


MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke   
Executive Director

DATE: September 19, 1995

SUBJECT: Pacific Ocean Perch (POP) Rebuilding

ESTIMATED TIME 6 Hours (for all D-4 items)
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**ACTION REQUIRED**

Initial review of plan amendment to revise the rebuilding schedule for Pacific ocean perch.

**BACKGROUND**

Decline of the Pacific ocean perch (POP) stock since the early period of the foreign fishery prompted the Council to request an analysis of alternative rebuilding strategies for POP. This analysis was presented as Amendment 32 to the Fishery Management Plan for the Groundfish of the Gulf of Alaska (GOA FMP) in 1993. The Council adopted a particular rebuilding strategy, based on available biological and economic information. This rebuilding plan contains an algorithm, specified in the FMP, for determining the total allowable catch (TAC). The amendment does not provide for any flexibility in setting the TAC at a level other than that which is dictated by the algorithm.

The Council has expressed concern that the TAC level in a given year, as specified in the FMP, could be high enough to allow a directed fishery which may potentially jeopardize the continued rebuilding of POP populations. The attached draft environmental assessment examines the impacts associated with establishing the current TAC specification as the upper bound and allowing some flexibility in setting a lower TAC for POP.

Two alternatives are considered for initial review:

**Alternative 1:** Status quo. Maintain the current procedure for specifying the annual TAC amounts for POP as detailed in the FMP. The current means of calculating the TAC was part of the policy alternative adopted by the Council under Amendment 32, the Rebuilding Plan.

**Alternative 2:** Amend the FMP to allow the Council to specify a POP TAC *at or below* the amount dictated by the Rebuilding Plan.

The current TAC calculation would be the upper limit and the POP TAC could be annually specified at or below this level. This would allow the Council, for example, to adjust the TAC to provide only enough POP to supply bycatch needs in other fisheries. Available scientific information concerning the status of the stock, received from the Plan Team, the Scientific and Statistical Committee, and other appropriate sources, would be the established criteria for adjusting the TAC downwards.

### Summary of Current FMP Rebuilding Plan for POP TAC

The FMP establishes the procedure for deriving the annual GOA TACs for POP. POP stocks are considered to be rebuilt when the total biomass of mature females is equal to or greater than  $B_{MSY}$  (estimated to be about 150,000 mt). Annual TACs of Pacific ocean perch are determined as follows:

- (a) Determine the current and target biomass and optimal fishing mortality rate. For purposes of this rebuilding plan, the target biomass is  $B_{MSY}$ , the total biomass of mature females that would produce the maximum sustainable yield, on average. The optimal fishing mortality rate is the rate that maximizes expected biological and economic yields over a range of plausible stock-recruitment relationships.
- (b) Determine the fishing mortality rate halfway between the optimal fishing mortality rate and the fishing mortality rate estimated to be sufficient to supply unavoidable bycatch of Pacific ocean perch in the Gulf based on 1992 bycatch.
- (c) When the current biomass of mature females is less than  $B_{MSY}$ , adjust the resultant fishing mortality rate in (b) by the ratio of current biomass to  $B_{MSY}$ . When  $B_{MSY}$  is attained, the fishing mortality rate will be the optimal fishing mortality.
- (d) The TAC of Pacific ocean perch is the amount of fish resulting from the adjusted fishing mortality rate.
- (e) The TAC is apportioned among regulatory areas in proportion to POP biomass distribution.

### Note on Stock Assessment for 1996

The Gulf of Alaska SAFE shows a preliminary 1996 estimate of 125,704 mt for spawning female biomass. This number may be adjusted after SSC review in December, but as it now stands is equivalent to about 84% of the rebuilding plan goal of 150,000 mt. This continues an upward trend from 75,486 mt in 1994 and 116,334 mt in 1995. The spawning female biomass of 125,704 mt would lead to a team-recommended ABC of 8,060 mt in 1996 (compared to 6,530 mt in 1995), and a TAC of 6,959 mt (compared to 5,630 mt in 1995).

**DRAFT FOR COUNCIL REVIEW**

**Environmental Assessment and Regulatory Impact Review  
of Alternatives to Modify the Rebuilding Plan  
Established for the Gulf of Alaska Pacific Ocean Perch Fishery**

**Prepared by  
National Marine Fisheries Service**

**September 1995**

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## Executive Summary

Decline of the Pacific ocean perch (POP) stock since the early period of the foreign fishery prompted the North Pacific Fishery Management Council (Council) to request an analysis of alternative rebuilding strategies for POP. This analysis was presented as Amendment 32 to the Fishery Management Plan for the Groundfish of the Gulf of Alaska (GOA FMP) in 1993. The Council adopted a particular rebuilding strategy, based on available biological and economic information. This rebuilding plan contains an algorithm, specified in the FMP, for determining the total allowable catch (TAC). The amendment does not provide for any flexibility in setting the TAC at a level other than that which is dictated by the algorithm.

Concern exists that the TAC level in a given year, as specified in the FMP, could be high enough to allow a directed fishery which may potentially jeopardize the rebuilding of POP populations. This document examines the impacts associated with establishing the current TAC specification as the upper-bound limit and allowing some flexibility in setting a TAC amount for POP that is lower than that limit.

Two alternatives are considered:

**Alternative 1:** Status quo. Maintain the current procedure for specifying the annual TAC amounts for POP as detailed in the FMP. The current means of calculating the TAC was part of the policy alternative adopted by the Council under Amendment 32, the Rebuilding Plan.

**Alternative 2:** Amend the FMP to allow the Council to specify a POP TAC *at or below* the amount dictated by the Rebuilding Plan.

The current TAC calculation would be the upper-bound limit and the POP TAC could be annually specified at or below this level. This would allow the Council to adjust the TAC to provide only enough POP to supply bycatch needs in other fisheries. Available scientific information concerning the status of the stock, received from the Plan Team, the Scientific and Statistical Committee of the Council and other appropriate sources, would be the established criterion for adjusting the TAC downwards.

Economic impacts do not result directly from either alternative. Alternative 2 does not mandate that the Council take a particular action, it only provides the opportunity for the Council to recommend POP TACs at any level. The Council has flexibility to establish TACs for species other than POP, providing that it adequately justifies recommendations to set a TAC below the acceptable biological catch (ABC).

The estimated wholesale processed product value of the 1995 directed fisheries was about \$5.9 million. POP contributed about \$2.6 million to the value, other rockfish approximately \$1.5 million, and sablefish bycatch about \$1.6 million. The majority of this catch would likely not have been made if POP had been placed on bycatch only status in 1995.

### 1.0 INTRODUCTION

The groundfish fisheries in the Exclusive Economic Zone (EEZ) (3 to 200 miles offshore) off Alaska are managed under the Fishery Management Plan for the Groundfish Fishery of the Gulf of Alaska (GOA FMP) and the Fishery Management Plan for the Groundfish Fisheries of the Bering Sea and Aleutian Islands Area (BSAI FMP). Both FMPs were developed by the North Pacific Fishery Management Council (Council) under the Magnuson Fishery Conservation and Management Act (Magnuson Act). The GOA FMP was approved by the Secretary of Commerce and became effective in 1978 and the BSAI FMP became effective in 1982.

Actions taken to amend Fishery Management Plans or implement other regulations governing the groundfish fisheries must meet the requirements of Federal laws and regulations. In addition to the Magnuson Act, the most important of these are the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), Executive Order (E.O.) 12866, and the Regulatory Flexibility Act (RFA).

NEPA, E.O. 12866 and the RFA require a description of the purpose and need for the proposed action as well as a description of alternative actions which may address the problem. This information is included in Section 1 of this document. Section 2 contains information on the biological and environmental impacts of the alternatives as required by NEPA. Impacts on endangered species and marine mammals are also addressed in this section. Section 3 contains a Regulatory Impact Review (RIR) which addresses the requirements of both E.O. 12866 and the RFA that economic impacts of the alternatives be considered.

This Environmental Assessment/Regulatory Impact Review/(EA/RIR) examines an alternative to amend the POP Rebuilding Plan in the GOA FMP to allow the Council to specify a Pacific ocean perch (POP) total allowable catch (TAC) at or below the amount determined by the procedure currently outlined in the FMP.

### 1.1 Purpose of and Need for the Action

Decline of the POP stock since the early period of the foreign fishery (early 1940's) prompted the Council to request an analysis of alternative rebuilding strategies for POP. This analysis was presented as Amendment 32 to the GOA FMP in 1993. The Council adopted a particular rebuilding strategy, based on available biological and economic information. This rebuilding plan contains an algorithm, specified in the FMP, for determining the TAC. The amendment does not provide for any flexibility in setting the TAC at a level other than that which is dictated by the algorithm.

Concern exists that the TAC level in a given year, as specified in the FMP, could be high enough to allow a directed fishery which may potentially jeopardize the rebuilding of POP populations. At its December 1994 meeting, therefore, the Council requested that NMFS prepare an analysis for providing the flexibility to lower the TAC below the level specified in the FMP. The intent is to allow the Council to set a TAC amount that would supply bycatch-only needs of POP in other fisheries.

This document examines the impacts associated with establishing the current TAC specification as the upper-bound limit and allowing some flexibility in setting a TAC amount for POP that is lower than that limit.

### 1.2 Rockfish Management

Amendment 32 to the GOA FMP established a plan to rebuild stocks of the rockfish Pacific ocean perch (*Sebastes alutus*) in the GOA. POP is a highly valued groundfish. It was heavily exploited by a foreign trawl fleet from the early 1960's until the mid-1980's. Thereafter, a domestic at-sea processing fleet harvested POP at a substantially lower rate. Catches of POP peaked in 1965 when an estimated 350,000 mt were harvested by the foreign fleet; catches declined sharply in the late 1960's. From 1961-77, annual POP landings averaged over 40,000 mt; after 1977, landings averaged 6,000 mt. In the domestic fishery, POP was managed as part of a larger slope rockfish assemblage of about 20 species until 1991, when POP was established as a separate target species category to prevent possible overfishing.

As a result of increased concern about the declined status of POP stocks, biomass assessment methodology has been improved, POP has been managed as a single species and domestic harvest levels have been reduced. The 1994 TAC of 2,550 mt, derived from the rebuilding plan calculations, was available only as incidental catch in

other groundfish fisheries. However, in 1995 the TAC for POP was determined by the rebuilding plan to be 5,630 mt, enough to support a directed fishery for this species.

### 1.3 Alternatives Considered

**Alternative 1:** Status quo. Maintain the current procedure for specifying the annual TAC amounts for POP as detailed in the FMP. The current means of calculating the TAC was part of the policy alternative adopted by the Council under Amendment 32, the Rebuilding Plan.

Amendment 32 to the FMP established the procedure for deriving the annual GOA TACs for POP. POP stocks are considered to be rebuilt when the total biomass of mature females is equal to or greater than  $B_{msy}$ . Annual TACs, under the current FMP, are established as follows:

- (a) Determine the current biomass,  $B_{msy}$ , and the optimal fishing mortality rate;
- (b) Determine the fishing mortality rate half way between the optimal fishing mortality rate and the fishing mortality rate estimated to be sufficient to supply unavoidable bycatch of POP based on 1992 bycatch rates;
- (c) When the current biomass of mature females is less than  $B_{msy}$ , adjust the resultant fishing mortality rate in (b) by the ratio of current biomass to  $B_{msy}$  so that when  $B_{msy}$  is attained, the fishing mortality rate will be the optimal fishing mortality rate;
- (d) The GOA TAC of POP is the amount of fish resulting from the adjusted fishing mortality rate in (c); and
- (e) The TAC is apportioned among regulatory area in proportion to POP biomass distribution.

**Alternative 2:** Amend the FMP to allow the Council to specify a POP TAC *at or below* the amount dictated by the Rebuilding Plan.

The current TAC calculation would be the upper-bound limit and the POP TAC could be annually specified at or below this level. This would allow the Council to adjust the TAC to provide only enough POP to supply bycatch needs in other fisheries. Available scientific information concerning the status of the stock, received from the Plan Team, the Scientific and Statistical Committee of the Council and other appropriate sources, would be the established criterion for adjusting the TAC downwards.

Concern over uncertainty about the annual biomass estimates and associated impacts on the rebuilding of the POP stock may exist from year to year. This may lead to the desire to take a more conservative approach in recommending a TAC that is different from the one that is specified in the current FMP text.

The original analysis for Amendment 32 examined various exploitation strategies for POP, including a bycatch-only harvest policy. The analysis is presented in the EA/RIR to Amendment 32. The EA/RIR for Amendment 32 contains several harvest strategies for rebuilding the POP population in the GOA. After examining biological and socioeconomic information, the Council adopted a rebuilding plan for POP that set the harvest as outlined above (Alternative 1).

Under the Rebuilding Plan an ABC is set for this species for the GOA and this ABC is apportioned among regulatory areas based on the biomass distribution. The TAC is determined using the algorithm and is then apportioned to each regulatory area according to the percentage biomass distribution used for the ABC

apportionment. In a given year the TAC could be enough to support a directed fishery and remain consistent with the POP Rebuilding Plan, as previously chosen by the Council. This situation occurred in 1995 when the biological information dictated a higher TAC amount than was specified in 1994. This 1995 amount was sufficient to support a directed fishery. However, some conservation concerns were still expressed by Council members about allowing a directed fishery to occur on POP while it is in a rebuilding status.

Alternative 2 would specify the TAC algorithm set out in the Rebuilding Plan as the upper-bound limit with flexibility to set the TAC below this limit. However, since no lower-bound limit would be placed on the TAC determination a TAC for bycatch only needs could be established within the range of 0 mt to the upper-bound limit. This poses certain questions concerning how this bycatch number would be set. If the TAC amount is for bycatch-only needs, how would the needed amount be determined on a yearly basis? Would this level be determined for a given year and would the same bycatch amount be respecified in subsequent years? Or, would the bycatch level vary from year to year and what information would be used to determine the appropriate level? The potential exists for the TAC in a given area to be lower than is necessary for bycatch needs, eventually resulting in regulatory discards. Determining the appropriate level of bycatch needs of POP in other fisheries may be difficult to do as the dynamics of the fisheries change from year to year. This could present some problems for the Council in establishing an appropriate TAC amount.

The original analysis for Amendment 32 examined a bycatch-only policy for POP. However, the TACs resulting from this alternative were considered too restrictive in relation to existing POP bycatch needs, causing unnecessary discards of POP that are killed in fishing operations after POP TACs are reached. A similar problem could occur under Alternative 2.

Setting a bycatch TAC amount for POP would have secondary impacts on other groundfish fisheries. If POP were on bycatch status fishing effort would likely shift to other open rockfish species. This could cause the TAC amounts for these species to be reached sooner. With the increased effort on these rockfish species more bycatch of the remaining closed rockfish species could be taken.

Under Alternative 2, increased opportunity would exist to recommend reduced TAC amounts to preempt fishing opportunity for political or allocative purposes in a manner beyond the intent and scope of the Rebuilding Plan.

## 2.0 NEPA REQUIREMENTS: ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

An environmental assessment (EA) is required by the National Environmental Policy Act of 1969 (NEPA) to determine whether the action considered will result in significant impact on the human environment. The environmental analysis in the EA provides the basis for this determination and must analyze the intensity or severity of the impact of an action and the significance of an action with respect to society as a whole, the affected region and interests, and the locality. If the action is determined not to be significant based on an analysis of relevant considerations, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. An environmental impact study (EIS) must be prepared for major Federal actions significantly affecting the human environment.

An EA must include a brief discussion of the need for the proposal, the alternatives considered, the environmental impacts of the proposed action and the alternatives, and a list of document preparers. The purpose and alternatives were discussed in Sections 1.1 and 1.2, and the list of preparers is in Section 6. This section contains the discussion of the environmental impacts of the alternatives including impacts on threatened and endangered species and marine mammals.



## 2.1 Environmental Impacts of the Alternatives

The environmental impacts generally associated with fishery management actions are effects resulting from 1) harvest of fish stocks which may result in changes in food availability to predators, changes in the population structure of target fish stocks, and changes in community structure; 2) changes in the physical and biological structure of the benthic environment as a result of fishing practices, e.g., effects of gear use and fish processing discards; and 3) entanglement/entrapment of non-target organisms in active or inactive fishing gear. A summary of the effects of the 1995 groundfish total allowable catch amounts on the biological environment and associated impacts on marine mammals, seabirds, and other threatened or endangered species are discussed in the final environmental assessment for the 1995 groundfish total allowable catch specifications. Alternative 2 provides the opportunity for lowering the TAC below the level specified in the current FMP text. If the TAC were lowered for a given year this could lessen the impacts of trawling on the benthic structure through a decreased effort for POP. However, the destructive impact to the benthic environment that might be contributed by trawling specifically for POP, whose TAC is relatively low, would probably be minimal.

Recent analyses for 1995 also indicate that with a constant lower TAC amount (i.e. at the 1994 level of 2,550 mt) there would be negligible gains in short-term levels of spawning biomass compared to the variable TAC derived from the Rebuilding Plan.

## 2.2 Impacts on Endangered, Threatened or Candidate Species Under the ESA

Species that are listed as threatened or endangered, or are candidates or proposed for listing under the Endangered Species Act (ESA), may be present in the BSAI and GOA. Additionally, nonlisted species, particularly seabirds, also occur in those areas and may be impacted by fishing operations. A list of species and a detailed discussion regarding life history and potential impacts of the 1995 groundfish fisheries of the BSAI and GOA on marine species can be found in an EA for the 1995 TAC specifications for the GOA and BSAI (NMFS 1995a). Insofar as this proposed regulatory amendment would help prevent groundfish harvests in excess of TACs and PSC mortality in excess of designated limits, fishing activities under any of the alternatives would not be expected to cause any adverse effects additional to those noted in the EA.

### 2.2.1 Salmon

Listed species of salmon, including the Snake River sockeye salmon (*O. nerka*), fall chinook and spring/summer chinook salmon (both *Oncorhynchus tshawytscha*) may be present in the BSAI or GOA. These areas are believed to be outside the range of another listed species, the Sacramento River winter-run chinook salmon. A Biological Opinion conducted on effects of the BSAI and GOA groundfish fisheries concluded that these fisheries are not likely to jeopardize the continued existence of endangered or threatened Snake River salmon species (NMFS 1994b). Alternative 2 is not expected to adversely affect any listed salmon in a manner not already considered in previous consultations.

### 2.2.2 Seabirds

Listed or candidate species of seabirds include the endangered short-tailed albatross (*Diomedea albatrus*), the threatened spectacled eider (*Somateria fischeri*), and the candidate (category 1) Steller's eider (*Polysticta stelleri*), or (category 2) marbled murrelet (*Brachyramphus marmoratus*), red-legged kittiwake (*Rissa brevirostris*) or Kittlitz's murrelet (*Brachyramphus brevirostris*). A formal consultation conducted by the U.S. Fish and Wildlife Service (USFWS) on the potential impacts of groundfish fisheries and subsequent informal consultation on impacts of 1994 groundfish fisheries on these species concluded that groundfish fisheries adversely affect, but do not jeopardize, the existence of the short-tailed albatross (USFWS 1989, 1994) if the incidental take allowance of up to two short-tailed albatrosses per year was not exceeded. The informal consultation also concluded that

groundfish fisheries were not likely to adversely affect the spectacled eider, Steller's eider, or marbled murrelet. The USFWS did not comment on remaining candidate species at that time. Alternative 2 is not expected to adversely affect any listed or candidate seabirds in a manner not already considered in previous consultations.

### 2.2.3 Marine Mammals

As with salmon and seabirds listed under the ESA, fishing activities under this proposed action are not likely to impact the threatened Steller sea lion (Eumetopias jubatus), in a manner, or to an extent, not previously considered in informal section 7 consultations for 1994 groundfish fisheries (NMFS, 1994c,d).

Other listed marine mammals include the endangered fin whale (Balaenoptera physalus), sei whale (Balaenoptera borealis), humpback whale (Megaptera novaeangliae), sperm whale (Physeter catodon), northern right whale (Balaena glacialis), blue whale (Balaenoptera musculus) and Steller sealion (Eumetopias jubatus). None of these species are anticipated to be adversely affected by this proposed amendment.

### 2.3 Impacts on Marine Mammals not listed under the ESA

Marine mammals not listed under the ESA that may be present in the BSAI or GOA include cetaceans, [minke whale (Balaenoptera acutorostrata), killer whale (Orcinus orca), Dall's porpoise (Phocoenoides dalli), harbor porpoise (Phocoena phocoena), Pacific white-sided dolphin (Lagenorhynchus obliquidens), and the beaked whales (e.g., Berardius bairdii and Mesoplodon spp.)] as well as pinnipeds [northern fur seals (Callorhinus ursinus), and Pacific harbor seals (Phoca vitulina)] and the sea otter (Enhydra lutris). As previously mentioned, a list of species and detailed discussion regarding life history and potential impacts of the 1995 groundfish fisheries of the BSAI and GOA on those species can be found in an EA conducted on the 1995 Total Allowable Catch Specifications for the GOA and BSAI (NMFS 1995a). Alternative 2 is not expected to adversely affect any listed or candidate marine mammals in a manner not already considered in previous consultations.

### 2.4 Coastal Zone Management Act

Each of the alternatives would be conducted in a manner consistent, to the maximum extent practicable, with the Alaska Coastal Zone Management Program within the meaning of Section 307(c)(1) of the Coastal Zone Management Act of 1972 and its implementing regulations.

### 2.5 Conclusions or Findings of No Significant Impact

None of the alternatives are likely to significantly affect the quality of the human environment; preparation of an environmental impact statement for selection of any of the alternatives as the proposed action would not be required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

### 3.0 REGULATORY IMPACT REVIEW: ECONOMIC AND SOCIOECONOMIC IMPACTS OF THE ALTERNATIVES

This section provides information about the economic and socioeconomic impacts of the alternatives including identification of the individuals or groups that may be affected by the action, the nature of these impacts, quantification of the economic impacts if possible, and discussion of the trade offs between qualitative and quantitative benefits and costs.

The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.

This section also addresses the requirements of both E.O. 12866 and the Regulatory Flexibility Act to provide adequate information to determine whether an action is "significant" under E.O. 12866 or will result in "significant" impacts on small entities under the RFA. E.O. 12866 defines a "significant regulatory action" as likely to result in (1) an annual effect on the economy of \$100 million or more; (2) an adverse effect in a material way on the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; or (3) a novel legal or policy issue. Requirements of the RFA are addressed in Section 4.

This analysis examines two alternatives:

**Alternative 1:** Status quo. Maintain the current procedure for specifying the POP TAC.

**Alternative 2:** Amend the FMP to allow the Council to specify a POP TAC *at or below* the amount determined by the current FMP procedure.

Alternative 1 would continue to require the Council to set POP TACs based solely on the procedure outlined in the GOA FMP. Alternative 2 would allow the Council to set TAC at or below this level. Specifically, Alternative 2 would allow the Council to set POP TACs low enough to provide only for bycatch needs, but not at a level sufficient for directed trawl fisheries.

Economic impacts do not result directly from either alternative. Alternative 2 does not mandate that the Council take a particular action, it only provides greater flexibility for the Council to recommend POP TACs. The Council has flexibility to establish TACs for species other than POP providing that it adequately justifies recommendations to set a TAC below the ABC level. Alternative 2 does, however, have potential economic impacts, the magnitude of which depends on (1) the accuracy of the biological modeling, (2) the exact Council action and justification of this action, (3) the amount and value of foregone catch, and (4) the distribution of benefits from current and future POP catches.

Alternative 2 would allow the Council to set the POP TACs at a level which would provide for bycatch needs, but would not allow for directed fisheries. This action would result in economic losses to current participants if, as suggested in the biological analysis, the lower TAC will provide limited biological benefits in terms of the timing or rate of POP rebuilding. In other words, the value of the catch foregone as a result of the bycatch-only fishery will not be made up in the form of increased catch at an earlier date in the future. As the difference between the TAC allowed under the rebuilding plan and the bycatch-only fishing level increases in future years, the direct economic losses associated with a bycatch-only fishery will increase.

Conclusions about the potential economic loss from closure of the directed POP fishery are based largely on the assumptions and results of the biological modeling and the extent to which a downward adjustment is made from

the rebuilding TAC. However, even if faster POP rebuilding occurs as a result of lower TACs, economic losses may still occur in the form of trade-offs between catch now and catch in the future. In general, a higher economic value is placed on catch in the near term because current participants are able to realize and reinvest economic returns sooner and because current participants are not assured that they will be the people benefiting from future increased catches of POP. For those fishermen who currently do not target on POP, but would in the future, an allocation of catch between the present and the future represents an economic benefit.

The 1995 directed trawl fisheries for POP can be used to illustrate the potential economic losses to current participants in the first year from a bycatch-only TAC.

Directed fisheries for POP were allowed in all areas of the GOA in 1995. The fisheries were open in the Western Gulf from July 3 to July 20, in the Central Gulf from July 3 to July 6, and in the Eastern Gulf from July 3 to July 9. Sixteen trawl catcher/processors participated in these directed POP fisheries (7 in WGOA, 11 in CGOA, and 5 in EGOA).

Table 1 summarizes the estimated catch and value for the 1995 directed trawl POP fisheries by area and species. The estimated wholesale processed product value of the 1995 directed fisheries was about \$5.9 million. POP contributed about \$2.6 million to the value, other rockfish approximately \$1.5 million, and sablefish bycatch about \$1.6 million. The majority of this catch would likely not have been made if POP had been placed on bycatch only status in 1995.

### 3.1 Administrative and Enforcement Costs

Neither alternative would significantly affect administrative or enforcement costs associated with management of the GOA groundfish fisheries.

**Table 1. Estimated catch, retention (mt), and value (\$) of the 1995 directed trawl fisheries for Pacific ocean perch in the Gulf of Alaska.**

Species	WGOA		CGOA		EGOA		Gulf of Alaska Total		Total	Value (\$) 1/
	Retained	Discard	Retained	Discard	Retained	Discard	Retained	Discard		
POP	1,331	71	1,290	52	796	40	3,417	163	3,580	2,562,000
DSR	1	1	3	4	1	3	5	8	13	10,000
Northern Rock.	44	4	147	17	15	0	207	21	228	109,000
Pelagic Shelf	38	1	131	9	21	0	189	10	199	138,000
Slope Rockfish	1	18	23	105	24	50	48	174	222	38,000
SRRE	90	3	136	48	154	55	380	106	487	633,000
Thornyhead	42	11	31	18	34	15	107	44	151	618,000
Total Rockfish	1,547	109	1,762	253	1,045	163	4,354	526	4,880	4,108,000
Sablefish	60	2	149	53	147	11	356	66	422	1,597,000
Pacific Cod	4	32	14	37	1	1	18	70	88	15,000
Atka Mackerel	109	16	0	0	0	0	109	16	125	69,000
DW Flat	9	2	19	13	1	5	29	19	48	27,000
Flathead Sole	0	1	2	0	0	0	2	1	3	2,000
Rex Sole	3	5	28	6	0	1	31	11	42	51,000
SW Flat	0	0	0	4	0	0	0	4	4	350
Pollock	0	62	1	9	0	17	1	88	90	0
Arrowtooth	61	73	107	146	0	141	169	360	528	39,000
Other	0	11	2	9	0	10	2	30	32	0
All Groundfish	1,793	312	2,084	530	1,195	349	5,073	1,191	6,264	5,908,000

1/ Estimated wholesale processed product value based on multiplying retained catch weight by a product recovery rate (primarily H&G Eastern cut) and an estimated wholesale price based on the 1994 processor's annual reports.

#### 4.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

The objective of the Regulatory Flexibility Act is to require consideration of the capacity of those affected by regulations to bear the direct and indirect costs of regulation. If an action will have a significant impact on a substantial number of small entities an Initial Regulatory Flexibility Analysis (IRFA) must be prepared to identify the need for the action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of net benefits.

NMFS has defined all fish-harvesting or hatchery businesses that are independently owned and operated, not dominant in their field of operation, with annual receipts not in excess of \$2,000,000 as small businesses. In addition, seafood processors with 500 employees or fewer, wholesale industry members with 100 employees or fewer, not-for-profit enterprises, and government jurisdictions with a population of 50,000 or less are considered small entities. A "substantial number" of small entities would generally be 20% of the total universe of small entities affected by the regulation. A regulation would have a "significant impact" on these small entities if it reduced annual gross revenues by more than 5 percent, increased total costs of production by more than 5 percent, or resulted in compliance costs for small entities that are at least 10 percent higher than compliance costs as a percent of sales for large entities.

If an action is determined to affect a substantial number of small entities, the analysis must include:

- (1) a description and estimate of the number of small entities and total number of entities in a particular affected sector, and total number of small entities affected; and
- (2) analysis of economic impact on small entities, including direct and indirect compliance costs, burden of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cashflow and liquidity, and ability of small entities to remain in the market.

#### 4.1 Economic Impact on Small Entities

These alternatives affect specification of the POP TAC in the Gulf of Alaska. Participants in the directed trawl fishery for POP generally are trawl catcher/processor vessels which are not considered small entities for purposes of the RFA. Therefore, this action is not anticipated to affect any small entities.

## 5.0 REFERENCES

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## 6.0 LIST OF PREPARERS

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