.
2. Date and place of Initiation: 1964 - near Woodland, Utah.
3. Overall project purpose: Science, environment - A multi-disciplinary approach - education.
- F. PROJECT OBJECTIVES:
1. Teach field sciences in a natural setting.
2. Student participation in environmental improvement projects.
3. Provide each student in district opportunity to participate.
- G. MATERIALS:
1. Materials produced:
a. K-6: Teacher Guide Grade 4-6, Student Field Manual.
b. 7-12: Teacher Guide and Student Field Manual.
2. Free materials available: Program description; limited quantity of field guides and teacher guides.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 36.
2. Number of teachers having adopted all of the project materials: 120.
3. Number of teachers using some of the project materials: Not known.
4. Total number of students using project materials: 4,000.
5. Totals stated are definite except for number 4.
6. Names and locations of schools where the program materials are being used: The materials are used at our project center. Extent of use elsewhere is not known.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 days at center.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. A multi-disciplinary approach to science and environmental education in a remote, primitive, mountain setting. During June-October 1973, 54 teachers received three days each, in-service training at the center, and 3,577 students accumulated 12,136 days of education in residence at the center.
2. A lodge, six dormitories, water, sewage and electrical and heating systems have been developed to support a maximum of 225 residents.

L. PLANS FOR THE FUTURE:

Although improvements shall be sought, the basic program shall continue as at present.

- A. PROJECT TITLE: THE JORDAN RIVER - WHAT IT HAS BEEN - WHAT IT IS NOW -
WHAT IT MIGHT BECOME
- B. PROJECT DIRECTOR: Glen Soulier, Boone Colegrove, George Shell,
Lowell Boberg - Co-directors, 9361 S. 400 E., Sandy, Utah
84070. (801)255-6891
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 4 co-ordinators, 8 teachers regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: 4 coordinators (English, Math., Social Studies, Science).
2. Date and place of Initiation: January 1973.
3. Overall project purpose: Involve students from four disciplines in an in-depth environmental study of the Jordan River.
- F. PROJECT OBJECTIVES:
Help students gain a sense of the importance of the Jordan River in their environment and to become acutely conscious of environment as one of their major concerns of the present and the future.
- G. MATERIALS:
1. Materials produced: Not answered.
2. Free materials available: Description and report of outcome student evaluation.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: No.
5. Additional materials being developed: Film - summer 1974.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: Not answered.
2. Number of teachers having adopted all of the project materials: Not answered.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 160.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used: Summer program only.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.

4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 6 weeks.
 - b. Summer Institute: No.
 - c. Evening classes: Not answered.
 - d. Other: In association with resource representation.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By student and teacher participants.
2. Pertinent published research studies: The evaluation procedure used in the Jordan River Summer School Program suggests that the program was highly successful in terms of learning outcomes achieved by the participants.

K. PROJECT SUMMARY:

1. A six mile canoe trip, an overnight camp-out, conducting water and soil tests, mapping sections of the river, visits to the state prison, the state historical society, a museum of Indian artifacts, a water purification and sewage treatment plant, storm sewers, drainage areas, painting pictures of the river, making a documentary film and slide-tape programs about the river are among learning activities that were part of the Jordan School District's summer environmental program for secondary students. During two three-week sessions, sixty students made the Jordan River their home each morning as they learned first-hand about the river and the various facets of its impact on the environment of Salt Lake County. The program offered one-half unit high school credit in any one of four academic disciplines--English, Social Studies, Mathematics, or Science.
2. Conducting the program were eight high school teachers, two from each academic discipline, (English, social studies, math., and science). The program itself began with a series of meetings of the coordinators with experts from all phases of environmental concern--soil conservation, forestry, Bureau of Land Management, Bureau of Reclamation, Salt Lake County Health Department, and representatives of the Jordan River Project--to gain their ideas and to enlist their cooperation in the program. Then the program itself was developed in a series of weekly planning meetings involving the coordinators, the teachers assigned to the program, and representative students from each of the district's four high schools. The learning activities were all "student-tested" in the planning stage; that is to say, they either met with enthusiastic approval from the students on the planning committee, or they were suggested by them and approved by the coordinators and teachers.
3. The planning sessions developed twenty-four projects, widely varied in nature--scientific, academic, aesthetic, or even recreational in their appeal--yet all directly or indirectly concerning the Jordan River. Most projects could be completed within a two-hour block, thereby making it possible for a student to elect two projects per day. Some were continued, on-going activities that required some time each day throughout the

session. Projects were varied in type and nature--some involving extensive mathematical computation, some requiring writing, others scientific experimentation, and still others analysis of the social significance of a project--that the student could justifiably elect his credit in the academic discipline of his choice. Special activities for all included lectures by experts in some aspect of river environment, and trips to various locations on the river and other nearby sites.

4. The program received enthusiastic student response. One hundred thirty sophomores and juniors from the four high schools in the district signed up immediately, making it necessary to hold two three-week sessions. Student participants were of two general types: those who love learning and are eager for new learning experiences, and those whose academic achievement records are low, who are familiar with failure, and who saw this program as a chance to make up some credit in an activity that promised less dullness and drudgery than that of the traditional classroom. The distinction between these two groups was very apparent on sign-up day, but from then on it began to fade. Within a few days it had entirely disappeared. Interest in the various activities erased all distinguishing characteristics of the high and low achiever.

I. PLANS FOR THE FUTURE:

Re-run of an improved summer of 1973 program.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION PROGRAM - HARTFORD SCHOOL DISTRICT
- B. PROJECT DIRECTOR: Robert D. Leister, Middle School, White River Junction, Vermont 05767. (802)295-7187
- C. PROJECT HEADQUARTERS:
1. Middle School, White River Junction, Vermont 05767.
2. Special facilities or activities available for visitor viewing: Example programs when scheduled.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Present director, Superintendent of Schools, School Board.
2. Date and place of Initiation: September 1, 1971.
3. Overall purpose: To cause children to become environmentally aware, informed and motivated to act.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To cause children to become environmentally aware, informed, and motivated to act.
b. To become a resource for adult community to improve environmental awareness.
2. New instructional materials being produced: Some units geared to grades and locale.
- H. MATERIALS PRODUCED:
1. K-6: Energy Unit - Grade 4.
2. 7-12: Slide tape - Grades 6-12.
3. Others: Trip Leaders Guide.
- I. MATERIALS AVAILABLE FREE:
1. Logs of trips run with outward bound and environmental goals.
2. Copies of press items.
- J. MATERIALS PURCHASABLE:
Trip Leaders Guide to Expeditions and Classes. \$1.00 postpaid.
Write Robert Leister, Middle School, White River Junction, Vt.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Yes. For several grade levels.
2. Development of other materials anticipated: A way to teach bird watching.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 6.
2. Number of teachers having adopted all of the project materials: Not applicable.
3. Number of teachers using some of the project materials: 50.
4. Total number of students using project materials: 1,900.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught: This district only.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 5 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Began in the fall of 1971 to develop an approach to environmental education for K-12 in this district. This year has been one of development and trial with little publishable material. Methods have been sampled. Material samples badly hampered by lack of funds.

P. PLANS FOR THE FUTURE:

1. Greater depth in several areas.
2. More emphasis on teacher training.

Q. ERIC DOCUMENTS:

Trip Leaders Guide - Outdoor Expeditions and Classes. SE 016 497

- A. PROJECT TITLE: THE ENVIRONMENTAL STUDIES PROGRAM
- B. PROJECT DIRECTOR: Mrs. Doris Jadan, Mrs. Rosemary Galiber,
P.O. Box 84, Cruz Bay, Virgin Islands 00830. (809)776-6278
- C. PROJECT HEADQUARTERS:
1. Lutheran Memorial Hall, Cruz Bay, Virgin Islands 00830.
2. Special facilities or activities available for visitor viewing: Small seminar room and E.S.P. Library.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Doris Jadan.
2. Date and place of Initiation: October 1970, first teacher in-service workshop in the V.I. National Park. St. John.
3. Overall project purpose: To encourage awareness and appreciation of a unique West Indian natural and cultural history for young Virgin Islanders (K-6), using multi-disciplinary techniques in Classrooms-Without-Walls on all three U.S. Virgin Islands.
- F. PROJECT OBJECTIVES:
1. Development of a viable environmental ethic through environmental encounters.
2. Development of new environmental study areas in each Island community.
3. Use of adult family members and older Virgin Islanders as resource persons.
4. Development of new materials by and for teachers and pupils in the program.
- G. MATERIALS:
1. Materials produced:
a. K-6: 72 page illustrated hard bound text, A Guide to the Natural History of St. John; 9 minute color documentary, You Are Columbus!, 160 keyed color slides; pre and post lesson multi-disciplinary lesson plans.
b. 7-12: None.
c. Others: None.
2. Free materials available:
a. Fact sheets.
b. Sample lesson plans.
c. E.S.P. recipes used at the Annaberg 150 year old brick oven.
3. Materials produced that can be purchased: A Guide to The Natural History of St. John - \$5.50 including postage. Available from: Ross-Graphic's, 3800 N.W. 59th Street, Miami, Florida 33142.
4. New instructional materials being developed: Yes. A supplementary reader, The Adventures of Ivan Enviroman. For 8-12 year olds.
5. Additional materials you anticipate developing: New slides.
6. Teaching materials commercially available: Yes. Through sponsorship of V.I. Conservation Society, Inc., The Guide to

The Natural History of St. John was published. The Ivan Enviroman illustrated calendar of V.I. Cultural and Natural History is published by E.S.P. Inc., a non-profit educational organization.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 18.
2. Number of teachers having adopted all of the project materials: 106.
3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 3,500.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Tutu Elementary School, Att. Miss Erma Sewer, P.O. Box 630, St. Thomas, V.I. 00801.
 - b. Julius Sprauve School, Att. Mrs. Madaline Sewer, Cruz Bay, St. John, U.S. Virgin Islands 00830.
 - c. Gramboko School, Att. Mrs. Rosalee Berrigan, P.O. Box 630, St. Thomas, V.I. 00801.
 - d. Grove Place Elementary School, Att. Mr. Antonio Steele, P.O. Box 1, Christiansted, St. Croix, V.I. 00820.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. A Guide to The Natural History of St. John.
 - b. E.S.P. portfolio of sample lesson plans - 88 pages.
 - c. Parent Handbook, evaluation slips and other materials.
6. Teaching materials commercially available: See G-3.

J. MATERIALS EVALUATION:

Has the effectiveness of the materials been evaluated: Yes.
By teachers in the program, the National Park Service, and UNESCO.

K. PROJECT SUMMARY:

1. In its third year of operation, the E.S.P. has been funded entirely by the local government.
2. The E.S.P., during the 1972-73 school year, has actively involved in three 10 week programs for each class, some 1,600 elementary pupils and 57 teachers from schools on all three Islands.
3. An increasing number of interested adults from various

government agencies, local and federal, Commerce, Health, Social Welfare, Comptroller's Office, Public Works, Education, WAPA, etc., as well as parents and representatives from the private sector participated in E.S.P. workshops and accompanied classes to study areas.

I. PLANS FOR THE FUTURE:

1. A seven day West Indian Environmental Education Conference for teachers, resource persons and administrators from twelve English speaking Caribbean Islands to be sponsored by the National Park Service using the three Environmental Study Areas in the V.I. National Park as model study areas to demonstrate how elementary curriculum is taught in Classrooms Without Walls.
2. A 1974 Ivan Environman illustrated calendar of V.I. Cultural and Natural history.
3. Use of additional study areas on St. Thomas and St. John.

- A. PROJECT TITLE: PROJECT HELP: HISTORY, ENVIRONMENT, LAND, PEOPLE
- B. PROJECT DIRECTOR: Patsi Trollinger, Washington County Environmental Council, Box 95, Emory, Virginia 24327.
(703)944-3121 Ext. 271
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: No employees. Approximately 25 volunteers.
- E. PROJECT HISTORY:
1. Principal originators: Council officers - Karl Reedy, Joe McCoy, Patsi Trollinger, Rees Shearer.
 2. Date and place of Initiation: March 1973.
 3. Overall project purpose: To "environmentally educate" citizens of Washington County to the importance of planning the development of a rapidly-industrializing area.
- F. PROJECT OBJECTIVES:
1. To arouse general awareness of the citizenry concerning local issues.
 2. To encourage those citizens to visit various parts of our country.
 3. To introduce new ideas on environmental education to the school teachers of our area.
 4. To strengthen and publicize the Environmental Council.
 5. To encourage varied local groups to work together on environmental issues.
- G. MATERIALS:
1. Materials produced: We are working in coordination with the Emory and Henry College Library, encouraging them to build up their environmentally-related holdings rather than procure or produce such materials ourselves. The library applied for and won a grant to increase such holdings related to environmental education.
 2. Free materials available: Mainly materials available on loan from the library.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: No.
 5. Additional materials being developed: We are encouraging county school teachers to develop lesson plans for environmental education activities that can be carried out using local resources. Copies of these will be made available to interested teachers.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not answered.
- I. TEACHER PREPARATION: Not answered.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

Our project involved a week-long seminar focusing on local environmental issues. The seminar was held in October, 1973.

L. PLANS FOR THE FUTURE:

We hope to develop a speakers' bureau and other resources for continued use by area teachers. Also, our group will continue to hold regular monthly meetings dealing with issues as they arise.

- A. PROJECT TITLE: MATH AND SCIENCE OUTDOORS
- B. PROJECT DIRECTOR: R. Wesley Batten, 2200 Mountain Road, Glen Allen,
Virginia 23060. (804)262-8643
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Nature trail; outdoor classroom.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: R. C. Haynes, R. W. Batten, S. P. Lingo, L. O. Morrow.
2. Date and place of Initiation: 1968 - Richmond, Virginia.
3. Overall project purpose:
a. Enrichment education for students.
b. In-service education for teachers.
- F. PROJECT OBJECTIVES:
1. Provide environmentally oriented classes for students.
2. Test field equipment, methodology, and outdoor classroom techniques.
3. Provide consultation for other area schools where outdoor classrooms are desired.
- G. MATERIALS:
1. Materials produced: None.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grade 3.
5. Additional materials being developed: None planned.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 2-6 clock hours.
b. Summer Institute: Yes. 3 college credit hours.
c. Evening classes: Yes. 1 college credit hour.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Library books, A-V materials and equipment, instructional kits, physical site facilities.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By staff and local teachers.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

This specific project was launched to provide environmental education enrichment for students in the five public school divisions which own the Mathematics and Science Center. This is accomplished through in-service education classes and workshops for teachers, through specially built teaching facilities at the Center, and through enrichment lessons for students. The latter are accomplished through having classroom groups of students come to the Center from their home schools for the specially conducted lessons in the outdoor classroom facility. Prior to the visit, the students are oriented, through a sound-slide story in their classrooms, to the facilities and topics that they will encounter in the enrichment lesson when they arrive at the Center.

L. PLANS FOR THE FUTURE:

None specifically planned, but they will involve additional activities as needed to implement guidelines in environmental education now being prepared by the Virginia Board of Education.

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- A. PROJECT TITLE: PROGRAM FOR THE GIFTED - ESEA TITLE III PROJECT
- B. PROJECT DIRECTOR: Nedra I. Harkavy, 1306 Thomas Street, Hampton,
Virginia 23369. (703)722-5958
- C. PROJECT HEADQUARTERS:
1. Bethel High School, 1067 Big Bethel Road, Hampton, Virginia
23366.
2. Special facilities or activities available for visitor
viewing: Yes. Summer program.
- D. PRINCIPAL STAFF: 8 persons employed. Director and secretary -
full time. Teaching staff employed for summer activities.
- E. PROJECT HISTORY:
1. Principal originators: Instructional Administrative Staff.
2. Date and place of Initiation: June 1971. Bethel High School.
3. Overall project purpose: The Program for the Gifted offers
students who have excellent potential the opportunity to pursue
their interests and develop their abilities in a depth not
possible in a regular school curriculum.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: This project was submitted by
the Hampton City School System to provide enrichment for gifted
students in the Tidewater Peninsula area. Innovative programs
in the areas of creative communications and environmental science
were proposed in order to supplement classroom activities.
The Title III Program proposal included two six-week instruc-
tional and participation sessions, one in environmental science
and one in creative communications. Students participating in the
program would be provided opportunities to pursue their interests
and develop their abilities by means of sophisticated learning
equipment. With the assistance of consultants specializing in
creative communications and environmental science, the students
would develop new ideas and techniques and would share their
knowledge with other students. Thus would supplementary instruction
be strengthened and expanded.
2. New instructional materials being produced: Yes. The Aero-
space Science phase will be eliminated and concentration will be on
the Environmental approach to better balance the classical mechanics
aspect of the program.
- H. MATERIALS PRODUCED:
Teaching materials used are chosen with a view to acquainting
pupils with the latest developments in the field of their specialty
and to provide experiences of associating with their peers. NASA
has offered the use of its array of the latest scientific equipment
and laboratory facilities for research participation projects in-
volving the students and staff. We have garnered a vast amount of
materials from the Environmental Protection Agency, Research
Triangle Park, N. C.

I. MATERIALS AVAILABLE FROM: Brochure.

J. MATERIALS PURCHASABLE: None.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed:
 - a. Slide Tape Presentation.
 - b. 8mm and TV Documentaries.
2. Development of other materials anticipated: Course of Study in Environmental Science.

L. PROJECT IMPLEMENTATION:

Emphasis is on providing gifted students with an opportunity to develop their talents through association with other students under the guidance of the director and participating teachers.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 day.
 - b. Summer Institute: Yes. 6 weeks - for students only.
 - c. Evening classes: No.
 - d. Others: Enrichment classes are held after school and on weekends. Time periods vary. Field trips enable students to participate in various activities throughout the state.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Supervisors of content area permit us to use all materials available to them.
6. Commercial availability of materials: Not applicable.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. The United States Office of Education and the Virginia Department of Education.
2. Pertinent published research studies: Not applicable.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Our program emphasis was geared to the interests and special talents of our Identified Gifted Students. The participants had extended laboratory sessions, attended lectures, and enjoyed various field trips. The summer session provided background and stimulation for students to develop individual projects.

During the year a "Buddy System" was established which paired the active high school participants with younger talented students outside of school time during the regular school year.

In our year round program there were several benefits derived

from the "Buddy System." This system made possible the mutual reinforcement of goals through the dovetailing of instruction. It allowed greater specialization and it encouraged other students to share their specialties. We have tried to establish rapport between the older and younger students during the teaching and/or assistance efforts. We have secured the services of qualified consultants in planning seminars for students with special abilities. Instruction in various areas has been available in small groups and on an individual basis.

As a result of adequate dissemination of the program aims and goals at the elementary level, teachers and principals searched their school roster for children who could meet the relatively high standards for admission to the program. When recommendations were made, the director interviewed the children, interested parents, teachers and principals.

After completing the above stages, additional teaching material and enrichment programs were outlined and provided the classroom teacher for further follow-up.

Supervisors have been invited and encouraged to observe the program and assist whenever possible. Follow-up contact has been made with teachers and students, and regular meetings are held in order to keep in touch with the students and share the year's experiences. The director and teaching staff supervised the development of individual projects, which was presented at a Spring Conference, March 21, 1972.

P. PLANS FOR THE FUTURE:

1. Creative Communications:
 - a. The Strolling Players (play) will be presented at elementary schools during the 1972-73 school year.
 - b. The Strolling Players will be taped and filmed at WHRO (Education T.V.), and tape will be purchased for future use.
 - c. Students will continue and complete small group and individual projects - themographic essays, short stories, poems, films, slide series, photography collages, and television tapes.
2. Environmental Science: Students will develop an individual project during the year.

- A. PROJECT TITLE: EDMONDS K-12 ENVIRONMENTAL EDUCATION PROJECT
- B. PROJECT DIRECTOR: William J. Hamilton, 3800 196th S.W., Lynnwood,
Washington 98036. (206)778-8831
- C. PROJECT HEADQUARTERS:
1. Edmonds Environmental Education Office, 3800 196th S.W.,
Lynnwood, Washington 98036.
2. Special facilities or activities available for visitor view-
ing: Yes. Marshall Outdoor Laboratory - a 7.61 acre outdoor lab.
- D. PRINCIPAL STAFF: 1 director, 15 writers, 2 artists, 2 secretaries.
The director, writers and secretaries are all school district
employees. The artists are high school students.
- E. PROJECT HISTORY:
1. Principal originators: Larry Squire, Liz Sears, Laura Park,
Judy Pennington, Cliff Nelson.
2. Date and place of Initiation: Original grant - 6/20/72 to
6/20/73. Extended 12/1/72 to 12/31/73. Edmonds School District.
3. Overall project purpose: To create a working model for the
structure and implementation of a multidisciplinary process cur-
riculum in environmental education, K-12.
- F. PROJECT OBJECTIVES:
1. To develop a process curriculum in environmental education.
2. To use a multidisciplinary approach to learning.
3. To include exemplary methods of teaching.
4. To create maximum involvement of students, teachers, consulting
staff and volunteers from community organizations.
5. To provide a program of coordinated educational activities and
experiences designed to develop the learner's perception, knowledge
and understanding of the environment so that he will take positive
action on the basis of this competency.
6. To develop a program that will be fully implemented by the aid
of federal funds and will continue as implemented with district
funds and community support.
7. To provide a program plan that can be duplicated by similar
participant groups.
8. To make project materials and reports available for review and
dissemination.
- G. MATERIALS:
1. Materials produced:
a. K-6: Soil, Air, Water, Animals, Plants, Litter, Awareness,
Man's Use, Problem Solving.
b. 7-12: Water Quality, Resources, Pollution (general),
Noise Pollution, Land Pollution, Air Pollution, Land Use,
Diversity.
2. Free materials available: None.
3. Materials produced that can be purchased: K-12 Environmental
Education Curriculum. Available from: Superintendent of Public
Instruction, Old Capitol Building, Olympia, Washington 98504.
4. New instructional materials being developed: No.
5. Additional materials being developed: None.
6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 17.
2. Number of teachers having adopted all of the project materials: 300.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 2,700.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Have not been selected.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 2½ days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. The final project will serve as the basis for in-service programs.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

A 15 member writing team (8 elementary, 7 secondary teachers) were selected in March and April. They went through a two day in-service orientation directed by the U.S. Forest Service in June. The team started work on June 18th and worked until July 13th. The final draft was completed on August 15th. The project would be ready for print around the first of September. The project calls for implementing the materials in October, November and December.

L. PLANS FOR THE FUTURE:

1. A plan to evaluate the effectiveness of materials and methods used through formal and informal feedback from students and teachers involved. Students will be evaluated on the cognitive aspects of the curriculum materials written and both teachers and students on the attitudinal aspects.
2. A plan for revision and retraining as necessitated by the analysis of evaluation procedures and results, and from community feedback.
3. A plan for dissemination of developed materials through the Office of The Washington State Superintendent of Public Instruction as required by the project description.
4. A plan to continue the program utilizing district and community funds under the guidance of the Edmonds District 15 Environmental Council in cooperation with the District Environmental Consultant.

- A. PROJECT TITLE: CENTER FOR ENVIRONMENTAL STUDIES
- B. PROJECT DIRECTOR: Fred Guenther, 124 E. Lawrence, Mount Vernon, Washington 98273.
- C. PROJECT HEADQUARTERS:
1. 314 N. 9th Street, Mount Vernon, Washington 98273.
(206)336-3155 Ext. 52.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 3 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Pat Hayden, Richard Dixon, Don Sundean.
 2. Date and place of Initiation: January 1970 - Mount Vernon.
 3. Overall project purpose: Design, develop, implement and test an environmental curriculum K-12 multidiscipline.
- F. PROJECT OBJECTIVES:
1. K-12 Environmental Curriculum.
 2. In-service training for staff in developing individualized instructional materials for students.
 3. Environmental Study Center.
- G. MATERIALS:
1. Materials produced: Individualized Guided Instructional Packets - grades K-12.
 2. Free materials available: None.
 3. Materials produced that can be purchased: K-12 learning packages in environmental education at cost. Many titles.
 4. New instructional materials being developed: Yes. K-12.
 5. Additional materials being developed: LAP's - Learning Activity Packages.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 6.
 2. Number of teachers having adopted all of the project materials: 0.
 3. Number of teachers using some of the project materials: 75.
 4. Total number of students using project materials: 3,102.
 5. Totals stated are definite.
 6. Names and locations of schools where the program materials are being used:
 - a. Mount Vernon High School, 314 N 9th, Mount Vernon, Washington 98273.
 - b. Jefferson School, 1801 E. Blackburn Road, Mount Vernon, Washington 98273.
 - c. LaVenture School, 1200 LaVenture Road, Mount Vernon, Washington 98273.
 - d. Lincoln School, 1005 S. 11th, Mount Vernon, Washington 98273.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 3 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers and students involved.
2. Pertinent published research studies: Preliminary evaluation report published June 1973.

K. PROJECT SUMMARY:

Mount Vernon's Title III Project, a K-12 program in environmental education, has as a target population the K-12 student body of Mount Vernon School District, and (over the three-year period) involves directly 100 District teachers, and indirectly involves most of the remaining District staff of 170 teachers. At the end of the three-year period of federal assistance, the Mount Vernon School District expects to have:

1. One hundred teachers trained in writing and implementing in the classroom learning packages in environmental education.
2. A locally validated K-12 curriculum in environmental education, consisting of a sequence of learning activity packages.
3. An operating and fully tested resource center for environmental education.

L. PLANS FOR THE FUTURE:

Continuation of teacher in-service and development of new IAP's.

M. ERIC DOCUMENTS:

Preliminary Evaluation Report - Center for Environmental Studies.
SE 016 951

- A. PROJECT TITLE: CAMP WASKOWITZ ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: William B. Wepler, Route 1, Box 836,
North Bend, Washington 98045. (206)888-0681
- C. PROJECT HEADQUARTERS:
1. Route 1, Box 836, North Bend, Washington 98045.
2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: Four full time, seven part time.
- E. PROJECT HISTORY:
1. Principal originator: Mr. Carl Jensen, Retired Superintendent of District.
2. Date and place of Initiation: 1948 Pack Forest Camp.
3. Overall project purpose: To provide an outdoor laboratory for the study of conservation.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To enrich learning experiences in all areas of conservation.
b. To provide experiences in social growth.
2. New instructional materials being produced: Yes, mainly 5th, 6th and secondary.
- H. MATERIALS PRODUCED: Guide for Environmental Education.
- I. MATERIALS AVAILABLE FREE: Teacher leader booklet.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED: None.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 34.
2. Number of teachers having adopted all of the project materials: 82.
3. Number of teachers using some of the project material: Unknown.
4. Total number of students using project materials: 2341.
5. Totals stated are definite.
6. Names and locations of schools where the course is being taught:
a. North Hill Elementary, 19835 8th Street, Seattle, Washington 98048.
b. Boulevard Park Elementary, 12833 20th Street, Seattle, Washington 98068.
c. Marvista Elementary, 19800 Marine View Drive, Seattle, Washington 98066.
d. Sunnysdale Elementary, 15631 8th Street, Seattle, Washington 98068.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the material: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes (20 hours)
 - b. Summer institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: No.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Traditionally taught activities for conservation education, i.e., Soils, Water, Plants, Animal, Forestry, Survival, Campcrafts.

P. PLANS FOR THE FUTURE:

1. Construction of frontier fort.
2. Construction of Indian village.
3. Construction of pioneer homestead.
4. Construction of archeological dig .
5. Enlargement of tree farm.

- A. PROJECT TITLE: ESSENTIA
- B. PROJECT DIRECTOR: Robert E. Samples, The Evergreen State College,
Olympia, Washington 98505. (206)866-6570
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Visitors are welcome to visit project headquarters and the Evergreen State College.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Robert E. Samples, Dorothy Curtis.
2. Date and place of Initiation: September 1969. Environmental Studies, Boulder, Colorado.
3. Overall project purpose: Instructional materials development.
- F. PROJECT OBJECTIVES:
1. Utilize environment of school as content source.
2. Enhance self esteem of students.
3. Develop awareness of environmental issues.
- G. MATERIALS:
1. Materials produced: 75 teaching assignments for use in immediate school environment.
2. Free materials available: Quarterly newsletter ESSENTIA; publication entitled Growing that describes purposes and philosophy of the project.
3. Materials produced that can be purchased: See G.1. Purchase from American Geological Institute, ESSENTIA, The Evergreen State College, Olympia, Washington 98505. (Until January 30, 1974).
4. New instructional materials being developed: Yes. For all grade levels.
5. Additional materials being developed: Teaching implementation guidelines and aids.
6. Present commercial association: Yes. A commercial firm will market the curriculum materials, packets 1-6, after January 1974.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 7-15,000.
2. Number of teachers having adopted all of the project materials: 15,000.
3. Number of teachers using some of the project materials: 30,000.
4. Total number of students using project materials: 750,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used: Not answered.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.

3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. Variable depending on interest of participants.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Packets 1-6 are useful pre- and in-service teacher training materials.
6. Teaching materials commercially available: No. They will be commercially available after January 1974; commercial firm is unknown at this time.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By Robert E. Lepper.
2. Pertinent published research studies: Reports in Sensorsheet (ES Newsletter) and ESSENTIA (current newsletter).

K. PROJECT SUMMARY:

ESSENTIA is the successor to the Environmental Studies Project, which in turn grew out of the Earth Science Curriculum Project. ES was funded under National Science Foundation grants from 1970 through 1973, during which time the packets mentioned above were developed and field tested.

L. PLANS FOR THE FUTURE:

Environmental Studies has acquired a new name, a new sponsor, a new location, and new responsibilities this fall. The project, to be called ESSENTIA, will move from Boulder, Colorado, to the campus of The Evergreen State College in Olympia, Washington. Funding will be provided by the National Science Foundation. Under the sponsorship of the American Biological Institute, ES developed, tested, and produced materials for use in classroom teaching environments. Now under the sponsorship of The Evergreen State College ESSENTIA will utilize these years of experience with student-focused materials and will concentrate on meeting the needs of the teachers who will use the materials. Thus the focus will shift slightly from the student to the teacher and to adult-to-adult relationships. ESSENTIA will work with teachers, administrators, parents, and people in the communities to give them a clear picture of their roles in the open, humane environments encouraged by the materials. The project will familiarize these people with the techniques of access to content that the ES materials promote, rather than on the techniques of delivery that have been the tools of the teaching trade for so many years.

- A. PROJECT TITLE: CISPUS ENVIRONMENTAL CENTER
- B. PROJECT DIRECTOR: Lloyd Rowley, Cispus Environmental Center,
Route 4, Randle, Washington 98377. (206)497-7131
- C. PROJECT HEADQUARTERS:
1. Route 4, Randle, Washington 98377.
2. Special facilities or activities available for visitor viewing: Library, outdoor living room, animal room, herbarium in process of being developed.
- D. PRINCIPAL STAFF: 1 director, 2 secretaries, 1 administrative intern, 1 environmental education instructor, 1 media specialist, and 1 environmental education consultant provided by the U. S. Forest Service. All are regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Mr. Louis Bruno, Superintendent of Public Instruction.
2. Date and place of Initiation: June 22, 1970, Randle, Wash.
3. Overall project purpose: The overall purpose of the project is to utilize this facility which is located on $1\frac{1}{4}$ million acres in the Gifford Pinchot National Forest and is a developmental environmental education learning site for use by student groups of all ages beginning with kindergarten youngsters through teacher training and adult groups. The office of Superintendent of Public Instruction works with each group to develop their special objectives to meet their needs in environmental education.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E.3.
2. New instructional materials being produced: We are in the initial stages of working with Central Washington State College in developing a herbarium and related materials.
- H. MATERIALS PRODUCED: Not applicable.
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
Survival information may be purchased direct from Gene Fear,
P.O. Box 696, Tacoma, Washington 98401, or from Dan Fear,
1619 East Wright, Tacoma, Washington 98404.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: Teacher guides.
2. Development of other materials anticipated: Not answered.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: All schools.
2. Number of teachers having adopted all of the project materials: Questionable.
3. Number of teachers using some of the project material: 322.
4. Total number of students using project materials: 44,740.
5. Totals stated in 1, 2, and 3 are estimated; total stated in 4 is definite.
6. Names and locations of schools where the course is being taught: Not applicable.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes (1 day to 2 weeks)
 - b. Summer institute: Yes (1 day to 2 weeks)
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

N. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Office of Superintendent of Public Instruction, Olympia, Washington.
2. Pertinent published research studies: Not answered.

O. PROJECT SUMMARY: Not answered.

P. PLANS FOR THE FUTURE:

1. More research into the evaluation of Cispus activities to be used as an example for other sites such as ours.
2. Continued research and compilation of the Cispus environment in the form of teacher guides.
3. Continued use of the center by user groups.
4. Closer working relationship with state colleges in providing a teacher education course here at Cispus.

Q. ERIC DOCUMENTS:

1. Manual for CISPUS Evaluation Workshop. SE 016 972
2. CISPUS Evaluation Kit - Draft for CISPUS Preparatory Workshop June 12-14, 1973. SE 016 975

- A. PROJECT TITLE: TITLE III, WEATHER SATELLITE STATION
- B. PROJECT DIRECTOR: Mr. Clayton D. Lanum, 17272 NE 104th Street,
Redmond, Washington 98052. (206)885-3882 Ext. 44
- C. PROJECT HEADQUARTERS:
1. Redmond High School, 17272 104th Street, Redmond, Washington 98052.
2. Special facilities or activities available for visitor viewing: Yes. Essa 8 weather satellite receiving station.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originator: Mr. Clayton D. Lanum.
2. Date and place of Initiation: February 1971. Lake Washington School District.
3. Overall project purpose: To help students construct the first weather satellite station designed for a public school system. Preliminary planning efforts are proposed to develop a comprehensive weather curriculum to support weather satellite meteorology, produce elementary weather kits as well as satellite pictures for classroom study.
- F. PROJECT OBJECTIVES:
1. Weather satellite station construction.
2. Weather satellite station operation.
3. Interpretation and prediction of satellite information.
4. Demonstration and information dissemination.
5. Development of elementary weather kits.
- G. MATERIALS:
1. Materials produced:
a. K-6: Elementary weather kits and record keeping forms. Grades 4-6.
b. 7-12: Elementary weather kits and record keeping forms.
c. Others: None.
2. Free materials available:
a. 1972-1973 continuation application.
b. Cloud charts.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades 10-12.
5. Additional materials being developed:
a. Construction of new satellite receiving station.
b. Elementary weather kits.
c. Study guides.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 6.
2. Number of teachers having adopted all of the project materials: 6.
3. Number of teachers using some of the project materials: 12.

4. Total number of students using project materials: 150.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Finn Hill Junior High School, 8040 N.E. 132nd, Kirkland, Washington 98033.
 - b. Robert Frost Elementary School, 11801 N.E. 140th, Kirkland, Washington 98033.
 - c. Benjamine Rush Elementary School, 6101 152nd N.E., Redmond, Washington 98052.
 - d. Lakeview Elementary School, 400 N.E. 68th, Kirkland, Washington 98033.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: No.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Ward's Weather Kits.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

During the February-September, 1971 Planning Grant, contacts were made locally and throughout the country. As a result a list of members for an Advisory Committee and other resource people was developed. Construction of a weather satellite receiving station, development of high school meteorology curriculum, introduction of elementary weather kits into six pilot schools has been accomplished to date.

L. PLANS FOR THE FUTURE:

Incorporation into regular curriculum at high school level is expected during the 1973-74 school year and development of a second receiving station at another secondary school. Also individualized instruction material for high school meteorology will be completed.

- A. PROJECT TITLE: POPULATION/ENERGY/ENVIRONMENT: TOOLS FOR TEACHERS
- B. PROJECT DIRECTOR: John Landahl, 4426 Burke Avenue N., Seattle,
Washington 98103. (206)ME3-4750
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Office.
- D. PRINCIPAL STAFF: 3 persons employed part-time.
- E. PROJECT HISTORY:
1. Principal originators: Mike Ruby and Dan Horn.
2. Date and place of Initiation: November 3 and 4, 1973.
University of Washington.
3. Overall project purpose: To provide teachers with information, materials, and strategies for teaching about population, energy, and environmental problems.
- F. PROJECT OBJECTIVES:
Present a workshop for about 300 to 400 public school teachers which will improve their ability to present population and environmental concepts in the classroom.
- G. MATERIALS:
1. Materials produced:
a. Poster for use in classrooms at all grade levels.
b. We expect to produce a bibliography of film sources and materials sources for environmental education dealing primarily with the local area.
2. Free materials available: Poster "Consider the Alternative".
3. Materials produced that can be purchased: Not answered.
4. New instructional materials being developed: No.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Not applicable.
2. In-service education program for teachers: Yes.
3. Pre-service training program for teachers: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. Two days.
b. Summer Institute: No.
c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: Yes. Many, including Zero Population Growth, Inc., 4080 Fabian Way, Palo Alto, California 94903, and Population Reference Bureau.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY:

1. Printing 5000 copies of poster.
2. Mailing 3500 copies of poster to schools and educators in Washington State.
3. Organizing workshop, scheduling films, speakers, etc.

L. PLANS FOR THE FUTURE:

Mailing newsletters periodically to participants after workshop.

- A. PROJECT TITLE: ADVENTURES IN THE OUTDOORS
- B. PROJECT DIRECTOR: Robert Gardner, Eloise McElfresh, 746
Myrtle Road, Charleston, West Virginia 25314. (304)344-8035
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Activities are done on the Children's Museum grounds.
- D. PRINCIPAL STAFF: 6 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Eloise McElfresh, Llywellyn Cole, Jane Glaser.
 2. Date and place of Initiation: June 1970. Children's Museum and Planetarium.
 3. Overall project purpose: This program will help the students improve their communicative skills through individual and group participation in nature games and crafts; simple laboratory experiences; and an enrichment reading program provided by the outdoor education experience.
- F. PROJECT OBJECTIVES:
1. The student will demonstrate an understanding of the study area and the safety regulations pertaining to this area by teaching another participant.
 2. The student will observe and describe three interrelationships among such factors in the study area as plants, animals, minerals, and weather.
 3. The student will observe and describe the characteristic plant and animal community found in the study areas: forest, wet areas, and open-field.
 4. The student will identify and study a minimum of three trees in the study area. This study will include description, food making, relationship to habitat, and conservation.
 5. The student will identify and describe a minimum of three birds in the study area.
 6. The student will demonstrate a knowledge of attraction, care, and protection of birds in the study area.
 7. The student will identify a minimum of five non-flowering plants and five flowering plants.
 8. The student will demonstrate a knowledge of the importance of plants and their place in the food chain by drawing pictures to illustrate simple food chains in the study area.
 9. The student will describe the three types of soil found in the study area.
 10. The student will identify and classify a minimum of three rocks and/or three minerals found in the study area.
 11. The student will identify, collect, and mount a minimum of five insects and/or butterflies found in the study area.
 12. The student will demonstrate a knowledge of the importance of insects in the balance of nature by identifying a minimum of five helpful insects found in the study area.

13. The student will select, read, and report (orally, pantomime, or play) on two of five nature stories.

G. MATERIALS:

1. Materials produced: None.
2. Free materials available: None.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Grades four-seven.
5. Additional materials being developed: None.
6. Teaching materials commercially available: None.

H. MATERIALS IMPLEMENTATION: Not applicable.

I. TEACHER PREPARATION: Not applicable.

J. MATERIALS EVALUATION: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: HARRISON COUNTY AND ELK CREEK POLLUTION CONTROL COMMITTEE, INC.'S COMMUNITY EDUCATION
- B. PROJECT DIRECTOR: Sandy DeMark, President, HC&EC PCC, Inc.,
P.O. Box 35, Nutter Fork, West Virginia 26301.
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes. Film of project activities and tour of stream.
- D. PRINCIPAL STAFF:
- None paid - all volunteers except for a little clerical help, when needed.
- E. PROJECT HISTORY:
1. Principal originators: Sandy DeMark, who became president of the organization and still serves. Was assisted in the federal grant educational project by Jean E. Oliverio. Members of the committee helped carry it through. Help from Legislator, Gino Colombo who became member of the committee. Ed Forinash and Ed Emerson.
 2. Date and place of Initiation: Our organization was formed in 1967 but our Federal Grant project was planned in the spring of 1971.
 3. Overall project purpose: To motivate people toward cleaning our streams of pollution, to help clean them by moral, financial and time support, and to educate people to keep them clean.
- F. PROJECT OBJECTIVES:
1. To eventually get federal funds for acid-mine elimination research projects.
 2. To lend support and encourage installations of pollution control and conservation practices of other groups and agencies (clean streams, watershed projects, surface mine reclamation and deep mine problems eliminated.)
 3. To educate the public.
- G. MATERIALS:
1. Materials produced: Ours was not a school project even though we went to schools and presented slide programs. We had signs printed, sold car plates to raise money through donations, and passed clean water stickers for windows and cars and received donations. Newspapers and TV told the story to the public and urged participation. Agendas were made of seminars.
 2. Free materials available: Not answered.
 3. Materials produced that can be purchased: Not answered.
 4. New instructional materials being developed: We have films and slides of our work on the project but they have not been produced into documentary form; however, they could be.
 5. Additional materials being developed: Not answered.
 6. Present commercial association: None.

H. MATERIALS IMPLEMENTATION:

Ours was not a school project. It was a citizens voluntary community education project, but our work was brought into the schools in forms of slides and film talks. College students and elementary and high school students participated in seminars. We have presented programs in many classrooms and before a teachers' meeting attended by 100 teachers and about 50 guests.

I. TEACHER PREPARATION: Not applicable.

J. MATERIALS EVALUATION:

The Acid-Mine Research demonstration projects are in process of being installed on Elk Creek using a State matching-Federal Funds. Reports on the research and success or failure has to come in future years.

K. PROJECT SUMMARY:

1. We have had four educational seminars, open to the public. One college student made a special project out of our activities for a school paper.
2. We involved many groups in cleaning Elk Creek and the tributaries, and were successful in cleaning the creek and bringing it to life to sustain fish. It has been dead for 25 years. The pH was raised from 3 and below to a range of 7pH. The creek had been used for baptismal purposes 25 years ago. Our project and efforts afforded the privilege of using the creek by local churches for baptismal purposes again. Fish were stocked by the Department of Natural Resources.
3. Our seminars..meant to educate people that they can help keep streams clean; they can police and protest when pollution occurs and bring offenders to justice; they need to work at keeping streams clean once the first cleaning objective is reached; they can give financial and moral support in getting a federal grant to do research on acid mine drainage in the creek. Our project is a success. We are not using federal funds at the present time, except on the research project, but our work is continuing. Local businesses and people support us..not to a very great extent, but sufficiently so that we can get something done. We intend to continue our efforts for clean streams.
4. We have motivated at least two other counties to organize an organization such as ours.

L. PLANS FOR THE FUTURE:

1. The major intent of our educational seminars was to get the public and government interested enough to clean our streams of debris, but mostly acid mine drainage water. We managed to get support and a federal grant for an acid mine drainage demonstration project on Elk Creek. If successful, it will serve as a model throughout the nation.
2. Along with this special research demonstration project, we will continue to carry out our purpose of the organization.. fighting pollution through education, research and active programs.

- A. PROJECT TITLE: NATURE EDUCATION DEPARTMENT, OGLEBAY INSTITUTE
(Brooks Nature Center)
- B. PROJECT DIRECTOR: John S. Christie, Oglebay Institute, Wheeling,
West Virginia 26003. (304)242-6355
- C. PROJECT HEADQUARTERS:
1. Oglebay Institute, Oglebay Park, Wheeling, West Virginia 26003.
2. Special facilities or activities available for visitor viewing: Yes. Displays, nature walks, and nature library.
- D. PRINCIPAL STAFF: 3 persons regularly employed, many part-time.
- E. PROJECT HISTORY;
1. Principal originators: Oglebay Park Activities Committee/A.B. Brooks.
2. Date and place of Initiation: 1928 - Oglebay Park.
3. Overall project purpose:
a. To develop an environmental ethic; to develop in man the attitudes, understandings and appreciation of his natural surroundings such that he can and will live harmoniously with nature.
b. To fulfill the general aims and objectives of Oglebay Institute.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: Objectives included in program purpose.
2. New instructional materials being produced: Yes. K-adult.
- H. MATERIALS PRODUCED:
1. K-6:
a. Pioneer Study.
b. Resident Environmental Education Project (R.E.E.P.) - 3 yrs.
c. Pond and Stream Life.
d. Soil Study.
e. Single Tree Concept.
f. Map and Compass.
g. Lesson plans for R.E.E.P.
2. 7-12: None.
3. Others:
a. Nature bulletins.
b. Teacher resource materials.
- I. MATERIALS AVAILABLE FREE:
Many materials are given out at teacher workshops.
- J. MATERIALS PURCHASABLE:
1. 49 nature bulletins - range from "How to Build Bird Houses" to information of a specific animal (such as bears, cardinals, etc.) - 10¢ each or in bulk orders of 10 or more, 5¢ each.
2. Ferns and Fern Allies of the Northern Panhandle of W. Va. - 25¢.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Program outline for all camps.
2. Master plan for all camps.
3. Teacher preparation materials for field trips to Nature Center.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: Unknown.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: Unknown.
4. Total number of students using project materials: 4,500.
5. Totals stated are estimated.
6. Names and locations of schools where the course is being taught:
 - a. Tridelphia Elementary School (R.E.E.P.), National Road, Tridelphia, West Virginia 26059.
 - b. Fulton Elementary School, 5 Bank Street, Wheeling, West Virginia 26003.
 - c. Eight other Ohio County Schools.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. $\frac{1}{2}$ to a full day.
 - b. Summer Institute: Yes. Terra Alta Nature Leaders Camp - 2 weeks. Three hours undergraduate course - "Methods in Environmental Education" - 4 weeks (in cooperation with Bethany College).
 - c. Evening classes: Yes. Workshops, astronomy night activities.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: We give out materials at workshops where we train leaders to use them.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION: None.

O. SUMMARY OF PROJECT ACTIVITIES:

1. Seven weeks of R.E.E.P. for grade 6 of Ohio County, West Virginia, schools.
2. Two-week adult nature camp each summer (16 and above).
3. Two-week junior nature camp each summer (10-16).
4. 8-10 statewide teacher workshops yearly.
5. Two-week high school ecology camp (14-18).
6. One-week backpacking camp (12-16).

P. PLANS FOR THE FUTURE: All included in the Master Plan.

- A. PROJECT TITLE: ENVIRONMENTAL INFORMATION CLEARING HOUSE
- B. PROJECT DIRECTOR: Roy Tull, Sigurd Olson Institute of Environmental Studies, Northland College, Ashland, Wisconsin 54806.
(715)682-4531
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Not answered.
- D. PRINCIPAL STAFF: Not answered.
- E. PROJECT HISTORY:
1. Principal originators: The Sigurd Olson Institute of Environmental Studies was approved by vote of the Northland College Board of Trustees in 1972. The college's Faculty Senate earlier also approved it and the Institute commenced operations on July 1, 1972.
 2. Date and place of Initiation: July 1, 1972.
 3. Overall project purpose: The general objective of the Sigurd Olson Institute is to be a regional Environmental Institute in the northland of the United States which furthers through courses, research, conferences, lectures, seminars, workshops, and field trips the knowledge of the college community, the regional community and governmental bodies in the values of and the means for managing, protecting and preserving the natural environment including what wilderness remains in its forests, trout streams, rivers, bogs and lakes. The purpose is to make both the college and the regional community more aware of the natural environment; to develop in people a value system regarding man's actual and potential misuse of it; to provide them with an opportunity through field trips, research and discussions to identify and analyze the regional environmental problems; and, finally, to help them understand the role each can play in the protection and preservation of the great natural heritage which is the outstanding asset of this northland region.
- F. PROJECT OBJECTIVES:
1. To provide students attending Northland College with a core of environmental courses in a liberal arts curriculum to prepare them for participation in professions relating to the environment.
 2. To provide for the education of the adults of the regional community on subjects concerning the preservation of the natural environment through special seminars, guest lectures, symposia, and regional conferences.
 3. A cooperative relationship with the Drummond and Bayfield School Districts and with the Cable Natural History Museum, Forest Lodge Environmental Library, Nature Lectures, Forest Lodge Nature Walk and Uhrenholdt Memorial Forest Nature Trail is being developed. It will have the purpose of establishing a model environmental education awareness program for the education of both adults and young people of the Cable, Bayfield, Drummond, Seeley, Barnes, Grandview and Namekagon areas. Again, the purpose is to identify local environmental problems, visit the sites, discuss and analyze the problems, prepare plans for action and then execute solutions.

4. To serve as a clearing-house for objective, factual information and educated judgments concerning the regional environment to be used by community agencies and organizations both public and private.

G. MATERIALS: Not applicable.

H. MATERIALS IMPLEMENTATION: Not applicable.

I. TEACHER PREPARATION: Not answered.

J. MATERIALS EVALUATION: Not answered.

K. PROJECT SUMMARY:

1. We are a community education project, part of our community being the formal K-12 educational system and the teachers and students who interact within that structure. We do have pilot projects in several area schools. However, each varies substantially with the specific interests and expertise of the students and teachers involved. Two are in high schools, one in a Junior High, and one in an elementary school. Several are team taught or coordinated by persons representing different disciplinary areas. In addition to these projects we provide in-service assistance and an environmental education consulting service to all area schools (at no cost).

2. The school pilot projects and the assistance and information available to the schools are a sub-component of the overall extension service we provide to the regional area.

3. The Sigurd Olson Institute of Environmental Studies has received an Office of Environmental Education grant to establish an Environmental Information Clearing House (EICH). The rest of the program consists of establishing an Environmental Library which would mainly address itself to local environmental issues, contacting key local decision makers and providing timely, relevant information and analysis to assist them in making more environmentally aware decisions, and working with local units of government to provide them with information and technical assistance.

4. At the present time we are working with the Bayfield County Zoning Administrator and Zoning Committee helping them draft environmental impact guidelines for inclusion in their Zoning Ordinance.

L. PLANS FOR THE FUTURE: Not answered.

- A. PROJECT TITLE: OUTDOOR EDUCATION
- B. PROJECT DIRECTOR: Neil Coaty, Downtown Elementary School, Chetek,
Wisconsin 54728. (715)924-3136
- C. PROJECT HEADQUARTERS:
1. Downtown Elementary School, Chetek, Wisconsin 54728.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 7 persons employed by the school district.
- E. PROJECT HISTORY:
1. Principal originators: Mr. Robert Crase, Superintendent of Schools; Mr. Neil Coaty, Teacher and Elementary Principal.
2. Date and place of Initiation: 1969 - Chetek Elementary School.
3. Overall purpose:
a. To show the relationship between man and soil, trees, and nature in general.
b. To utilize the setting for the establishing of a climate for the practice of psychological principles of teaching as they pertain to the development of knowledges and practices.
c. To develop a basic respect for the right of self and others.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: To develop specific skills which will enrich, vitalize and complement content areas of the school curriculum by means of firsthand observation and direct experience outside the classroom.
2. New instructional materials being produced: No.
- H. MATERIALS PRODUCED: None.
- I. MATERIALS AVAILABLE FREE:
Outdoor Education Guide which we use in the 6th grade encampment.
- J. MATERIALS PURCHASABLE: None.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
Several slides of various activities at camp.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 6.
2. Number of teachers having adopted all of the project materials: Only the teachers in Chetek - grade 6.
3. Number of teachers using some of the project materials: Same as No. 2.
4. Total number of students using project materials: 102 students in last encampment.
5. Totals stated are definite.

6. Names and locations of selected schools where the course is being taught: Downtown Elementary School, Chetek, Wisconsin; Ladysmith Elementary School, Ladysmith, Wisconsin. (Each of us has our own outdoor education program.)

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: Yes. A planning - group discussion time.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: No.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: After school - about one hour. Teachers choose the area of the outdoor curriculum they feel most secure in and work in groups to prepare their outdoor education classes.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

Only by students, teachers and parents.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

1. Forest management, plant and tree identification class.
2. Classes in water pollution, fire control, physical education, gun safety, music, outdoor art, field arithmetic, soil conservation, game management and campfire.
3. For the past four years, all Chetek Area Schools, grade 5-12 have participated in the Barron County Soil and Water Conservation and Environmental Awareness Speaking Contest. There are three divisions - elementary, junior and senior. Chetek Elementary School has won first place in this county wide environmental speaking contest the past four years.

P. PLANS FOR THE FUTURE:

Possibility of additional activities planned.

- A. PROJECT TITLE: ENVIRONMENTAL EDUCATION - A COMMUNITY-UNIVERSITY APPROACH
- B. PROJECT DIRECTOR: Tom P. Abeles, College of Environmental Sciences-
University of Wisconsin-Green Bay, Green Bay, Wisconsin 54302.
(414)465-2260/2369
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: None other than research labs and high school labs.
- D. PRINCIPAL STAFF: 12-15 students and faculty are regularly employed summers and as part of teaching load.
- E. PROJECT HISTORY:
1. Principal originators: Tom Abeles and Dennis Bryan - University of Wisconsin-Green Bay; and Fred Schroeder - Kewaunee High School.
2. Date and place of Initiation: June 1972.
3. Overall project purpose:
a. Develop a working model of a watershed (both socio/economic and biophysical).
b. Develop a cooperative program for high school, community and universities which can be transferred.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced:
a. K-6: None.
b. 7-12: None as yet.
c. Other: University and community materials in process.
2. Free materials available: Description of project - specific materials depending on nature of inquiry.
3. Materials produced that can be purchased: None as yet.
4. New instructional materials being developed: Yes. 7-12 and university.
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable. Materials in raw form at present.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 1 day - depends on need.
b. Summer Institute: Yes. In planning stage.
c. Evening classes: Depends on particular program.

5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION: None yet.

K. PROJECT SUMMARY:

1. Development of University course focusing on problem area.
2. Development of program for using study area as laboratory for other university programs.
3. Developed two high school programs to work on study area.
4. Focused high school courses on study area.
5. Established training programs for local citizens group.
6. Working with regional planning agency and citizen group.

L. PLANS FOR THE FUTURE:

1. Summer Institute for citizens, teachers and students.
2. Development of curriculum materials.
3. Expanding research.

- A. PROJECT TITLE: I-C-E (Instruction-Curriculum-Environment)
- B. PROJECT DIRECTOR: Robert J. Warpinski, 1927 Main Street, Green Bay, Wisconsin 54301. (414)
- C. PROJECT HEADQUARTERS:
1. 1927 Main Street, Green Bay, Wisconsin 54301.
 2. Special facilities or activities available for visitor viewing: Yes. Project resource center serving area schools.
- D. PRINCIPAL STAFF: 3 persons regularly employed, 2 persons part-time.
- E. PROJECT HISTORY:
1. Principal originators:
 - a. Wisconsin Department of Public Instruction - Title III.
 - b. Area "B" Policy Advisory Board.
 - c. Four member committee to assess need and prepare proposal.
 2. Date and place of Initiation: August 1, 1970.
 3. Overall project purpose: To improve instruction and curriculum, using environmental education as a vehicle.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
 - a. Development of a supplementary EE guide, K-12, for all discipline areas.
 - b. Develop and maintain an EE Resource Center.
 - c. Community resource development and support.
 2. New instructional materials being produced: Yes. Supplementary Guides - all subject areas, K-12.
- H. MATERIALS PRODUCED:
1. K-6: Supplementary EE Guides:
 - a. K-6 Language Arts.
 - b. K-6 Social Studies.
 - c. K-6 Science.
 2. 7-12: Supplementary EE Guides.
 - a. 7-12 Language Arts.
 - b. 7-12 Social Studies.
 - c. 7-12 Science.
 3. Others:
 - a. Twelve Major Concept Categories-Their Rationale (for teachers).
 - b. Environmental Concern Inventory for K-4, 5-8, 9-12.
- I. MATERIALS AVAILABLE FREE: Project brochure.
- J. MATERIALS PURCHASABLE:
- Language Arts, Social Studies, Science EE Guides, K-12, in a series of 39 booklets - \$5.00 for the set.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: Yes. For a variety of grade levels, these are extended model activities for EE problem areas and studies.
2. Development of other materials anticipated: Add more models as above.

L. PROJECT IMPLEMENTATION:

Based on May '73 survey, 30-40% of schools and teachers in the area are using our materials. Names of schools where the program materials are being used are:

1. St. Francis Cathedral Elementary School, South Monroe Avenue, Green Bay, Wisconsin 54301.
2. Denmark Elementary School, Denmark, Wisconsin 54208.
3. Sevastopol Public Schools, Route #2, Sturgeon Bay, Wisconsin 54235.
4. Little Chute Public Schools, M. Freedom Road, Little Chute, Wisconsin 54140.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. Half day to extended series.
 - b. Summer Institute: Yes.
 - c. Evening classes: Yes. 3 hours, 10 sessions. Curriculum development.
 - d. Others: Resource familiarization sessions at RMC - 2 hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes.
 - a. Slide/tape program on EE concepts.
 - b. Slide/tape program "Head High in Learning".
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

Limited evaluation by teachers in area schools.

O. SUMMARY: PROJECT ACTIVITIES SINCE 1969:

1. 1970-71: EE Guide Development, Language Arts, Social Studies, Science, K-12.
2. 1971-72: Language Arts, Social Studies, Science EE Guide implementation and EE Guide development in Math, Music and Art, Phy. Ed., K-12; Industrial Arts, Home Ec., 7-12; Business Education and Agriculture, 9-12. In-service activities to introduce the program. Developed a Resource Center service. Pilot school program.
3. 1972-73: Implementation of all new guides, continued in-service activities, workshops. Developed community resource guide. Expansion of Resource Center services.

P. PLANS FOR THE FUTURE:

1. Major effort in 1973-74 will be to revise existing guides, based on experiences and critiques available from past two years. New publications, by grade level, and/or subject area, with cross-referencing, and subject integration components will be available in April/May, 1974.
2. Total project evaluation and possible national validation during 1973-74.
3. On-going: Continued efforts to promote implementation through workshops, drive-in sessions, in-service, both at local schools and colleges/universities in teacher training. Continued efforts to muster greater local community support.

Q. ERIC DOCUMENTS:

1. Art Grades K-3. SE 016 535
2. Art Grades 4-6. SE 016 536
3. Art Grades 7-9. SE 016 537
4. Art Grades 10-12. Drawing, Painting, Graphics, Photography, Commercial Art. SE 016 538
5. Business Education Grades 9-12. General Business, Typing I and II, Shorthand, Clerical and Secretarial Practice, Bookkeeping. SE 016 539
6. Home Economics. Beginning, Intermediate, Advanced, Family Housing and Interiors, Family Foods and Nutrition, Family Clothing and Textiles. SE 016 540
7. Industrial Arts Grades 7-12. Drafting, Woodworking, Metals. SE 016 541
8. Industrial Arts Grades 9-12. Power Mechanics, Graphic Arts, Plastics, Electricity-Electronics. SE 016 542
9. Mathematics Grades K-1. SE 016 543
10. Mathematics Grades 2-4. SE 016 544
11. Mathematics Grades 5-6. SE 016 545
12. Mathematics Grades 7-8. SE 016 546
13. Mathematics Grades 10-12. SE 016 547
14. Music Grades 1-6. SE 016 548
15. Music Grades 7-9. SE 016 549
16. Music Grades 10-12. SE 016 550
17. Social Studies Grades 1-12. Individual titles. SE 012 632 and ED 055 917
18. Science Grades K-12. Individual titles. SE 012 633 and ED 055 918
19. Language Arts Grades K-12. Individual titles. SE 012 634 and ED 055 919

- A. PROJECT TITLE: WISCONSIN ENVIRONMENTAL IN-SERVICE PROJECT
- B. PROJECT DIRECTOR: David C. Engleson, Department of Public Instruction, 126 Langdon Street, Madison, Wisconsin 53702.
(608)266-3319
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: None.
- E. PROJECT HISTORY:
1. Principal originators: David C. Engleson, Specialist, Environmental Education, Wisconsin Department of Public Instruction; Donald Dailey, Physics Professor, University of Wisconsin-Superior, Superior, Wisconsin.
2. Date and place of Initiation: June 1972, State of Wisconsin.
3. Overall project purpose: Promote environmental education in the schools of the State of Wisconsin.
- F. PROJECT OBJECTIVES:
1. To develop resource materials for the use of instructors in in-service and pre-service environmental education of teachers.
2. To prepare instructors qualified to offer in-service and pre-service environmental education to teachers.
3. To prepare Wisconsin teachers to deal with environmental topics in their classrooms through in-service courses taught in the local or neighboring school district.
4. To better prepare pre-service teachers to deal with environmental topics in the classroom.
- G. MATERIALS:
1. Materials produced: Wisconsin Environmental Education Project Resource Guide.
2. Free materials available: None.
3. Materials produced that can be purchased: See L.
4. New instructional materials being developed: None.
5. Additional materials being developed: None.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 10.
2. Number of teachers having adopted all of the project materials: 10.
3. Number of teachers using some of the project materials: 12.
4. Total number of students using project materials: 300.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. Sister Julia Van Denack, Silver Lake College, Manitowoc, Wisconsin 54220.
b. David Schiotz, Menomonie Public Schools, 1715 Fifth St., Menomonie, Wisconsin 54751.

- c. William Komula, New Richmond Senior High School, New Richmond, Wisconsin 54017.
- d. Dr. Roger Bauer, Secondary Education, University of Wisconsin, Stevens Point, Wisconsin 54481.

I. TEACHER PREPARATION:

- 1. Consultative service available for teachers using the materials: Yes.
- 2. In-service education program for teachers using the materials: Yes.
- 3. Pre-service training program for teachers desiring to use the materials: Yes.
- 4. Kinds of teacher preparation programs available:
 - a. Workshop: No.
 - b. Summer Institute: Yes. 2 weeks.
 - c. Evening classes: Yes. 10 three-hour sessions (2 semester credits).
- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Wisconsin Environmental Education Project Resource Guide.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

- 1. Has the effectiveness of the materials been evaluated: Yes. Feedback from instructors in the field, several university people who were asked to react to the materials.
- 2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

- 1. The Wisconsin Environmental Education In-service Project is a cooperative effort of the Department of Public Instruction, the University of Wisconsin-Superior, and the National Science Foundation, to provide Wisconsin school staff members with additional preparation for dealing with environmental issues and problems in the classroom. The project hopes that better trained teachers will result in a high degree of environmental literacy in the adult citizen of tomorrow.
- 2. A two-week summer conference was held in August 1972 during which a resource guide was developed for organizing 2-3 semester hour in-service courses in environmental education for teachers and other school personnel. Participants in the conference represented grade levels from grade three through university, and many different subject matter areas - science, social studies, English-language arts, art, industrial arts, and all those dealt with in the elementary school. Several participants were environmental education specialists from district-wide or regional projects in Wisconsin.
- 3. The resource guide was based on nine components of environmental education: perceptual awareness, phenomena of the natural environment, phenomena of the man-made environment, aesthetic discrimination, value clarification, humanism, fostering creative abilities and attitudes, organizational skills and knowledge, and decision making.

4. Some of the participants in the summer conference have been appointed to the Extension Staff of the University of Wisconsin-Superior and taught courses in New Richmond, Eau Claire, Menomonie, Wausau and Middleton, Wisconsin. Other districts have expressed an interest in the program and will be serviced as instructors become available during the 1973-74 school year.

5. The entire project is coordinated by the Environmental Education Specialist in the Department of Public Instruction. Announcement of the program has been made via Environmental Education News for Wisconsin Schools, a newsletter distributed by the Environmental Education Specialist five times during the school year. Credit, graduate or undergraduate, is awarded by the University of Wisconsin-Superior.

I. PLANS FOR THE FUTURE:

A second summer conference will be held in 1974 during which the Resource Guide will be revised as a result of feedback from the instructors in the pilot program. The revised Resource Guide will be distributed to college and university instructors in environmental education so that they may make use of some of the resources it describes. It will also receive limited free national distribution and will probably be available for sale from the Department of Public Instruction.

- A. PROJECT TITLE: K-12 ENVIRONMENTAL EDUCATION PROGRAM
- B. PROJECT DIRECTOR: Marvin F. Meissen, Madison Public Schools, 545
W. Dayton Street, Madison, Wisconsin 53703. (608)257-9561
- C. PROJECT HEADQUARTERS:
1. Madison Public Schools, 545 West Dayton Street, Madison,
Wisconsin 53703.
2. Special facilities or activities available for visitor view-
ing: Outdoor education areas, materials center, local school sites.
- D. PRINCIPAL STAFF: Approximately 30 persons are employed part-time.
- E. PROJECT OBJECTIVES:
1. Principal originators: Mr. Paul Olson, Madison School Forest;
Mrs. Mary Lou Peterson, Local Productions; Mr. David Archbald,
Information System; Mr. Charles Sommers, Eco-Action.
2. Date and place of Initiation: 1969.
3. Overall purpose:
a. To improve environmental education K-12 in the Madison
Public Schools.
b. Effectively utilize community resources in this program.
- F. PRESENT COMMERCIAL AFFILIATIONS: Yes.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To provide facilities, guidelines and resources for an
effective environmental program.
b. To assure participation of students at all levels in a
meaningful experience.
c. To systematically use resources available for the program.
2. New instructional materials being produced: Yes. 6-8 grades.
- H. MATERIALS PRODUCED:
1. K-6:
a. Guide to Environment Education: Conservation of Natural
Resources.
b. Looking Closely.
c. Madison School Forest (Three Layers of Green)..
d. Cherokee Outdoor Education Area.
2. 7-12:
a. Geology of Wisconsin.
b. Towns and Townships.
c. Sandstones and Buffalo Robes.
d. Glacial Geology of Wisconsin.
e. Interdisciplinary Science and Social Studies.
f. Ecology Action Program.
g. Science and Society.
3. Others: Film strips to accompany - available from VEC,
Middleton, Wisconsin.
- I. MATERIALS AVAILABLE FREE:
Brochure of "Using Local Materials in the Classroom".

J. MATERIALS PURCHASABLE:

Materials can be purchased from the Madison Curriculum Department, Room 209, Administration Building, Madison Public Schools, 545 West Dayton Street, Madison, Wisconsin 53703.

K. ADDITIONAL MATERIALS BEING DEVELOPED:

1. Other materials currently being developed: None.
2. Development of other materials anticipated: Audio-visual materials to accompany units on land use.

L. PROJECT IMPLEMENTATION:

1. Number of schools now using entire set of materials: 33.
2. Number of teachers having adopted all of the project materials: 300.
3. Number of teachers using some of the project materials: 600.
4. Total number of students using project materials: 8,500.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught:
 - a. Memorial High School, 201 S. Grammon Road, Madison, Wisconsin 53705.
 - b. Sennett Middle School, 502 Pflaum Road, Madison, Wisconsin 53716.
 - c. Elvehjem Elementary School, 5106 Hiademy Drive, Madison, Wisconsin 53716.
 - d. Gompers Elementary School, 1402 Wyoming Way, Madison, Wisconsin 53704.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. $\frac{1}{2}$ day.
 - b. Summer Institute: Yes. 10 days.
 - c. Evening classes: Yes. 15 sessions.
 - d. Others: Vocation School (MATC), offers courses "Reading the Landscape" each year. Approximately 200 enroll.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Mrs. Mary Lou Peterson, local materials in cooperation with University of Wisconsin.
2. Pertinent published research studies: None published.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

The efforts have been to:

1. Develop materials for use by classroom teachers.

2. Develop strategies to involve students in issues for study.
3. Utilize community resources.
4. 1969 - Guide publication, Science and Society; Environment Guide.
5. 1970 - Committee Eco Action; workshops.
6. 1971 - Satellite Laboratories with parks department; in-service sessions.
7. 1972 - Development of outdoor areas.
8. 1973 - Development of school community programs to utilize resources.

P. PLANS FOR THE FUTURE:

The current effort is one of involving students and staff in a systematic and accountable fashion with community agencies, resource individuals and media. A Title III planning grant for inter-facing career and environmental thrusts is underway.

- A. PROJECT TITLE: STATE ENVIRONMENTAL EDUCATION PLANNING AND REVIEW
- B. PROJECT DIRECTOR: David W. Walker, 521 Lowell Hall, 610 Langdon Street, Madison, Wisconsin 53706. (608)263-3327
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Wisconsin Environmental Education Council.
 2. Date and place of Initiation: May 1971.
 3. Overall project purpose: Drafting and public review of a state plan for environmental education.
- F. PROJECT OBJECTIVES:
1. To inventory existing resources and programs.
 2. To establish goals.
 3. To determine needs and priorities.
 4. To evaluate draft plan through public discussion.
 5. To adopt a state plan.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: None.
 - b. 7-12: None.
 - c. Others: Draft state plan.
 2. Free materials available: None.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: None.
 5. Additional materials being developed:
 - a. Teacher's Guide to Instructional Materials.
 - b. Citizen's Guide to Environmental Protection.
 6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
 2. In-service education program for teachers using the materials: Yes.
 3. Pre-service training program for teachers desiring to use the materials: No.
 4. Kinds of teacher preparation programs available: Four day workshop for school administrators.
 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: None.
 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Evaluation underway in public review.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY:

1. Draft plan is being distributed.
2. Two regional public discussions have been held; others will be held during the fall.
3. Anticipate completion of a revised state plan by end of 1973.
4. Some priority activities suggested in plan are being implemented or given special study for implementation.

L. PLANS FOR THE FUTURE:

Plan implementation and continuing evaluation.

M. ERIC DOCUMENTS:

Discussion Draft - State Environmental Education Plan. SE 016 970

- A. PROJECT TITLE: PROJECT M-E-E MAN-ENVIRONMENT-EDUCATION
- B. PROJECT DIRECTOR: David Schlotz, 718 N. Broadway, Menomonie,
Wisconsin 54751. (715)235-9045
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: No.
- D. PRINCIPAL STAFF: 1 full-time person plus various part-time teacher teams.
- E. PROJECT HISTORY:
1. Principal originator: David Schlotz - Menomonie Public Schools.
2. Date and place of Initiation: August 1, 1971 - Planning Grant. January 21, 1973 - Project M-E-E.
3. Overall project purpose: To develop a comprehensive environmental education program involving curriculum, community, outdoor education center, school environment, for all ages - K-12 plus school and community.
- F. PROJECT OBJECTIVES:
Implement a comprehensive interdisciplinary K-12+ environmental education program within the Menomonie School District, which will improve environmental awareness, understanding, and involvement with expansion capabilities to other districts.
- G. MATERIALS:
1. Materials produced:
a. K-6: K-4 Curriculum Guides.
b. 7-12: None.
c. Others: None.
2. Free materials available: None.
3. Materials produced that can be purchased:
a. Curriculum Guide - K-4.
b. Project proposal - \$3.00.
4. New instructional materials being developed: Yes. K-4 (72-73), 5-8 (73-74), 9-12 (74-75).
5. Additional materials being developed: Not answered.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION: Not available at present.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
a. Workshop: Yes. 4 weeks.

- b. Summer Institute: No.
- c. Evening classes: Yes. 30 hours.
- d. Others: None.

- 5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
- 6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Will be evaluated after materials have been in use by the Center for Vocational, Technical and Adult Education Research. U. W. Stout, Menominee, Wisconsin.

K. PROJECT SUMMARY:

- 1. 30 hour environmental education course for teachers.
- 2. Use of Outdoor Center by elementary students.
- 3. 4 week teacher workshop.
- 4. 2 week student workshop.

L. PLANS FOR THE FUTURE:

- 1. Initiate "Micro-Grant" Program.
- 2. Initiate "Work-Learn-Teach" Program.
- 3. Additional courses for teachers and other adults.
- 4. In-service programs.
- 5. 10 year plan for development and use of Outdoor Site.
- 6. Formulation of Community Council.
- 7. Resource Center.
- 8. In-service teams.
- 9. Initiate two mini-courses to be used with mobile classroom.
- 10. Development of awareness instruments for students and staff.
- 11. Additional workshops for staff and students.
- 12. Develop curriculum materials for all disciplines in grades K-12.

- A. PROJECT TITLE: MASTER PLAN FOR ENVIRONMENTAL EDUCATION IN THE MILWAUKEE PUBLIC SCHOOLS
- B. PROJECT DIRECTOR: Nancy R. Noeske, Environmental Education Coordinator, P. O. Drawer 10K, Milwaukee, Wisconsin 53201.
(414)475-8093
- C. PROJECT HEADQUARTERS:
1. 5225 W. Vliet Street, Milwaukee, Wisconsin 53208.
2. Special facilities or activities available for visitor viewing: Yes. Visitation to Oak Ridge Farm, urban field trip program for 5th grade children, on-site visits to miniproposal projects.
- D. PRINCIPAL STAFF: 2 persons regularly employed - project director and project evaluator.
- E. PROJECT HISTORY:
1. Principal originator: Task force of three science supervisors.
2. Date and place of Initiation: June 1971 - Milwaukee Public Schools.
3. Overall project purpose: To develop and implement a K-12 interdisciplinary master plan for environmental education in the Milwaukee Public Schools.
- F. PROJECT OBJECTIVES:
Master Plan has over 100 performance objectives product, process, and management, as part of formal E.S.E.A. Title III evaluation.
1. Develop a new understanding and awareness of man's relationship to his environment - an "environmental literacy".
2. Develop activities and materials to integrate environmental education into existing K-12 curriculum.
- G. MATERIALS:-
1. Materials produced:
a. K-6: K-6 Idea Book.
Milwaukee - Your City (5th grade).
Urban Field Trip Package (5th grade), including filmstrip.
Trip to Oak-Ridge Farm (filmstrip).
Farm instructional unit.
Environmental Aesthetics (elementary activities guide).
b. 7-12: Environmental Chemistry (11th grade).
Environmental Education Activities in English-Language Arts (Jr.-Sr. High).
Milwaukee River - A Field Trip.
Environmental Activities in Junior High Mathematics.
Environmental Activities in Senior High Mathematics.
Ecology for German.
Biology and the Environment.
Supplements to Home Economics Curricula.
Man and His Urban Environment for Urban Studies.
Film - "We Can Make it Happen" - 15 minute, color film depicting Milwaukee's urban environment, problems and some solutions - (student-produced).

Milwaukee and You - Secondary Urban Field Trip.
Three slide/tape presentations on the Milwaukee River.

c. Other: Miniproposal Handbook - Guide to preparing mini-proposals.

Evaluation instruments.

2. Free materials available:
 - a. EE - A Master Plan - overview of project.
 - b. Miniproposal Handbook and listing of funded proposals.
3. Materials produced that can be purchased:
 - a. Any Curriculum Guide.
 - b. Project proposal.
 - c. Evaluation reports.
4. New instructional materials being developed: Yes. K-12.
5. Additional materials being developed:
 - a. Curriculum Guides (K-12) Art, Music.
 - b. Filmstrips and slide/tape presentations.
 - c. Field trips and guides.
6. Present commercial association: No.

H. MATERIALS IMPLEMENTATION:

1. Number of schools now using entire set of materials: 160.
2. Number of teachers having adopted all of the project materials: Unknown.
3. Number of teachers using some of the project materials: 3,000.
4. Total number of students using project materials: 37,000.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
 - a. Sholes Junior High School (Mr. Greg Vogt), 4965 South 20th Street, Milwaukee, Wisconsin.
 - b. Hamilton High School (Ms. Marilyn Cooper), 6215 West Warrimont Avenue, Milwaukee, Wisconsin.
 - c. Lincoln Avenue Elementary School (S. Berndt), 1817 West Lindoln Avenue, Milwaukee, Wisconsin.
 - d. Keefe Avenue Elementary School (M. Dallen), 1618 West Keefe Avenue, Milwaukee, Wisconsin.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshop: Yes. 10 weeks - 1½ hours per week.
 - b. Summer Institute: 4 weeks - 6 hours per day.
 - c. Evening classes: No.
 - d. Other: Saturday seminars - 1 day.
Weekend "retreats" - 2-3 days.
Television specials (30 minutes).
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Yes. Course syllabus; list of references, weekly workshop materials and lesson plans.

6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Formal evaluation required by E.S.E.A., Title III and conducted by Department of Education Research and Program Assessment of Milwaukee Public Schools.
2. Pertinent published research studies:
 - a. Environmental Education - A First Year-Evaluation Report, 1971-1972.
 - b. Environmental Education - An Interim Report, Feb. 1972.
 - c. Environmental Education - A Second Year Evaluation Report, 1972-1973.

K. PROJECT SUMMARY:

The master plan has eight components:

Component I: Leadership Development - workshops and seminars to develop and expand the environmental education cadre of teachers (trained environmental specialists).

Component II: In-service Workshops - workshops and seminars designed to increase the number of environmentally aware and knowledgeable teachers in system, utilizing cadre as leaders.

Component III: Curriculum Development - preparation of materials to integrate EE concepts and activities into the existing K-12 curriculum.

Component IV: Miniproposal Program - vehicle through which students can write proposals to obtain money and/or assistance for innovative environmental projects.

Component V: Urban Field Trip Program - development of a model urban field trip package consisting of teacher's guide; pre, on and post trip activities, filmstrip/tape, and kit of materials for a trip into the urban environments.

Component VI: Student Involvement - Three week summer workshops for 7-12 graders and leadership workshops to develop a trained cadre of students to promote and conduct EE activities in respective schools and on a city-wide basis.

Component VII: Handicapped Program - a. designed to counteract the negative influence of the social, physical, academic environments of a group of emotionally-disturbed youth, b. pilot of BSCS' Me Now and Me and My Environment with over 300 mentally-retarded pupils.

Component VIII: Demonstration Farm Program - development and implementation of an instructional unit on school-owned farm to develop a perceptual awareness of the need for a planned environment as related to sustained productivity of the land (primary and intermediate grades).

L. PLANS FOR THE FUTURE:

1. Leadership activities for teachers and students.
2. In-service workshops for teachers.
3. Additional curriculum development.
4. Additional field trip experiences for elementary and secondary levels.

M. ERIC DOCUMENTS:

1. Addenda to Home Economics. Curriculum Guides. Environmental Education (work copy). SE 016 980
2. Junior High Mathematics, Activities and Problems in Environmental Education. SE 016 985
3. Environmental Education Activities, English Language Arts Program in the Junior and Senior High Schools. SE 016 984
4. Environmental Chemistry Activities. SE 016 983
5. The Elective Program in English. Course Title: Writers and the Environments. SE 016 982
6. Art/Environmental Aesthetics. SE 016 981
7. Master Plan for Environmental Education. 1973-74 continuing application submitted to the U.S.O.E. under ESEA Title III Section 306. SE 016 979
8. Environmental Education. Second Year Evaluation Report 1972-1973, Division of Planning and Long-Range Development. SE 016 978

- A. PROJECT TITLE: WEEKEND CONFERENCES ON WATERSHEDS (FORMERLY: PROGRAM TO TRAIN TEACHERS AND STUDENTS IN AN INTERDISCIPLINARY APPROACH TO ENVIRONMENTAL EDUCATION)
- B. PROJECT DIRECTOR: Rev. Melvin Tracy, JFK Prep, St. Nazianz, Wisconsin 54232. (414)773-2111
- C. PROJECT HEADQUARTERS:
1. Same address as above.
2. Special facilities or activities available for visitor viewing: Yes. Materials.
- D. PRINCIPAL STAFF: 1 director plus students part-time.
- E. PROJECT HISTORY:
1. Principal originators: Rev. Melvin Tracy, Gerhard Beenen.
2. Date and place of Initiation: December 1971. Mt. Castotin.
3. Overall project purpose: To train teams of students and teachers to develop interdisciplinary curricular materials and units for environmental education. To organize schools within a watershed to monitor environmental quality of the watershed.
- F. PROJECT OBJECTIVES:
See E.3.
- G. MATERIALS:
1. Materials produced: 7-12 - Units on environmental areas for use in curriculum.
2. Free materials available: Any we've developed.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: Yes. Tapes and slides for grades 7-12.
5. Additional materials being developed: Units on energy (simulation program included) on impact statements, land use, transportation, etc.
6. Present commercial association: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1 or 2.
2. Number of teachers having adopted all of the project materials: 1.
3. Number of teachers using some of the project materials: 4-5.
4. Total number of students using project materials: 30-40.
5. Totals stated are estimated.
6. Names and locations of schools where the program materials are being used:
a. JFK Prep, St. Nazianz, Wisconsin 54232.
b. Brillion High School, Brillion, Wisconsin.
- I. TEACHER PREPARATION:
1. Consultative service available for teachers using the materials: No.
2. In-service education program for teachers using the materials: No.

3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes! 3 days.
 - b. Summer Institute: No.
 - c. Evening classes: No.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes.
By the students.
2. Pertinent published research: None.

K. PROJECT SUMMARY:

1. JFK Prep students provided a service to the state through a survey of the Monitowoc county solid waste disposal sites.
2. JFK Prep students are able and willing to assist county and state agencies in environmental action.
3. JFK Prep students are knowledgeable and wish to share this knowledge.
4. Have been invited to southwestern Wisconsin to help organize in two schools a program that is similar to the one at Prep.

L. PLANS FOR THE FUTURE:

1. Continuation of the newsletter.
2. Holding a one-day workshop on the environment in October.
3. The raising of sufficient capital from industry and local groups to finance a portable lab, from a van or Winnebago Wagon, so that others can utilize our materials more readily, and our area of concern can be amplified.

- A. PROJECT TITLE: ECOLOGY AND HUMAN VALUES
- B. PROJECT DIRECTOR: George Conom, 220 Kroncke Drive, Sun Prairie,
Wisconsin 53590. (608)837-5181
- C. PROJECT HEADQUARTERS:
1. 220 Kroncke Drive, Sun Prairie, Wisconsin 53590.
2. Special facilities or activities available for visitor viewing: Yes. Course of study and materials in which student simulation of values toward environment occurs.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: George Conom and Sandra Robertson.
2. Date and place of Initiation: September 1971 - Sun Prairie Senior High School.
3. Overall purpose: To correlate the physical sciences and human values in the study of the environment and how and why man acts the way he does in it and to it.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project: See E.3.
2. New instructional materials being produced: Yes. 12th grade.
- H. MATERIALS PRODUCED:
Course of Study for "Ecology and Human Values".
- I. MATERIALS AVAILABLE FREE: None.
- J. MATERIALS PURCHASABLE:
Course of Study for course "Ecology and Human Values" - \$4.00.
Available from project director.
- K. ADDITIONAL MATERIALS BEING DEVELOPED:
1. Other materials currently being developed: None.
2. Development of other materials anticipated: More simulation games.
- L. PROJECT IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1.
2. Number of teachers having adopted all of the project materials: 2.
3. Number of teachers using some of the project materials: 100.
4. Total number of students using project materials: 500.
5. Totals stated are estimated.
6. Names and locations of selected schools where the course is being taught: Sun Prairie Senior High School, Sun Prairie, Wisconsin.

M. TEACHER PREPARATION:

1. Consultant service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available:
 - a. Workshops: No.
 - b. Summer Institute: No.
 - c. Evening classes: No.
 - d. Others: State conferences on environmental education and state conferences on social studies.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Commercial availability of materials: No.

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Administration and staff of Sun Prairie High School as well as students taking the course.
2. Pertinent published research studies: None.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Development of the entire course along with instructional material.

P. PLANS FOR THE FUTURE:

K-12 sequential environmental education program.

- A. PROJECT TITLE: ECO-CURRICULUM DEVELOPMENT AND LEARNING LABORATORY
- B. PROJECT DIRECTOR: Mr. Robert Larson, R. R. 1, Box 550A, Cheyenne, Wyoming 82001. (307)634-3152
- C. PROJECT HEADQUARTERS:
1. Same address as above.
 2. Special facilities or activities available for visitor viewing: Yes.
- D. PRINCIPAL STAFF: 4 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: Dr. Wilma Hirst, Robert Larson.
 2. Date and place of initiation: July 1, 1971. Laramie County School District #1.
 3. Overall project purpose: To develop innovative environmental curriculum K-12, including one designed specifically for the handicapped.
- F. PROJECT OBJECTIVES:
1. To produce a citizenry that is knowledgeable about environmental problems.
 2. To produce a citizenry that is aware of how to help solve these problems, and motivated to work toward their solutions.
- G. MATERIALS:
1. Materials produced:
 - a. K-6: Environmental Activities Book I and II, Environmental Activities for the "Out-of-Doors", Environmental Activities "Guide for Field Trip".
 - b. 7-12: Environmental Activities Booklets for Junior High: Eco-Lab, Nature Handbook.
 2. Free materials available:
 - a. Environmental Activities for the "Out-of-Doors".
 - b. Environmental Activities "Guide for Field Trip".
 - c. Environmental Activities for Junior High.
 3. Materials produced that can be purchased: None.
 4. New instructional materials being developed: Yes.
 5. Additional materials being developed: Keys to trees and flora of the area.
 6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 23.
 2. Number of teachers having adopted all of the project materials: 30.
 3. Number of teachers using some of the project materials: 40.
 4. Total number of students using project materials: 600-700.
 5. Totals stated are estimated.
 6. Names and locations of schools where the program materials are being used:
 - a. Baggs Elementary School, Special Education, 3619 Cheyenne Street, Cheyenne, Wyoming 82001.

- b. Bain Elementary School, 5th and 6th Grade, 903 Adams Avenue, Cheyenne, Wyoming 82001.
- c. Cole Elementary School, 2nd and 4th Grade, 820 O'Neil Avenue, Cheyenne, Wyoming 82001.
- d. David Elementary School, 6th Grade, 6009 Yellowstone, Cheyenne, Wyoming 82001.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshop: No.
 - b. Summer Institute: No.
 - c. Evening classes: Yes. 17 weeks, 2 $\frac{1}{2}$ hours.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By Robert Eicher, Department of Educational Foundations, College of Education, University of Wyoming, Laramie, Wyoming 82070.
2. Pertinent published research: None.

K. PROJECT SUMMARY:

The first year of the project two elementary curriculum guides were developed with more than 50 activities in each booklet. Two supplementary booklets were produced: a guide that offers suggestions on conducting field trips, and a guide that is an interdisciplinary mini-summer course for teaching in the out-of-doors. The second year of the three year project concentrated on grades 7-9. A curriculum guide in environmental education with 1/2 activities has been developed. Twelve of these activities were tested through in-service training in district schools. Emphasis has been in out-of-doors activities for campuses at the Eco-Lab and other schools. Two supplementary booklets have been developed: a summer school out-of-doors mini course that easily demonstrates the principles of field ecology utilizing simple chemical tests, and "Eco-Lab Nature Handbook", describing the flora and fauna of the Eco-Lab site.

L. PLANS FOR THE FUTURE:

1. Environmental activities grades 10-12.
2. Nature slides with cassette and guide.
3. Key to the flora of the Eco-Lab.
4. Tree guide to the State of Wyoming Capitol grounds.
5. Summer school mini course grades 10-12.

- A. PROJECT TITLE: DEVELOPMENT OF A PROCESS CURRICULUM FOR THE COMMUNITY
- B. PROJECT DIRECTOR: Nicki Morson, Student Director, 412 West 29th,
Cheyenne, Wyoming 82001. (307)634-6881
- C. PROJECT HEADQUARTERS:
1. R. R. 1, Box 550A, Cheyenne, Wyoming 82001.
2. Special facilities or activities available for visitor viewing: Yes. The Eco-Lab. The lab includes a library and a 40 acre nature area.
- D. PRINCIPAL STAFF: 4 persons
- E. PROJECT HISTORY:
1. Principal originators: Dr. William C. Edwards, Coordinator-Eco-Lab; Robert Larson, Environmental Educator, Laramie County School District No. 1; Nicki Morson, Laramie County Community College student.
2. Date and place of Initiation: October 1972. Laramie County Community College.
3. Overall project purpose: To improve the environmental literacy of citizens of Laramie County, Wyoming.
- F. PROJECT OBJECTIVES:
1. Improve environmental literacy of citizens of Laramie County.
2. Enable citizens to interpret pollution data.
3. Afford citizens the opportunity to test samples for pollution - learn by doing.
4. To provide a communications system for the state and region through The Wyoming Environmental Education Newsletter.
- G. MATERIALS:
1. Materials produced: Pre and post tests for evaluation of citizens workshops.
2. Free materials available: The Wyoming Environmental Education Newsletter.
3. Materials produced that can be purchased: None.
4. New instructional materials being developed: None.
5. Additional materials you anticipate developing: None.
6. Teaching materials commercially available: None.
- H. MATERIALS IMPLEMENTATION: Not applicable.
- I. TEACHER PREPARATION: Not applicable.
- J. MATERIALS EVALUATION:
The citizen workshops were evaluated by Dr. Robert Eicher, University of Wyoming.
- K. PROJECT SUMMARY:
Conducted workshops to improve the environmental literacy of the citizens of Laramie County. The participants represented a cross section of the general public and were selected from different age groups and professions.

L. PLANS FOR THE FUTURE:

The Eco-Lab and its curriculum development project will continue.

- A. PROJECT TITLE: LIFE - 5TH GRADE PROGRAM - LEARNING IN FIELD ENVIRONMENT - GRAND TETON ENVIRONMENTAL EDUCATION CENTER
- B. PROJECT DIRECTOR: Ted F. Major, Box 1111, Jackson, Wyoming 83001.
(307)733-3056
- C. PROJECT HEADQUARTERS:
1. Teton Science School - Grand Teton National Park, Box 1111, Jackson, Wyoming 83001.
 2. Special facilities or activities available for visitor viewing: Yes. Science library, herbariums, research projects completed by students, various collections, etc.
- D. PRINCIPAL STAFF: Director, 5 grade teachers, 5 biology students per three day session.
- E. PROJECT HISTORY:
1. Principal originator: Ted Major.
 2. Date and place of Initiation: Fall 1972.
 3. Overall project purpose: A non-profit environmental education center in Grand Teton National Park is proposed to help fulfill our obligation to the youth of the Intermountain area by providing a quality environmental education experience. In providing such an experience, it is hoped that the attitudes of the young will be positively influenced and that as tomorrow's decision-makers, they will be properly prepared to make informed environmental decisions.
- F. PROJECT OBJECTIVES:
1. To help students gain an understanding of the relationship between natural and man-made environments. Relatively intact natural ecosystems are readily available in Grand Teton National Park; however, the surrounding areas, including the town of Jackson, offer a microcosm of contrasting environments generally found only in urban areas.
 2. To help students develop an understanding of the importance of national parks to the mental, spiritual, cultural and physical well-being of our nation's young people.
 3. To offer students a new non-materialistic living experience and give them an opportunity to come to grips with Nature on her own terms.
 4. To help develop within the student a conservation or land ethic.
 5. To encourage students of the Intermountain region to appreciate and conserve their unique irreplaceable ecosystems.
 6. To further the interpretive efforts of Grand Teton National Park.
- G. MATERIALS:
- Materials will be produced in the future for elementary and secondary grades.
- H. MATERIALS IMPLEMENTATION:
1. Number of schools now using entire set of materials: 1
 2. Number of teachers having adopted all of the project materials: 5.

3. Number of teachers using some of the project materials: Not answered.
4. Total number of students using project materials: 150.
5. Totals stated are definite.
6. Names and locations of schools where the program materials are being used:
 - a. Jackson Elementary School, Jackson, Wyoming 83001. 5th grade.
 - b. Wilson Elementary School, Wilson, Wyoming. 5th grade.
 - c. Moran School, Moran, Wyoming. 5th grade.
 - d. Kelly School, Kelly, Wyoming. 5th grade.

I. TEACHER PREPARATION:

A one day workshop is available for teachers using our materials.

J. MATERIALS EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. By teachers, students, and biology III students.
2. Pertinent published research studies: None.

K. PROJECT SUMMARY: Not answered.

L. PLANS FOR THE FUTURE:

To meet the objectives, the Environmental Education Center will:

1. Develop pilot courses and environmental programs for participation by local and regional elementary and secondary, college and adult groups.
2. Develop suitable environmental awareness teaching methods for public school teacher candidates. The Center would act as a training ground for future educators. High school and college students who are interested in careers in education would be trained at the center, act as counselors or aids for younger students, and receive classroom credit for their activities. This program would provide on-site training and would result in a valuable resource for the future of environmental education.
3. Various subject disciplines would be integrated within the environmental education program, utilizing the best materials from both National Park Service and private educational groups.

- A. PROJECT TITLE: LANDER CONSERVATION CENTER
- B. PROJECT DIRECTOR: Robert J. Legoski, 863 Sweetwater Street, Lander,
Wyoming 82520. (307)332-4644
- G. PROJECT HEADQUARTERS:
1. Starrett Junior High School, 863 Sweetwater Street, Lander,
Wyoming 82520.
2. Special facilities or activities available for visitor view-
ing: Yes.
- D. PRINCIPAL STAFF: 2 persons regularly employed.
- E. PROJECT HISTORY:
1. Principal originators: S. J. Starrett, Superintendent, Dis-
trict #1; Robert Skyles, Business Manager, District #1.
2. Date and place of Initiation: January 1968 - Lander, Wyoming.
3. Overall project purpose: Encourage and adapt environmental
education in the school system.
- F. PRESENT COMMERCIAL AFFILIATIONS: None.
- G. PROJECT OBJECTIVES:
1. Objectives of the project:
a. To integrate into the existing school curriculum more
effective conservation education.
b. To demonstrate the importance of good conservation prac-
tices to both school children and adults, through displays,
diagrams, and other instructional media and equipment.
c. To inform teachers about the science of ecology through an
in-service training program.
d. To extend the usefulness of the Center to the summer months
by maintaining it on a 12-month basis, so that it can be
enjoyed by tourists and other adults as well as children.
2. New instructional materials being produced: None.
- H. MATERIALS PRODUCED:
K-12 Environmental Education Activities (approximately 300 sepa-
rate activities on cards) to be used as supplemental program.
- I. MATERIALS AVAILABLE FREE:
1. Natural History Guide To Area.
2. Brochure describing activities of Center.
3. List of resource materials available at Center.
- J. MATERIALS PURCHASABLE:
"How Do You Read Your World" - Environmental Education Activities.
300 cards per set - \$5.00 each set. Available from Lander Conser-
vation Center, 863 Sweetwater, Lander, Wyoming 82520.

K. ADDITIONAL MATERIALS BEING DEVELOPED: None.

L. PROJECT IMPLEMENTATION:

We have sold 768 sets which have gone to school systems all over the United States.

M. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: No.
4. Kinds of teacher preparation programs available:
 - a. Workshops: Yes. 1 or 5 days.
 - b. Summer Institute: Yes. 2 weeks.
 - c. Evening classes: Yes. 1 semester - 3 credit hours.
 - d. Others: None.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: No. Only our own workshop plans.
6. Commercial availability of materials:

N. PROJECT EVALUATION:

1. Has the effectiveness of the materials been evaluated: Yes. Staff, State Department of Education and University of Wyoming.
2. Pertinent published research studies: Not answered.

O. SUMMARY OF PROJECT ACTIVITIES SINCE 1969:

Curriculum development and implementation.

P. PLANS FOR THE FUTURE:

No additional activities are planned.

- A. PROJECT TITLE: NATIONAL OUTDOOR LEADERSHIP SCHOOL
- B. PROJECT DIRECTOR: Paul Petzoldt, P.O. Box AA, Lander, Wyoming 82520.
(307)332-4381
- C. PROJECT HEADQUARTERS:
1. P.O. Box AA, Lander, Wyoming 82520.
 2. Special facilities or activities available for visitor viewing:
 - a. On going instructional activities in the field.
 - b. Factory manufacturing and designing of outdoor expedition equipment.
- D. PRINCIPAL STAFF: 100 field personnel and office employees.
- E. PROJECT HISTORY:
1. Principal originators: Paul Petzoldt, Tap Tapley, Robert Hellyer.
 2. Date and place of Initiation: June 1965 - Lander, Wyoming.
 3. Overall project purpose: To teach people how to conserve and enjoy the wild outdoors and to train qualified outdoor leaders.
- F. PROJECT OBJECTIVES: See E.3.
- G. MATERIALS:
1. Materials produced: Secondary - college and up.
 - a. All types of outdoor equipment.
 - b. Nols conservation practices (brochure on practical conservation).
 2. Free materials available:
 - a. Course description and brochure.
 - b. Slide show.
 - c. 20 minute 16mm film.
 3. Materials produced that can be purchased: Write for catalogue.
 4. New instructional materials being developed: Yes. Secondary and up.
 5. Additional materials you anticipate developing:
 - a. All types of outdoor equipment.
 - b. Research in wilderness biology and ecology.
 - c. Research in practical wilderness conservation.
 - d. Book on wilderness technique.
 - e. Outdoor teaching materials.
 6. Teaching materials commercially available: Yes. W. W. Norton and Company.
- H. MATERIALS IMPLEMENTATION:
- Approximately 2,000 students per year use our facilities. Our materials are being used at:
1. For Lewis College, Durango, Colorado.
 2. Kansas State Teachers College, Emporia, Kansas.
 3. University of Wyoming, Laramie, Wyoming.
 4. National Outdoor Leadership School, Lander, Wyoming.

I. TEACHER PREPARATION:

1. Consultative service available for teachers using the materials: Yes.
2. In-service education program for teachers using the materials: Yes.
3. Pre-service training program for teachers desiring to use the materials: Yes.
4. Kinds of teacher preparation programs available: A summer program is available, 35 days.
5. Availability of pre-service and/or in-service teaching materials for educators to use in preparing teachers: Will be available soon.
6. Teaching materials commercially available: No.

J. MATERIALS EVALUATION:

Only in the empirical sense that the techniques are used and learned by 2,000 students a year.

K. PROJECT SUMMARY:

The National Outdoor Leadership School is a non-profit organization dedicated to teaching people how to enjoy the natural wilderness without destroying it. Our goal, broadly stated, is to encourage a reverence for our remaining wild areas through training in all aspects of ecology and outdoorsmanship. Our "courses" take the form of small co-educational expeditions isolated from civilization for as long as five weeks and engaged in a serious study of nature, advanced camping practices, and wilderness activities such as rock climbing, caving, skin diving, and fly fishing. We welcome those who want to attend for the purpose of securing the technical education necessary for their own outings or expeditions, along with those who simply desire an extended wilderness experience; we discourage those who are not prepared to a study of the vast amount of material our instructors present.

L. PLANS FOR THE FUTURE:

1. Expansion of programs to Africa, North East USA and Canada.
2. Expansion of United States programs.