Raw fish, Boatfulls of Bureaucrats, Sloppy Scientists:

A Study of the Bluefin Tuna Fishery

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INTRODUCTION

Growing demand for protein for human consumption has led to heavy exploitation of many fish stocks. Trends in catch statistics since the fifties give evidence of increasing fishing pressure. The world catch of fish, both freshwater and oceanic, doubled between 1955 and 1965 (Butler 1982). World catch fell for the first time in 1969, increased sharply in 1970, and growth since then has been "both erratic and slow" (Robinson 1980). Consumption patterns also reflect increasing utilization of fish stocks. Consumption of tuna in the United States doubled every decade from 1920 to 1970 (Butler 1982). Fishery experts vary in their estimates of the potential for increased yields from the sea. Sharp declines in populations of biologically diverse species such as the Peruvian anchovy, Antarctic blue whales, and eastern Atlantic herring together with evidence of severe overfishing in these and many other stocks are warnings that increasing yields from presently exploited species may not be possible and decreasing yields are likely unless wise management is implemented. There is clearly a need for better management of fishery if these resources are to continue to provide high yields of protein for the world's growing population.

In this paper I examine the bluefin tuna fishery as a case study of fishery management. I will explain and criticize the management decision-making process, propose alternatives, and suggest directions for future research. My comments will focus on the management of the biological resource but I will also consider

economic and political problems that face fishery managers.

Bluefin tuna are harvested for sale in Japanese and United States markets as the Japanese delicacy Sashimi, or raw fish. Bluefin inhabit both the Atlantic and the Pacific but only the Atlantic population will be considered in this paper. Bluefin is harvested by vessels from as many as forty nations but Japan and the United States catch the majority of Atlantic bluefin. Prior to the sixties, prices paid for Atlantic bluefin were low and the species was fished for sport or harvested as incidental catch by vessels pursuing other tuna species. With the increase in jet transport and the introduction in 1958 of the purse seine with a power block, a gear modification that made possible the efficient harvest of large numbers of schooling fish, it became possible to deliver fresh bluefin from Atlantic ports to markets in Japan, where fresh bluefin sells for $6.80 per pound wholesale or $24 per pound retail in Japanese raw fish bars.Prices paid to fishermen rose, with the Japanese paying ten times the $1,000-$3,000 paid for frozen tuna of other species (Butler 1982). Companies were formed to distribute and market bluefin, and a fishery directed specifically toward bluefin became economically viable. Total catch of bluefin in the entire Atlantic amounted to 330,000 fish in 1960, rose to a high of slightly more than 2 million in 1975, and has fallen to just over 600,000 in 1979, the most recent year for which catch statistics are available (Parrack 1981). The trend is similar in the western Atlantic, the subset of the total that I will examine in the remainder of this paper, with catches of 13,000 in 1960, 310,000 in 1975, and 76,000 in 1979 (Parrack 1981). This reduction in harvest since 1975 is partially due to implementation