ISSUE 7. Separate (Numerical OY) Management for Northern Jack Mackerel

Interest in a joint venture target fishery for large jack mackerel (Trachurus symmetricus) in 1983 spurred the Council to reconsider the management strategy for this segment of the stock. Jack mackerel taken north of 39° N. latitude (referred to as northern or large jack mackerel) are currently managed in the FMP in the multi-species complex of groundfish. The multi-species complex does not have a numerical designation of OY. By definition, fish in this complex are too closely associated to allow a major foreign or joint venture target fishery on any one species without harvesting unacceptably high levels of other species which are fully utilized by domestic shore-based processors. As a result, there currently are no estimates in the FMP for joint venture processing (JVP) or for total allowable levels of foreign fishing (TALFF) for jack mackerel. In this amendment, the Council is examining whether the segment of jack mackerel taken north of 39° N. latitude is more appropriately managed with a numerical OY and thus potentially available for joint venture or foreign exploitation.

Background

Jack mackerel range widely throughout the northeastern Pacific. Small jack mackerel (generally smaller than 457 mm in fork length and no more than 8-years-old) typically are found near the coast and islands and over shallow banks, and appear to be most concentrated in the California Bight. Older, larger jack mackerel are generally found offshore, only rarely appearing in inshore waters to the south. The relationship between the offshore (large fish) and onshore (small fish) components of the population is uncertain. Each segment is exploited by very different fishing operations; small jack mackerel are taken predominantly in the wetfish purse seine fishery (in association with non-groundfish species), whereas large jack mackerel are available to trawl and other gear and have been taken incidental to Pacific whiting fisheries. Accordingly, only the segment of jack mackerel north of 39° N. latitude is covered by the FMP.

Status of Stocks. The MSY is not well defined for the jack mackerel population. The ABC for the northern component of jack mackerel is set in the FMP at 12,000 mt, at the low end of the 12,000-27,000 mt approximation of MSY. It is appropriate to set ABC conservatively. The MSY estimate is tentative at best and the interactions between large and small jack mackerel and their roles in the ecosystem are uncertain.

Exploitation. Foreign fishermen had the opportunity to target on large jack mackerel in 1977 and 1978 when the TALFF was set at 4,000 mt under the Preliminary Fishery Management Plan (PMP). Only half the TALFF of large jack mackerel was harvested in the most productive year. It is unclear whether unfavorable markets, fish availability, non-selective fishing, or other more desirable fisheries dampened the foreign interest in targeting on jack mackerel. After 1978 these fish only were taken incidentally to other fisheries. Lack of information and minimal demand for northern jack mackerel explain its inclusion in the multi-species complex in the FMP. However, the experience of the foreign directed fishery on large jack mackerel indicates that this segment may be harvested selectively and may be appropriately managed separately and assigned a numerical OY.

In 1983, a joint venture company requested an allowance of 6,500 mt of large jack mackerel. Although a JVP allowance could not be designated without a numerical OY, the Council recommended an interim measure until this amendment could be analyzed. This interim recommendation proposed increasing the incidental retention percentage for jack mackerel taken in the Pacific whiting joint venture to 10% which would raise the overall joint venture retention allowance to 10,000 mt. This request subsequently was withdrawn although some interest continues. To date, northern jack mackerel have not been available for JVP, and retention of incidentally caught jack mackerel has been well below levels allowed in the FMP.

The domestic shore-based fishery for northern large jack mackerel is not significant; slightly over 150 mt were landed in 1982. Most domestic catches of northern jack mackerel have been incidental to trawl and troll operations (domestic effort has been concentrated in the purse seine fishery for small jack mackerel, predominantly in the Conception area, south of 36° N. latitude). Major development of the shore-based jack mackerel fishery north of the Conception area is not anticipated in the near future.

Options

Option 1. (Status quo.) Multi-Species Management of Northern Jack Mackerel

Option 1 assumes that northern jack mackerel is not appropriate for single species management because it is not harvested selectively to any major extent or because data are insufficient. It also assumes that adequate management of this stock is possible through the points of concern mechanism outlined in the FMP, and that it may be preferable in some instances to allow fishing above ABC. This option also reserves the jack mackerel harvest for shore-based operations alone.

Option 2. Separate (numerical OY) Management for Northern Jack Mackerel

Option 2 assumes that northern jack mackerel can be harvested selectively and that data are adequate to inititate single-species management.

Under Option 2, a numerical OY is assigned and TALFF and JVP would be determined annually (near January 1) and reevaluated mid-season (near August 1 as is done for other numerical OY species). A JVP allowance could be designated only for that amount of OY surplus to the needs of shore-based processors. A TALFF could be allowed only for that amount of OY surplus to the needs of the domestic industry, shore-based and joint venture. If a TALFF were designated, a reserve set at 20% of the OY would be established to allow for uncertainties in estimates of stock size and domestic needs by providing a buffer for the domestic industry should its needs exceed initial estimates.

Initially OY would be equal to the ABC specified in the FMP (12,000 mt) in order to test the appropriateness of ABC. Domestic annual processing (DAP) initially would be set at 2,000 mt (ranging from 0 to 12,000 mt) as determined by the July 1983 in-season survey of shore-based processors. JVP initially would be set at 10,000 mt based on the management measure proposed by the Council (in March 1983) to allow an incidental retention allowance of 10% (10,000 mt) for jack mackerel taken in the Pacific whiting joint venture. Incidental retention percentages initially would be the same as for the

Pacific whiting joint venture but could be modified according to 50 CFR 611.70(d)(3) (and thus, when better data are available, could differ from incidental percentages in the whiting joint venture). The incidental percentage for Pacific whiting initially is set at 3% (the same as for jack mackerel taken in the Pacific whiting joint venture fishery) and also may be modified according to 50 CFG 611.70(d)(3). Because OY would be assigned entirely to domestic fishermen, no foreign fishing would be allowed in 1984 (TALFF = 0). Differences in the initial distribution of OY under Options 1 and 2 are compared in Table 7-1.

Table 7-1. Specifications for jack mackerel taken north of 39° N. latitude (in metric tons).

	Option 1 (Status quo)	Option 2
MSY	12,000 - 27,000	12,000 - 27,000
ABC	12,000	12,000
OY	All taken with legal gear	12,000
DAH	All taken with legal gear	
Range	-	0 - 12,000
1984 season	-	12,000
DAP	All taken with legal gear	
Range	-	0 - 12,000
1984 season	-	2,000
JVP	None	
Range	-	DAH minus DAP
1984 season	-	10,000
TALFF*	None	
Range	-	OY minus (DAH and reserve)
1984 season	-	0

* If TALFF is available, a reserve of 20% OY would be established to assure domestic needs may be met.

Impacts

Neither option will have significant or negative biological impacts on the resource or harm the environment. The direct biological impacts are related to the concept of quota management. With a non-numerical OY (Option 1-status quo), jack mackerel landings would not be limited by a quota and potentially could be fished at levels above ABC and MSY. Exceeding the ABC of some species and underfishing others is an inherent aspect of multi-species management which aims to obtain optimum productivity from the complex as a whole. By removing jack mackerel from the multi-species complex (Option 2), a quota

(OY) is established which may not be exceeded. Because OY equals ABC, and is set at the conservative end of the MSY range, achievement of OY should have no direct, negative repercussions on productivity of the jack mackerel resource.

Indirect biological effects of Option 2, although not known with certainty, are expected to be slight, with no negative impact on any other resource. Expansion of any fishery involves higher levels of incidental catches than if the fishery were not expanded. The incidental percentages used in the foreign and joint venture fisheries for Pacific whiting would be used until better data become available. (Even though TALFF was designated in 1977-78, the amounts of jack mackerel taken in the target fishery cannot be separated from those taken incidental to the foreign whiting fishery. Thus, estimates of incidental catches in a jack mackerel target fishery are not available from those years.) By applying these percentages to the entire OY it is clear that the magnitude of incidental catches would be kept at biologically insignificant levels (Table 7-2). Although incidental percentages for this joint venture would apply to retention rather than receipt, large discards of incidental species are not expected.

Table 7-2. Incidental allowances[1/] associated with foreign or joint venture target fishery on jack mackerel north of 39° N. latitude (Option 2) (in metric tons).

	Species	OY	Incidental Retention Percentage	Incidental Allowance
Target:	Jack mackerel	12,000	-	-
Incidental:	Flatfish	Non-numerical	0.1%	12
	Pacific ocean perch	1,550	0.062%	7
	Rockfish (excluding POP)	Non-numerical[2/]	0.738%	89
	Sablefish	17,400	0.173%	30
	Other fish	Non-numerical	0.5%	60
	Pacific whiting	175,500	3.0%	360

1/ Foreign allowances based on receipt; joint venture allowances based on retention.
2/ The harvest guideline quota in 1983 was 18,500 mt.

Option 2 also could indirectly effect the management of other species. Northern jack mackerel currently have an ABC of 12,000 mt, 12% of the summed ABC for the multi-species complex (those species without a numerical OY), and almost half the ABC for "other fish" within the multi-species complex. Exclusion of northern jack mackerel from these summed ABCs allows more realistic harvest guidelines for the other species in the multi-species complex.

The major socio-economic difference between the two options is one of fishing opportunity; Option 2 would allow the possibility of joint venture target fishing on northern jack mackerel and Option 1 would not. Joint venture operations would be considered only after shore-based domestic needs are met and

would be within OY. Successful joint venture fisheries would encourage development of new markets and provide employment for domestic fishermen. Traditional groundfish resources are nearly fully utilized, and alternate fisheries are needed. Neither option precludes development of a shore-based fishery for northern jack mackerel. In fact, refinement of the fishing technology through experience in the joint venture may make this underutilized resource more attractive to shore-side processors.

Option 2 also would open the door to potential foreign fishing but only if OY were surplus to domestic needs. A TALFF was designated in 1977-1978 but was not enthusiastically exploited. There is no indication that TALFF would be available in the foreseeable future.

As many as 20 U.S. mid-water trawlers annually have been involved in the Pacific whiting joint ventures and some of these vessels are likely to be involved in a new fishery for northern jack mackerel should markets develop. The ex-vessel price for jack mackerel taken in joint ventures has not been established. However, if it is assumed that the entire JVP of 10,000 mt is taken, and the 1982 average shoreside price of $0.086 lb. is paid, then a maximum of $1.89 million in ex-vessel revenues could be realized by the domestic joint venture fleet. The gear type (pelagic trawl) and area (north of 39° N. latitude) are the same as for traditional foreign and joint venture fisheries for Pacific whiting. The fishing effort, number of processing vessels, and days on the grounds are expected to be substantially less, however, well below the levels of foreign involvement in the Pacific whiting fisheries. Allowances are set, as for the Pacific whiting fisheries, to limit catches of incidentally caught fish. Grounds preemption, gear conflicts, and incidental catches from a new joint venture fishery on northern jack mackerel are not expected to impede other domestic operations.

Both options are compatible with the FMP, but Option 2 would be more consistent with the FMP's definition of a numerical OY if, in fact, jack mackerel can be caught selectively. The FMP assigns a separate numerical OY to species which are usually harvested selectively. Northern jack mackerel had been included in the multi-species complex because, at the time of FMP development, most of the recorded landings were taken incidental to other groundfish fisheries. However, if northern jack mackerel can be selectively harvested, and interest in doing so exists, separate management is consistent with the management regime for other species established in the FMP. Designation of a numerical OY (Option 2) allows controlled development of an underexploited resource about which relatively little is known. Data obtained from an expanded and controlled fishery should improve the MSY and ABC estimates for northern jack mackerel without jeopardizing the productivity of any resource. Large-scale directed joint venture fishing as allowed under Option 2 could provide fishery and biological information which otherwise are difficult to obtain.

Interaction with Other Amendment Issues: There is no interaction between Issue 7 and other issues considered in this amendment.

Recommendation: The Council preferred Option 2.