

The Economics of Marine Resources and Conservation Policy The Pacific Halibut Case Study with Commentary

James A. Crutchfield and Arnold Zellner (eds), 2003.
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PART 1 of this two-part volume is a reprint of Crutchfield and Zellner's pioneering work on the economic theory of regulation in marine resources (with special reference to the Pacific Halibut fishery), first published in 1962 by the U.S. Department of the Interior. The original publication quickly went out of print and, although some individual analyses from the study were published in academic journals, the volume in its entirety was not reprinted, and thus has been unavailable to most people. The reprint of the original study is followed in Part 2 with a commentary, where leading contemporary resource and environmental economists comment on the original study's relation to general developments in the field since. Commentaries are made by David Zilberman (University of California, Berkeley), Anthony Scott (University of British Columbia), James E. Wilen (University of California, Davis) and Frances R. Homans (University of Minnesota). The volume concludes with a recent history of the International Pacific Halibut Conservation Program by Donald McCaughran, which includes the current impact of conservation measures and policy recommendations originally made by Crutchfield and Zellner.

The original study by Crutchfield and Zellner is remarkable in a number of ways. First, the study draws from a rich data set, allowing greater reliability and coverage than is normally available in fishery research. The richness of the data set and thoroughness of the analysis contributed to a study that helped establish the methodological foundation and quality standards in environmental and resource economics, a field that did not really emerge until a decade after the study's initial publication. A second remarkable feature of the study is the longevity of its academic contribution to conceptual modeling and policy analysis. True, there are many extensions that can be made to the analysis as a result of more recent developments. However, forty years after its initial publication, the methodology is still relevant.

During these forty years, resource economists have debated the merits of market focused regulations. Crutchfield and Zellner outline the economic advantages, *ex post*, of such price-oriented regulations, a view that is largely upheld today, but has been intensely debated over the last forty years. In his closing chapter, McCaughran notes that most of Crutchfield and Zellner's policy recommendations were later accepted by professional fisheries managers. McCaughran's positive assessment of the current and future prospects of the fishery is a breath of fresh air when compared to current assessments of many other fisheries.

A third remarkable feature of the study is its number of analytical and empirical innovations. Zilberman notes that it was the first study that tested the conceptual models of population dynamics within an economic framework. Wilen and Homans note that these tools of optimal control theory were "discovered" again roughly a decade later as Crutchfield and Zellner's results were not widely known. Wilen and Homans also exert that Crutchfield and Zellner's analysis of the ex-vessel market for raw halibut is "one of the first econometric investigations ever done examining the mechanisms of price determination in a fishery — and still the most thorough".

This book provides scholars of natural resource and environmental economics with the opportunity to study a thorough and innovative piece of work, that perhaps has not received the acknowledgement it deserves. The work is an example for economists and policy makers, suggesting that empirical investigation of reforms can lead to a deeper understanding of performance and substantial improvement in policy design. With the over-exploitation of so many of the world's fishery resources in the forty years since Crutchfield and Zellner's work was first published, more studies with this level of innovation, thoroughness and practical influence are needed. That such eminent resource and environmental economists comment on the analysis is a credit to the editors. These commentaries provide a useful bridge between the original study and the developments that have been made since.

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