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FACTORS THAT INFLUENCED HOMESTEADING AND LAND
ABANDONMENT IN SAN JUAN COUNTY, UTAH

A Thesis

Presented to the
Department of Geography
Brigham Young University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by

Melvin J. Frost

November, 1960

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To Abijah Cook, Lands Examiner, of the Bureau of Land Management I am grateful for information on the present status of homsteading in San Juan County and for permission to peruse the files on land entries. D. B. Perkins, H. U. Butts and C. A. Frost have been very helpful by providing first hand information on early homsteading and changes that have occurred since. Mrs. Arvilla Warren, County Recorder, has been very cooperative and helpful in obtaining information from the San Juan County Records.

To my adviser, L. Elliott Tuttle of the Geography Department, I am most grateful for his careful guidance and wise criticism during the process of research and preparation of the report. To Dorothy, my wife, must go the credit for efficiently managing the affairs of five active children and still finding time to assist in the preparation of the report and typing the manuscript.

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CHAPTER I

INTRODUCTION

General Statement

Homesteading is that process where citizens or prospective citizens of the United States can obtain unoccupied public domain by filing an application to the Federal Government, paying a nominal fee and developing the land. This process of acquiring land has been unique to the American Frontier since the first Homestead Act was passed by congress in 1862. Homestead laws provide the legal protection to those individuals and their families who have the courage and determination to establish homes and develop farm lands in undeveloped areas. The American Frontier has been steadily pushed westward until all suitable lands have become occupied by homesteaders, stockmen and other frontiersmen. This desire to acquire land has created many situations of both successful and unsuccessful attempts at land ownership.

The popular concept is that homesteading is a method of acquiring land cheaply. On the contrary, this is not always the case and especially so at the present time when the best lands have been taken. When applicants¹ fail in their attempts to acquire land it becomes very expensive, not just because of the amount of cash spent, but more often because of the time lost, the hardships imposed from living in isolated conditions and from frustrations caused from failures.

Homesteading is also an emotional experience. The homesteaders,

¹ Applicants are those who have applied for homesteads.

often a family unit, become attached to their land. Here they have made their home generally under very humble circumstances, cleared the land, planted seeds in hopes of a crop and have enjoyed the elation of successful accomplishment or the disappointments of failure.

From the standpoints of time and location San Juan County in Southeastern Utah is an ideal area for studying the homestead movement. This area has been fairly well isolated and sparsely settled until relatively recent times. It is one of the few areas in the western United States where homestead applications are still being filed. Homesteading in the area has undergone several periods of activity and land abandonment which are closely paralleled by successes and failures in dry-farming¹.

Practically all, if not all, of the land available for homesteading in San Juan County has been taken. Unless population pressures require the use of marginal lands, or a leniency in land laws develops there will be few, if any, homestead applications allowed in the future. The movement is approaching its end. Now is an opportune time to analyze the factors that have influenced land occupancy in San Juan County.

Statement of the Problem

This is a study of the homestead movement in San Juan County from its beginning in 1880 to the present. Many factors have been effective in influencing people to homestead here and many factors have been effective in causing them to leave. The purpose of this thesis is therefore to analyze the following:

1. Periods of homesteading activity and of land abandonment as a result of

¹Dry-farming is farming without irrigation. In San Juan County it is necessary to summer fallow the land to be sure of a crop on alternate years.

favorable and unfavorable factors.

2. Factors which influenced land occupancy such as availability of land, favorable legislation and improved farming methods.

3. Factors which influenced land abandonment such as low wheat prices, poor transportation facilities, isolation and unfavorable legislation.

Methods of Investigation

Considerable documentary research has been necessary in order to obtain the needed information to complete this study. Research in the Brigham Young University Library and the San Juan County Courthouse has provided most of the historical information. A perusal of over 3,000 land entry cards in the Salt Lake Office of the Bureau of Land Management provided statistical information on recent homesteading. The information on land entries between 1880 and 1940 was, however, more difficult to find. For this earlier period the Grantor's Indexes in the San Juan County Recorder's Office proved to be the most valuable source.

Whenever possible personal interviews were made with early settlers of the area. Being participants in the homestead movement they are free with their opinions and provide a wealth of information not available in any other way. The homesteader's opinion is generally a reflection of his success in adapting to the physical environment and in creating a cultural environment of suitable settlements, transportation, land utilization and crop production.

Limiting Factors

This is a report on the when, where, and how of homesteading in San Juan County. The report is limited to information relative to homesteading and to the areas where it has been located. The economic aspects are

limited to those associated with agriculture. A description of the physical environment is limited to Sage Plain in the east central part of the county where most of the homesteading is located.

CHAPTER II
LOCATION AND ACCESSIBILITY

Location

San Juan, the largest county in Utah State, comprises approximately 7,884 square miles¹ and is located in the extreme southeast corner of the state. It forms one quadrant of the unique Four Corners area that is so named because the state boundaries of Utah, Colorado, New Mexico and Arizona converge around a common point (See Fig. 1). It is bounded on the north by the Grand County line drawn at 38°30' north latitude, on the east by the Colorado state line, on the south by the Arizona state line and on the northwest by the meandering courses of the Colorado and Green Rivers. The east-west distance along the Grand County line is 53 miles; the north-south distance along the Colorado line is 103 miles; the east-west distance along the Arizona line is 131 miles; the northeast-southwest straight line² distance along the Colorado River is approximately 117 miles; and the northwest-southeast straight line distance along the Green River is approximately 24 miles.

Extremely rugged terrain along the rivers precluded the possibility of accurate surveying and mapping until aerial photography was developed. Many early figures on San Juan County relative to overall distances and total areas, except those confined to straight lines and flat surfaces,

¹Rand McNally & Co., Commercial Atlas and Marketing Guide. New York, 1960, p. 434.

²Distances measured along lines drawn from the junction of the rivers

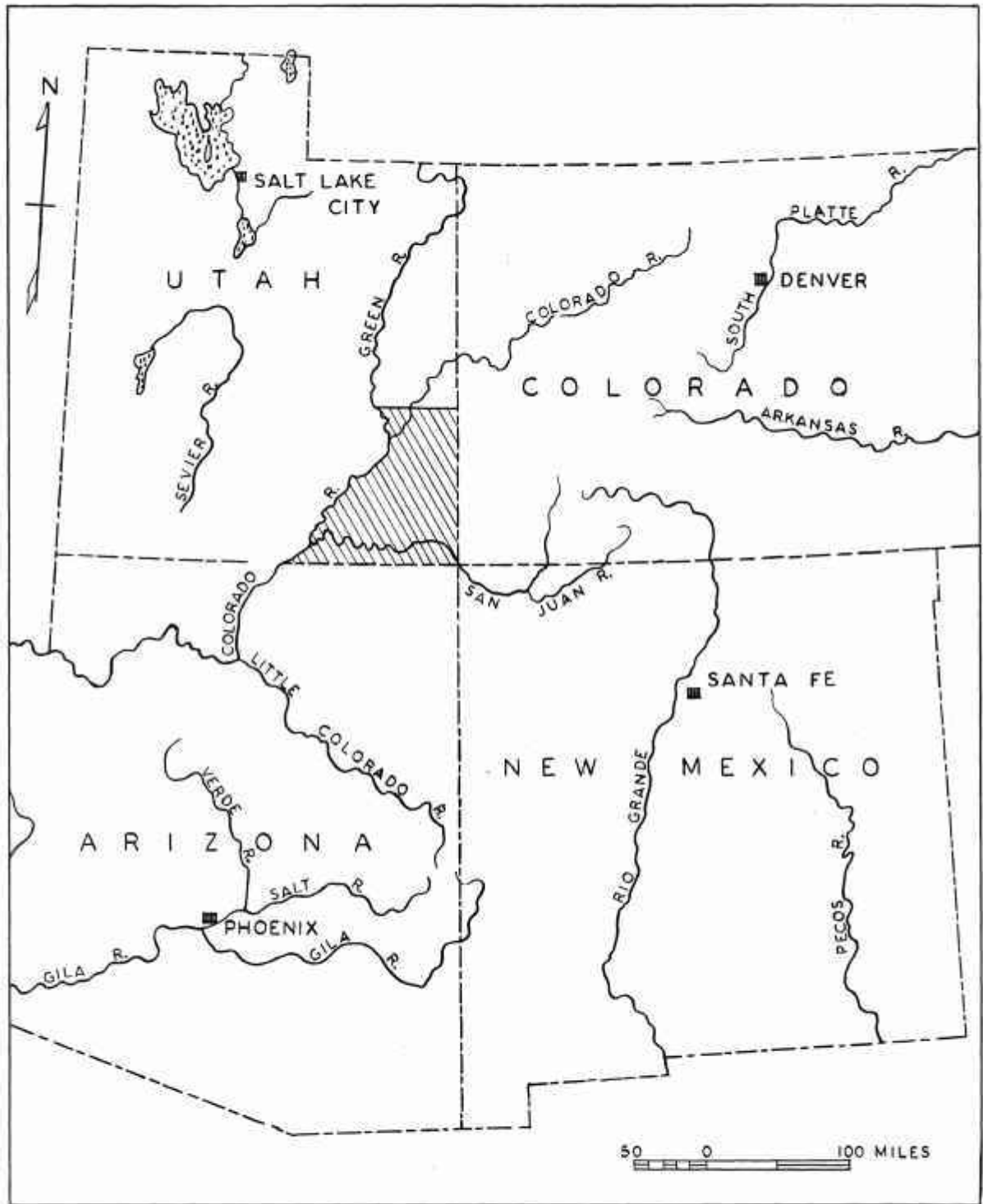


Fig. 1. Location of San Juan County, Utah

are therefore only approximate¹.

Inaccessibility of Area

Accessibility to the area from the north, west and south is very difficult because of limited river crossings, rugged terrain and deep canyons along the Green, Colorado and San Juan Rivers. Between Moab in Grand County and Lees Ferry in Arizona, the only crossings of the Colorado River are at Spanish Bottom, Hite, Halls Crossing, Hole-in-the-Rock and Crossings of the Fathers² (See Fig. 2). Hite is the only presently used crossing for 232 miles along the Colorado River and has been of major importance since it was established after the Hole-in-the-Rock and Halls crossings were abandoned.

On the San Juan River crossings are fairly easy east of Comb Wash. West of Comb Wash the river becomes entrenched in deep canyons and crossings are limited to Mexican Hat, Piute Farms, Zahns Camp and Piute Creek. These crossings never became important because of the inhospitable Navajo Indians south of the San Juan River.

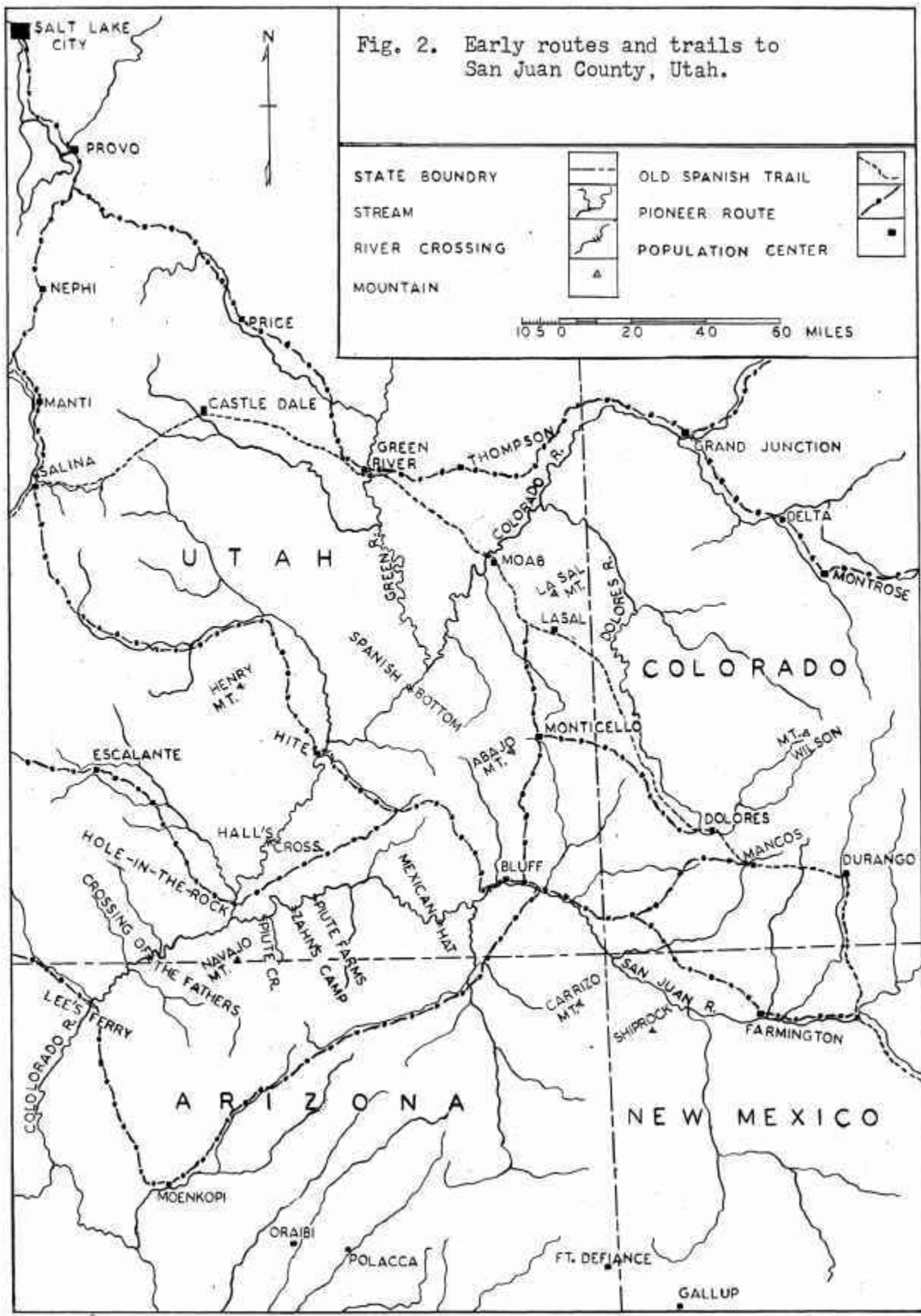
Routes followed by early explorers, pioneers and even modern highways enter San Juan from the east and north. The east approach from Colorado is made across Sage Plain. The northern route crosses the Colorado River near Moab and continues southeasterly to Monticello. Only recently, since modern highways have been extended into the Navajo Reservation, has a southern approach been important. Not until very recent

to their intersections with Grand County and Arizona state lines.

¹Gregory, (1938, p. 35) lists the area as 7,761 square miles. Rand McNally, (1950) lists the area as 8,916 square miles.

²For excellent works on history see Perkins, 1957; Miller, 1959; Lyman, 1929, 1946; Jones, 1941; and others.

Fig. 2. Early routes and trails to San Juan County, Utah.



times (1946) has a western approach to the county been used except for a few pioneer trips.

Early Roads and Trails

The Old Spanish Trail was the earliest recorded route of travel through what is now San Juan County. Although it was only a mule trail it was used as a trade route by early Spanish traders for about forty years prior to 1850 (See Fig. 2). Primitive and circuitous as it may appear today, the Old Spanish Trail blazed a route between Santa Fe and Los Angeles and can now be followed through most of its route by automobile¹. From Dolores the trail cut across the northeast corner of San Juan County to the crossing of the Colorado River near Moab².

The first roads were made by the Mormons as they moved in with their wagons. A wagon road was made from Bluff eastward to Mancos, Colorado. The road from Bluff to Grand County (then Emery) turned northward up Recapture Creek then across the east base of Abajo Mountains³ and through Dry Valley (See Fig. 4). It joined the Old Spanish Trail near LaSal and continued to the river crossing at Moab. Early LaSal ranchers used the same route to Moab and when traveling southeast they followed the general route of the Old Spanish Trail to Mancos. Before the settlement of Monticello a second route was established from the Abajo Mountains eastward to Mancos. Westward routes into Utah were never used for trade and were

¹ LeRoy R. Hafen and Ann W. Hafen, Old Spanish Trail, (Glendale, California; The Arthur H. Clark Co., 1954) p. 20.

² Modern place names are used.

³ Cornelia Adams Perkins, Marian Gardner Nielson, Lenora Butt Jones, 1957, Saga of San Juan, (San Juan County of Utah Pioneers, Mercury Pub. Co.) p. 255.

soon abandoned in favor of the northern route through Moab. To the Old Spanish explorers must go the credit for scouting out and using the most feasible routes and river crossings in southeastern Utah.

Until railroads were brought to Durango and Thompson the closest supply centers for Bluff were Alamosa, Colorado and Albuquerque, New Mexico. In 1881 a narrow gauge extension of the Denver and Rio Grande railroad reached Durango, Colorado, and eleven years later it was extended to Mancos and Dolores. When the Denver and Rio Grande line was constructed from Denver to Salt Lake City in 1883 a railstation was established at Thompson. The supply points for Bluff were then reduced to 75 miles from Mancos and 175 miles from Thompson¹.

Gregory describes the isolation of Bluff in 1880 when it was first established².

The proposed new colony was peculiarly isolated. To the north across Utah the only white people were a few families at Moab, 110 miles distant; eastward was the small settlement of Mancos, 70 miles away; southward for 160 miles was the Navajo country; westward the nearest settlement was Escalante, 115 miles distant. The nearest markets and reliable sources of supplies were Albuquerque, 225 miles distant, and Salt Lake City, 350 miles distant.

Road improvements have been slow and difficult because of the lack of funds, long distances and extremely rough terrain. Not until 1926 was the first gravel road built in Dry Valley and for many years only the main highways were graveled. Sections of a hard surfaced road from Moab to the Colorado-Utah boundary were not completed until 1948 and a north-south extension to the Utah-Arizona boundary was not completed until 1959.

¹Perkins, Nielson and Jones, 1957, p. 256.

²Herbert E. Gregory., "The San Juan Country", U.S.G.S. Professional Paper No. 188. Gov. Printing Office, Washington, D.C., p 31.

Present Accessibility

Modern highways of hard surfaced and improved roads now connect the population centers concentrated in the eastern half of the county (See Fig. 3). Hard surfaced highway US-160, the main line of travel, extends from Salt Lake City to Monticello and into Colorado. Highways U-46 and U-47, also hard surfaced, provide accessibility to more remote corners of the county. Highway U-46 serves the community of LaSal and extends down LaSal Creek to Colorado. Highway U-47 makes a southwest extension from Monticello to Blanding, Bluff, Mexican Hat to Arizona.

State highway U-95 is an improved road from Blanding west to White Canyon and the Colorado River where a toll ferry crossing can be made at Hite¹. Highway U-261 extends from near the Natural Bridges National Monument south across Cedar Mesa to Mexican Hat. Texas Lead and Zinc Company constructed this road so they could transport uranium ore from their newly acquired mines in White Canyon to a processing mill constructed on the San Juan River in 1956. When completed the highway was turned to the Utah State Road Commission. Highway U-262 is a hard surfaced road extending east and south to Montezuma Canyon from a junction with U-47. This was built to serve oil fields in the Aneth-McElmo Creek areas.

Over 1300 miles of graded county roads form a network of communication by connecting with existing highways and extending into remote corners of the county. The greatest concentration is in the dry-farm area east of Monticello. Where terrain is relatively flat the roads are built along section lines about every 6 miles. Very often the roads follow long points or canyon bottoms. County roads extend into Montezuma Creek, Indian Creek, Summit Point, Lisbon Valley, Bug Point, Cedar Point, Dodge

¹A crossing August 8, 1960 cost \$5.00 per car and driver, \$0.50 per passenger.

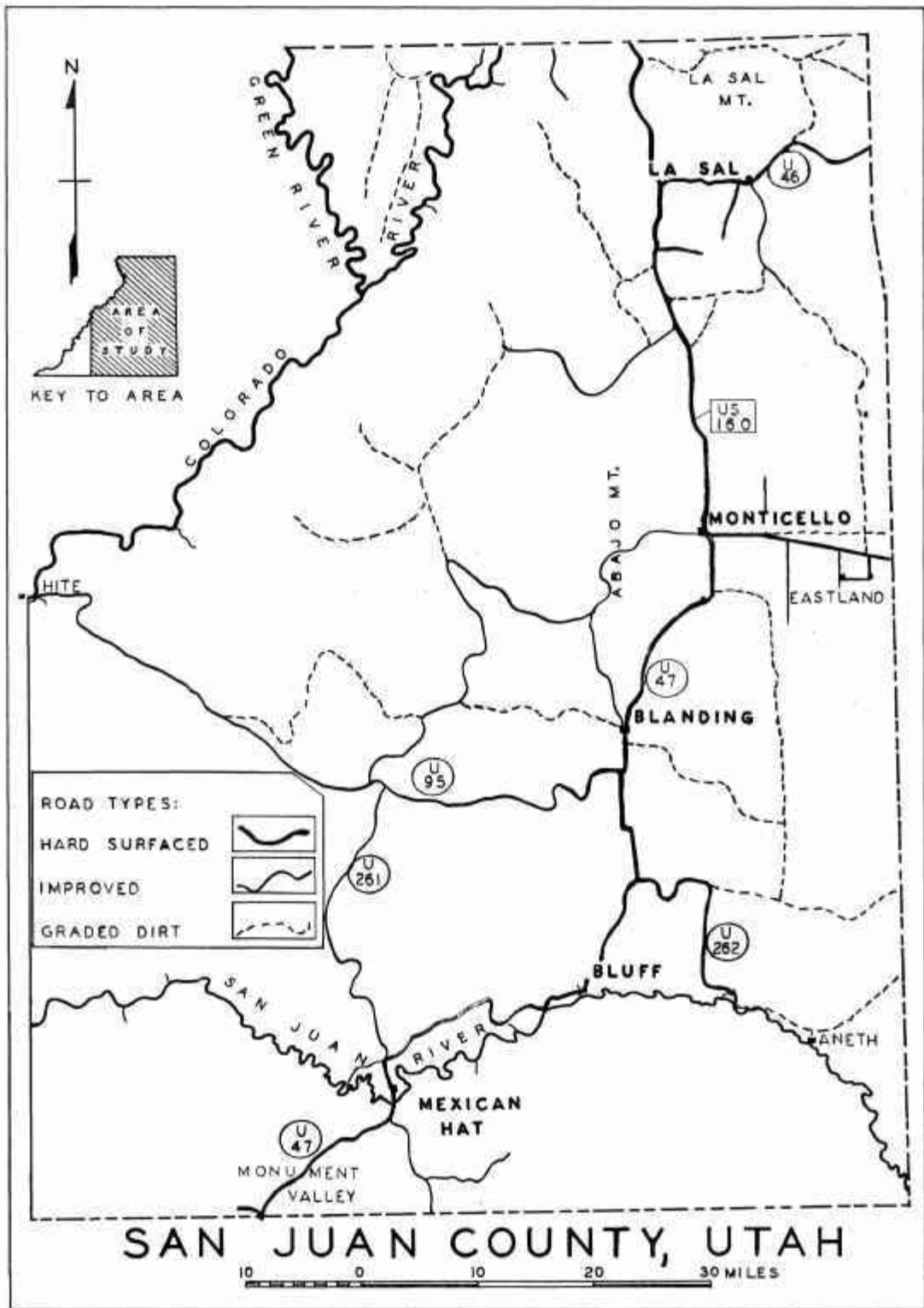


Fig. 3. Highways and roads.

Point, Hatch Point, Aneth, Dead Horse Point and many other areas. In the more remote areas the farmers, stockmen and miners must build and maintain their own roads from their locations to the county roads.

Forest Service roads provide accessibility to Elk Ridge, Abajo Mountain and LaSal Mountain. These are sections of the Manti-LaSal National Forest. The roads are built and maintained with Forest Service funds and provide accessibility to scenic, grazing, timber, mining and hunting areas.

Air travel has also made great contributions in developing the county with fourth class airports at Monticello, Blanding and Mexican Hat. Landing strips are maintained at Bluff, Monument Valley, Fry Canyon and White Canyon. Air strips for personal use, too numerous mention, are scattered in the remote spots near mines, oil wells and ranches. All of the landing strips are limited as to types of airplanes and weather conditions and are to be used with caution by experienced pilots¹.

Influence of Transportation

The export of farm products was not economically practical until the middle 1930s when adequate roads and vehicles of transportation were developed. Any production of wheat beyond the local demand would create a surplus that could not be removed by export. Until the middle 1930s large agricultural production, other than livestock was economically impractical because of depressed local prices. Cattle were exportable because they could be driven in large herds to Thompson or other shipping points and marketed.

Beginning in the middle 1930s, after roads and trucks were brought to the area, the production of exportable farm products became profitable.

¹Merrill Christopherson, Provo, Utah, interview, July, 1960.

Homesteading is based on an agricultural economy oriented to the production and transportation of cash crops. It was therefore very precarious before the 1930s but became practical as the means of transportation improved.

CHAPTER III

PHYSICAL GEOGRAPHY

Physical Setting and Topography

San Juan County occupies a large portion of the Canyon Lands section of the Colorado Plateau Province¹. This physiographic section is characterized by horizontally lying sedimentary beds except for a few large monoclines. Only on localized structures does the dip of the beds exceed 5 degrees. Vertical cliffs and steep slopes are due to headward erosion into mesas and plateaus capped by resistant sandstone formations underlain by friable shales. These abrupt retreating escarpments are characteristic of the erosion of horizontal strata in an arid climate. Wasting is at the edges of the plateaus and mesas reducing the areal extent of the higher land masses without greatly eroding the top surface that remains². Hundreds of canyons have become deeply entrenched into what otherwise appears to be a series of flat surfaced plateaus at different levels creating a maze of steep walled canyons with intervening flat surfaces. The deep and intricate dissection of the land masses in southeastern Utah has been due to continual lowering of the Colorado River and its major tributaries.

Streams.--The Colorado River is the master stream of San Juan

¹Nevin M. Fenneman, Physiography of Western United States, (New York: McGraw-Hill, 1931), pp. 306-312.

²Fenneman, pp. 275-76.

County. It eventually receives all of the surface drainage through its tributaries except for some small areas on Sage Plain¹. Runoff is rapid because of the large difference in relief². Drainage from San Juan County is about equally divided between the Colorado and San Juan Rivers (see Fig. 4). Small areas in the northeast and northwest corners are also drained by the Dolores and Green Rivers respectively.

Surface water is drained away by three types of streams; perennial, intermittent, and a combination of perennial and intermittent³. Those that are perennial and through flowing are the Colorado, Green and San Juan Rivers. During recorded history the Colorado and Green Rivers have never been completely dry even though in mid-summer the water is low and numerous sand bars are exposed. The San Juan River has only been dry three times since 1880 so is considered a perennial stream.

The intermittent streams become flooded with silt laden water during spring runoff and following thunder showers. Flash floods are common but short lived and a few days after rains the wind whips up clouds of dust from the dried out stream beds.

In streams that are part perennial and part intermittent, the perennial water does not flow through the full length of the stream channel. Most of the streams that head in the Abajo, LaSal and Elk Mountains are of this type. They receive water in their upper courses throughout the

¹Several small basins less than 20 acres in size collect spring runoff.

²Peaks of the Abajo Mountain rise over 11,000 feet and 38 miles south at Bluff the elevation is 4,315 feet, a drop of 176 feet per mile.

³A.A. Baker, "Geology and Oil Possibilities of the Moab District, Grand and San Juan Counties, Utah," U.S. Geol. Survey Bulletin 841, (Washington, D.C., Gov. Print. Office, 1933), p. 7.

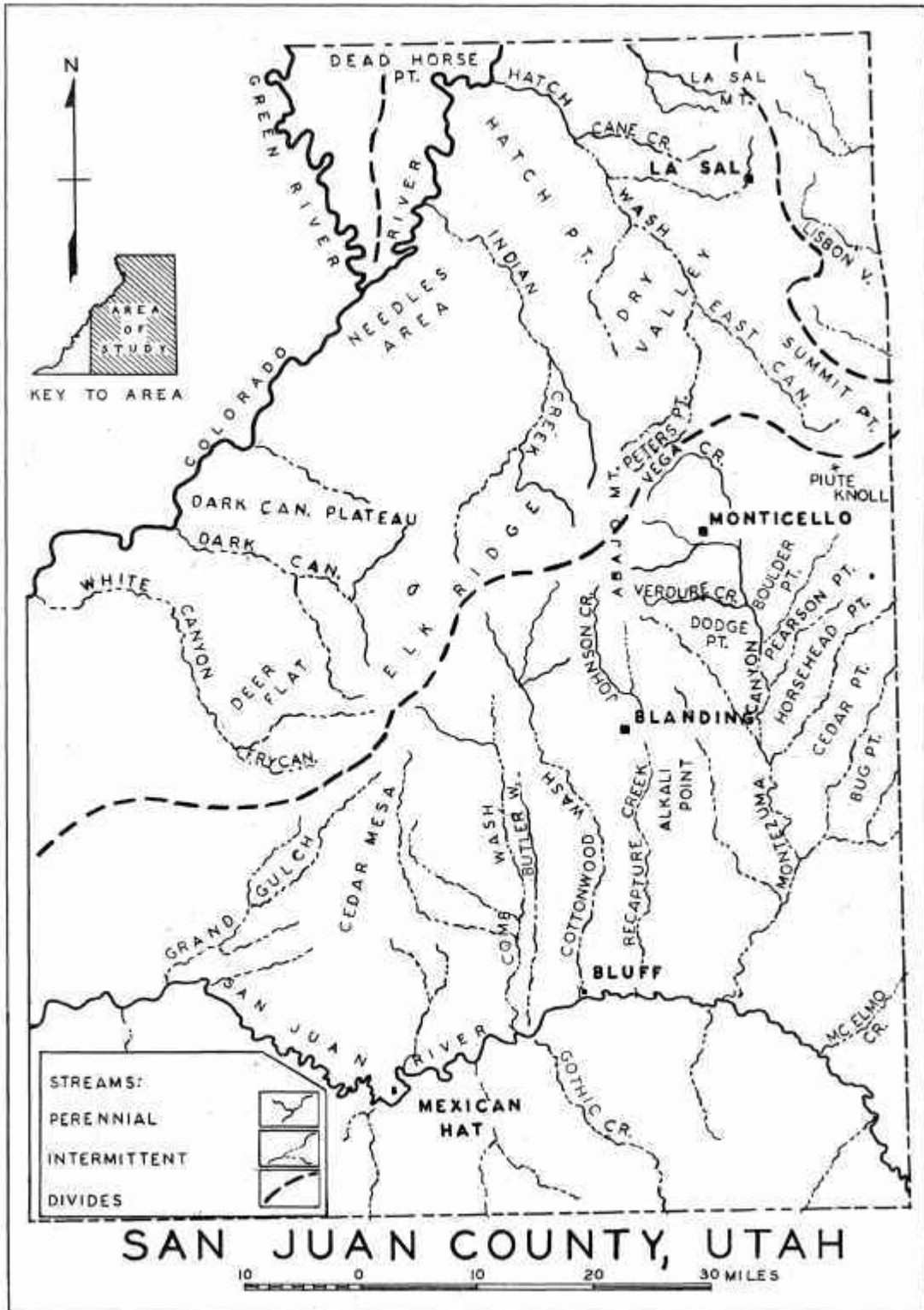


Fig. 4. Drainage and topographic features.

year but in the lower reaches of the stream beds the water disappears. Where stream beds cut into water bearing strata, springs often emerge and support small streams for short distances. Montezuma Canyon, Recapture Creek, Cottonwood Wash, Cane Creek, Butler Wash, Comb Wash, White Canyon, Dark Canyon and Indian Creek are of this perennial-intermittent type. They provide valuable water in otherwise waterless expanses of rangeland.

The Great Sage Plain.-- The Great Sage Plain as described by Fenneman¹ is an area large enough and with enough unity to justify being called a separate district. It is an uplifted tilted plain covering about 1,200 square miles. It extends from the Abajo Mountains on the west to the San Juan Mountains in Colorado on the east and from Dry Valley on the north to near the San Juan River on the South (see Fig. 5). J.S. Newberry was the first to name this expanse of "dreary monotony" the Sage Plain. J.N. Macomb, a member of the expedition, gives an early explorer's impression of it² (see Figs. 6 and 7).

As we stood on its threshold (Mesa Verde) we looked far out over a great plain, to the eye as limitless as the sea; the monotonous outline of its surface varied only by two or three small island-like mountains, so distant as scarcely to rise above the horizon line.... A region whose dreary monotony is only broken by frightful chasms, where alone the weary traveler finds shelter from the burning heat of a cloudless sun, and where he seeks, too often in vain, a cooling draught that shall slack his thirst. To us, however, as well as to all the civilized world, it was a tierra incognita, and was viewed with eager interest, both as the scene of our future explorations and as the possible repository of truth which we might gather and add to sum total of human knowledge.

The name is most fitting if allowance is made for frequently deep

¹Fenneman, p. 309.

²J.N. Macomb. Report of the Exploring Expedition from Santa Fe, New Mexico, to the Junction of the Grand and Green Rivers of the Great Colorado of the West, in 1859. (Washington, D.C., 1876), pp. 83-84.

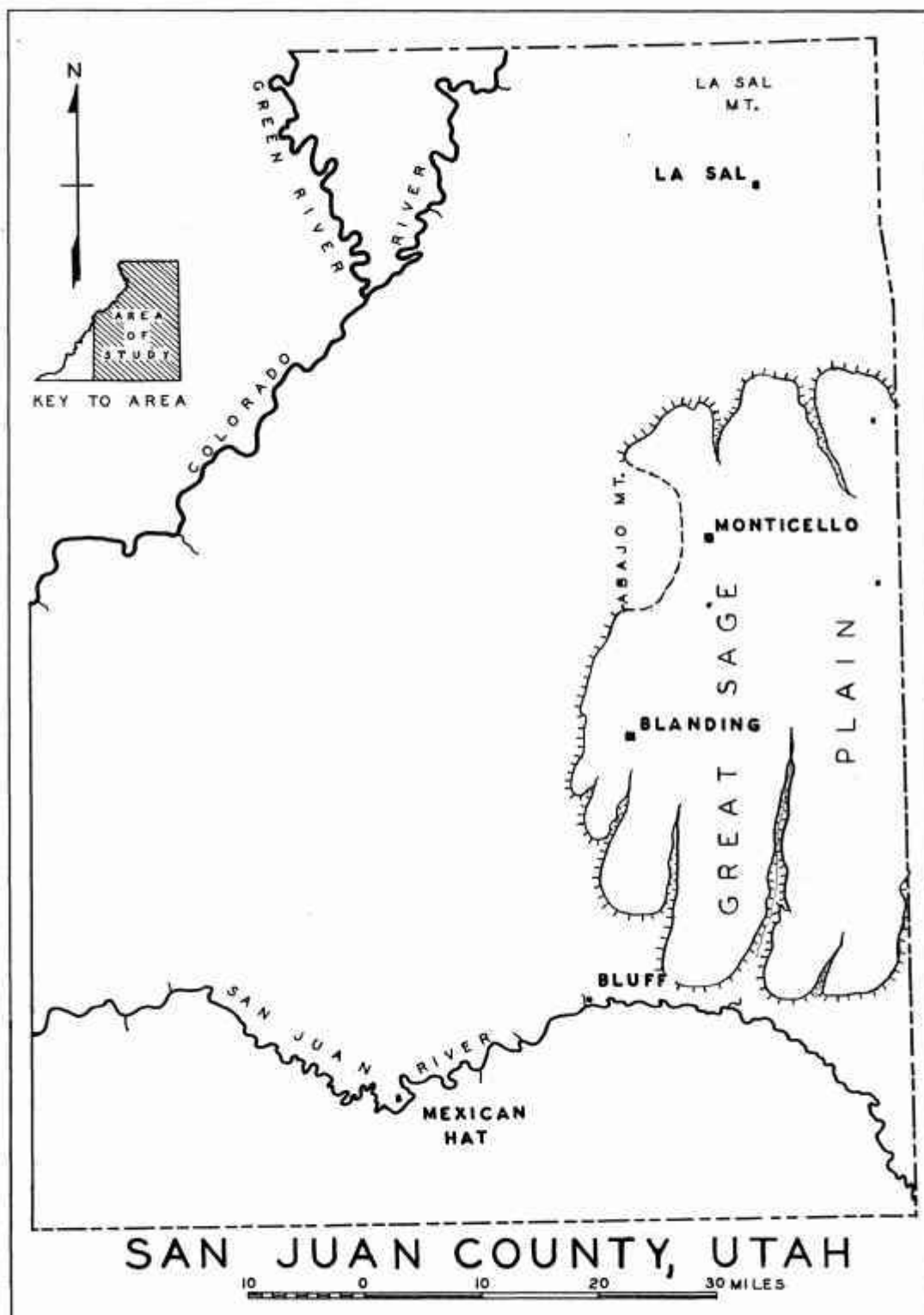


Fig. 5. The Great Sage Plain, underlain by Dakota sandstone.



Fig. 6. Abajo Mountain and western limits of Sage Plain. Note resistant Dakota sandstone exposed along north side of Verdure Creek. View is northwest from near highway U-47 two miles south of Verdure.

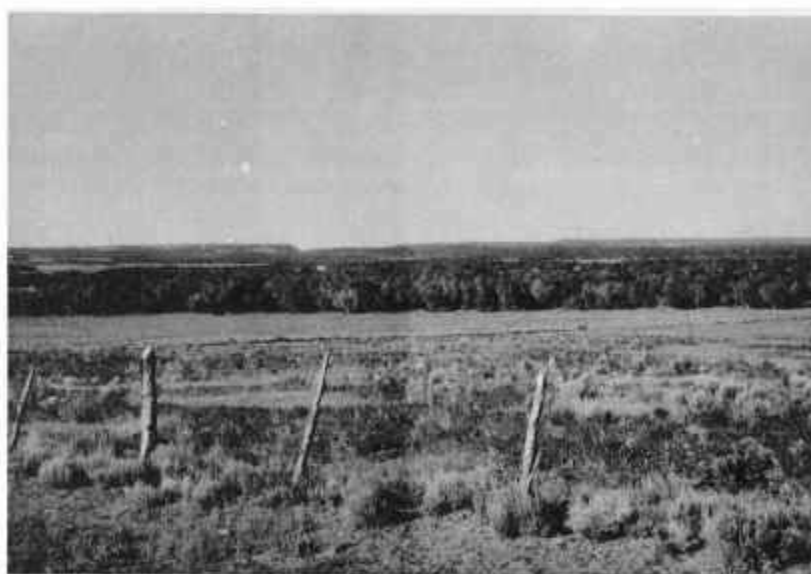


Fig. 7. Great Sage Plain northeast from Piute Knoll. Note the abrupt northern limits of the plateau and the heavy stand of pinyon and juniper.

canyons that are not visible from a distance giving the impression of a monotonous sage covered plain. Distant landmarks can be seen from almost any point on Sage Plain giving uninterrupted views of LaSal Mountain, Abajo Mountain and Bears Ears in Utah, the San Juan and Ute Mountains in Colorado, the Shiprock in New Mexico and the Carrizo Mountains in Arizona.

Resistant layers of Dakota sandstone form, in a sense, the superstructure of Sage Plain¹. The overlying Mancos shales have been stripped off leaving only a few low mounds of clay hills². In no place are soils considered deep and over most of the area there are loose rocks and even bedrock outcroppings in the farm land. Dakota sandstone is a poor soil maker¹. Because of the elevated position and denudation Sage Plain is a classical example of a stripped plain^{3,4}. The streams begin in small canyons and when the protective sandstone is penetrated they rapidly erode the underlying Morrison formation. For example Verdure Creek drops 2,400 feet in 8 miles. A surface relief of 1,200 feet exists between Dodge Point and the canyon bottom at the Verdure-Montezuma junction. The Dakota sandstone is a fairly good aquifer and is underlain by impervious clays of the Morrison formation. Springs are generally located in the heads of small canyons at the sandstone-clay contact.

Although the elevated nature of Sage Plain has caused extreme

¹Fenneman, p. 310.

²Piute Knoll, Boulder Knoll and clay hills near the base of Abajo Mountain are remnants of Mancos shale.

³William D. Thornbury, Principles of Geomorphology, (New York, John Wiley & Sons, Inc., 1958), p. 189.

⁴A stripped plain is composed of flat lying or gently tilted sedimentary rocks from which sediments have been removed down to some resistant bed which seems to have controlled the depth of erosion.

denudation it is a factor that has made it favorable for occupancy. The regions between 6,400 feet and 7,400 feet in elevation generally receive enough precipitation to support dry-farming. The high grass, thick sage brush and heavy stands of pinyon and juniper are indicators of favorable precipitation and good soils. An east-west profile of Sage Plain is nearly flat whereas the north-south profile dips about 2,000 feet in 50 miles from the structural high near Boulder Knoll to the mouth of Montezuma Creek. From Boulder Knoll north to the erosional escarpment overlooking Dry Valley the surface is nearly level. It is on the relatively flat surface of Sage Plain where land seekers found what they considered to be favorable locations to homestead on non-irrigated lands.

Water supplies.-- Water is scarce in all parts of San Juan County. At no place is there a super abundance. Springs and running water are absent from large sections of the County. Where water is obtainable from springs it is generally suitable for domestic and stock watering purposes. Around the base of Abajo, Elk and LaSal Mountains streams flow for part of the year but elsewhere water supplies depend upon springs and wells. Massive sandstone formations like the Cedar Mesa, Shinarump, Wingate, Navajo, Entrada and Dakota prove to be the best aquifers. The most likely locations for springs are in canyons at the contact zone of water bearing sandstone and underlying impervious shales. Temporary supplies of water can often be found after rains in natural rock tanks and plunge basins. Although precarious these supplies are very important in areas where streams and springs are scarce.

Phreatophytic plants¹ like cottonwood (Populus Angustifolia), aspen

¹Phreatophytes are plants that habitually send their roots to the capillary fringe and feed on ground water.

(populus tremuloides), greasewood (Sarcobatus vermiculatus), horsetail (Equisetum arvense and E. robustum), alfalfa, salt grass and other water seeking plants mark locations where the ground water is close to the surface¹. Springs or wells are often developed by digging at spots where phreatophytes are growing.

On Sage Plain ground water reserves have proven too uncertain to be extensively utilized by deep wells. The first homesteaders dug shallow wells in draws and canyon bottoms or in unconsolidated sediments around the base of Abajo and LaSal Mountains. However, deep wells at Bluff have penetrated the Entrada, Navajo and Wingate formations and produced flowing wells. The region along the San Juan River above Comb Ridge is a structural basin, the Sage Plain downwarp, toward which the water bearing strata dip². The first well at Bluff was drilled in 1909 and flowed 80 gallons per minute. Five other wells were drilled to depths of 800 to 1,085 feet and have since provided culinary and irrigation water for the community.

In 1951 a renewed interest began in the potentialities of the ground water of lower Montezuma Creek. Thirty Desert Entry applications were filed with the hopes of irrigating the land from flowing wells. Nine wells have been drilled for this new development. They average about 400 feet in depth and penetrate the Entrada sandstone³. Alkali salt in the soil and in the water has discouraged any major land developments.

¹O.E. Meinzer, "Plants as Indicators of Ground Water," U.S. Geol. Survey Water Supply Paper 577, (Wash., D.C., U.S. Gov. Printing Office, 1927), p. 1

²Gregory, p. 117.

³Tulley R. Harvey, Monticello, Utah, (Application No. U-09066 LaVida P. Harvey), interview, June, 1960.

In Dry Valley along Hatch Wash 21 Desert Entry filings were made in hopes of finding suitable water. One well was drilled by LeRoy Wood to a depth of 980 feet¹. By pumping only about 20 acres can be irrigated so other applicants have relinquished their filings².

Areas suitable for farming.-- The first attempts at land cultivation were irrigated farms located on canyon bottoms. Bluff settlers divided up the bottom lands along the San Juan River for their farms³. Ranches established at Verdure, Montezuma Creek, Indian Creek and Cottonwood Canyon are essentially canyon bottom sites. Monticello and LaSal are located on alluvial deposits at the base of the Abajo and LaSal Mountains. Blanding was successful in diverting water from Johnson and Recapture Creeks to White Mesa, a part of Sage Plain. About 2,000 acres are irrigated out of the available 7,000 acres of land. The limiting factor of irrigation in San Juan County is, in all cases, a lack of water for the land. Not until dry-farming was found to be practical did the early settlers and even the cowboys look to the mesa tops for favorable locations for farmsteads.

Conditions are favorable for dry-farming where the soil is good and precipitation is sufficient to mature crops. Only on Sage Plain are such locations found. Dry-farming is confined to elevations between 6,400 feet and 7,400 feet⁴ in the northern half of Sage Plain between the Abajo

¹LeRoy Wood filed Desert Entry No. U-09215 March 1953 in Sections 10 and 11, Township 30 S, Range 23 E.

²Abijah Cook, Lands Examiner, BLM, Salt Lake City, Utah interview, July, 1960.

³Perkins, Nielson and Jones, p. 61.

⁴Homesteads are being rejected on Alkali Point below 6400 feet elevation. Above 7400 feet elevation the growing season is considered too short. (Cook interview, July, 1960).

Mountain and the Colorado State boundary.

Climate

The climate of Sage Plain is semi-arid (steppe) with the characteristic features of light precipitation, low relative humidity, cloudless skies, and a large annual and daily range in temperature¹. Precipitation is variable both seasonally and annually and the summer thunder storms cover small areas. Freezing temperatures late in the spring and early in the fall are also hazardous to crops. Only hardy and fast maturing crops can be successfully grown and even then losses from freezing are common. Early spring winds cause considerable wind erosion and crop damage. Because of the variability of precipitation and other weather elements mentioned above, dry-farming in San Juan County is precarious. The weather, therefore, except for years when the precipitation is greater than the annual mean, is not favorable for consistent crop production or complete utilization of the land (see Figs. 8 and 9).

Temperature.-- In San Juan County the temperature and growing season decreases with increased elevation. The mean temperature at Monticello is 46.8°F and at Blanding it is 49.4°F. The difference in elevation between the two stations is 1,031 feet and the temperature drop is 2.5°F per 1,000 feet increase in elevation as shown in Table 1.

The prevalence of clear skies allow an estimated 85 percent of the available insolation to reach the ground surface². Heat losses by radiation to the dry thin air allow night time temperatures to drop

¹Merle J. Brown, "Climate of Blanding, Utah," (Salt Lake City: Office of State Climatologist, no date), single sheet.

²Gregory, p. 16.

CLIMATIC CHART

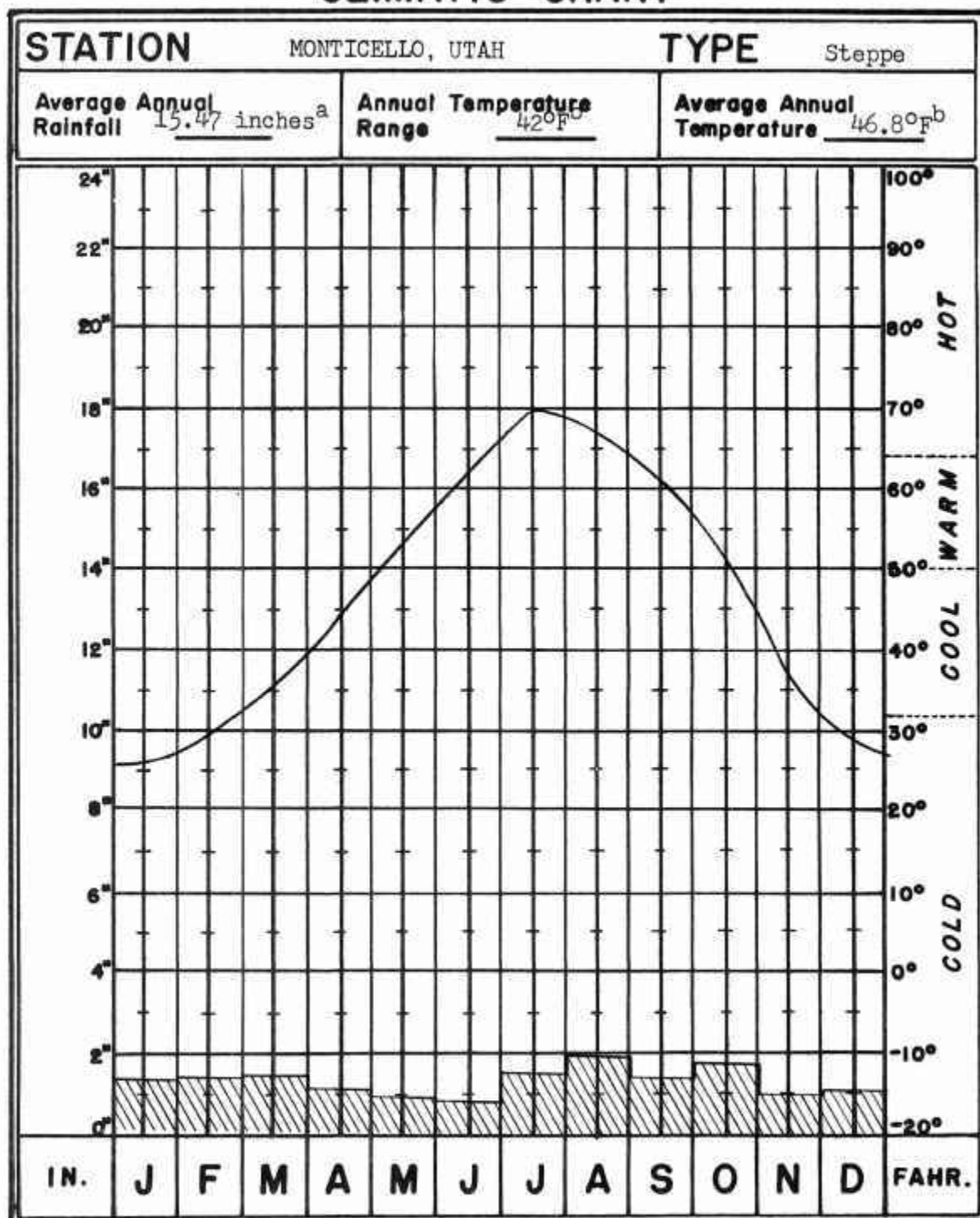


Fig. 8. Monticello, Utah Climatic Chart.

^aMean for 53 years. ^bClimatic summary 1931 through 1952.

CLIMATIC CHART

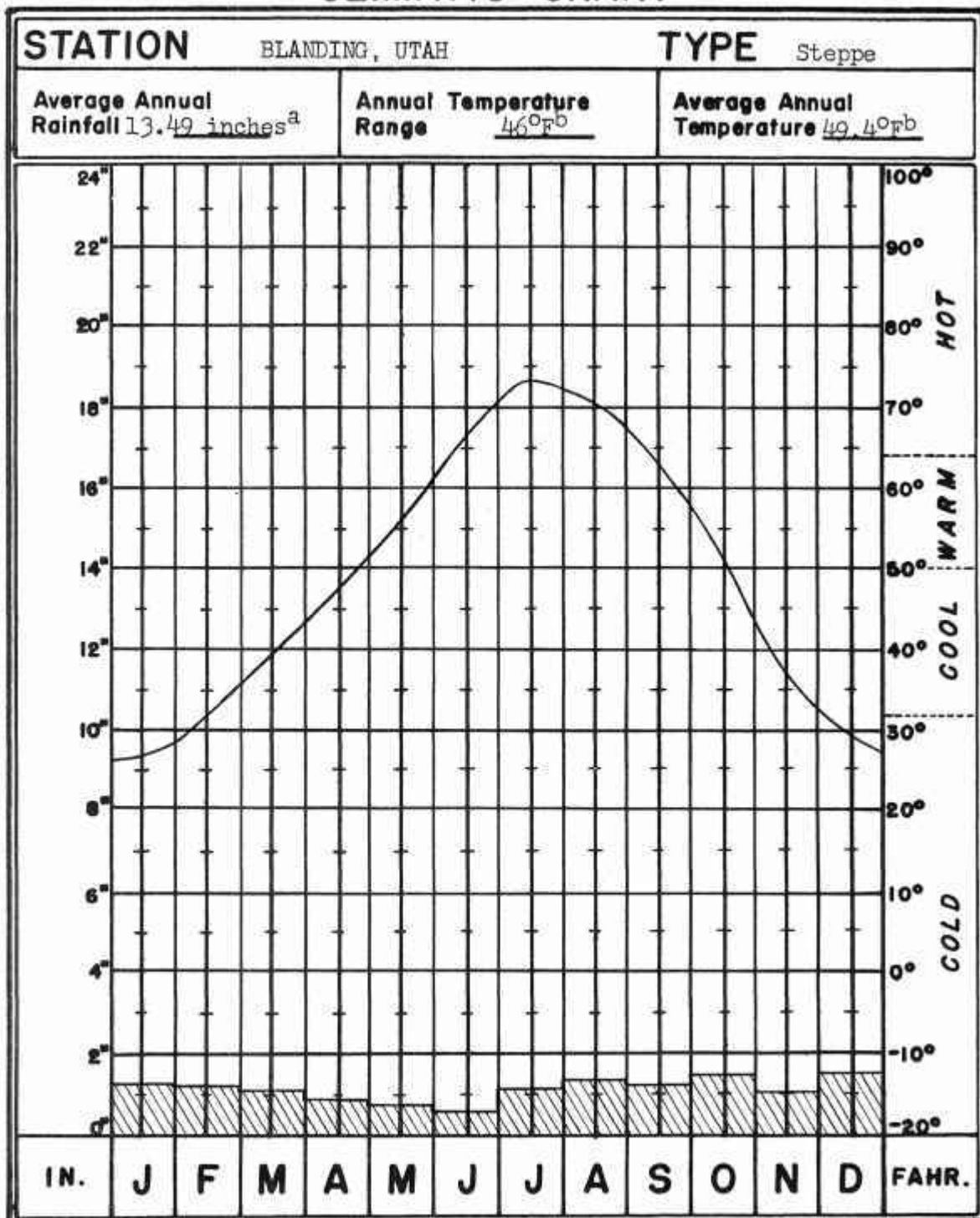


Fig. 9. Blanding, Utah climatic chart.

^a55 year mean. ^bClimatic summary 1931 through 1952.

rapidly¹. The annual ranges of temperature are also rather large with 42°F at Monticello and 46°F at Blanding².

TABLE 1.-- Temperature data in degrees Fahrenheit (°F).

Temperature	Blanding (6,035 feet)		Monticello (7,066 feet)		Differences per 1,000 feet	
	1904 to 1930 ^a	1931-52 incl. ^b	1902 to 1930 ^a	1931-52 incl. ^b	Prior to 1930	1931-52 incl.
Mean	49.2	49.4	45.0	46.8	4.0	2.5
Mean Max.	62.0	63.5	56.7	59.7	5.1	3.4
Mean Min.	36.3	25.2	33.3	33.9	2.9	1.3
Highest	101.0	103.0	91.0	97.0	9.7	5.8
Lowest	-15.0	-23.0	-14.0	-21.0	1.0	1.9
Growing Season (days)	147	147 ^c	129	136 ^c	17	11

^aU.S. Weather Bureau, "Section 21-Eastern Utah," Climatic Summary from beginning to 1930. pp. 8-13.

^bU.S. Weather Bureau, "No. 11-37, Utah," Climatic Summary, 1931 through 1952. pp. 33-38.

^cU.S. Dept. of Agriculture, Climate and Man: 1941 Yearbook. p. 1148.

Frequent late spring and early fall frosts create a variable growing season. The average number of days without a killing frost at Blanding is 147 days (May 12 to October 6) and at Monticello it is 136 days (May 21 to October 4)³. Unusually late spring frosts or early fall frosts can reduce the growing season to 90 days at Blanding and 80 days at Monticello. In the spring the latest recorded killing frost occurred on June 26 at Monticello and on June 16 at Blanding. In the fall the earliest recorded

¹Glenn T. Trewartha, An Introduction to Climate, (New York: McGraw Hill Book Co., Inc., 1954), p. 269.

²U.S. Weather Bureau, "Utah," Climatic Summary of the U.S. Supplement 1931 through 1952, (Washington: U.S. Gov. Printing Office, 1953), No. 11-37, p. 37,38.

³U.S. Dept. of Agriculture, Climate and Man: 1941 Yearbook. (Washington: U.S. Gov. Printing Office, 1941), p. 1148

killing frost occurred on September 8 at Monticello and on September 14 at Blanding¹. Frost hazards thus limit the possibilities of growing crops requiring more than 90 days to mature.

Winds.-- During most seasons of the year the winds are moderate and generally average less than 20 miles per hour². There are, however, some periods of stronger winds. In May and June strong blowing southwest and northwest winds cause considerable soil movement and frequent crop damage. To prevent damage from the occasional strong winds many of the farmers lay out their fields in east-west oriented strips and stubble mulch instead of plowing their land³. These winds are especially noticeable in the spring before young plants have established a protective ground cover.

Precipitation.-- The precipitation of San Juan County is characterized by its variability, both annually and seasonally, and by the localized and brief nature of the storms. This is typical of precipitation in the semi-arid regions of the mid latitudes. Passing cyclonic storms are locally modified by geographic location and altitude. The nature of the summer storms is well illustrated by a recent comment in the local newspaper⁴.

The skies opened up--finally--Wednesday for the first good rain in months for Monticello. However, the rain cloud appeared not to extend much beyond the city limits. Yet it left yards and gutters full, as .29 (inches) moisture fell in less than an hour.

¹U.S. Weather Bureau, "Section 21-Eastern Utah," Climatic Summary of the U.S., Establishment of Stations to 1930 inclusive, (Washington: U.S. Gov. Printing Office, 1931), p. 20.

²Brown, single sheet.

³Personal observations 5 miles northeast of Monticello, 1955, 1956.

⁴San Juan Record, Monticello, Utah, Vol. 44, No. 23, (July 8, 1960).

Availability of the moisture is further limited because the rains are out of season with the periods of maximum plant growth. March is a relatively wet month but the moisture is not immediately available to plants because of low temperatures. There is a noticeable lack of moisture in May and June when it is badly needed for newly planted summer crops. The warm weather precipitation comes in July, August and September after winter wheat is harvested. This late moisture is however, helpful for maturing beans and planting winter wheat.

Elevation exerts a direct and noticeable influence on precipitation. The precipitation increases 3.1 to 3.8 inches per 1,000 feet increase in elevation at most of the weather recording stations in San Juan County. Table 2 indicates the difference between Blanding and Monticello to be 3.4 inches per 1,000 feet. Erratic changes such as Blanding to Cedar Point and Monticello to LaSal indicate strong influences on the precipitation by the differences in elevation and geographic location.

TABLE 2.--Precipitation and elevation comparisons between stations in San Juan County, Utah^a.

Stations being compared	Elevation difference (feet)	Precipitation difference (inches)	Difference in Precipitation for each 1,000 feet. (inches)
Monticello to Blanding	1,030	3.49	3.4
Monticello to Bluff	2,751	8.77	3.2
Monticello to Mex. Hat	2,816	10.15	3.6
Blanding to Bluff	1,721	5.28	3.1
Blanding to Mexican Hat	1,766	6.66	3.8
Monticello to Cedar Pt.	286	2.12	7.4
Blanding to Cedar Pt.	744	1.37	1.8
Monticello to LaSal	291	3.61	12.7

^aAbijah Cook, "Estimating Precipitation," BLM, March 1960. This chart has been designed by the Land Examiner as a guide in evaluating land for homesteads.

The yearly variations are often very large which is also characteristic of a semi-arid climate. At Monticello the years of greatest precipitation were 1911 with 23.90 inches, 1927 with 24.19 inches and 1957 with 23.07 inches. Years of the least amount of precipitation were 1934 with 8.21 inches, 1943 with 9.93 inches and 1950 with 6.56 inches. Weather records are not sufficiently long to determine any definite wet and dry cycles of the weather.

Trends of the Climate.-- The climate appears to be getting drier. At Monticello the mean annual precipitation for 53 years is 15.47 inches¹. At Blanding the mean annual precipitation for 55 years is 13.49 inches. Deviations from the mean annual precipitation at Monticello are plotted on Figure 10 to determine the precipitation trend. The years with less than mean precipitation increase from 1911 to 1959 and the years with more than mean precipitation correspondingly decrease from 1911 to 1959. At Monticello the average precipitation for 10 year periods are: 19.38 inches for 1911 through 1920, 16.77 inches for 1921 through 1930, 14.25 inches for 1931 through 1940, 13.92 inches for 1941 through 1950 and 13.42 inches for 1951 through 1959. This drier trend of the climate is also supported by climatic summaries issued by the Weather Bureau and the Department of Agriculture (see Table 3).

The climate also appears to be getting warmer. The mean annual temperature has increased 0.2°F at Blanding and 1.8°F at Monticello. A comparison of the 1930 and 1952 reports indicates that the average growing season has remained the same at Blanding but has increased 12 days at Monticello. Weather records are not long enough however, to predict with

¹ Interpolations for missing months are made on the basis of recorded precipitation at neighboring stations and allowing for differences in previous years.

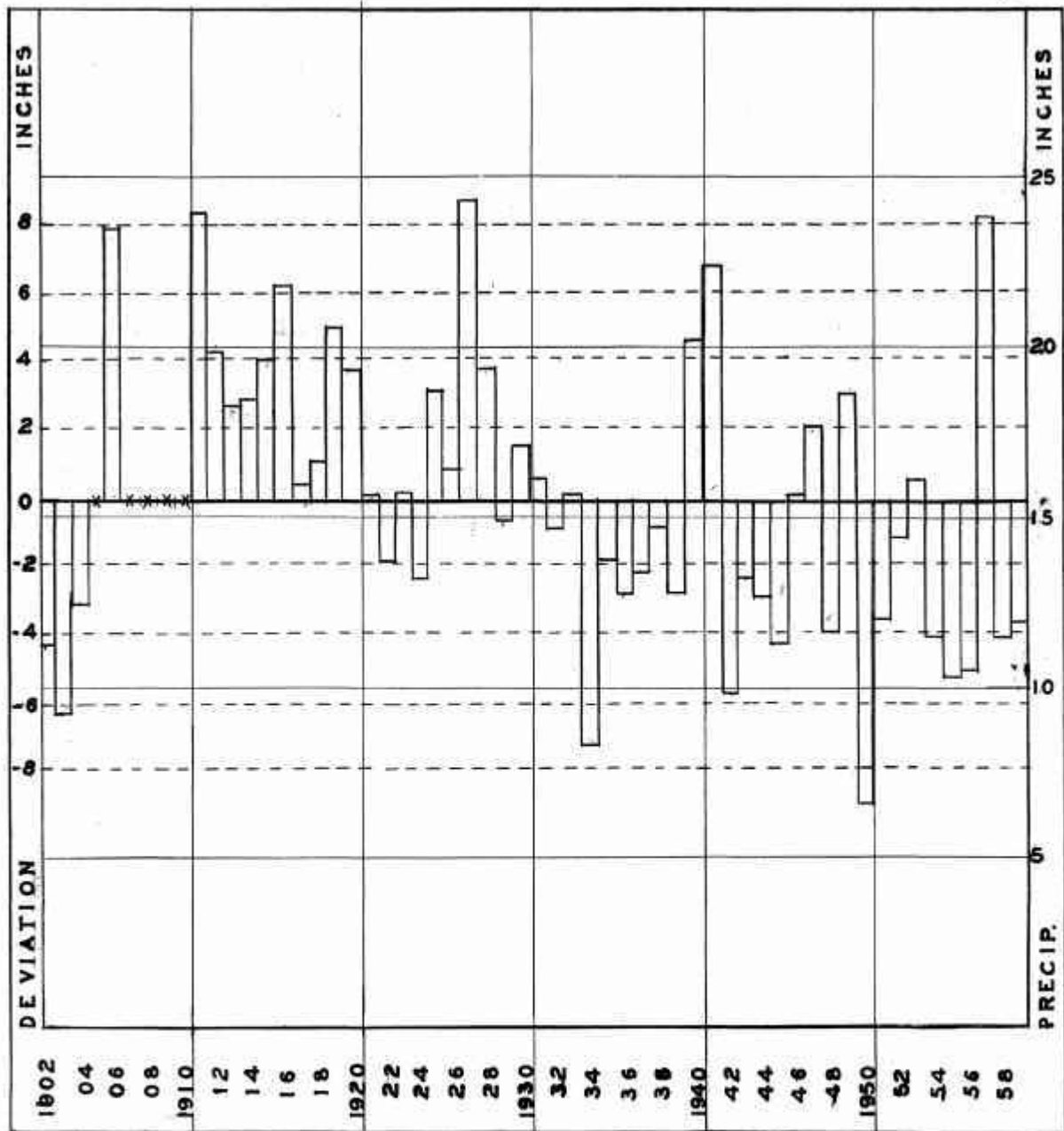


Fig. 10. Deviations of precipitation at Monticello, Utah. The 53 year mean is 15.47 inches. Note: the right hand figures indicate actual precipitation.

certainly the climate trends.

TABLE 3.-- Trend of the climate as indicated by summaries of the U.S. Weather Bureau and the Department of Agriculture.

U.S. Government Reports	Monticello (7,066 feet)	Blanding (6,035 feet)
Climatic Summary, 1930: ^a		
Mean Precipitation (inches)	18.12	15.32
Av. annual temperature (°F)	45.3	49.3
Av. growing season (days)	129	147
Yearbook, 1941: ^b		
Mean precipitation (inches)	16.77	14.54
Av. annual temperature (°F)	45.7	49.0
Av. growing season (days)	136	147
Climatic Summary, 1952: ^c		
Mean precipitation (inches)	14.06	12.27
Av. annual temperature (°F)	45.0	49.2
Av. growing season (days)	141 ^d	147 ^d

^aU.S. Weather Bureau, "Section 21-Eastern Utah," Climatic Summary from beginning to 1930. pp. 8,13,19,20.

^bU.S. Dept. of Agriculture, Climate and Man, 1941 Yearbook. p. 1148

^cU.S. Weather Bureau, "No. 11-37, Utah," Climatic Summary, 1931 through 1952. pp. 3,19,33,34.

^dAverage 1931 through 1952.

Weather modification.-- Attempts at weather modification were made in San Juan County in 1951¹. Only 6.56 inches of rain had fallen in 1950 and the precipitation in early 1951 was subnormal. A central committee² was chosen in February 1951 to assume the responsibility of soliciting funds and engaging a reliable concern to effect cloud seeding operations.

¹Weather modification is often referred to as rain making or cloud seeding.

²A.J. Redd, Pres.; Leon Adams, V.Pres.; Melvin Frost, Treas.; John D. Rogers, Joseph Redd, John Carhart and Platte D. Lyman, members of the committee.

Farmers and stockmen contributed on the basis of acreage and livestock owned. Business establishments contributed on the basis of their volume of business. Montezuma, Dolores, Archuleta, San Miguel and LaPlata Counties in Colorado were also interested in a similar project. As a cooperative venture these 6 counties entered into a contract with the Water Resource Development Corporation of Pasadena, California¹. Cloud seeding with silver iodide by ground located generators began in March 1951 and continued through the summer.

Results of the project are controversial. As in all cloud seeding projects the results cannot be directly evaluated. Although personal opinions on the success of the project vary considerably, there is a general feeling of satisfaction from having participated in a modern experiment of weather improvement.

Conclusion.-- The climate and especially the paucity of precipitation is very effective in limiting man's use of the land area. When Gregory² reported on the geography and geology of Southeastern Utah in 1935 he expressed the following skepticism about the agricultural possibilities.

As the maximum annual precipitation in the San Juan country is insufficient for ordinary agriculture and in places even for grazing, and as the possibility of irrigation for any year depends upon the rain and snow that fall on the Abajo Mountains, these great variations from year to year limit the utilization of the abundant unoccupied land.

.....
 ...Obviously, agriculture based on an expectation of rain for a certain month or a group of consecutive months and stockraising that depends on ephemeral water supplies are speculative industries.

Experience by homesteaders, stockmen and dry-farmers has proven that

¹Irving P. Krick, meteorological consultant.

²Gregory, pp. 19,20.

Gregory's observations are correct.

Soils

General description.-- The soils of Sage Plain are relatively shallow and are derived from eolian and residual materials¹. The best soils have developed on flat topped mesas and plateaus and are indicated by stands of large sagebrush and pinyon-juniper forests. Rocky slopes and exposed bedrock surround nearly all of the stream channels. Alluvial soils occur in the canyon bottoms and are generally the sites of irrigated farms. The bottom lands have always been limited in area. They have been further reduced by accelerated erosion caused from overgrazing since 1880.

No official report of soil surveys in San Juan County has been published although a report is now in the process of preparation by the Soil Conservation Service². When published it will prove very helpful in determining capabilities of soils on the San Juan County farmlands.

Soils.-- There are three general soil areas (see Fig. 11). They are listed in the order of their preference for crop production as classified by the Soil Conservation Service³.

1. The area of moderately deep eolian soils, longer growing season and higher precipitation.
2. The area of moderately deep eolian soils with lower precipitation and greater frost hazards.

¹U.S. Soil Conservation Service, "General Soil Areas," San Juan Soil Survey Area 7-P-16220-N, (San Juan County, Utah: SCS, January, 1960), unpublished map.

²John W. Metcalf, State Soil Scientist, Salt Lake City, Utah, correspondence, June 22, 1960.

³U.S. SCS, unpublished map.

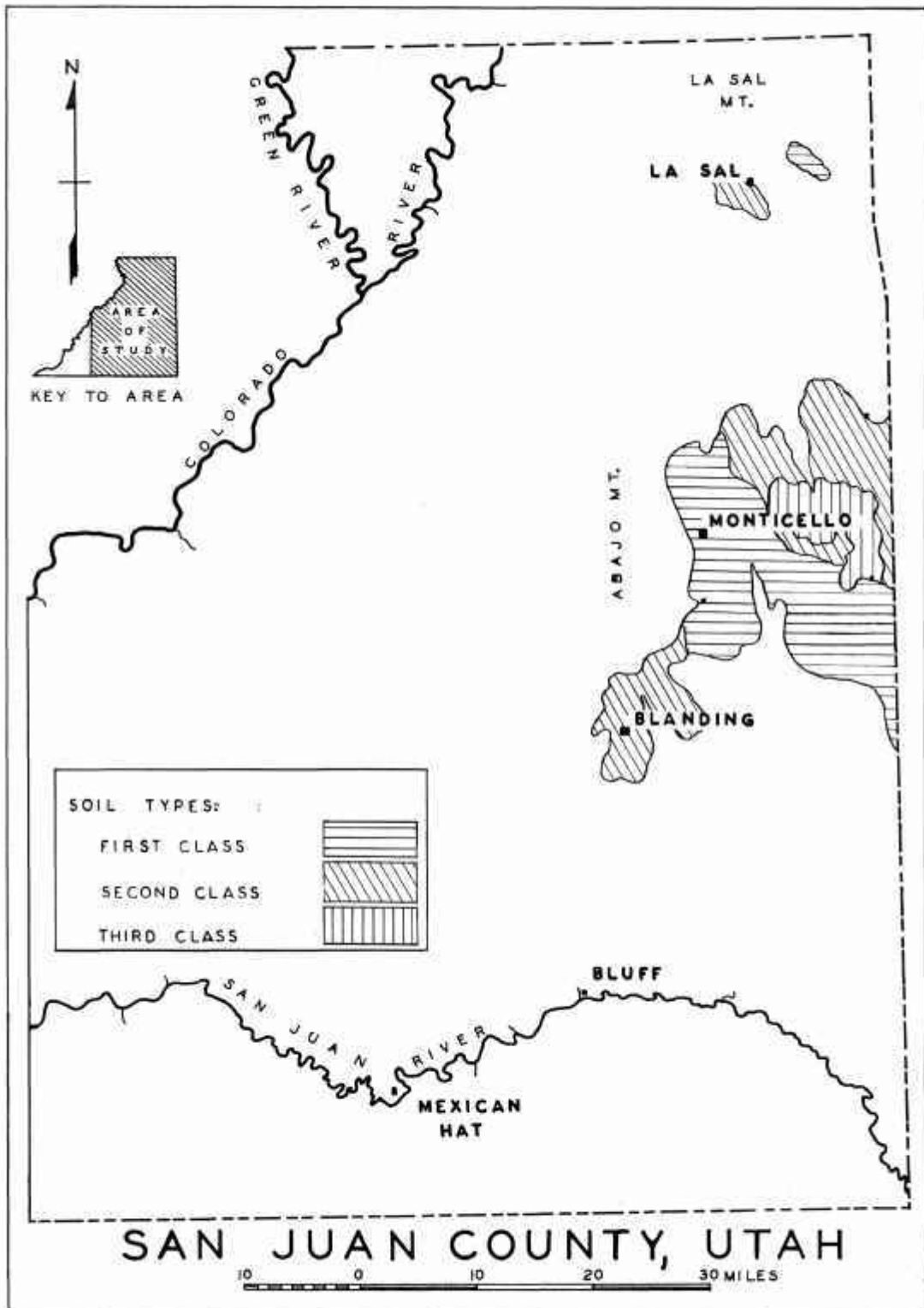


Fig. 11. Location of soil types.

3. The area of clay soils derived from shales with lower precipitation and greater frost hazards.

These areas are classified on the basis of the kinds of soils occurring in them, precipitation, length of growing season and their suitability for crop production¹.

The first and best area occurs on flat surfaces between canyons on the central portion of Sage Plain. The soils overlie sandstone and are moderately deep, have a reddish-brown color and a silty loam texture and are of eolian material². The area occupies the eastern base of the Abajo Mountains and extends as a zone about 10 miles wide, southeastward into Colorado. It is roughly delineated by highway US-160 on the north and the rims of the canyons that cut into Sage Plain on the south.

The second area differs from the first in that it is found in sections where frost is more prevalent and it receives less precipitation than the first area. The silty loam soil is brown and appears to occupy an intermediate position between eolian soils of the first area and clay residual soils of the third area³. This second area forms an irregular band north of and roughly parallel to highway US-160 east of Monticello and extends around the northern limits of Sage Plain. A detached section also occurs in the Blanding area.

The silty clay soils of the third area are moderately deep and are derived from Mancos shale⁴. They are grey-brown and are the only true

¹Marvin Olsen, Assist. State Soil Scientist, Salt Lake City, Utah, interview, Jan. 25, 1960.

²SCS sample No. U-551180-88, (3 miles east of Monticello).

³SCS samples No. U-551202-07 (Summit Point) and Nos. 55-Utah-19-17-1 to 6 (2 miles east of Blanding).

⁴SCS sample No. U-563155 (7 mi. east and 3 mi. north of Monticello).

clay soils on Sage Flain. This area occupies a shallow basin about 6 miles wide and 12 miles long between highway US-160 and East Canyon. The eastern limit is near the Colorado boundry and the western limit is roughly defined by the Vega Creek. A southern extension of the clay soils crosses highway US-160 and surrounds the new town of Eastland. This area is also in a zone of greater frost hazard and lower precipitation than the first area.

Influence on homesteading.-- Homesteading appears to have been more successful on soils of the first type. Land abandonment has been more noticeable in areas of the second and third class soils. Killing frosts and lower precipitation appear to be strong factors in making these areas undesirable for land occupancy. However, during years free from late spring frosts and with higher than normal precipitation good yields of winter wheat have been obtained from the second and third class soils.

At the beginning of the dry-land movement in San Juan County (1909) the land companies that were formed preferred the clay type of soils¹. The clay soils were considered better because they contained more plant nutrients and had better water holding capacities than the sandier soils. The comparatively flat topography was also thought to be more desirable for large scale operations. As a result the first big land holdings² were located north of the old highway running east from Monticello. These locations north of the highway have not proven to be the best because of the clayey soils, the greater frost hazards and less precipitation.

Actual cultivation of the clay soils of the third area is also more difficult than the soil of other areas. When too dry the clay soils are

¹ Daniel B. Perkins, Monticello, Utah, interview, June 23, 1960.

² The San Juan Arid Farm Company and the Perkins-Jennings-Brooks farm.

tough to cultivate and they break out in large clods. When too wet the soil is a gumbo and very resistant to cultivation. When denuded of vegetation the soil pulverized to a powder and is readily susceptible to wind erosion.

The best farmland.-- Among the lands that have been occupied by homesteaders there appears to be a zone that is the most favorable to crop production. It is a zone of higher precipitation, better soils and less frost hazard. This zone is located by outlining, on a map, the 15 inch isohyet¹, the area of best soils and the area where pinto beans are regularly grown². The enclosed area, in which all three of these characteristics are present, is called the zone of the best dry-farm land (see Fig. 12).

The best farmland is a zone where farm crops are consistently better. It is deeply dissected by southward draining canyons which also provide a drainage for cold air. An eastward extension of the best farmland expands into a larger area in Colorado than that found in Utah. The dry-land pinto bean is a characteristic crop of this zone in Utah and Colorado.

In the zone of the best farm land is located the largest number of farmers who continue to live on their farms. Villages with schools and post offices in other areas no longer exist. The homesteaders have found life on the homestead to be uneconomical or too isolated and have either sold their land, leased it or prefer to live in town and drive to their farms. The new community of Eastland was started in 1948 on the northern

¹Lawrence A. Reuss and George T. Blanch, "Utah's Land Resources," Special Report No. 4. (Logan, Utah: USAC, June, 1951), p. 6.

²Pinto beans are used as a criteria because they require more favorable growing conditions than wheat.

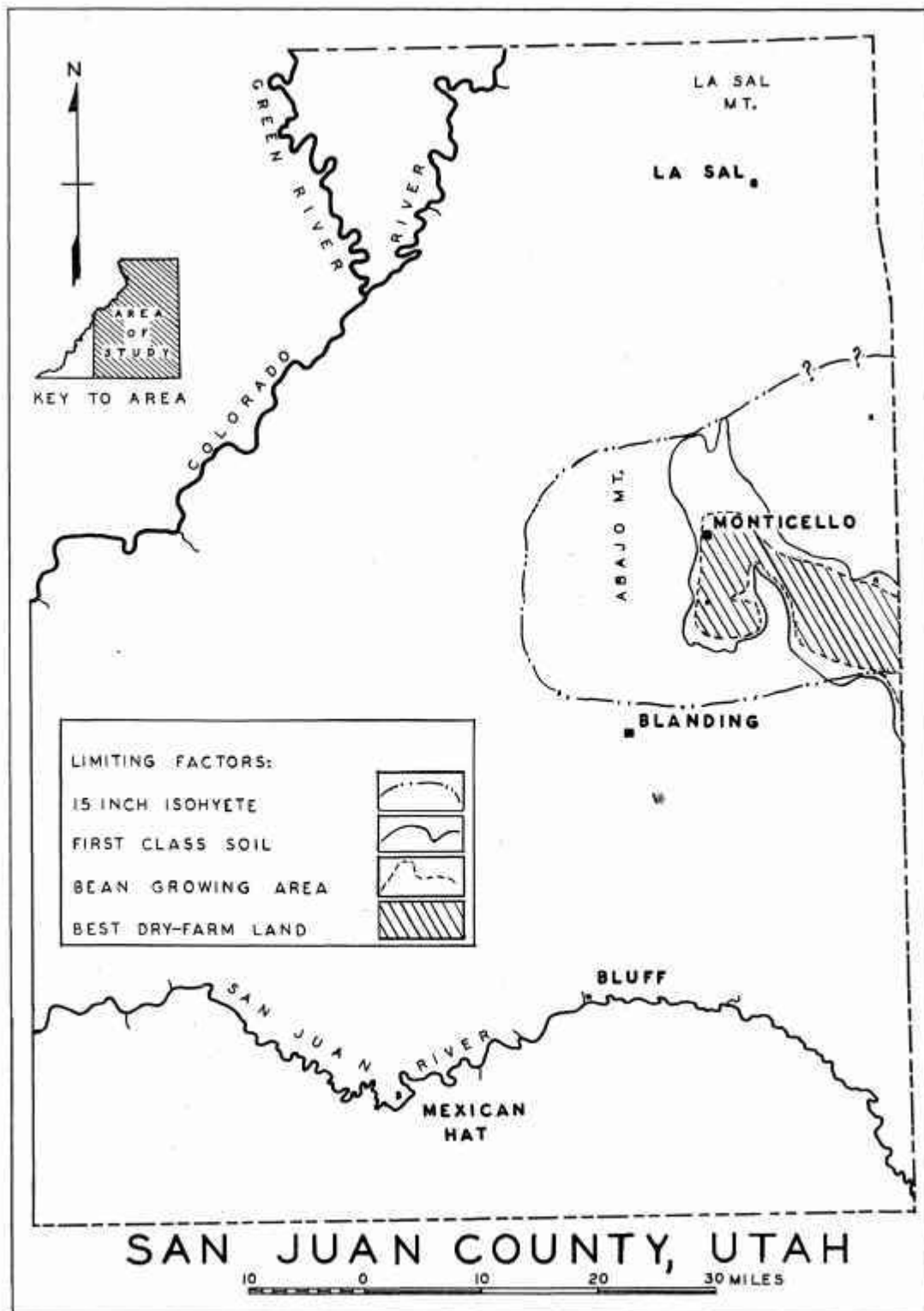


Fig. 12. Location of the best dry-farm land.

edge of the best farmland. It serves as a communal center for people occupying the eastern part of the best farmland who never left their farms when land was being abandoned in other areas.

Life Zones and Biotic Factors

Four life zones are found in San Juan County; however, the Lower Sonoran and the Alpine are very limited in extent. The Lower Sonoran is found only in the inner canyon of the Colorado River below Hite and the Alpine is found above 10,000 feet elevation on the Abajo and LaSal Mountains¹.

Most of the land area of San Juan County is occupied by life of the Upper Sonoran Zone. Weather of this zone is characterized by mean annual temperatures of 50°F to 65°F and mean annual precipitations of 10 to 18 inches. It occupies extensive foothills and mesas between the elevations of 4,000 to 8,000 feet². This zone is practically coexistent with the distribution of pinyon (Pinus edulis) and juniper (Juniperous utahenses) trees (see Fig. 7). The pinyon-juniper forest, so extensive in San Juan County, is described by Randles³.

The pinyon-juniper forest occurs below the ponderosa pine at elevations of about 5,000 to 7,000 feet. The lower elevation at which the forest occurs is determined by lack of moisture. Annual precipitation in the Southwest increases with increased elevation. The annual precipitation in the pinyon-juniper areas is about 12 inches at the lower edge to 18 inches at the upper limits. Some 50 to 60 percent of the moisture falls between May and September....The open stands of pinyon-juniper indicate

¹U.S. National Park Service, A Survey of Recreational Resources of the Colorado River Basin, (Washington: U.S. Gov. Printing Office, 1950), p. 9.

²Gregory, p. 24.

³Quincy Randles, "Pinyon-Juniper in the Southwest," Trees: Yearbook of Agriculture, 1949, (Washington: U.S. Gov. Printing Office, 1949), p.342.

precipitation of 12 to 14 inches. The denser stands indicate 16 to 18 inches of rain and snow. The saw-timber forests of ponderosa pine and the others indicate a total of 19 to 25 inches.

Other plant indicators are scrub oak (Quercus sp.) in upper margins, boxelder (Acer Negundo), red cedar (Juniperus Monosperma), cottonwood (Populus angustifolia), sagebrush (Artemisia Tridentata), rabbit brush, several species (Chrysothamnus), brigham tea (Ephedra antisiphilitica), willow (Salix sp.), greasewood (Sarcobatus vermiculatus), bluestem grass (Agropyron smithii), gramma grass (Bouteloua gracilis), indian paintbrush (Castilleja sp.), sunflower (Gymnolomia multiflora), russian thistle (Sal-sola pestifer) and others¹.

Representative mammals are mule deer, coyote (now nearly exterminated), lynx, badger, skunk, weasel, civit cat, trader rat, several species of chipmunk, jack rabbit, cotton tail rabbit and cave bat. Indian pictographs indicate that mountain sheep, antelope, elk (wapiti) and bison were formerly hunted in San Juan County. Except for a very few mountain sheep in the remotest canyons these animals have become nearly exterminated.

Life of the Transition Zone¹ occupies land areas between 8,000 to 10,000 feet in elevation. This area confined to upper Elk Ridge, Abajo Mountain (see Fig. 6) and LaSal Mountain is very limited in size, but it assumes a very important position in the economy of the county. It provides the main water sheds for Blanding and Monticello, summer grazing for livestock, saw timber and deer hunting. The Transition Life Zone is characterized by an annual precipitation of 17 to 26 inches and a mean annual temperature of 40°F to 50°F.

Plant types include Ponderosa pine (Pinus ponderosa), Engelman

¹U.S. National Park Service, p. 6

spruce (Engelmann spruce), quaking aspen (Populus tremuloides), Douglas fir (Pseudotsuga taxifolia), scrub maple (Acer glabrum), sagebrush (Artemisa tridentata), chokecherry (Prunus demissa), gambel oak (Quercus gambelli), elderberry (Sambucus melancarpa), snowberry (Symphoricarpos vaccinioides), bluestem (Agropyron smithii), columbine (Aguilegia sp.) and many others.

The wild life includes mule deer, coyote, beaver, Aber's squirrel, porcupine, wood rat, pocket gopher, many small rodents, blue jay, band tailed pigeon and grouse.

Native plant and animal products used by the homesteaders were chosen more for their availability rather than for their good qualities. From the pinyon-juniper forest they obtained firewood, building materials, fence posts and pine nuts. Deer meat was an important item in their diet. Year round hunting has been a problem to game wardens because the homesteaders feel that they are "harvesting" part of a herd they have been feeding. In isolated areas close to large deer populations the crop losses are often heavy.

The smaller mammals are generally more detrimental than beneficial. Jack rabbits, cotton tail rabbits and prairie dogs provide tasty meat and are often eaten. These animals cause serious damage to crops when their numbers increase rapidly. Attempts at controlling excess numbers of rabbits are made by poisoning and by corrals. The Zuni prairie dog has been most difficult to control and continues to populate areas where they are not molested. Present plans are to completely exterminate the prairie dogs from San Juan County within a few years by using carbon tetrachloride in their burrows¹.

¹Eldon K. Johnson, County Weed and Rodent Supervisor, Monticello,

The grasses have probably been of greater value to the early homesteader than any other natural product. Early explorers were impressed by the abundant grass on Sage Plain. Kumen Jones¹ describes one of their camps, four miles north of the present Monticello, in August 1879:

We followed up Mustang Mesa to the foot of the Blue Mountains, thence around the east base of the Blue, to make camp at what afterward became known as the Carlisle Ranch. At that date this was the most beautiful and promising location that had been found since leaving Iron County. Many tons of excellent hay could have been cut. Deer, sage hens, jack rabbits and cotton tails, were plentiful.

The extensive grasslands attracted large cattle companies to the area in the early 1880s. H.U. Butts² says that wild hay was cut and piled for winter at Piute Springs. The homesteaders as well as the stockmen have used the surrounding rangeland for grazing their horses, cattle and sheep. Lands unsuitable for farming continue to contribute substantially to the agricultural economy of the area.

Utah, interview, June, 1960.

¹Kumen Jones, "San Juan Mission to the Indians", (Unpublished memoirs, 1941), p. 11.

²H.U. and Pearl Butts, Monticello, Utah, interview, June 24, 1960.

CHAPTER IV

THE HOMESTEADING MOVEMENT

Growth of the United States since 1800 has been by a series of land acquisitions. The important acquisitions are: Louisiana Purchase in 1803, Florida Cession in 1819, annexation of Texas in 1845, Oregon Compromise in 1846, Mexican Cession in 1848, Gadsden Purchase in 1853 and Alaskan Purchase in 1867. Except for Texas the land is federally owned and has been designated public domain. This vast area covered about 1,800,000,000 acres. It included practically all of the land north and west of the Mississippi and Ohio Rivers plus Alabama, Mississippi, Florida and Alaska¹. In the West the government has withdrawn land for national forests, national parks, national monuments, Indian reservations and military reservations. Lands that are left are called vacant public domain because no one has obtained permission from the Government to use them.

Homestead laws were passed to provide a means whereby people could obtain ownership of vacant public domain by developing the land and living on it. The American frontier west of the Mississippi River needed people to occupy and live on the land. Homesteading provided an incentive that influenced men to move into the frontier with their families and endure the hardships of pioneering.

Other means were provided for the transfer of public domain to private ownership. Some lands were sold outright to buyers. Veterans were

¹U.S. BLM, "Homesteading Past and Present", Pamphlet No. 1959-0-508287, (Washington: U.S. Gov. Printing Office, 1959), p. 5

often granted land as a reward for their services. New states were often given grants of land when they were formed out of territories. For instance in Utah Sections 2, 16, 32 and 36 out of each township were reserved for the State. Grants were also given to railroad companies as incentives and subsidies for building the first transcontinental railroads¹.

Homestead and Land Laws

The Preemption Act.-- Lands were first made available to prospective settlers by outright sales. Various programs were offered to encourage people to buy land, but frequently, impatient settlers went onto the land as squatters and demanded free land. The Preemption Act of 1841 put what was then a current practice into law and allowed the squatter to buy his claim, up to 160 acres, for the minimum price². This was a predecessor to the Homestead Act. Hibbard explains³:

The preemption right was mainly a possessory right, established by the construction of a dwelling house and the making of improvements.... After the passage of the homestead law and the discontinuance of the general sales, this provision was hardly applicable. Hence it was provided that the preemptor should file his declaration of intent to purchase within 3 months after settlement upon the land, or, in case it was not surveyed at time of settlement, within 3 months after filing of the survey plat, and should make payment within 18 months after filing his declaration.

The Homestead Act.-- After more than 70 years of legislation and debate Congress passed the Homestead Act May 20, 1862⁴. The purpose is

¹U.S. BLM, "Homesteading", p. 9.

²Marshall Harris, "How Our Rights in Land Came About," Land, 1958 Yearbook of Agriculture, (Washington: Gov. Printing Office, 1958), p. 284.

³Benjamin H. Hibbard, A History of the Public Land Policies, (New York: Macmillan Co., 1924), p. 170.

⁴U.S. Statutes at Large, (Washington: U.S. Gov. Printing Office, 1863) Vol. XII, p. 392.

for people to acquire up to 160 acres of land for their own personal use and benefit. It provides that settlers can obtain land free of charge on condition that they live on the land and make required improvements¹. They are required to pay a \$10.00 filing fee and submit an application with a description of the land. Any person 21 years of age or the head of a family, who is a citizen or has filed declaration of intention to become a citizen, can file on a homestead. The homesteader is required to live on the land for 5 years and cultivate 1/8 of the land area². The land can not be abandoned for over 6 months at a time.

A commuting clause was originally provided whereby the applicant, after 6 months of residence, could purchase the land for \$1.25 an acre. The commuting clause did not encourage land occupancy but favored land speculation. It allowed land to be obtained cheaply and in a short time so it could be sold at a profit to land buyers.

Should the applicant die, prior to receiving a patent to the land, his rights to the land are transferable to his heirs. Relinquishment of the homestead application can only be made directly to the land office. Interested parties often pay the homesteaders for a relinquishment so they can make an immediate entry on the relinquished land. They are then sure of a filing that will be approved.

Ex-service men are favored by the homestead law. When first passed the law provided that any person who had served 14 days in the military service was deemed mature enough to file on a homestead. Time spent in the military service, up to 4 years can apply as a residence time on a

¹Improvements means to enhance the value of the land by cultivation or construction of buildings or both.

²Hibbard, p. 385.

homestead. While on duty the service man can be represented by a friend or relative as an agent in making a homestead entry.

The 160 acre homestead was suitable for locations in humid regions east of the one hundredth meridian or for irrigated lands. As homesteads were taken up farther west in drier regions it was found that more land was needed to support a family. The free land available through homesteading failed to entice the unemployed and city dwellers to move to the frontier and take up land. There still continued to be large blocks of land sold to land speculators. The commutation clause tempted homesteaders to be petty land speculators. In the 40 years following the passage of the Homestead Act only about 1 new farm in 10 ~~were~~ ^{was} obtained by the free homestead. Less than 600,000 farmers had received their land patents¹ by homesteading². The arid and semi-arid lands west of the one hundredth parallel were still sparsely occupied.

The Desert Land Act.-- The Desert Land Act was passed by Congress March 3, 1877³. It applies specifically to California, Oregon, Nevada, Washington, Idaho, Montana, Utah, Arizona, New Mexico, Wyoming and the Dakotas⁴. This act provided that tracts up to 640 acres can be purchased provided the applicant can irrigate the land within 3 years after the filing. A filing fee of \$0.25 per acre is required. Any time within

¹A patent is the first legal title to the land. Homestead patents are signed by the Pres. of the U.S. or Chief of the Patents Section.

²"Homesteading", Encyclopedia Britannica, (Chicago: Encyclopedia Britannica Inc., 1960), pp. 705-06.

³U.S. Statutes at Large, (Washington: U.S. Gov Printing Office, 1878) Vol. XIX, p. 377.

⁴Roy M. Robbins, Our Landed Heritage, (London: Princeton University Press, 1942), p. 219.

three years after the filing the applicant must present proof of final compliance and pay \$1.00 per acre to obtain title to the tract. Only one entry per person is allowed and selling of rights is not allowed. The applicant must be a citizen of the United States or have filed intentions of becoming one.

The Kinkaid Act.-- In 1904 the Kinkaid Act was passed as an experiment with enlarged homesteads in western Nebraska. Up to 640 acres per tract were allowed in the arid and semi-arid regions. The commutation law of paying cash for the land did not apply. Improvements on the homestead of at least \$1.25 per acre were required. The opinions then prevailing in Congress were to apply the benefits of larger homesteads to other areas¹. This act served its purpose and was replaced by the Enlarged Homestead Act.

The Enlarged Homestead Act.-- On February 19, 1909 the Enlarged Homestead Act was passed to benefit occupants of lands in the arid west¹. It allows tracts up to 320 acres on non-irrigated lands. The land cannot be commuted. It must be developed and cultivated before final proof can be made and a patent issued. By the time final proof is made 1/8 of the land area must be in cultivation². A house suitable for habitation must be constructed and residence established on the land 7 months a year for 3 years. In areas of severe climates the residence requirement is reduced to 5 months a year for 5 years.

Qualifications of the applicants and veterans privileges are similar to those of the original Homestead Act of 1862. It is possible under these privileges for a veteran with 19 months of service to comply

¹Robbins, p. 362.

²Summer fallow land is considered under cultivation.

with the residence requirement by building a habitable house and living 7 months on the place. He must also clear and plant 40 acres of land¹.

Under the non-residence clause final proof can be made without actual residence on the land when culinary water is not available. Additional land must be cleared and cultivated to compensate for the non-residence feature. By the end of the third year at least $\frac{1}{4}$ of the land area must be under cultivation. Farming $\frac{1}{4}$ of the land area must continue until final proof is made in five years¹.

The Stock-raising or Grazing Homestead.-- The Stock Raising Homestead Act of December 29, 1916 provides for grants of 640 acres of land suitable only for grazing and forage². The land cannot contain valuable timber or minerals and must not be suitable for irrigation. In some cases springs and bodies of water are reserved by the Government and no commutations are allowed³. Funds were not available for land classifications so no entries were allowed until 1918.

The Taylor Grazing Act.-- Passage of the Taylor Grazing Act in 1934 gave the Bureau of Land Management the responsibility of administering the remaining public domain⁴. By this time most of the land suitable for farming had been taken up and only grazing lands remained. A division of Grazing was created and the public domain was divided into grazing districts. Congressman Edward I. Taylor, who introduced the act, defined the objectives⁵.

¹Abijah Cook, Lands Examiner, Salt Lake City, Utah, interview, July 1960.

²U.S. Statutes at Large, Vol. XXVI, pp. 478, 650.

³Robbins, p. 387.

⁵Robbins, p. 421.

⁴U.S. Statutes at Large, Vol. XLVIII, p. 1,269.

To stop injury to the public grazing lands by preventing over-grazing and soil deterioration; to provide for their orderly use, improvement and development; to stabilize the live stock industry upon the public range, and for other purposes.

New restrictions were thus placed upon homesteading. All lands are now classified by the Bureau of Land Management who determines their potentialities and ultimate use.

Mineral rights¹.-- Early land deeds made no distinction between surface and sub-surface mineral rights. Not until 1909, in Utah, were reservations for any kinds of minerals provided. The acts of March 3, 1909 and June 22, 1910 provided only for the reservation of coal. Oil, gas, phosphate, potassium, potash, sodium and all leaseable minerals were reserved by the act of July 17, 1914². Homesteads patented before July, 1914 retain the mineral rights, but those allowed since that date generally contain a waiver of all minerals. The special Act of August 1, 1946 specified that fissionable materials were also reserved to the United States³.

Summary of Land Laws.-- In the United States only about 1/3 of the homesteading occurred from 1862 to 1900 and 2/3 occurred from 1900 to 1930⁴. In San Juan County the homesteading movement was still in its beginning stages around 1900. The number of entries filed prior to 1909 was not numerous. Not until the Enlarged Homestead Act of 1909 was passed did the rush for homesteads begin in San Juan County⁵.

¹Rights to the surface and sub-surface minerals.

²U.S. Statutes at Large, Vol. XXXVIII, p. 509.

³General Land Office, Salt Lake City, Utah, information posted on the bulletin board.

⁴U.S. Bureau of Land Management, p. 7.

⁵C.A. Frost, Monticello, Utah, correspondence, July 20, 1960.

Technically the original Homestead Law of 1862 and the Enlarged Homestead Act of 1909 are still in force. They have undergone some general amendments and local modifications but basically they are still the same.

Homesteading Procedure

Steps that must be taken to acquire a homestead are rather well defined, but often become involved. The generalized procedure is outlined below¹.

1. Selection of the site is made by inspecting the land and then checking the Bureau of Land Management records to determine if the land is vacant.

2. Submit an application and affidavit on Form No. 4-003 which is supplied by the General Land Office. This gives pertinent information about the land and the applicant. It must be signed by two witnesses who know the applicant and testify as to the character of the land. The application and filing fees (\$22.00 on 320 acres) are then mailed to the nearest land office².

3. The Land Office checks their records to determine the status of the land. The land is then examined and classified by a land examiner. The land examiner submits a report as to whether the land is favorable or unfavorable for homesteading.

4. If favorable the application goes back to the Land Office for allowance. If the land is under mineral lease the allowance will be withheld until a waiver of mineral rights is signed by the applicant.

¹Cook interview.

²The District Land Office for Utah was in the Federal Building and is now in the Darling Building, Salt Lake City, Utah.

5. After receiving the notice of allowance the applicant must move onto the land within 6 months. If he moves onto the land before the notice of allowance is received he is considered trespassing.

6. The applicant must live on the land 7 months a year for 3 years. A habitable house must be on the place when application for final proof is made. By the end of the second year $1/16$ of the land must be under cultivation. By the end of the third year $1/8$ of the land must be cultivated. Cultivation must continue on $1/8$ of the land area each year until final proof is completed.

7. Final proof can be made 3 years after date of allowance, but cannot exceed 5 years. Non-resident homesteads differ from resident homesteads in that the applicant does not have to live on the land. He must have at least $\frac{1}{4}$ of the land area under cultivation and wait 5 years from date of allowance to make final proof. The applicant must file an intention to make final proof. This includes the names of four witnesses acquainted with the land and the name of a local officer¹ before whom the final proof will be made. The intention to make final proof is published in a local paper for 5 weeks. After the final publication the applicant and two witnesses appear before the designated officer and they testify individually as to the character of the improvements and terms of residence on the homestead. Final proof papers are then sent to the Land Office by the local officer who heard the testimonies of the witnesses.

8. Final inspection of the homestead is made by a land examiner. If the improvements and residence have been complied with the homestead is allowed, if not, it is declined. When the lands examiner reports that

¹The local officer can be a Notary Public or a Clerk of the District Court.

a final proof is not in order it is contested and charges are filed against the homestead. A hearings examiner sets the date for a public hearing. If the decision is unsatisfactory to the applicant, appeals can be made to the Director of the Bureau of Land Management, to the Secretary of the Interior and even to the Federal Court. A decision against the applicant nullifies his homestead rights and he cannot file again because his homestead privileges have already been used¹.

9. A Final Certificate is given if the final proof is acceptable. It is sent to Washington, D.C. and a land patent is issued to the applicant by the Chief of the Patents Section of the Bureau of Land Management.

History of San Juan County Homesteading

First lands to be occupied.-- The early settlers were for the most part stockmen. Irrigation and stock raising were well known when the first colonizers came to Bluff in 1880. They looked for lands to irrigate and ranges for grazing their livestock. Irrigated farms were soon developed in Montezuma Canyon, Bluff, LaSal, Verdure, Monticello and Indian Creek. Besides forage other crops were vegetables and grains.

Homesteads from 1880 to 1909 did not exceed 160 acres. They were located near village sites, in canyon bottoms or near sources of water. The locations served as bases of operation for cattle herds that grazed the surrounding range. As the big cattle companies dissolved the settlers bought their interests. The importance of the cattle industry is described by Day².

¹Cook, July 1960.

²Franklin D. Day, "The Cattle Industry of San Juan County, Utah, 1875-1900", (Unpublished Master's thesis, Dept. of History, BYU 1958), p. 96.

The large cattle companies first appeared on the San Juan ranges in the latter part of the eighteen seventies. The plentiful supply of grass in the county plus the inexpensive cattle available in the Utah "settlements" persuaded a number of Colorado cattlemen to buy these cattle and drive them to San Juan. This was the beginning of a program that soon overstocked the ranges and set the stage for later problems. Perhaps the four largest cattle companies were the Carlisle Company, owned by an English syndicate; the L.C. Company from Texas and New Mexico; the Elk Mountain Company from Texas and the Pittsburg Company backed by eastern capital.... It is estimated there were over 55,000 head of cattle on the ranges during this period.

The Famed Texas Longhorn found its way into Utah at this time. Evidently as an improved breeding program developed the Hereford was found to be the most profitable and by 1900 the characteristic white face of the Herford breed was common in San Juan.

With the absence of a railroad in Utah most of the cattle were driven or trailed to the Colorado towns of Dolores, Durango, Mancos, Cortez and Montrose, where they were loaded on railroad cars and shipped to the markets of some of the larger midwestern cities.

There seems to have been three main types of cowboys; the young men who were looking for adventure, the fugitive from justice who found San Juan an excellent place to hide, and the long time professional cowboy who knew his work and found satisfaction in doing it well.

The first, and perhaps the most constant difficulty, came from the Indians who did not like the idea of sharing their ancient hunting grounds with the great herds of cattle. A second problem was the constant loss of cattle to outlaws and cattle rustlers. Third, the settlers who began fencing the ranges and waterholes; and finally, the traditional enemy, the sheepmen, who arrived in the eighteen eighties.

The eighteen nineties proved to be a disastrous period for the cattle companies. A drought which lasted for several years depleted the cattle's feed and water supply. Add to this problem the fact that sheep were arriving to compete with the cattle for the ranges, and settlers were taking up the choice land. As a result the companies began to dispose of their cattle. Some were sold to permanent settlers and local cattlemen, others were sold and trailed out of the county. By 1900 nearly all of the cattle left in San Juan were owned by the Mormons and became the foundation of an economy that has over the years been based largely on the cattle industry.

The damage caused by overstocking the ranges during the period studied (1875-1900) was no doubt serious and has proved long lasting. But on the other hand the overall value of the cattle industry to the development of San Juan County should never be underestimated.

Early interests in Dry-Farming.-- Attempts at dry-farming had been tried in Utah since 1870. Some of the attempts were successful but it

was still not a proven method of farming in Utah. Settlers in San Juan County did not overlook the possibilities of farming the vast arid lands on Sage Plain. While scouting the townsite of Monticello in 1886 Francis A. Hammond became aware that the area would be good for dry-farming. He wrote to the Desert News¹;

Here also (east base of Abajo Mountain) may be found one of the best places for extensive dry-farming I have ever seen, there being thousands of acres of the choicest soil near enough to the base of the mountains to afford rain enough, as I believe, to produce crops without irrigation.

Monticello was settled in 1888 and continued to depend upon irrigation and livestock raising. Crops were confined to areas that could be irrigated. Dry-farming was still in an experimental stage by 1900. F.I. Jones and George A. Adams were among the first to experiment with growing wheat without irrigation. They demonstrated that crops could be grown, even during dry years, but it remained for the experiment stations to prove that dry-farming was practical².

In 1901 the Utah State Agricultural College began investigations of dry-farming under the direction of John A. Widstoe³. In 1903 the State Legislature appropriated money for 6 dry-farm experiment stations through out the State. One Station was located 6 miles south of Monticello at Verdure and was operated for 13 years (1903 to 1916). The inaccessibility of the area made it impractical to continue detailed experiments. During its operation the station had demonstrated the suitability of the region to dry-farming⁴.

¹Desert News, Salt Lake City. Vol. 35, No. 798 (Dec. 29, 1886).

²Perkins, Nielson, Jones, p. 194.

³F.S. Harris and A.D. Ellison, "Dry Farming in Utah", Agri. Exp. Station Circular No. 21. (Logan, Utah: USAC, 1916), p. 3.

The Verdure Experimental Station was one of the most successful of the 6 stations established in Utah. During the 1903 to 1916 period it was shown that winter wheat was the best dry-farm crop and could be profitably grown. Average yields were 26 bushels per acre with Lofthouse wheat and 27 bushels per acre with Turkey Red wheat¹. Alternate years of cropping (summer-fallow) and plowing between 5 to 10 inches deep were recommended practices. These favorable results were also due to an average annual precipitation of 18.05 inches².

In 1910 the first report on the 6 dry-farm experiment stations in Utah was published by Merrill³. Previous feelings of optimism about dry-farming were confirmed. In comparing stations he stated:

The average seasonal precipitation has been highest on the San Juan County farm and here the highest single yield has been obtained.

News of the farming and homesteading possibilities in San Juan County soon spread. Dr. John A. Widstoe, Professor Lewis F. Merrill and others associated with the Utah State Agricultural College were very optimistic about the potentialities of dry-farming. As experts on the subject they were very influential in interesting other groups of people in dry-farming.

Daniel B. Perkins was a student at the Utah State Agricultural College. He returned to San Juan County in 1908 with fellow students David Jennings and William Brooks imbued with the idea of dry-farming on a large scale. They were among the first to talk up dry-farming in a big

⁴F.S. Harris, A.F. Bracken, and I.J. Jensen, "Sixteen Years of Dry Farm Experiments in Utah", Agri. Exp. Station Bulletin 175, (Logan, Utah USAC, 1920) p. 5.

¹Harris, Bracken, Jensen, p. 39. ²p. 7.

³Lewis A. Merrill, "A Report of Seven Years Investigation of Dry-Farming Methods", (Agri. Exp. Station Bulletin 112, Logan, Utah; USAC, 1910), p. 150.

way¹. Walter C. Lyman was in the State Legislature and could see by comparisons with other sections of the state, that dry-farming in San Juan County had great possibilities. He was influential in organizing the San Juan Arid Farm Company in 1909.

Delegates from San Juan County were sent to the National Dry Farm Congress. They advertized the available land in San Juan County and became informed on the accepted dry-farm methods. George A. Adams went to Cheyenne, Wyoming in 1909; Walter C. Lyman went to Seattle, Washington in 1910; and Daniel B. Perkins went to the International Dry Farm Congress at Lethbridge, Canada in 1912. San Juan County soon became well known as a good dry-farm wheat growing section².

The Homestead Movement.-- The homestead movement in San Juan County was in full swing by 1912. Passage of the Enlarged Homestead Act in 1909 added strength to the movement. People came from all directions and represented all walks of life. The County records³ indicate that the period of rapid land occupancy continued to 1920 then declined to 1935. The homestead movement nearly stopped before all the suitable dry-farm land was taken up.

Life was rugged for the homesteader. Roads had to be built to the homesites and obtaining culinary water was always a problem. If a well or spring was not close by water had to be hauled for domestic use. The luxuriant sage growth, desirable as an indicator of good soil had to be cleared before crops could be planted. Many homesteaders cleared their first land with a hand grubbing hoe. Other tools consisted of a hand plow,

¹Perkins, interview.

²Perkins, Nielson, Jones, p. 194.

³Grantors Index 1888 to 1919 and Book 1.

a harrow and a team of horses. The accomplishments of the farmers were limited with only horse and man power. One and a half acres could be cleared in one day with three horses on a one bottom sulky plow and three men pulling brush out of the ground¹. Later Hurst grubbers and railroad rails were used to knock down the brush. Picking up and burning the brush was also a tedious job.

John Butt was probably the first dry-land homesteader. He located on Boulder in 1909, and was soon followed by Charles Barnes, Sr. Daniel B. Perkins, David Jennings, William Brooks and John Perkins had begun operations twelve miles east of Monticello in 1908. Martinez Johnson with his family built a cabin and established a residence near the Perkins land in 1909². In 1913 H.U. Butts located at Piute Springs. He paid Roy Stevens \$300.00 for his squatters³ rights to get this choice location with a spring⁴. Patent to the land was received about 5 years later⁵.

Land locators also influenced people to locate in San Juan County. William Tallman contacted people in Illinois and Jack Nix would locate them on the land for fees ranging from \$50.00 to \$300.00⁶. Most of the people, however, had heard or read favorable reports and came on their own.

¹Frost, interview.

²Perkins, Nielson, Jones, p. 197.

³Only squatters rights could be claimed in eastern San Juan County until the land was surveyed in 1915.

⁴Butts, interview.

⁵This land has been continuously owned by the original homesteaders and the taxes have never been delinquent. (Butts interview, June 24, 1960)

⁶Henry Carlson, interview, Monticello, Utah, June 24, 1960.

Scott LaRue¹ was looking for land when he came to San Juan County.

He said:

In 1917 I left Riverside, California, looking for a place to settle. When I stepped off my old truck here at Summit Point, and looked over the level stretches of sage and pine, I knew this was the place I would build my home. I had spent two months traveling over parts of Texas, Oklahoma, and other states. I never saw anything to compare with this country.

I stayed here and developed a good farm. But I had to live on jackrabbits and wheat, which I cracked in my hand mill, the first few years.

Joseph E. Weston² heard about the possibilities in San Juan County through a friend in Colorado and describes his experiences:

...A neighbor, who operated a garage, began telling me of a relative...J.R. Ward, who homesteaded about a mile east of Lockerby.

During the winter of 1917-18 these letters from Ward continued to describe in glowing terms thirty bushel per acre winter wheat crops, corn and gardens where nearly all varieties of vegetables could be had for a few dollars filing fee and certain development and residence requirement.... Eventually Ward's Ranch was reached and after looking over the Dove Creek, Lockerby, Summit Point, Dodge Point, Cedar Point and Monticello areas, a homestead was selected on Horsehead Point. The end of the wagon trail was five miles from the homestead location and the car was left at that point and a team of mules and wagon rented to haul any worldly possessions to location. A tent was erected and the neighbor five miles away at the end of the trail was employed to assist in construction of a road.... The road equipment consisted of two grub hoes.

The road completed, the car was driven to the homestead, a couple of acres cleared by hand and planted to garden, a shallow well dug in a nearby draw, and a fence built around the garden with sagebrush from the clearing to keep out the range cattle. Next a four-mule team and wagon was secured to haul in a load of lumber to build a 14 x 16 cabin and furniture. By fall I was broke and forced to seek employment until next spring.

No doubt many people were lured to the county by exaggerated reports.

An article by C.A. Robertson³ in 1914 reported dry farm wheat yields of

¹Perkins, Nielson, Jones, p. 195. ²p. 196.

³C.A. Robertson, "Southeastern Utah, the Mecca of the Homesteader", Utah State Bureau of Immigration, Labor and Statistics. (Salt Lake City, Utah: Arrow Press, years 1913-14), pp. 111-115.

40 to 50 bushels per acre. Volunteer wheat was reported to produce 15 to 30 bushels per acre and an average annual precipitation of 27.5 inches per year was reported. He summarized his report with the statement: "like riding a horse the southeastern Utahn may rely on natural advantages of the country and live comfortably with little effort". Mr. Robertson refers to statements made by Professor L.A. Merrill and to the Experiment Station's report of 1910. Average annual precipitation as recorded up to that time was 19.09 inches¹. It appears that Mr. Robertson was misinformed or was over zealous in his praises of the new frontier.

The feeling of optimism by the County Commissioners in 1920 is recorded in their minutes².

There are in San Juan County over one million acres of choice agricultural land which awaits only the plow of the farmer to become productive. The remainder of the five million acres in the county consist mainly of good grazing land, interspersed here and there by large box canyons. The general nature of the country is rolling and most of the land is covered by a more or less heavy growth of sage brush.

Optimism of 1911 through 1920.-- Optimism during the 1911 through 1920 period was justified. The people had good reason to feel optimistic about homesteading and dry-farming. Precipitation was definitely higher than it has been for a comparable number of years since. Weather reports from Blanding, Monticello and the 1910 Experiments Station's report¹ all indicate wetter years (see Fig. 10, page 32). The average annual precipitation from 1911 through 1920 was 19.38 inches at Monticello and 15.24 inches at Blanding. Due to increased precipitation crop yields were higher and choicest lands were still available for the taking. That many did

¹Merrill, p. 106.

²San Juan County Commissioners, Board of County Commissioners, Monticello, Utah, 1920, p. 25.

come in is indicated by the increase of white population from 985 people in 1910 to 2,508 people in 1920 (see table 4).

TABLE 4. Population of San Juan County, 1880 to 1960.

Population Center	1880 ^a	1890 ^a	1900 ^a	1910 ^a	1920 ^a	1930 ^a	1940 ^c	1950 ^d	1960 ^e
Bluff	225	190	315 ^b	160	150	70	284	245	160
Monticello		115	180	375	768	763	865	1463	1806
LaSal			97	39	287	211	285	226	550
Blanding				385	1072	1001	1438	1448	1788
Mexican Hat Settlements and Farms		60	271		231	221	397	449	600
Total Whites		365	863	985	2508	2266	3269	3831	6619 ^f
Indians	?	?	160	1392	871	1230	1443	1484	2346 ^f
Total	225	365	1023	2379	3379	3496	4712	5315	8965

^aHerbert E. Gregory, The San Juan County, 1938, p. 34.

^bIncludes about 150 prospectors (Gregory, p. 34).

^cSixteenth Census of the U.S., 1940, "Population" Vol. 1 (1942), p. 1082.

^dSeventeenth Census of U.S., 1950, "Utah Census of Population", Vol. 11, part 44, pp. 11,50.

^eHolder Engineering Service, Master Plan Report, San Juan County, Utah, pp. 5-17.

^fGlenn A. Barber, Census Crew Leader, Monticello, Utah, interview August 25, 1960.

Prices of farm products, wheat and livestock, remained high until 1920 (see table 5). Wheat prices in Utah ranged from \$0.69 to \$0.99 per bushel from 1909 to 1915. In 1915 the price rose sharply to \$1.47 per bushel and continued to rise to a peak of \$2.10 per bushel in 1919. The price dropped to \$1.74 per bushel in 1920, and then dropped to \$0.82 per bushel the next year. Except for a slight rise in 1924 and 1925 the prices remained relatively low until a definite upswing in the early

TABLE 5. Wheat production in San Juan County and Utah State prices^a.

Year	Harvested (acres)	Yield (bu/acre)	Production (bushels)	Av. Price (per/bu)
1909 through 1915		seven year average price		.81
16				1.47
17				1.83
18				1.91
19	5459			2.10
1920				1.74
21				.82
22				.86
23				.93
24	3219			1.36
25				1.30
26				1.09
27				1.16
28				1.00
29	3480		48829	1.01
1930				.67
31	4060	13.5	54900	.52
32	3400	10.6	36100	.41
33	3350	19.7	65900	.66
34	2410	10.8	26000	.83
35	3490	8.5	29600	.79
36	4220	11.9	50300	1.03
37	4930	13.0	64200	.79
38	4170	19.1	79500	1.48
39	6400	17.0	108800	.66
1940	7100	17.4	123400	.64
41	11650	21.5	250500	.87
42	6400	14.1	90000	1.02
43	6750	17.3	117100	1.28
44	13860	17.7	245000	1.31
45	13290	17.3	229960	1.42
46	14560	10.4	151410	1.84
47	24260	15.0	363880	2.14
48	33160	14.5	474360	1.87
49	34340	17.8	609290	1.75
1950	26470	7.3	192870	1.86
51	22640	7.1	161490	2.00
52	49430	15.9	785010	1.99
53	45040	15.4	693830	1.89
54	30050	13.7	481330	1.96
55	36230	12.8	465060	1.88
56	14690	9.3	135950	1.84
57	14790	17.3	256430	1.88

^aAgricultural Statistician, Utah Wheat Estimates, 1879-1958; (Salt Lake City, Utah: U.S. Dept. of Agriculture, July 28, 1958).

1940s¹.

The 1921 through 1930 period.-- After 1920 homesteading had begun to slow up. There was an increase in applications when veterans began filing on homesteads after World War I². They were able to use their service men's privileges provided for in the original homestead acts. By applying their service time some applicants were able to prove up on their homestead by qualifying for only one year residence (7 months). For them, however, it was not the prosperous optimistic times of the 1911 through 1920 period. The nation was entering a period of economic depression. The prices of wheat were down and precipitation was considerably less than in the previous 10 years. The average annual precipitation for 1921 through 1930 was 16.77 inches, but it was still sufficient to mature a dry-land crop of wheat.

As the new lands began producing wheat the local needs were quickly satisfied. A local surplus was soon created. High freight costs and crude transportation methods precluded the possibility of shipping out items as bulky as wheat. The new farmers were, therefore, unable to market their only cash crop. The problem of marketing farm produce in the late 1920s is explained by James H. Eager³.

From Monticello to Thompsons, the nearest standard gauge railroad station, the distance is 102 miles; from Monticello, to Durango, Colorado, the nearest railroad point but on a narrow gauge track, the distance is approximately 60 miles. In addition to tillage and cropping problems, the isolation of this section from a shipping point precludes any possibility of

¹Agricultural Statistician, Utah Wheat Estimates, 1879-1958. (Salt Lake City, Utah: U.S. Dept. of Agriculture, July, 1958).

²Perkins, Nielson, Jones, p. 209.

³James H. Eager and A.F. Bracken, "San Juan County Experimental Farm," Agri. Exp. Station Bulletin No. 230, (Logan, Utah, USAC, 1931), p. 5.

growing wheat, oats, barley, corn, or any other crops of rather a bulky nature beyond local requirements except in years of relatively high prices. Such crops need to be fed locally and the concentrated product in the form of hogs, poultry, sheep, or cattle shipped out. If crops are grown for outside markets of necessity they must have a high value in proportion to the bulk. There is a great need in San Juan County for such crops. Road improvement, however, in the last few years has been of great importance to the agricultural development of this area. In 1925 cost of shipping from Monticello to Thompsons was approximately 85 cents a hundred. Because of the great improvement in roads which now permits the use of large trucks, the cost of hauling varies from 40 to 60 cents per 100 pounds of freight. And now with the development of new improved highways both east and south, the opening of additional markets and shipping points will be of great significance to the advancement of agriculture in this region.

According to Rasmussen¹ of the Bureau of Land Management the homesteading activity of the early 1920s was due to:

1. The influx of World War I veterans wishing to exercise their veteran's privileges.
2. The relative newness of the area. There was still room for many more homesteaders in the country.
3. The lack of available land in other parts of Utah. Land for homesteading in Utah had nearly all been taken up by 1920.
4. The isolation of San Juan County. Transportation facilities were inadequate and centers of population were long distances away. Isolation is perhaps the greatest factor that prevented the land from being occupied in San Juan County as soon as it was elsewhere.

Gregory² made observations in San Juan County from 1910 to 1929. He describes the rapid expansion and decline of farming before and after World War I.

¹Evan L. Rasmussen, Lands Officer, BLM, Salt Lake City, Utah, interview, July 11, 1960.

²Gregory, p. 35.

Dry-land farming on Sage Plain east of Montezuma Creek started in 1887 and was vigorously developed during the war period, when more than 100,000 acres of previously unoccupied land was taken up as farms. The crop for 1919 was the largest and most valuable and covered the largest acreage of those recorded for San Juan County. During that year the value of farm lands and buildings exceeded \$3,500,000, more than five times that of 1910 and twice that of 1925 or 1930. These dry-land farms demonstrated that much of the region between the Abajo Mountains and the Colorado line is well adapted for the production of oats, corn and dry-land wheat. Prof. A. Merrill, of Utah Agricultural College, says that "without question San Juan County ranks as the best dry-farming county in the State". But the cultivation of dry-land farms has proved to be unprofitable under normal conditions. Except in an inflated market, the cost of hauling grain 100 miles to the railroad at Thompson prohibits export. At present few dry-land farms justify continued cultivation; failures outnumber successes. More than half of those occupied in 1920 have been abandoned.

.....
 For all San Juan County (nearly 5,000,000 acres) the area of land classed by the Census Bureau in 1930 as "farms" was 110,477 acres. Of this amount 25,183 acres was "crop land", 55,964 acres "pasture land", and 29,330 acres "other land"--that is, land on which no crop was planted and land on which the crop failed to mature. Of the "crop land" 15,832 acres was harvested. During the decade 1920 to 1930 the farm land decreased from 167,639 to 110,477 acres, but the number of farms increased; in 1930 about one-fourth of all farms in the county comprised less than 20 acres each. The average value of farm land is reported as about \$20 an acre in 1920 and \$12 in 1930.

During this decade more land patents were recorded in the San Juan County records than during any other 10 year period (see table 6). Although there were 361 patents recorded this does not indicate the period of the most homesteading activity. Actually it is a carryover from the 1911 to 1920 period. From 3 to 4 years from the date of the homestead application were required for proving up on the land. Many land patents were also held several years before recording them to avoid the payment of taxes. A more accurate indication of the number of homestead applications in any period would be to set the date of the land patents back at least 4 years. By making this adjustment 188 recorded patents in 1921 through 1924 are added to the 1911 through 1920 period. This indicates

that 346 homestead applications occurred in the 1911-1920 period compared to 218 in the 1921-1930 period.

TABLE 6. Recorded Land Patents. Issued by the United States Land Office to grantees in San Juan County, Utah, 1900 through August 25, 1960^a.

Period	No. of Patents ^b	No. of Homestead apps. ^c	Percent of total
1900 to 1910	3	16	1.6
1011 to 1920	171	346	35.1
1021 to 1930	361	218	22.2
1931 to 1940	124	130	13.2
1941 to 1950	159	168	17.1
1951 to 8-25-60	166	106	10.8
Total	984	984	100.0

^aSan Juan County Records, Grantors Index, Book 1888 to 1919; Books 1, 2, 3 and 4.

^bNumbers are approximate.

^cThe actual date of homestead applications was 3 to 20 years previous to date of recording the patents.

A lack of opportunities for the young people also influenced land abandonment in the mid 1920s (see Figs. 13 and 14). Most of the early homesteaders were young. As their families grew school houses were provided at locations convenient to farming centers. When the children completed the grades taught in their neighborhood schools they were either sent away or the family had to move away to provide additional education. The net loss in white population for the 10 year period was 232.

In the 1920s there were nine one-teacher schools east of Monticello^{1,2}. The schools were closed as the farmers moved away with their children. By 1940 only 57 students attended schools east of Monticello at Horsehead, Cedar Point, Ucolo and Urado. Now 23 students attend

¹Lockerby, Boulder, Horse Head, Ginger Hill, Cedar Point, Urado (Bug Point), West Summit, East Summit and Ucolo.

²Butts, interview. Mr. Butts was school board member.



Fig. 13. Homestead of Vern McDonald on West Boulder five miles southeast of Monticello in Section 34, Township 33 south Range 24 east. Patent was issued August 14, 1923. The first house is made from pinyon logs and the second is made from sawed timber.



Fig. 14. Log house on Pearson Point made from juniper logs. Occupied by John P. Mansfield until the late 1930s.

schools east of Monticello at Eastland and East Summit Point¹. Busses haul the other children to Monticello for school.

During the 10 year period of 1921 through 1930 the mean annual precipitation was 16.77 inches at Monticello. This was 2.61 inches less than the mean annual precipitation for the 1911 through 1920 period. It was still 1.30 inches above the 52 year mean of 15.47 inches. It does not appear that lack of precipitation was a major factor of land abandonment in the late 1920s.

Period 1931 through 1940.-- Officers of the General Land Office became more reluctant to approve homestead applications in the late 1920s and early 1930s. They felt justified because of current land abandonment and decreased crop production. They felt responsible to place people on sites where a living for a family unit could be made.

Passage of the Taylor Grazing Act in June 28, 1934 withdrew all public domain from homesteading until they were classified. The purposes of the Act are described by the following quotation².

To stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, to stabilize the livestock industry dependent upon the public range, and for other purposes.

.....
Provided, However, That the publication of such notice shall have the effect of withdrawing all public lands within the exterior boundary of such proposed grazing districts from all forms of entry of settlement. Nothing in this Act shall be construed as in any way altering or restricting the right to hunt or fish within a grazing district in accordance with the laws of the United States or of any State, or as vesting in any permittee any right whatsoever to interfere with hunting or fishing within a grazing district.

.....
 That the secretary is hereby authorized, in his discretion, to

¹Zenos Black, Supt., San Juan County School District, Monticello, Utah, correspondence, August 10, 1960.

²U.S. Statutes at Large, Vol. XLVIII, pp. 1,269; 1,270; 1,272.

examine and classify any lands within such grazing districts which are more valuable and suitable for the production of agricultural crops than native grasses and forage plants, and to open such lands to homestead entry in tracts not exceeding three hundred and twenty acres in area. Such lands shall not be subject to settlement or occupation as homesteads until after same have been classified and opened to entry after notice to the permittee by the Secretary of the Interior, and the lands shall remain a part of the grazing district until patents are issued therefor, the homesteader to be, after his entry is allowed, entitled to the possession and use thereof: Provided, That upon the application of any person qualified to make homestead entry under the public-land laws, filed in the land office of the proper district, the Secretary of the Interior shall cause any tract not exceeding three hundred and twenty acres in any grazing district to be classified, and such application shall entitle the applicant to a preference right to enter such lands when open to entry as herein provided.

Since the passage of the Taylor Grazing Act in 1934 the policy of the Bureau of Land Management has been to discourage homesteading¹.

Precipitation in the early 1930s was less than in the previous 10 years and lower than the 52 year mean. In 1934 the precipitation was only 8.21 inches, the driest on record to that date.

The drought was far reaching. Refugees from the "Dust Bowl" of eastern Colorado and western Oklahoma and other areas moved into San Juan County where they began to settle on unoccupied lands (see Fig. 15). News spread among themselves that homesteads were available. Evan L. Rasmussen², the Lands Examiner, estimates that over 100 applications were filed before 1938. They were all rejected, but were appealed by the applicants and later most of them were allowed.

Several factors contributed to land abandonment from 1930 to 1935. The most effective factor was that farming with horses was not a paying proposition. Added to this was low prices for farm produce, isolation of

¹Cook, interview.

²Rasmussen, interview.



Fig. 15. George W. Barry homesite on Horsehead Point. The family came from Idaho in 1929. The homestead was allowed in 1930 and the patent was issued in 1935. Note the entrance to the cellar in left background and top to cistern in foreground.



Fig. 16. Ralph Miller homesite on Pearson Point. Homestead application No. U-07506 was filed September, 1952 and final patent was issued February, 1960. Note the butane bottle and refrigerator. Wood products from the pinyon and juniper forest are no longer needed.

the area, poor schools and lower precipitation.

Many farms were abandoned and the taxes became delinquent. In some sections an estimated 30 percent to 40 percent of the land reverted to San Juan County for taxes¹. The County then offered this land for sale at \$1.00 per acre. Terms of 20 percent down and 20 percent per year were allowed. This gave many people who would have otherwise homesteaded the opportunity to buy land at a price they could afford.

Several large acreages were acquired during and following the period of land abandonment. The land was purchased from the County (see Table 7) or from individuals who wanted to sell. The acquired holdings formed the basis for later large scale farming operations.

TABLE 7. Tax deeds from San Juan County to grantees, 1935 to 1950^a.

Year ^b	Number of deeds ^c
1935	9
36	28
37	23
38	24
39	22
1940	26
41	20
42	38
43	39
44	30
1945	11
46	19
47	10
48	5
49	3
1950	0

^aSan Juan County Records, Grantors Index, Books 1 and 2.

^bActual date of the sale preceeded the issuance of the deed by as much as 4 years.

^cA tax deed was issued for each tract of land and in most cases represents a homestead.

¹L.J. Bartell, County Commissioner 1945-60, Monticello, Utah, correspondence, August, 1960.

In 6 years 132 tax deeds were recorded. It is assumed that each tax deed represents one homestead tract. In the 1931 through 1940 period there were 124 original land patents issued. As a result there were 8 more homestead tracts lost to tax sales in 6 years than were acquired by homesteaders in 10 years. This is a good illustration of land abandonment during the period.

Period 1941 through 1950.-- The trend of this period was a reoccupancy of the land. Tax delinquent land acquired by the County and sold to new owners caused a redistribution of the land. Homesteaders were again filing applications in increasing numbers. World War II veterans exercised their serviceman's privileges and "proved up" on homesteads after short periods of actual residence.

Dry-land wheat farming became profitable in this decade. Prices were rising and wheat reached a high of \$2.14 per bushel in 1947. Transportation facilities were available to export the wheat. A peak production was reached in 1949 when 34,240 acres were harvested and produced 609,290 bushels of wheat (see table 5).

Precipitation was noticeably lower during the 1941 through 1950 period. The 10 year average was only 13.92 inches. The wetter years were 1941, 1947 and 1949. Several dry years were noticeable. Only 9.93 inches of precipitation fell in 1942 and 1950 was the driest year on record with a precipitation of 6.56 inches.

The use of farm machinery expanded rapidly. By the use of tractor-power a profit could be made at farming despite the years of lower precipitation. The new lands were rapidly cleared of stands of sage brush and pinyon-juniper. This was a period of land acquisition and rapid land development. People were not, however, living on their farms as they did in

the early homestead days. They preferred to live in town and drive to their farms.

Period 1951 through 1959.-- The trend of this decade is continued homesteading accompanied by semi-abandonment¹ of the land since 1956. More homestead applications were filed than during any other 10 year period (see section on Recent Homesteading). Private ownership extended to all of the available land and the General Land Office issued 166 land patents to homesteaders (see Fig. 16). Wheat prices remained fairly high without noticeable fluctuations. Average precipitation for the period was below the 52 year mean but about the same as the 10 years previously. Wheat production reached a peak in 1952 when 49,432 acres were harvested. Since then wheat production declined to only 14,790 acres in 1957 (see table 5, page 71).

Wheat allotments and government controls² restricted a continued high production of wheat. The allotments limited many farmers to an income less than is needed for a living³. Low wheat allotments and incentives offered by the Soil Bank Conservation Reserve Program caused many small farmers to sign up their land in the Soil Bank⁴. No longer tied to their land, the

¹Semi-abandonment means the owners are not actively operating their farms but are retaining ownership.

²A wheat allotment, based on previous farming history, is the number of acres of wheat a farmer can harvest and market without paying a marketing penalty to the Dept. of Agriculture.

³An annual wheat harvest of about 250 acres is considered necessary for a family unit.

⁴The Soil Bank Conservation Reserve is an incentive program offered to farmers by the Dept. of Agriculture. The contract is for 5 to 10 years and is designed to reduce wheat production. The farmer is compensated \$6.50 to \$14.50 per acre per year for the land he is taking out of wheat production. The land is planted instead to grasses to protect it from erosion and to increase fertility.

farmers are then able to seek employment in other occupations or move to more favorable locations. They cannot go back into wheat farming as long as their land is in the Soil Bank program.

Government restrictions have caused large fluctuation in farming activities. The wheat harvest dropped from 36,230 acres in 1955 to 14,690 acres in 1956 (see table 5). With an estimated 50 percent of the farms in the Soil Bank a harvest of approximately 18,000 acres is expected in 1960. There are 39,172 acres of land under the Soil Bank Conservation Program which reaps a total cash payment to the farmers of approximately \$285,000¹. A return to farming the land is anticipated when the Soil Bank contracts terminate unless some other program is devised to restrict crop production.

Homesteading during 1951 through 1959 has been more active than in any former decade. There were 332 applications filed (see section on Recent Homesteading). It appears, however, that homesteading has practically reached its end. Only marginal lands are left and land classifications will not open them to entry. The Bureau of Land Management considers lands in the Soil Bank as being abandoned and they do not allow homestead applications in land abandonment areas².

Mechanical Power and New Techniques

Mechanical Power.-- Early attempts at using steam and gasoline tractors by the big land companies proved very disappointing³. The first

¹ASC Committee, San Juan County Office, Monticello, Utah, correspondence, August 2, 1960.

²The BLM considers land in the Soil Bank as abandoned; it is not being farmed. Cook, interview.

³Perkins, interview.

gas tractor, a Big Four Emerson-Braningham, was brought in in 1912 by the San Juan Arid Farm Company¹. An engineer, Mr. Robert K. Harlicek came with the big tractor to keep it running². Despite the big investments in land and equipment the first attempts at large scale dry-farm operations failed³.

The first tractors had a very low power efficiency compared to their fuel consumption and gross weight. The steam tractors were not practical because they needed a close and constant supply of wood and water. They were soon abandoned for field work but continued to be used for several years for stationary engines to run threshing machines. Fuel and oil for early gas tractors had to be hauled in by horse drawn wagons. Farming with these heavy low powered tractors proved more expensive than horse farming in isolated areas.

Horse-farming was also limited and tedious. A description of farming with horses is given by a 1912 homesteader⁴.

Dry-farming with horses was a hard job. It took an acre of crop to keep the horses for each acre to keep the family. (The 80 acres of crop for the horses equals 80 acres for the family. Plowing with horses was so slow that not more than 160 acres could be done before it was too dry to plow.

The Utah State Agricultural Experiment Station continued to publish reports on dry-farming and they made studies on the use of tractor power and horse power in 1926-27. Cardon⁵ published the results of his studies

¹Perkins, Nielson, Jones, p. 197.

²Butts, interview.

³Investors in the San Juan Arid Farm Co., were Walter C. Lyman, D. John Roger, E.J. Thompson, William J. Nix, Hanson Bayles, Ann Bayles, Lucy Lyman, Ethel Lyman, Heber Carroll, Emil Gammeter, Robert Harlicek and Ezekiel Johnson. (Butts interview).

⁴Frost, correspondence.

⁵P.V. Cardon, "Cost Reduction in Dry-Farming in Utah", Agri. Exp. Station Bulletin 215, (Logan, Utah, USAC, March 1930), pp. 14,15,16.

and pointed out the advantages of tractor-farming over horse-farming (see tables 8 and 9)¹.

...it is seen that where horses were used the total labor required for each acre was 5.96 man-hours and 26.11 horse-hours; where tractors were used the requirements for each acre was 3.78 man-hours and 2.82 tractor-hours.

.....
 ...the average labor cost of the various cultural operations was uniformly higher with horse outfits than with tractor outfits, the total being \$5.85 as against \$3.68.

TABLE 8. Man and horse labor compared to man and tractor labor. Requirements for each common cultural operation on dry-farms of Utah, 1926 and 1927.

Operation	Hours per Acre		Hours per Acre	
	Man	Horse	Man	Tractor
Plowing	2.25	11.02	1.09	1.07
Harrowing	0.35	1.63	0.24	0.23
Leveling	0.38	1.82	0.20	0.20
Disking	0.62	2.86	0.28	0.25
Weeding	0.60	2.51	0.37	0.34
Seeding	0.56	2.08	0.30	0.28
Harvesting (combined)	1.20	4.19	1.30	0.45
Total	5.96	26.11	3.78	2.82

TABLE 9. Labor cost per acre for each common cultural operation on dry-farms of Utah, 1926 and 1927.

Operation	With Horse Outfits			With Tractor Outfits		
	Man Labor \$0.40/ hour	Horse Labor \$0.12/ hour	Total	Man Labor \$0.40/ hour	Tractor \$0.75/ hour	Total
Plowing	\$0.90	\$1.32	\$2.22	\$0.43	\$0.60	\$1.03
Harrowing	0.14	0.19	0.33	0.09	0.18	0.27
Leveling	0.15	0.22	0.37	0.08	0.15	0.23
Disking	0.25	0.34	0.59	0.11	0.19	0.30
Weeding	0.24	0.30	0.54	0.14	0.26	0.40
Seeding	0.23	0.25	0.48	0.12	0.21	0.33
Harvesting (combined)	0.48	0.50+34¢	1.32	0.52	0.34+26¢	1.12
Total	\$2.39	\$3.12	\$5.85	\$1.49	\$1.93	\$3.68

¹It must be remembered that many improvements were made in farm tractors in 15 years and that the Nephi Experiment Station was not as isolated as was the farming area in San Juan County, so fuel was considerably cheaper.

Whether or not this information was available to San Juan County farmers is not known. By 1931 farm tractors were owned by Wilson Allred, George F. Barton, C.A. Frost, H. Lloyd Hansen, J.T. Pehrson, and Charles Redd¹. Once started, the change to tractor power accelerated. In 1940 there were 96 farm tractors in the County and in 1945 there were 188. The horse population correspondingly decreased from 5,853 in 1920 to 4,676 in 1930 to 3,485 in 1940 and 1,514 in 1945^{2,3,4}.

By using mechanical power large acreages could be cultivated and harvested and again wheat farming became profitable. Roads and trucks were improved so transportation of bulk commodities was no longer a problem. The local flour mill at Monticello changed management in 1939 and operated 24 hours a day⁵. A local as well as an outside market for wheat was provided. The farmers had the facilities to produce wheat and the markets were available where it could be sold. Improved harvesting methods also made farming and homesteading more dependable. The chances of crop loss from storms was reduced by a quick harvest. Threshing with horse power required a large crew of men and many horses. Now one man with a self-propelled combine can do the same operation faster, better and cheaper. A custom harvester or a neighbor can be hired by those who prefer

¹Frost, interview.

²U.S. Bureau of Census, Fifteenth Census of the U.S.: 1930, Utah Agriculture, (Washington, U.S. Gov. Printing Office, 1930).

³U.S. Bureau of Census, Agriculture of Utah, First Series, (Washington, U.S. Gov. Printing Office, 1914), p. 11.

⁴U.S. Bureau of Census, Utah and Nevada, Census of Agriculture, 1945, (Washington, U.S. Gov. Printing Office, 1945), pp. 21,33,39,51.

⁵A 48 barrel flour mill. Products were sold locally and on the Navajo Indian Reservation.

not to buy a combine. For large acreages migrant fleets of combines are generally hired¹.

New farming techniques were introduced about 1950 as farmers began to adopt tillage practices advocated by the Soil Conservation Service. Fields are reoriented to run across slopes or transverse to the prevailing winds. Large pieces of land are divided into east-west strips. Crops and summer fallowed land occupy alternate strips. Instead of plowing, the land is cultivated with a stubble mulcher or sub-surface tillage tool. This method leaves the crop residue on the surface of the ground and gives added protection against wind and water erosion. Plowing and large fields are being eliminated from dry-farm operations in San Juan County, and now about 40 percent of the land is cultivated by stubble mulching².

The availability of mechanical power is perhaps the biggest contributing factor to homesteading and land occupancy since 1935. Previous to the introduction of mechanical power on the farms, there was a persistent land abandonment. It was not economically profitable to dry-farm with horses. By the use of mechanical power and new techniques dry-land wheat farming in San Juan County is again a profitable occupation. Extremely dry years, depressed prices and government regulations have, however, restricted dry-farm operations and discouraged homesteading. Despite these depressing factors the use of mechanized farming and the application of new techniques have stabilized farming and encouraged homesteading.

Recent Land Occupancy, 1930 to 1960

Homesteading.-- Homesteading in San Juan County, unlike other parts

¹Migrant fleets of combines begin harvesting in the southern states and follow the wheat harvest north to the Canadian Border.

²Gordon Heaton, County SCS Supervisor, Monticello, Utah, correspondence, Aug., 1960.

of the United States, is a recent movement that has not yet terminated. Except for lands in Alaska, the homesteading movement was considered over in the United States by 1930¹. By comparison the movement in San Juan County assumed its greatest proportions since 1930.

From 1930 through 1959 there were 565 homestead and Desert Land applications filed^{2,3}. Of these 339 or 60 percent were rejected and 226 or 40 percent were allowed (see table 10). Of the 226 applicants that were allowed 71 failed to comply. This was either from failure to respond to the allowance notice or they failed to properly complete final proof on the homestead. Three of the allowed applications were later withdrawn by the Bureau of Land Management. Of those that were allowed 107 have received their final patents. This is only 18.9 percent of the original filings. There are, however, 47 applications still in force that have been allowed and it is assumed these will complete their final proofs and receive patents to the land. If so, 152 of the original filings will result in land ownership. This will result in a 26.9 percent of success.

Each application averages an estimated 200 acres of land area⁴. There are 152 applicants that have or will receive title to their lands. This will result in approximately 30,400 acres of land being transferred through homesteading from public domain to private property in the last 30 years.

Desert Land Entries.-- Desert Land entries have been considered a

¹U.S. BLM, "Homesteading Past and Present", p. 7.

²Statistics compiled from land entry cards in the office of the BLM, Darling Bldg., Salt Lake City, Utah.

³In compiling statistics no distinctions are made between homesteads and Desert Land entries.

⁴Estimated by Abijah Cook, Lands Examiner.

TABLE 10. Homestead and Desert Land Entries in San Juan County, Utah, 1930 through 1959.

Applications	Number	Percent of Total
Total filed 1930 through 1959	565	100
Filed 1930 through 1939	39	6.9
Filed 1940 through 1949	194	34.4
Filed 1950 through 1959	332	58.7
Rejected, closed or relinquished before allowance	339	60.0
Allowed	226	40.0
Relinquished or failed to comply after allowance	71	12.6
Terminated by BLM withdrawal	3	0.5
Currently in force June 30, 1960 uncompleted	45	8.0
Completed and patents issued	107	18.9

part of the homestead movement in this paper. They resemble homesteading in that there must be development of the land before ownership can be acquired. They differ from homesteads in that a proven supply of water for irrigation must be obtained before the applicant is allowed to purchase the land.

From 1948 through 1957 there have been 51 Desert Land applications in San Juan County¹. There were 13 applications in Dry Valley along Hatch Wash and 40 applications along lower Montezuma Creek. Nine of the applicants have been allowed and 42 have been rejected². Five have completed final proof and have or will soon receive patents on their land³.

The costs and risks of Desert Land entries are greater than for homesteads. Water must be obtained and put on the land before the final proof is completed and a patent is received. In lower Montezuma Creek 9

¹Clyde E. Stewart, "Recent Land and Ground-Water Development in Utah under the Desert Land Act", Agricultural Exp. Station Bulletin 418, (Logan, Utah, USAC, March, 1960), p. 15.

²Clyde E. Stewart, Agricultural Economist, College Station, Logan, Utah, correspondence, July 8, 1960.

³Cook, interview.

applicants have been rejected because of conflict with lands withdrawn for extension of the Navajo Indian Reservation. The withdrawals were made to compensate the Navajo Indians for lands that will be flooded by the proposed Lake Powell impounded by the Glen Canyon Dam now under construction.

The Last Decade.-- Homesteading activities were greater in the last decade than during any other 10 year period. In the 1950 through 1959 period 332 homestead applications were filed. Of these 160 were allowed and 172 were rejected. Forty five of the applications that have been allowed have not completed their final proof, but are still in force¹. It is assumed they will complete the final proof and receive their land patents.

It appears that homesteading has nearly reached its end on Sage Flain. Practically all of the suitable land has been filed on and taken. The unoccupied land is too isolated or marginal to be approved for homesteading. The Bureau of Land Management is opposed to homesteads on lands that are too marginal and it appears that is the only type of land that is left. The present semi-abandonment of land under the Soil Bank Conservation Reserve program is also unfavorable to homesteading. The Bureau of Land Management does not favor obtaining a homestead and then the land being put in the Soil Bank and abandoned by the farmer². They feel that if the land will eventually be abandoned, it should not be homesteaded³.

The activities of homesteading in very recent years are indicated by the yearly report of Abijah Cook, Lands Examiner in San Juan County (see table 11).

¹From research in BLM files.

²Cook, interview.

³Land examiners consider the land abandoned when placed in the Soil Bank Program. This is not true abandonment because the owners maintain an active interest in the property and pay the taxes.

TABLE 11. Yearly Summary of Lands Examiner.

Period	New Homestead		Final Proof	
	Examined	Reported	Examined	Reported
July 1, 1954 to June 30, 1955	16	11	14	27
July 1, 1955 to June 30, 1956	5	8	9	3
July 1, 1956 to June 30, 1957	15	19	29	25
July 1, 1957 to June 30, 1958	18	14	9	10
July 1, 1958 to June 30, 1959	9	25	13	8
Totals for five years	63	77	74	73

Areas of Homesteading.-- The first lands to be homesteaded were those considered best by the applicants. Several factors determined a good location. Before dry-farming was practiced most homestead filings were located near villages, in canyon bottoms or near sources of water. As dry-farming became known, applicants looked for land that was flat and fertile and easy of access. Lands around the base of Abajo Mountain and on the central part of Sage Plain were first to be occupied. The later arrivals were forced to go greater distances from centers of population to find unoccupied land. The very late comers have had to look for land around the periphery of the homestead area (see section on Land Status and Fig. 18). They continued to push the boundaries of occupied land into areas less favorable for farming. In some cases they have filed in areas where dry-land crops cannot be grown.

The duty of the lands examiner is to evaluate the land and determine whether or not the land can be homesteaded¹. Before 1934 when lands were not classified most of the homestead applications were allowed because the Land Office assumed the applicants would choose good land. Since the Taylor Grazing Act of 1934 the lands must be classified. Only when they are determined "more valuable and suitable for the production of

¹Cook, interview.

agricultural crops than native grasses and forage plants"¹ are the lands opened for homestead entry.

The situation develops where applications are filed in areas not classified as open for homesteading but are adjacent to previously allowed homesteads. When these applications are rejected as "unsuitable for homesteading"² the lands examiner is often sharply criticized. From this experience has evolved their methods of evaluation and detailed reports³. Following is a classification of a homestead on Peters Point. This is in one of the contraversial areas where homestead applications are being rejected.

Applicant: Edward Grant McMullin, Application No. Utah-D38786

Description of land: T. 32S, R. 23 E., SLM.

Sec. 14, S $\frac{1}{2}$ SW $\frac{1}{4}$

Sec. 22, SE $\frac{1}{2}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$

Sec. 23, N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$.

Classified as unsuitable for disposal for reasons stated⁴:

1. This land is at an elevation of 7,000 to 7,200 feet and is subject to late spring and early fall frosts which would severely damage or destroy most cultivated crops.
2. The soils are shallow and rocky for the most part and are not well adapted to cultivation. Much of the land could not be cultivated at all.
3. During the past several years this has been an extreme drought area and crop failures have been frequent.
4. The crop failures are due to both drought and frost and occur in about three years out of ten.
5. It is evident that land in this locality is sub-marginal at best and all of the cultivated land in this locality has now been abandoned for crop production and committed to the soil bank.

Other recent applicants are Ted. S. Peterson and Harry S. Randall.

Of the 17 former applications on Peters Point since December, 1947 only two have been approved. Morris Nelson made final proof in June, 1959 but

¹U.S. Statutes at Large, Vol. XLVIII, p. 1272.

²Term used by BLM on land entry cards.

³Cook, interview.

⁴Val B. Richman, State Supervisor, BLM, April 20, 1960.

Gerald V. Boykin failed to make final proof and his application was cancelled.

Areas of most recent homesteading are around the periphery of Sage Plain. Only Desert Land Entries have been considered in canyon bottoms. The latest homesteading activity has been on Summit Point, Peters Point, Horsehead Point, Pearson Point, Cedar Point, Bug Point and Alkali Point. Areas of controversies over land classification are Deer Flat, Alkali Point, Peters Point and places on Sage Plain where new applications join allowed homesteads. The most likely areas for homesteads in San Juan County are on Peters Point, Summit Point, Cedar Point, Alkali Point, Deer Flat and Dark Canyon Plateau¹. The most likely areas for Desert Land Entries are Montezuma Creek, Dry Valley, Indian Creek and Dark Canyon.

Future possibilities.-- Under existing conditions the approval of any more homesteads is very unlikely. A marked change of factors would be necessary for conditions to be favorable for homesteading because only the less desirable land remains. Some changes that would favor homesteading and extend land occupancy into presently classified sub-marginal areas are:

1. A desire by the Federal Agencies to transfer more public domain to private ownership.
2. A marked increase in precipitation comparable to the 1909 to 1920 period.
3. Population pressures great enough to demand more intensive use of unoccupied lands than for grazing purposes.

In many areas people would like to purchase tracts of marginal land

¹Deer Flat and Dark Canyon Plateau are west of Elk Mountain and are not a part of Sage Plain.

in the public domain. They prefer outright ownership to leasing. Often they own land adjacent to vacant lands and they would like to expand their holdings. The adjoining land is most often too rough and marginal to be classed as farm land. With care and improvements these marginal lands could be made to produce more than at present. This care and improvement is not being made on leased lands. It appears that a policy of the Bureau of Land Management of outright land sales would be very desirable and helpful now that the best lands have been taken up by homesteaders¹. Public domain would then pass to private ownership, it would be on the tax records, and the private owners would then feel justified in making land improvements.

A Case Study

Homestead Application No. 068743.-- The tract of land on which Application No. 068743 was filed is located $4\frac{1}{2}$ miles northeast of Monticello. It is a gently rolling upland dissected by tributaries to the Vega Creek. The original plant cover was sage brush with practically no trees. The soil is shallow as indicated by rocky spots in the fields and outcrops of bare rock around the tributaries. Adjoining land to the east was purchased as tax-sale lands from San Juan County in 1939 for \$1.00 per acre. The legal description is: $SE\frac{1}{4}$ $NE\frac{1}{4}$ Sec. 21; $NE\frac{1}{4}$ $NW\frac{1}{4}$, $S\frac{1}{2}$ $NW\frac{1}{4}$, $SW\frac{1}{4}$, Sec. 22; Township 33 south, Range 24 east, SLM, Utah, containing 320 acres (see Fig. 17).

A description of the procedures necessary for completing the homestead are described. There may have been other applicants in previous years on this piece of land, but only two are discussed here. The steps

¹Cook, interview.

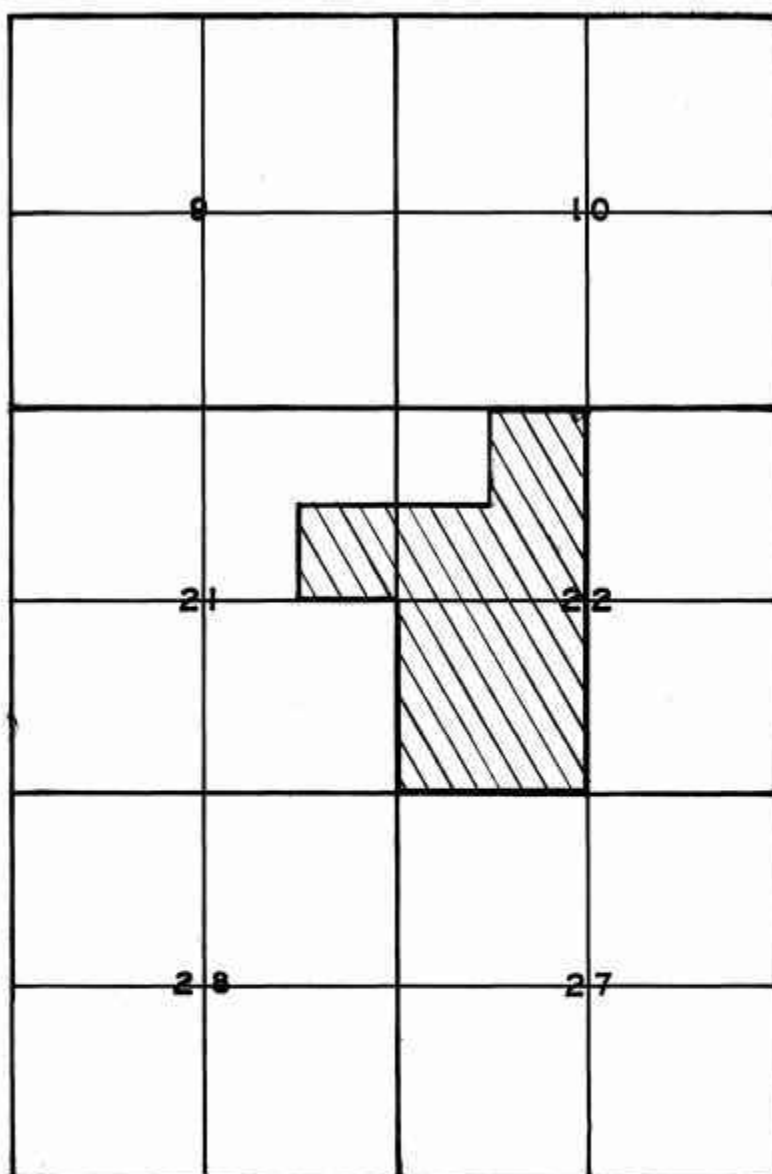


Fig. 17. Plat of Homestead Application No. 068743, San Juan County, Utah. Salt Lake Base Meridian, Township 33 South, Range 24 East.

are listed in their chronological order with additional quotes from the letters.

1. May 24, 1943: Homestead Application filed by Kent Smith Frost. Affiants were Harry S. Randall and George F. Barton.

2. May 27, 1943: Acknowledgement of Application designated No. 064040 by Scot P. Stewart, Registrar.

3. December 26, 1947: Application No. 064040 rejected with the following explanation¹:

A homestead application may not be made by any person who is the owner of more than 160 acres of land in the United States.

The records indicate that the applicant is the owner of 320 acres of land in his own name and so, therefore, not qualified to entry under the provisions of the homestead laws.

4. February, 1948: Homestead application filed by Melvin Jesse Frost. Affiants were John D. Lewis and C. Alfred Frost.

5. March 1, 1948: Payment by applicant of \$10.00 filing fees and \$12.00 commission on Homestead Application No. 068743.

6. July 1, 1949: Letter from applicant to District Land Office requesting allowance of application.

7. January 3, 1950: Notice of rejection received by applicant².

It is in conflict with oil and gas lease 066282 as to all land in Section 22, and before the application may be allowed it is necessary that you file a waiver of oil and gas and of compensation, using the enclosed forms. (If you will do this the application may at once be allowed, as by his classification of November 8, 1949 the regional administrator classified the land under Sec. 7 Act of June 28, 1934, and recommended allowance).

8. January 6, 1950: Waiver of Oil and gas and of compensation signed by applicant and returned.

¹Fred W. Johnson, Director, BLM, letter to Kent Smith Frost.

²Ernest E. House, Manager of Utah Land and Survey Office, letter to applicant.

9. January 16, 1950: Notice of Allowance with reservations¹.

All oil and gas reserved to the United States under Act of July 17, 1914. Waiver under Sec. 29, Act Feb. 25, 1920 filed. All fissionable materials reserved to the United States, Act Aug. 1, 1946.

10. August 25, 1951: Request by applicant to change the homestead to a non-residence filing².

Conditions of the weather the last two years have made it impossible to obtain water for culinary purposes on the homestead. I therefore solicit your favorable consideration for an amended application so that permanent residence on the land will not be necessary.

I now have 168 acres of the land under cultivation and plan this fall and next spring to clear and plant 60 acres more at which time all of the suitable land will be cultivated.

11. August 27, 1951: Reply to request for non-residence filing¹.

There is enclosed Form 4-003a. If you desire to have your homestead entry changed to come under the non-residence feature of the enlarged homestead act you should file an amended application, in duplicate, on this form. This office will then give your application further consideration.

12. September 14, 1951: Non-residence filing made by applicant on Form 4-003a.

13. December 3, 1951: Acceptance of non-residence filing¹.

We have this date, changed the character of your homestead entry, Serial S.L. 068743, from the general provisions of the Act of Feb. 19, 1909, to come under Sec. 6, the non-resident feature, of said act.

You are advised that under this feature of the act, proof may not be made in less than five years from this date, and may be delayed until seven years if you wish.

14. December 4, 1956: Notice of intent to make final proof².

I am now ready to prove up on this homestead. Please send the necessary forms and instructions to make final proof so the patent can be obtained.

15. December 7, 1956: Instructions for submitting intentions to make final

¹Ernest E. House, letter to applicant.

²Letter from applicant to Ernest E. House.

proof¹.

You should insert in these forms (Form 4-348) the name, titles and addresses of the officer before whom you wish to make proof. Such officer may be a clerk of a district court or a notary public within the State of Utah. You may, if you name a clerk of a district court, state, "Clerk of the District Court", and give the address. If you name a notary public, you must give both name and title, as "John Jones, Notary Public" and give the address.

You should also give the names and address of four witnesses who are familiar with the residence, improvements and cultivation upon the land. Only two need testify, but as none but an advertised witness may testify, should two be hindered from appearing there will still be two who are qualified to do so.

It will be necessary to obtain a report as to the mineral character of the land from the United States Geological Survey, Washington, D.C. Immediately upon receipt of the notices of intention, signed by you, this office will request such report, and when it is received by us, set a date for making proof, and issue notice for publication which will be forwarded to you with instructions as to its delivery to the proper newspapers, etc.

16. December 18, 1956: Notice of intentions to make final proof submitted by applicant to Karl R. Lyman, Notary Public, listed as officer. John D. Lewis, Ruel Randall, Alfred Frost listed as witnesses. Fourth witness is unknown.

17. May 24, 1957: Final Proof made before Karl R. Lyman, Notary Public, Monticello, Utah. Publication fee of \$25.00 paid to the San Juan Record, Monticello, Utah. Receipt and Final Proof papers submitted to Bureau of Land Management.

18. May 28, 1957: Acknowledgement of receipt of Final Proof papers¹.

You are advised that the State Supervisor has requested that final certificate be withheld until field investigation has been made and report submitted. When report of a field examiner is received in that office, action will be taken on your entry, of which you will receive due notice through this office.

19. July 16, 1957: Mineral Waiver required for potash and sodium².

The records of this office disclose a mineral application or

¹Ernest E. House, letter to applicant.

²Ed D. Cox, acting Manager, BLM, letter to applicant.

lease under the Mineral Leasing Act of February 25, 1920, (41 Stat. 437 30 U.S.C.181), as amended, in conflict with this entry and/or that the land has been classified as valuable for leasable minerals by the U.S. Geological Survey. It is necessary that a waiver of the mineral sought under the mineral lease be filed.

20. July 20, 1957: Mineral waiver for Potash and sodium signed and returned by applicant.
21. July 26, 1957: Advice of approval of homestead¹.

This is to advise you that today this office has issued a certificate covering the captioned case.

The papers will now be forwarded to the Bureau of Land Management, Washington 25, D.C., for issuance of patent if all be found regular. The patent will be transmitted from this office, upon receipt.

22. August 16, 1957: Receipt of land patent by Certified mail¹.

Enclosed is your Patent No. 1174006, conveying title from the United States of America to you, covering your homestead application, Serial No. S.L. 068743, issued August 9, 1957.

23. August 23, 1957: Acknowledgement of receipt of patent by applicant.
24. August 30, 1957: Patent No. 1174006 recorded by Arvilla E. Warren, San Juan County Recorded, in Book 194, page 292.

A study of this case discloses the time and details involved in obtaining a homestead. The application filed by Kent Smith Frost was pending for over 4 years before it was finally rejected. The application by Melvin Jesse Frost was in force over 10 years, from February, 1948 to August 16, 1957 before the patent was received.

The ultimate ownership of 320 acres of land with at least 228 acres of arable land² more than justified the inconveniences of homesteading. The applicant had 7 years (1952 through 1957) during which crops could be raised while the homestead procedure was being completed. Following a

¹Ernest E. House, letter to applicant.

²As reported in letter from applicant to Ernest E. House, Aug. 25, 1951.

system of summer fallow he has harvested an average of 100 acres of winter wheat per year. This case study provides a good illustration of homesteading in San Juan County in recent times.

CHAPTER V

LAND STATUS

Eighty Years of Occupancy

The total land area of San Juan County is approximately 5,045,760 acres¹. After 80 years of occupancy, 1880 through 1959, the land is controlled by 6 groups or agencies. The Federal Government with its four agencies, the Bureau of Land Management, National Park Service, Forest Service and Office of Indian Affairs, still controls 4,334,753 acres (1959) (see table 12).

TABLE 12.-- Land Status of San Juan County, Utah

Status	1949 ^a (acres)	1959 (acres)
Total land area	5,045,760	5,045,760
Privately owned	343,025	362,092 ^b
State and County land	210,906	210,906
Total Federal lands, 1949: 4,353,820 1959: 4,334,753 ^d		
Bureau of Land Management	2,696,867	2,645,916 ^c
National Park Service	2,984	2,984 ^d
Office of Indian Affairs	1,207,019	1,260,000 ^d
Forest Service	446,950	446,950 ^d
Not accounted for	138,009	115,912 ^d

^aReuss and Blanch, "Utah's Land Resources", Special Report 4, (Logan, Utah: USAC, June 1951), p. 50.

^bRalph Burtenshaw, San Juan County Assessor, interview, August 25, 1960.

^cKeith E. Norris, District Manager, BLM, Monticello, Utah, correspondence, August 30, 1960.

^dInterpolated.

¹U.S. Bureau of Census, "Utah and Nevada", Census of Agriculture:1950 (Washington: U.S. Gov. Printing Office, 1952), Vol. 31, p. 41.

Since the first white settlers began to occupy the land in 1880 there has been an increase in privately owned land and a decrease in public domain. At first the expanse of land now constituting San Juan County was administered by the General Land Office. As new agencies were formed and their duties defined they were assigned tracts of land as part of their administration.

One of the first large blocks of land to be placed under separate administration was the Navajo Indian Reservation (see Fig. 18). Originally the northern limit of the Navajo Indian Reservation was the Utah-Arizona state line. Expansion of Indian lands in San Juan County are described by Abijah Cook¹.

Executive Order of May 17, 1884 and signed by President Arthur, added lands in Arizona and Utah to the Navajo Reservation. Those lands in Utah were bounded by the 110th Meridian on the west, the Colorado State line on the east and the San Juan River on the north. The 110th Meridian passes through the Goosenecks of the San Juan River.

The Act of March 1, 1933, Public Law No. 403, transferred to the Navajo Indians all public domain in Utah south of the San Juan River, west of the 110th Meridian and east of the Colorado River. This section was known as the Piute Strip. This same act also transferred the land in the Aneth Extension to the Navajo Tribe. The Act of March 1, 1933 transferred about 30 townships or about 7000,000 acres to the Navajos. This is a very rough estimate. About 6 townships or 138,000 acres lie north of the San Juan River in the Aneth Extension. Except for the transfer on McCracken Mesa, made last year, no lands have transferred to the Indians since the Act of March 1, 1933.

In 1959 about 53,000 acres were transferred to the Navajo Indians for lands to be covered by Lake Powell. The exact acreage to be given to the Indians will not be known until the shore line has been surveyed, but it is expected that maybe another 5,000 acres may be transferred to the Indians.

Strictly speaking, the Ute lands in Allen Canyon are not a reservation but are individual allotments (Indian Homesteads) filed by individual Indians. There were about 4,000 acres patented in 1943, 360 acres in 1936 and 360 acres in 1923. In addition to the Indian lands in Allen Canyon, the Utes have about 9,000 acres on White Mesa south of Blanding, 680 acres

¹Abijah Cook, Lands Examiner, BLM, Salt Lake City, Utah, Correspondence, September 28, 1960.

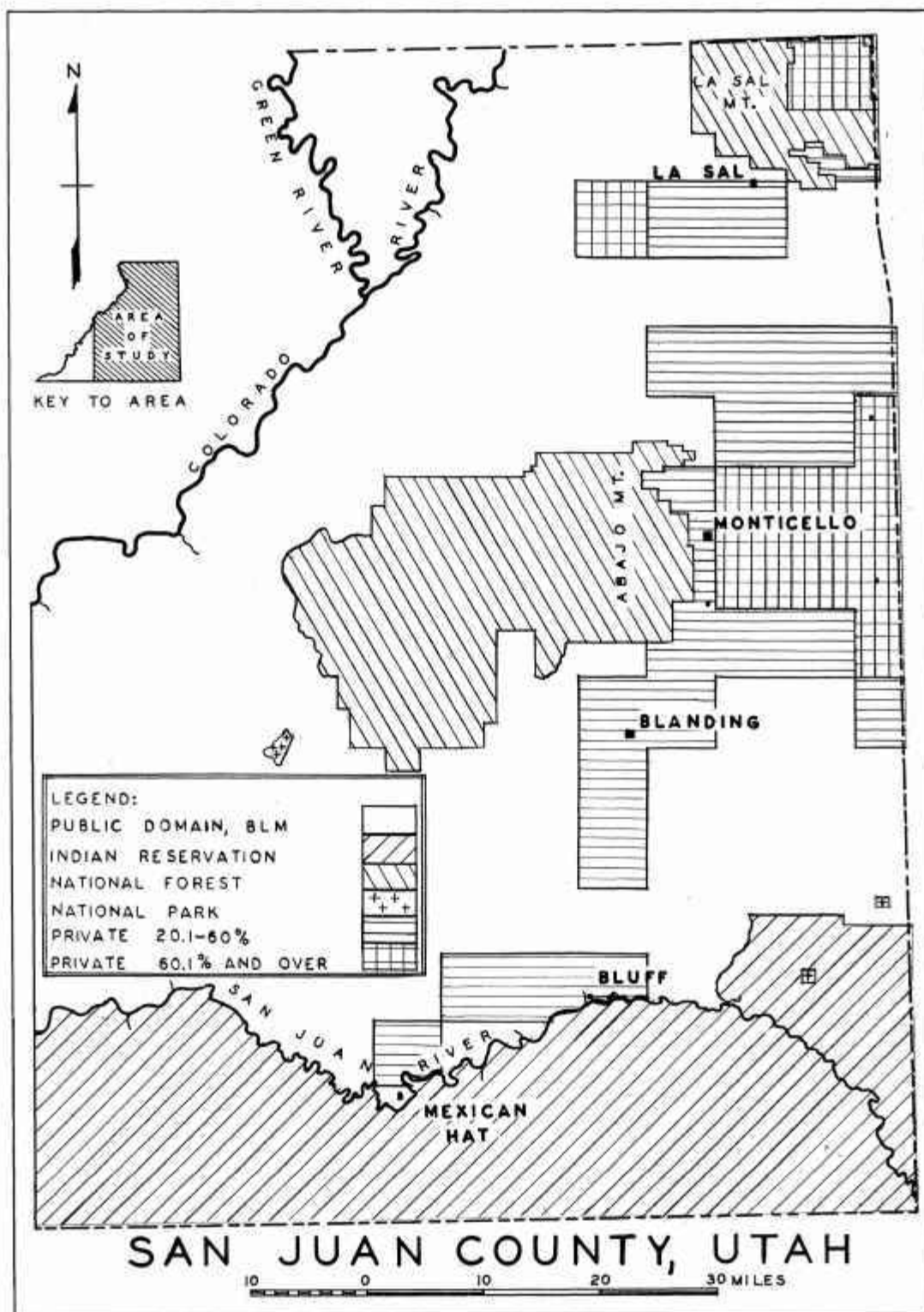


Fig. 18. Land status. Adapted from Reuss and Blanch, "Utah's Land Resources", 1951.

in Cross Canyon near the Colorado State Line, and 320 acres in Montezuma Creek near the Navajo Reservation.

In 1949 Indian lands in San Juan County amounted to 1,207,000 acres¹. Since that time they have been increased to approximately 1,260,000 acres.

The LaSal National Forest was established January 25, 1906 and the Monticello Forest Reserve was established February 6, 1907². Two years later the two were consolidated as the LaSal National Forest. On July 1, 1949 the name was changed to Manti-LaSal National Forest when the administration headquarters were moved to Price. The Forest Reserve in San Juan County contains 446,950 acres and has not changed¹ in the last 10 years³.

The National Park Service has jurisdiction over 2,984 acres of land. There are three separate National Monuments in the County. The Hovenweep National Monument occupies 174 acres, the Natural Bridges National Monument occupies 2,650 acres and the Rainbow Bridge National Monument occupies 250 acres. All of these tracts are in terrain unsuitable for agriculture so have not had any influence on homesteading.

State lands came into being when sections 2, 16, 32, and 36 of each township were reserved to the State of Utah by the Federal Government. San Juan County owned 280 acres of the 210,906 acres classified in 1949 as state and county owned lands⁴. These are also classified as range and grazing lands. Formerly state lands could be purchased, but the present policy of the Utah State Land Board is to retain ownership of their lands⁵. San Juan County recently appropriated 640 acres from the State of Utah on Dead Horse Point to be used as a designated recreational area.

¹Reuss and Blanch, p. 19. ⁴p.52. ⁵p. 35.

²Perkins, Nielson, Jones, p. 281.

³Glen W. Southwick, Administrative Officer, Uintah National Forest, Provo, Utah, interview, September 8, 1960.

The Bureau of Land Management has jurisdiction over the public domain not administered by other agencies or individuals and the area amounted to 2,696,867 acres in 1949. This part of the public domain is slowly decreasing as it is being taken up by homesteaders, purchased or appropriated by other agencies. Reuss and Blanch¹ reported in 1949 that 6,567 acres were in unperfected homestead entries and that 33,506 acres were reserved within the grazing districts. Losses since 1949 have been approximately 19,000 acres to private property and 53,000 acres² to the Navajo Indians.

The transfer of land from public domain to private ownership has been greater during the last decade than during any previous 10 year period since 1880. Since 1949 there has been an estimated 19,000 acres transferred to private ownership³. Most of this has been by homesteading. Because there are no more lands classified as being suitable for homesteading it is unlikely that there will be as rapid a change in land ownership during the next 10 years as there has been in the past 10 year period.

In 1949 there were 343,025 acres of privately owned land in San Juan County. An estimated 39,800 acres were crop land and 303,225 acres were range land. Of the crop land 8,500 acres were irrigated and 31,300 acres were dry-farm land⁴. There was an estimated 110,000 acres of known arable land⁵ leaving 70,200 acres of land that could be cropped that was still being used for grazing.

¹Reuss and Blanch, p. 20. ⁴p. 24. ⁵p. 31.

²Interpolated.

³Ralph Burtenshaw, San Juan County Assessor, Monticello, Utah, interview, August 25, 1960.

CHAPTER VI
SUMMARY AND CONCLUSIONS

Summary

The hope of the homesteader is that he can acquire ownership to a tract of land by living on it and improving it. Although the cash outlay is small, the land is not always cheap. Often the best years of a homesteader's life and his savings go into a homestead that may later be abandoned. Homesteading is a pioneering venture and is influenced by many factors that are often beyond the control of the homesteader. A study of the homesteading movement in San Juan County is also a study of the favorable and unfavorable factors that influenced it.

Periods and factors of influence.-- In reviewing the homestead movement it appears that it can be divided into 4 periods of activity. Each period is distinguished from the one preceeding or following by a different set of factors that influenced land occupancy. These periods are:

1. The early period, 1880 to 1909.
2. The new dry-farm period, 1910 to 1920.
3. The land abandonment period, 1921 to 1937.
4. The period of new farming methods and land expansion, 1938 to 1960.

The division into periods by dates is in some instances well defined and in others the dates are somewhat arbitrary. The homestead movement was accelerated or depressed in response to the factors that influenced it at different times. It must also be remembered that homesteading has been a continuous process in San Juan County from its beginning in 1880 to the present. During the land abandonment homesteaders continued to file

applications on the land but at a slower rate than it was being abandoned by former occupants.

The main factors that have influenced homesteading and land abandonment in San Juan County are:

1. The availability of land.
2. Transportation and isolation.
3. Schools and cultural benefits.
4. Wheat prices.
5. Farming methods and available power.
6. Precipitation.
7. Land laws and government policies.

Each period is analyzed on the basis of these factors and their influences during that period.

The early period, 1880 to 1909.-- The early period is characterized by homesteads of 160 acres or less and by irrigated farms. The beginning of the period is marked by the advent of the Mormon settlers and the beginning of agriculture in San Juan County. The end is marked by the passage of the Enlarged Homestead Act and the introduction of dry-farming methods.

The most favorable factor was the availability of farm land (see Fig. 19). Government land policies were also favorable to homesteading. Records are lacking for the precipitation and wheat prices so their influences on this period cannot be determined. The precipitation for 1905 to 1908 does indicate a higher than normal precipitation in the latter part of the period. Favorable reports resulted from the operation of the Experiment Station at Verdure and the high precipitation.

Isolation and poor transportation were the predominant unfavorable

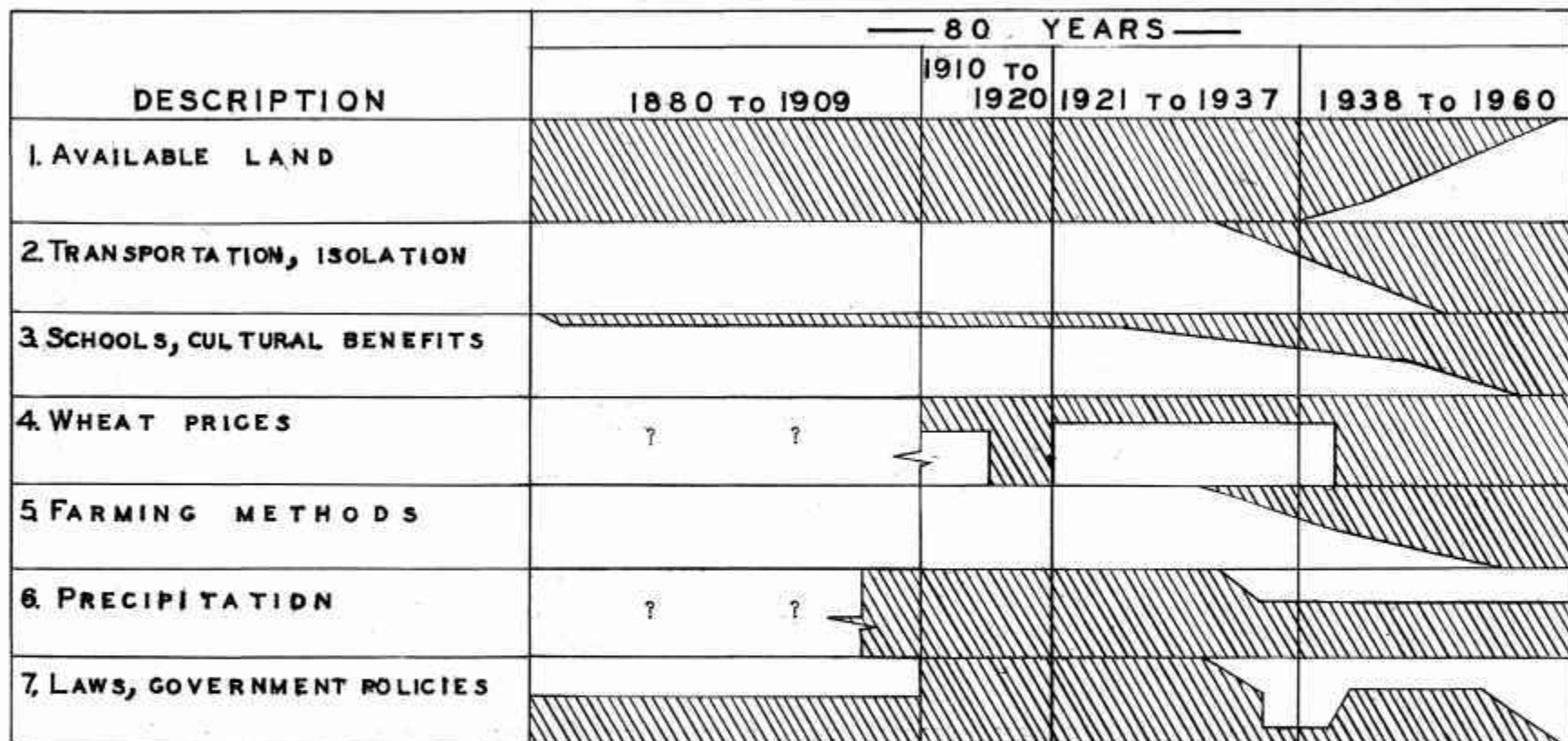


Fig. 19. Factors influencing land occupancy in San Juan County, Utah, 1880 to 1960.

Favorable factors  Unfavorable factors 

factors. Lack of cultural advantages, the use of horse-power and poor farming methods were also unfavorable factors.

The new dry-farm period, 1909 to 1920.-- This period is characterized by 320 acre homesteads on unirrigated lands and by the in migration of many homesteaders who settled the area east of Monticello. The beginning is marked by passage of the Enlarged Homestead Act and by favorable reports from the dry-land Experiment Farm. The end is marked by a sudden drop in wheat prices (see table 5, page 63) and the beginning of economic depression following World War 1.

The most favorable factors of this period were the availability of land, the introduction of dry-farming and the Enlarged Homestead Act. Wheat prices, precipitation and Government policies were also favorable factors. The area also received a lot of favorable publicity.

Isolation and poor transportation were still the predominately unfavorable factors. The lack of cultural benefits and the use of horse-power were also unfavorable to homesteading.

The land abandonment period, 1921 to 1937.-- This period is characterized by more land abandonment than land occupancy, by general economic depression and by restrictions imposed by the Taylor Grazing Act. There was no time, however, when homesteading stopped. The period began some time after World War I when wheat prices dropped and the general economic depression started. The termination of the period is placed rather arbitrarily in the late 1930s. when tax delinquent lands were being purchased and tractor-power was rapidly replacing horse-power.

The most favorable factor of the period was the availability of farm land. Schools, transportation and tractor-power were improving near the close of the period but were not significantly favorable until after 1937.

Depressed wheat prices (the economic depression) and the lack of mechanical power were probably the predominant factors favoring land abandonment. Government regulations imposed by the Taylor Grazing Act, poor roads, lack of cultural benefits, lower than normal precipitation and poor farming methods were also unfavorable to homesteading.

The period of new farming methods and land expansion, 1939 to 1960.-- This period is characterized by the use of mechanical power, new farming techniques and extensive land occupancy. Homesteaders have taken up all the land allowed by the Bureau of Land Management. The beginning of the period is marked by extensive use of mechanical power for farming, the rise of wheat prices and reoccupancy of the land. The period is terminated June, 1960 at the writing of this report. Whether this is a natural termination or just arbitrary remains to be seen. It appears that all available land has become occupied. There are, however, 45 approved homesteads that will take approximately 5 years to complete.

The most favorable factors of this period are the development of mechanical power, the availability of land for purchase or homesteading and the rise and stability of wheat prices. Other favorable factors are the improved transportation facilities, development of new farming techniques and improved schools. Land laws and Government policies were favorable during the fore part of the period, but have become unfavorable since 1957.

Unfavorable factors are lower precipitation and restricting Government policies. Precipitation for the whole period averaged less than the 52 year mean. The wheat allotment and Soil Bank Conservation Reserve program has encouraged farmers to quit farming and enter other occupations. The present attitude of the Bureau of Land Management against allowing

homesteads on marginal lands will prevent any more homesteading in San Juan County.

Conclusions

Homesteading in San Juan County, when compared to homesteading in other areas, assumes a unique position. It began after most of the favorable farming areas were occupied in Utah and it has continued up to the present time. Isolation and poor transportation have been the predominant retarding factors of land development. Ironically, this isolation also "saved" the land for relatively recent occupancy.

Sage brush covered lands east of Monticello on Sage Plain were at first only considered good for grazing. When dry-farm experiments demonstrated that crops could be grown on this land without irrigation it was occupied for homesteading and used for crop production. Most of the land above 6,000 feet elevation on Sage Plain has been taken up by homesteaders or has been purchased. It appears that the best farm land occupies a zone about 10 miles wide extending from Monticello southeast to the Colorado line. Farming has been more successful and crop production more dependable in the zone of the best farm land.

The mean annual precipitation for 52 years is 15.47 inches. The average annual precipitation has become progressively less since the beginning of the weather record. In the last 10 years it averaged 13.42 inches compared to 19.38 inches for the first 10 years.

Farming methods depended on horse-power until about 1930. Dry-farming with horses was not economically profitable. The use of tractor-power provided a better, faster and cheaper method of farming than with horses and revolutionized dry-farming in the County. Mechanized farming was well established by 1938 and provided the basis for reoccupancy of the land.

Using mechanized methods the farm units became larger than before and the number of operators fewer.

A close relationship exists between land occupancy and wheat prices. When wheat prices have been above average there is a desire to occupy the land, when below average there is a trend toward land abandonment. When prices are fairly stable the farm population is fairly stable as has been the case from 1942 to 1957.

Land has been available for homesteading up to the present time. The Bureau of Land Management has classified the unoccupied public domain that is left as "unsuitable for homesteading". For all practical purposes the homestead movement in San Juan County has now reached its end.

PROBLEMS

During the preparation of this report other problems have been encountered that have been interesting to the writer and would justify additional research. They could not be expanded further because of the limitations of this work. The problems are briefly mentioned here as suggestions for further studies on San Juan County.

1. A land use survey of San Juan County from the standpoint of farming, grazing, forest products, water sheds, mining, petroleum, scenic, and "waste lands".
2. Water resources, their use and potential development.
3. Implications of the Lake Powell withdrawals for the Navajo Indians.
4. Indian treaties and boundry disputes with the Ute, Piute and Navajo Indians.
5. Overgrazed lands, their extent and rehabilitation.
6. Location and types of archaeological sites in the County.
7. A study of tree ring chronologies to determine, if possible, pre-historic climatic cycles.
8. Population concentrations and movements.
9. Why young people emigrate from the County and where they go.
10. Reasons for lack of permanency in school teacher placements.
11. The flow of profits from the County. A study of profits made in the County and invested or spent elsewhere.
12. Office locations of business, mining and oil companies whose operations are in the County.
13. Tourist attractions in the County and how they could be more

effectively advertized and utilized.

14. A study of the high proportion of deaths in the County from accidents and violence.

15. Noxious weeds of the County, their distribution and control.

16. Mammals of the County and their economic importance.

17. A Guidebook of San Juan County.

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FACTORS THAT INFLUENCED HOMESTEADING AND LAND
ABANDONMENT IN SAN JUAN COUNTY, UTAH

An Abstract of
A Thesis
Presented to the
Department of Geography
Brigham Young University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

by
Melvin J. Frost
November, 1960

ABSTRACT

Homesteading in San Juan County, Utah is for the most part, located on Sage Plain at elevations between 6,000 to 7,200 feet. Sage Plain is an undulating surface deeply dissected with canyons. The soil is relatively shallow and the predominant vegetation is pinyon, juniper, sage brush and blue-stem grass.

The 52 year mean precipitation is 15.47 inches. Since the beginning of weather records there has been a noticeable decrease in the annual precipitation. There is generally sufficient moisture to mature winter wheat. Pinto beans are also grown in the more favorable locations.

Principle factors that have influenced homesteading and land abandonment are: (1) availability of land, (2) transportation and isolation, (3) schools and cultural benefits, (4) wheat prices, (5) farming methods, (6) precipitation and (7) laws and government policies.

The 80 years of land occupancy (1880 to 1960) are divided into 4 periods: (1) the early period (1880 to 1909), (2) the new dry-farm period (1910 to 1920), (3) the land abandonment period (1921 to 1937) and the period of new farming methods and land expansion (1938 to 1960).

In the early period the homesteads were less than 160 acres and were dependent upon irrigation. The first settlers began occupying the area in 1880. They located on canyon bottoms near sources of water. These first homesteads were generally bases of operations for livestock outfits.

A new dry-farm period began in 1909. Land occupancy was favored during this period by passage of the Enlarged Homestead Act, higher than normal precipitation and many favorable reports on the possibilities of

dry-farming. There resulted a rapid occupancy of the land on Sage Plain east of Monticello. During this 10 year period approximately 350 homesteaders received patents to their land.

A period of land abandonment began soon after World War I. Wheat prices dropped drastically and remained low during the national economic depression. Homesteaders continued to file applications on the land, but at a slower rate than it was being abandoned by former occupants. Between 1921 to 1937 many of the abandoned homesteads reverted to San Juan County and were sold for delinquent taxes. For example, in 6 years (1935 through 1940) there were 132 homesteads (land parcels) sold for delinquent taxes compared to 124 land patents issued in 10 years (1931 through 1940). Isolation, low wheat prices, poor schools, poor farming methods and government regulations imposed by the Taylor Grazing Act contributed to land abandonment and reduced homesteading during the period. As a result of this land abandonment and tax sales many of the present operators acquired their large acreages.


The period from 1938 to the present is characterized by new farming methods and extensive land occupancy. Mechanized farming, stabilized wheat prices and improved transportation facilities have favored use of the land. Practically all of the suitable dry-farm land has gone to private ownership through homesteading or public sales. In the last 9 years 160 homestead applications have been allowed and 166 land patents have been recorded. There are still 45 approved homesteads that are in the process of completion.

The Bureau of Land Management has been rejecting most of the recent homestead applications because the land is classified as unsuitable for farming. Unless unforeseen circumstances develop to encourage homesteading

on the remaining marginal lands, the movement will soon be ended in San Juan County.

APPROVED:


Committee Chairman.


Committee Member.


Committee Member.