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International Management of Tuna, Porpoise and Billfish: Biological, Legal, and Political Aspects, J. Joseph and J. Greenough

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INTERNATIONAL MANAGEMENT OF TUNA, PORPOISE, AND BILLFISH: BIOLOGICAL, LEGAL, AND POLITICAL ASPECTS

By J. JOSEPH and J. GREENOUGH
Seattle: University of Washington Press. 1979. Pp. 253. $20.00.

Joseph and Greenough's book will evoke strong feelings in its readers. Laymen unfamiliar with subtle and often unstated economic concepts will be frustrated by its vagueness, conservationists appalled by its bias for the fishery industry, and policymakers irritated by the lack of proof that the policy solutions outlined in the book are either effective or equitable. Nonetheless, it should be required reading because it presents as no other book has the attitudes and ideals that dominate the efforts of fisheries economists. As a consequence of the book's length and elaborate detail, readers will find an expert appraisal of the complexity of fishery resource management. Concepts like maximum sustainable yield, maximum net productivity, equity, and efficiency are interwoven with the realities of international conflict.

The book presents a background of tuna management efforts and a survey of conventional common property resource issues. The authors describe six distinct tuna conservation options:

1) Control to 200 miles by individual coastal states;
2) Extension of the present Pacific overall quota system;
3) Open access management with participant fees and resource adjacency allocations;
4) Regional coalitions;
5) Total allocation of the resources;
6) Resource allocation by competitive bidding.

The authors insist that theirs is an economic approach. In almost every case, however, they ultimately judge a management option on the basis of political accommodation. The political aspects overwhelm the economic theory and obscure biological relationships that may be vital to both the survival of the porpoise and the viability of the tuna fishery.

Much of the analysis actually is elaborate, though informed, speculation by the authors, as if thinking aloud—"suppose that allocations are reduced . . . suppose also that 200-mile fishing zones are phased out . . . low license fees do not appear likely . . . if fees were very low, however . . . ," etc. The authors are concerned with income dis-

tribution from tuna profits. But we are left in a vacuum when it comes to deciding on proper management because we are not given any information on the basis for tuna "ownership" except as a function of coastal boundary length, population, or historic harvest. Is last year's American tuna harvest a measure of our equitable harvest share? Are past injustices to be redressed? Can tuna equity be decided without reference to other resource exploitation and social injustice?

Most dramatically absent is a discussion of the vital role porpoise play in reducing yellowfin tuna fishing cost. The deep-swimming tuna choose to follow the surface swimming porpoise. Tuna fishers spot the porpoise, herd them into a group with speedboats, encircle them with deep nets, and draw the catch on board. If the porpoise stock is threatened, the costs of tuna harvest would skyrocket despite the actual tuna population or tuna reproductive rate. Fishers have some incentive to release the porpoise from the nets to avoid the time consuming task of untangling the dead animals from the net, but conserving the porpoise to faciliate later harvest is a weak incentive. Like other actions that cost the individual but benefit the community, conservation is not pressed. Very little is known about tuna-porpoise association. If genetically determined behavior (idiotypic) causes only a portion of a porpoise species to associate with tuna, these special and useful porpoise all could be killed while the abundance of similar looking porpoise concealed the extinction. The authors describe the porpoise dilemma in a separate chapter, but fail to incorporate these concerns in their policy discussions.

The authors hold that management is assured only by international agreement because tuna are highly migratory. The worst consequences of bad management are a depleted tuna stock or a threatened porpoise stock. Joseph and Greenough presuppose that a combination of countries would support a fleet so effective that tuna and porpoise would be harvested beyond the economically and ecologically justifiable intensity, even if boats would fish only in their own national waters, or more than 200 miles from shore.

It is equally possible that 200 mile limits and national management would reduce the overall tuna fishing effort and change the type and scale of the fishing technology. For example, slower, more energy efficient, boats operating within national waters could capture the harvest over the entire year, in contrast to the current regulation that encourages high speed, capital intensive fleets that harvest the annual yellowfin quota within months of the season's opening. Hasty harvest may cause fishers to be careless in porpoise protection.

Because there is no proof that the current tuna harvest has allowed tuna populations to reach optimal levels for maximum economic yield, it is impossible to rule out the potential benefit of reducing current harvest. Increased tuna populations would reduce harvest effort, and might enhance porpoise protection by the easier harvest.

The book raises important questions. Read it as a critique of fisheries economics, and as an occasion to test your own ability to think problems out.

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