


MEMORANDUM

TO: Council, AP, and SSC Members

FROM: Clarence G. Pautzke 
Executive Director

DATE: April 13, 1993

SUBJECT: Rockfish Management

ACTION REQUIRED

- (a) Review Rebuilding Amendment for Pacific ocean perch in the Gulf of Alaska, and approve for public review.
- (b) Reconsideration of Pacific Ocean Perch Specifications in the Gulf of Alaska for 1993.
- (c) Discussion of Directed Fishing Standards for Rockfish.

BACKGROUND

- (a) Review Rebuilding Plan for Pacific ocean perch in the Gulf of Alaska

At the January 1993 meeting, the Council reviewed options available to rebuild depleted rockfish stocks in the Gulf of Alaska and suggested that rebuilding analysis continue with changes suggested by the SSC. Specifically, the SSC recommended that the POP stock-recruit data should be further analyzed to test for reliability for stock projections. Additionally, the SSC and Plan Team recommended that the appropriateness of a B35% harvesting strategy be reviewed for long-lived species such as POP. An EA/RIR/IRFA for POP rebuilding, that addresses the SSC's concerns, has been drafted for Council review. Based on the new analysis, the optimal fishing rate is about 71% of the rate previously used for setting ABC (F35%). Current estimates of spawner biomass are about 50% of the desired target level. Four alternative harvest policies were analyzed:

- Alternative 1. Status quo: the fishing mortality used to provide this year's ABC recommendation (based on adjusted F35%).
- Alternative 2. The optimal fishing mortality rate based on the new analysis.
- Alternative 3. A fishing mortality rate intermediate to the optimal rate (Alternative 2) and the bycatch only rate (Alternative 4).
- Alternative 4. The fishing mortality rate equal to the bycatch only fishing policy.

The approach used is based on risk analysis. Risk analysis typically refers to the probabilistic analysis of expected outcomes of alternative decisions in the face of uncertainty. Therefore, the results are

presented with associated risks for each alternative policy. The attached tables highlight some important results of the risk assessment. They come from the analysis sent to you on April 9.

This analysis is based on the current stock assessment. In 1993, there will be another NMFS survey which will provide a new biomass estimate of the POP population and an estimate of age structure. Subsequent data will add more information and will improve these types of analyses. In developing a rebuilding strategy, the Council could establish a goal and allow for flexibility in the policy selected as new information becomes available.

(b) Reconsideration of Pacific ocean perch ABC and TAC Specifications in the Gulf of Alaska for 1993

Final specifications for GOA groundfish, with the exception of POP, became effective March 26, 1993 (58 FR 7435). The POP specification was not approved because the recommendation was made without the benefit of biological and economic data that have recently become available and that NMFS believes should be considered in establishing the 1993 POP TAC. The interim specification for POP remains in effect until superseded by a final specification. NMFS has requested that the Council reconsider the 1993 POP TAC specification at the April meeting (Item D-2(a)(1)).

(c) Discussion of Directed Fishing Standards for Rockfish

In December, the Council requested that NMFS develop a regulatory amendment which would adjust directed fishing standards for rockfish in the GOA. Since that time, NMFS has determined that insufficient information is available to indicate that a conservation and management problem exists in the rockfish fisheries at this time. Additionally, the Region intends to prepare a comprehensive regulatory amendment addressing directed fishing standards in all groundfish fisheries. Further information on this topic can be found in agenda item D-2(a)(2).

Table 3. — Average annual yield (round weight tons) over the next 30 years. A = the value of the stock-recruitment parameter which governs productivity, $P\{A\}$ is the estimated probability associated with that value of parameter A , and EV represents the expected value computed as the weighted mean over the different values of the A parameter.

	$A=0.43$	$A=0.67$	$A=0.90$	EV
$P\{A\}$	0.13	0.71	0.16	
Policy 1	7,939	12,953	19,932	13,368
Policy 2	6,979	11,155	16,669	11,454
Policy 3	6,090	10,634	15,757	10,822
Policy 4	5,124	10,547	16,084	10,681

Table 4. — Present first wholesale value (millions) of the Pacific ocean perch fishery 30 years into the future.

0% discount rate

	$A=0.43$	$A=0.67$	$A=0.90$	EV
$P\{A\}$	0.13	0.71	0.16	
Policy 1	\$129	\$208	\$319	\$215
Policy 2	\$114	\$181	\$269	\$186
Policy 3	\$100	\$173	\$255	\$176
Policy 4	\$84	\$171	\$261	\$174

7% discount rate

	$A=0.43$	$A=0.67$	$A=0.90$	EV
$P\{A\}$	0.13	0.71	0.16	
Policy 1	\$49	\$72	\$114	\$75
Policy 2	\$40	\$60	\$92	\$63
Policy 3	\$32	\$53	\$82	\$55
Policy 4	\$28	\$50	\$83	\$52

Table 5. — Mean spawner biomass over the next thirty years.

	$A=0.43$	$A=0.67$	$A=0.90$	EV
Probability	0.13	0.71	0.16	
Policy 1	103,399	120,771	127,603	119,498
Policy 2	115,362	136,517	142,269	134,566
Policy 3	126,784	146,236	148,155	143,916
Policy 4	129,821	149,754	152,385	147,480

Table 6. — Time to attain 150,000 tons of spawner biomass under policies 1–4 as measured by proportions of simulations. For illustration, the highlighted box says that under alternative 2, 50% of the simulations (the *median* value) had attained the target biomass (150,000 tons) in 26 yrs.

	25%	50%	75%
Alternative 1	21 yrs	> 30 yrs	> 30 yrs
Alternative 2	16 yrs	26 yrs	> 30 yrs
Alternative 3	13 yrs	19 yrs	28 yrs
Alternative 4	11 yrs	16 yrs	25 yrs

Table 7. — Proportion of runs which had female spawner biomass levels less than 75,000 tons in the year 2003 (10 years from now).

	A=0.43	A=0.67	A=0.90	EV
Probability	0.13	0.71	0.16	
Policy 1	41.5%	11.0%	0.5%	13.2%
Policy 2	36.5%	7.0%	0.5%	9.7%
Policy 3	15.0%	2.0%	0.0%	3.3%
Policy 4	19.0%	3.5%	0.0%	4.9%

Table 8. — Proportion of runs which yielded less than \$2.4 million (gross) in the year 2003 (10 years from now).

	A=0.43	A=0.67	A=0.90	EV
Probability	0.13	0.71	0.16	
Policy 1	18.5%	2.0%	0.0%	3.7%
Policy 2	39.5%	8.0%	1.0%	10.9%
Policy 3	66.5%	26.5%	3.5%	28.0%
Policy 4	94.0%	76.5%	28.0%	71.4%

**TABLE 1. GULF OF ALASKA GROUND FISH
1993 Council Recommendations for ABC, TAC, and Apportionments
(All Values in Metric Tons)**

Species	Area	Council ABC	Council TAC	Council DAP
Pollock	W (61))	34,068	24,087	24,087
	C (62))	36,737	25,974	25,974
	C (63))	86,195	60,939	60,939
	E	3,400	3,400	3,400
	Total	160,400	114,400	114,400
Pacific Cod	W	18,700	18,700	18,700
	C	35,200	35,200	35,200
	E	2,800	2,800	2,800
	Total	56,700	56,700	56,700
Flatfish, Deep	W	2,020	1,740	1,740
	C	35,580	15,000	15,000
	E	7,930	3,000	3,000
	Total	45,530	19,740	19,740
Flathead sole	W	12,580	2,000	2,000
	C	31,830	5,000	5,000
	E	5,040	3,000	3,000
	Total	49,450	10,000	10,000
Flatfish, Shallow	W	27,480	4,500	4,500
	C	21,260	10,000	10,000
	E	1,740	1,740	1,740
	Total	50,480	16,240	16,240
Arrowtooth	W	38,880	5,000	5,000
	C	253,330	20,000	20,000
	E	29,080	5,000	5,000
	Total	321,290	30,000	30,000
Sablefish	W	2,030	2,030	2,030
	C	9,610	9,610	9,610
	W. Yakutat	3,830	3,830	3,830
	E. Yak./SEO	5,430	5,430	5,430
	Total	20,900	20,900	20,900
Pacific Ocean Perch	W	1,240	571	571
	C	1,560	718	718
	E	2,760	1,271	1,271
	Total	5,560	2,560	2,560
Shortraker / Rougheye	W	100	90	90
	C	1,290	1,161	1,161
	E	570	513	513
	Total	1,960	1,764	1,764
Rockfish (Other Slope)	W	330	214	214
	C	1,640	1,064	1,064
	E	6,330	4,105	4,105
	Total	8,300	5,383	5,383
Northern Rockfish	W	1,000	1,000	1,000
	C	4,720	4,720	4,720
	E	40	40	40
	Total	5,760	5,760	5,760
Rockfish (Pelagic Shelf)	W	1,010	1,010	1,010
	C	4,450	4,450	4,450
	E	1,280	1,280	1,280
	Total	6,740	6,740	6,740
Rockfish (Demersal Shelf)	S.E. Out.	800	800	800
Thornyhead	Gulfwide	1,180	1,062	1,062
Other Species	W		3,065	3,065
	C		9,709	9,709
	E		1,828	1,828
	Total		14,602	14,602
GULF OF ALASKA TOTAL		735,050	306,651	306,651



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

AGENDA D-2(a)(1)
APRIL 1993

March 19, 1993

Richard B. Lauber, Chairman
North Pacific Fishery
Management Council
P.O. Box 103136
Anchorage, Alaska 99510

MAR 22 1993

Dear Rick,

The National Marine Fisheries Service (NMFS) has carefully considered the recommendations of the North Pacific Fisheries Management Council (Council) for allowable biological catch (ABC), total allowable catch (TAC), and bycatch limit apportionment for groundfish of the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA) in 1993. We commend the work of the Council and have approved all the 1993 groundfish specification recommendations with a single exception. The designation of GOA Pacific Ocean perch (POP) as a "bycatch only" species with a TAC of 2,560 metric tons has raised some serious issues, which we think need to be resolved. We are aware of and share the Council's concern for the status of this stock and the adequacy of the information available with which to manage it. Nevertheless, we are concerned about the process by which rebuilding programs are adopted and the form and pace they take.

The Gulf of Alaska groundfish fishery management plan calls for major rebuilding efforts to be based on an assessment of the costs and benefits of various alternatives and approached through the plan amendment process with full public review and involvement. While the Council did receive some economic information from affected trawl industry members regarding the potential impacts of its proposed action, no detailed analysis was undertaken.

Despite the advice of the Plan Team, the Scientific and Statistical Committee, the Advisory Panel, and a Council-appointed rockfish working group, the Council chose to immediately reduce the TAC to preclude most directed fishing with the avowed purpose of initiating a specific rebuilding program. If the Council's objective was to select the optimum rebuilding schedule that would maximize net economic benefits over time, then the Council did not present adequate justification for why the Council's proposed rebuilding schedule is superior to the alternatives.

We note the Council is planning to initiate analysis of a rebuilding initiative for POP and has requested a preliminary review of plan amendment options at its April meeting with the intent of adopting a regulatory amendment to guide harvest



actions for 1994 and beyond. Our best estimate of stock status is that it is low but not declining and that, while it is incumbent upon the Council to address rebuilding, a stock emergency does not exist that will preclude the Council's future management options if a conservative strategy is pursued in 1993. The Council's technical advisors consider that the proposed ABC and resultant exploitation rate are very conservative and even provide for some level of stock increase (not further decline).

The rockfish directed fishery by vessels using trawl gear does not commence until June 28 of this year. Adequate amounts of POP are available under the interim specifications to satisfy bycatch needs in the near term. Given the industry input we have received on this matter, we initiated a preliminary assessment of the costs and benefits of alternative rebuilding options, the status of our knowledge on stock size, recruitment, and also the impacts of the 1993 TAC recommended by the Council. The Council should review the information prepared by the Agency and its staff and consider again its TAC recommendation at its April meeting concurrent with its preliminary assessment of a stock rebuilding plan amendment.

We intend to proceed with the adoption of the other 1993 GOA groundfish specifications. The POP ABC and TAC will be withheld from the package pending further consideration by the Council. In the meantime, the harvest of POP will be governed by the interim specifications. This delay should not affect the conduct of the 1993 fishery. I look forward to working with you to resolve this matter quickly and to the benefit of the resource and the industry.

Sincerely,



Steven Pennoyer
Director, Alaska Region



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

AGENDA D-2(a)(2)
APRIL 1993

March 26, 1993

Mr. Richard B. Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Dear Rick,

The North Pacific Fishery Management Council (Council) requested that the National Marine Fisheries Service (NMFS) prepare a draft analysis for a regulatory amendment that would examine and adjust directed fishing standards (DFS) for rockfishes in the Gulf of Alaska (GOA). This regulatory change was considered to be important to improve management of rockfish total allowable catches (TACs) by maximizing harvests and minimizing waste and discards. This analysis was to be reviewed at the Council's April 1993 meeting.

We have reviewed current regulations, the availability of data from which new standards might be derived, and the status of rockfish management. We do not believe that the requested regulatory amendment should be pursued at this time, and will not be presenting an analysis of this action at the April meeting. Factors contributing to this decision include: (1) insufficient information is available to indicate that a conservation and management problem exists in the rockfish fisheries at this time; and, (2) the Region intends to prepare a comprehensive regulatory amendment addressing DFS in all groundfish fisheries for future Council consideration. Additional details follow:

- The 1993 trawl rockfish fisheries are delayed by regulation until the third quarter begins on June 28. At that time, most trawl fisheries that require rockfish as bycatch, and other gear fisheries that harvest rockfish in directed fisheries, will have concluded, or will be well underway. Bycatch needs will, therefore, be of little importance and resulting management should be correspondingly more precise than was possible in previous years.

- On June 28, the third seasonal allowance of Pacific halibut mortality limit will become available for trawl gear. In past years, trawl halibut bycatch has rapidly curtailed third quarter trawl fisheries and is expected to be similarly limiting in 1993. For this reason also, bycatch needs for rockfishes will be limited late in the year.

- In past years, groundfish has sometimes been targeted, while directed fisheries are closed, by "topping off" - a practice resulting from current regulations that define directed



fishing as amounts of groundfish retained relative to amounts of other fish retained on board a vessel during a fishing "trip." This practice is now largely curtailed by redefinition of fishing "trips," which end at least each fishing week, or more frequently. Therefore, a much clearer distinction between "open" and "closed" directed fisheries exists, and predictability of fishing mortality has improved substantially.

- Establishing rates of unavoidable bycatch of rockfishes requires more data than are currently available; at present, gross estimates are available, only for Pacific Ocean perch (POP), on a GOA-wide basis. These estimates are likely no more appropriate than rates currently in use, because (1) DFS for POP may not be appropriate for other rockfishes; and, (2) the biomass distribution of rockfishes is widely inconsistent among regulatory areas, and a single DFS is likely not appropriate for all areas.

- Regulations specify a single DFS for trawl gear for all rockfishes (except demersal shelf rockfish), therefore, a change for POP only would necessitate a separate DFS be established for that species. Because the fishery often appears to occur as a mixed-species fishery, this would add an unwarranted and potentially unenforceable complication to regulations.

- Allocation of staff resources to DFS for rockfishes at this time would at best provide a temporary and likely unsatisfactory "bandaid" for an issue that is inextricably linked with DFS and conduct of other groundfish fisheries.

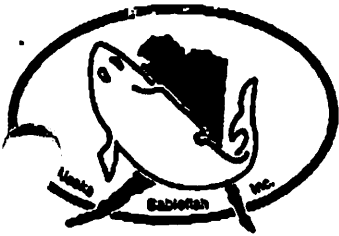
- A change in DFS is not a necessary factor in adopting a stock rebuilding plan.

I believe that more innovative and comprehensive solutions must be explored that will make our complex management system more understandable, functional, and less burdensome. NMFS is continuing to examine the use and format of DFS for all groundfish fisheries off Alaska as part of the larger process of improving the accuracy and precision of accounting for fishing mortalities and improving management to promote achievement, and prevent overruns, of TACs.

Sincerely,



Steven Pennoyer
Director, Alaska Region



Alaska Sablefish Inc.

F/V Judi B

FAX TRANSMITTAL MEMORANDUM

FAX NO. (503) 929-4513

DATE: April 1, 1993

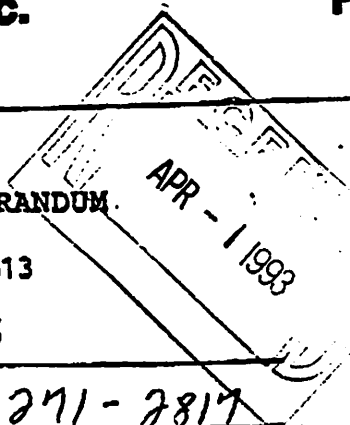
NUMBER FAXED TO: 907-271-2817

TO: Rich Lamber

COMPANY: NP FMC

FROM: Mary Standant

SUBJECT: Shoofaker/Rugney Management in Aleutians



HANDLING INSTRUCTIONS:

HIGH PRIORITY DELIVER IMMEDIATELY _____

CALL WHEN COMPLETED _____

ORIGINAL TO FOLLOW IN MAIL _____

TOTAL NUMBER OF PAGES INCLUDING THIS PAGE: 2

If you did not receive all the pages listed above, Please call (503) 929-4511 and ask for Mary.

NOTES:

Dear Mr. Lamber - Luckily, NMFS did get this fishing shut down in time this year before the POP bag scooped up the last remains of the quota but we need to make some changes in the management of this fishery so it doesn't turn into a crisis every year. Thank you.

TO: Andy Smoker
Inseason Manager/NMFS

From: Mary Standaert
Ak. Sablefish, Inc.

Date: March 31, 1993

Dear Andy,

I was both delighted and relieved to see your News Release prohibiting the retention of Shortraker/Rougheye in the Aleutians. Since managing these little pockets of rockfish during these turbulent, fast moving times is so precarious, NMFS certainly has shown sound judgement in being conservative with the fishing effort allowed on this species of fish. I know you put alot of time and effort into this matter and I would like to thank you for that.

I would still like to get any figures you have about bycatch and discard amounts for both trawlers and longliners for Shortraker/Rougheye in the Aleutians. I am going to make a proposal to the NPFMC asking them to lower the TAC on these guys and also change the Directed Fishing Standards for the POP fishery so that their bycatch of SR/RE reflects the natural bycatch rates. I don't believe the 10% they are allowed now reflects this but since the trawlers will be fishing this POP season with SR/RE prohibited, we should get some accurate figures. It is also essential that NMFS makes the SR/RE fishery "bycatch only" from January 1 next year so that we do not reach such dangerously high catch levels so quickly, turning this into a crisis situation. With these 3 safeguards in place, bycatch only from Jan 1, lower TAC so you can quickly make SR/RE a prohibited species if catch levels do get out of control and still have some breathing room and lower the bycatch rate in the POP fishery so they don't have the capability of taking the whole quota there, you will have the tools you need to ensure prudent management of Shortraker/Rougheye and the other groundfisheries in the Aleutians.

Sincerely,

Mary Standaert

CC: *Steve Pennoy*
Richard Lamber
Bob Alverson

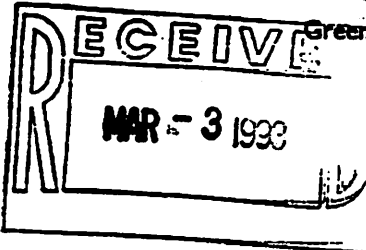
APRIL 1993

Supplemental

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GREENPEACE

Greenpeace • 4649 Sunnyside Ave N • Seattle WA 98103 • Tel (206) 632-4326
• Fax (206) 632-6122 •



February 25, 1993

Clarence Pautzke, Executive Director
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99510

Dear Clarence,

For your information, I am enclosing an information piece from the Marine Fish Conservation Network. As you may be aware, this segment of conservation community is currently involved in the Magnuson Fishery Conservation and Management Act reauthorization process.

Additionally, I am forwarding the comments that Greenpeace sent to Dr. Fox in support of the NPFMC's decision on the specifications for Pacific ocean perch and other slope rockfish species in the Gulf of Alaska.

I thought you might find these items of interest.

Respectfully,

A handwritten signature in black ink, appearing to read "Penny Pagels".

Penny Pagels
Northwest Fisheries Campaigner

enclosures

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GREENPEACE

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• Fax (206) 632-6122 •

February 8, 1993

Dr. William Fox Jr., Deputy Director
National Marine Fisheries Service
1335 East-West Highway
Silver Spring, MD
20910

VIA FACSIMILE

Dear Dr. Fox,

On behalf of Greenpeace and its approximately 1.8 million supporters in the United States, I would like to address a rather urgent issue that has recently come to my attention regarding a possible change in the groundfish specifications that were recently (December 1992) approved by the North Pacific Fishery Management Council (NPFMC).

In particular, I understand that you are currently considering an increase in the quota for Gulf of Alaska Pacific ocean perch (POP) and possibly, of other slope rockfish species. This news comes as a surprise, especially in light of the depleted status of the POP population in the Gulf. For you to override one of the NPFMC's first conservation actions of the year, sends a disturbing message to Greenpeace about the National Marine Fisheries Service's (NMFS') commitment to prevent overfishing.

In this letter, I seek to point out the reasons justifying a rebuilding strategy for POP and other slope rockfishes in the Gulf of Alaska. The depleted status of these species clearly warrant some type of conservation oriented management. I would urge you to reconsider the NPFMC's deliberations and subsequent decision to lower the total allowable catches (TACs) of these species and furthermore I request that you implement a rebuilding program for these species. In this letter, I will limit the discussion to POP but it should be kept in mind that the same argument applies to the other slope rockfish species with similar life histories.

A BRIEF HISTORY OF POP IN THE GULF OF ALASKA

The Pacific ocean perch (POP) fishery in the Gulf of Alaska represents a typical "boom and bust" pattern characterized by massive initial fishing effort followed by rapid decline in catches due to stock collapse. Japanese and Soviet trawl fisheries began fishing POP in the early 1960s and by 1964, had removed a peak catch of 350,000 metric tons (mt). Subsequently, catches dropped off precipitously and during the heavy fishing years an estimated 60-99% of the virgin (unfished) POP biomass was removed (Ito 1982). POP have life history characteristics that make them especially vulnerable to overfishing: long lives (up to 100 years), late age of reproduction, and limited movement patterns. Before fishing began, the virgin POP population consisted of many age classes (ages 0-100) accumulated over the previous 100 years. Since 1982, NPFMC quotas for POP have been set low (below 20,000 mt) but there are no signs that the population is rebounding.

According to NMFS' population assessment models, the Gulf of Alaska POP population collapsed due to overfishing in the 1960s, reaching minimum population levels during the late 1970s and early 1980s. Since then, POP biomass has shown minimal growth, if any. Current abundance is estimated at about 10% of pristine levels. According to the trawl survey abundance estimates, the POP population has undergone further decline since 1984 (43%). Data from the 1987 survey show that only 12% of the POP population is older than 15 years of age, which is an indication of a severely reduced reproductive potential of the stock.

THE NEED FOR A REBUILDING STRATEGY FOR PACIFIC OCEAN PERCH

In the Magnuson Fishery Conservation and Management Act (MFCMA), Sec. 303(a)(1)(A), the required provisions for each Fishery Management Plan (FMP), mandate that overfishing shall be prevented and that the long-term health and stability of the fishery shall be protected, restored and promoted. In December 1992, the NPFMC requested that the Plan Team develop a rebuilding strategy for depleted rockfish stocks, particularly POP. The NPFMC also voted to lower the TAC for POP and other slope rockfish to levels of 2,560 mt and 5,383 mt respectively. These new TACs for 1993 will effectively limit fishing effort on these depressed stocks while rebuilding strategies are developed and implemented. These pro-active steps clearly represent an attempt to follow the FMP for the Gulf of Alaska.

The poor stock status of POP warrants a rebuilding strategy. There are biological considerations that must be addressed when adopting and committing to a rebuilding plan. These reasons argue that for biological purposes, rebuilding should occur in the shortest time possible. Recruitment may fall below current levels due to reduced number of spawners, increasingly younger spawners, and ensuing reduced stock fecundity. Because more than 80% of the POP population is in fact young fish, further exploitation can be expected to magnify this problem by removing fish at a time in their life when additions to the stock through

growth exceed losses due to natural mortality. By rebuilding the stock in a way that older fish are more abundant, fecundity will increase, and the chances of good recruitment will improve. It is evident that the length of time required for the rebuilding period is largely dependent on the harvest level chosen.

Relative to pristine populations, heavily exploited stocks have more skewed age compositions because more individuals are concentrated in fewer age-classes (Roseberg & Brault, 1991). These authors consider that, in addition to yields and spawning stock biomass, the compression of the age structure needs to be used to assess the appropriate time scale for reducing exploitation of overfished stocks. The rationale for this is that with a wide range of adult age-groups in the population, the size of the adult stock is buffered against variations in the strength of individual year classes.

In summary, the restoration of Gulf of Alaska POP populations will be contingent upon attainment and maintenance of adequate levels and age structure of the spawning stock biomass. In order to properly rebuild POP, current fishing mortality patterns need to be modified to increase the total fecundity of the stock and improve its ability to produce recruitments that more than replace the removals from the fishery. It would be therefore pragmatic to analyze various rebuilding schedules and objectives in addition to reducing the amount of fishing mortality.

CONCLUSION

Rockfish species in the Gulf of Alaska have been subject to adversely high fishing mortality that has only recently been recognized by fishery managers. There is adequate proof that most of these species have been subject to overfishing and that these species are extremely vulnerable to overfishing. Admittedly, this realization occurred after the United States extended its jurisdiction to conserve and manage these species, and before the life history of these species were understood. Current knowledge, however, does implicate that rockfish stocks may be able to rebound if properly managed. Pristine levels of POP and other slope rockfish may never be realized, but prudent conservation measures may aid in these species' recovery.

From a conservation and economical standpoint there is a strong argument in favor of restoring the rockfish species in the Gulf of Alaska. Resource managers that seek to balance the competing needs of stock conservation and the economic viability of the fishing industry must move forward with a holistic approach that reflects the long-term sustainability of the marine ecosystem. The historical pattern of the "boom and bust" fisheries where one commercial fish species replaces another, has a cascading effect on all species throughout the marine ecosystem. It is a fundamental responsibility of the stewards of the resource to strive to achieve sustainable living marine resources for both present and future participants, and to include commercial and

non-commercial users. Greenpeace respectfully requests that you follow the NPFMC's lead and advocate the restoration of POP and other slope rockfish species in the Gulf of Alaska.

If you do have information to the contrary that would warrant an action to disapprove the NPFMC's recent decision on POP and other slope rockfish species in the Gulf of Alaska, I would be interested in the basis for your decision. I respectfully request a response that addresses the concerns raised in this letter.

Thank you for considering our views.

Sincerely,



Penny Pagels
Northwest Fisheries Campaigner

REFERENCES

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THE MARINE FISH CONSERVATION NETWORK

The Marine Fish Conservation Network is a broad-based coalition of national, regional and local organizations whose primary goal is to reform and strengthen the management of marine fisheries in order to promote their long-term sustainability.

The Network's most immediate objective is to improve the Magnuson Fishery Conservation and Management Act when the law is reauthorized by the 103rd Congress (1993-94). The Magnuson Act is intended to be the principal mechanism for promoting the conservation and management of our living marine resources. But significant changes are needed to improve the law's effectiveness.

With this goal in mind, the Network has prepared "A National Agenda to Protect, Restore and Conserve Marine Fisheries." A list of organizations supporting this agenda is attached.

Introduction

Marine fish are a precious natural resource of enormous ecological, social and economic value to the nation. They are an important source of food, recreation and employment, as well as major components of the ocean ecosystem. Healthy marine fish populations can contribute significantly to the national economy and enhance our quality of life, but only if used and managed wisely.

In 1976 Congress passed the Magnuson Act, creating a 200-mile conservation and management zone around the United States coastline and empowering eight regional fishery management councils and the National Marine Fisheries Service, with oversight by the Secretary of Commerce, to act as stewards of America's living marine resources. Seventeen years later, 65 species of fish are overfished, many severely. According to the U.S. Commerce Department, America's marine fisheries

of more than \$3 billion a year to the nation's economy.

Contributing to the problem of overfishing is the rampant bycatch and discard of unwanted or protected fish and other marine animals caused by the widespread use of indiscriminate fishing gear; the continuing degradation and destruction of wetlands and other critical fish habitats; an inadequate understanding of fish and their environment; and poor monitoring of fishing activities and enforcement of fishing regulations.

The failure to protect marine fish from overfishing and other threats, and to rebuild depleted fish populations back to healthy levels, is compelling proof that there are serious problems with fisheries management under the Magnuson Act. We are urging Congress to address these problems during reauthorization and include amendments that will make conservation the number one priority of fisheries management.

Priorities for Improved Fish Conservation

The Marine Fish Conservation Network believes substantial improvements in the Magnuson Act are absolutely necessary to protect, restore and conserve the nation's marine fish resources at sustainable population levels and to meet the ecological, social and economic needs of this and future generations of Americans.

The goals of the Network are:

- ▲ Eliminate overfishing and rebuild depleted fish populations
- ▲ Adopt a precautionary, risk-averse approach to fisheries management
- ▲ Reduce conflicts of interest on the fishery management councils
- ▲ Improve conservation of large pelagic fishes
- ▲ Minimize bycatch problems

- ▲ Enhance monitoring and enforcement
- ▲ Provide adequate funding for fisheries research and enforcement

NETWORK GOALS

Eliminate Overfishing and Rebuild Depleted Fish Populations

As the National Marine Fisheries Service states in the agency's 1991 Strategic Plan: "It is better to prevent overfishing than to suffer the losses necessary to reverse it." But in nearly all cases today, managers are reacting to overfishing, not preventing it.

A basic flaw in the Magnuson Act is that it doesn't clearly define or expressly prohibit overfishing. Instead, the law's key provisions direct managers to prevent overfishing while achieving the "optimum yield" from each fishery, broadly defined as the amount of fish that can be taken in a sustainable manner "modified by relevant social, economic and ecological factors."

In practice, the basic biological needs of the resource are often allotted less consideration than the immediate needs of fishermen. As a result, overfishing is permitted in the name of short-term economic gain. For the same reasons, there are few effective recovery plans for depleted fisheries, hence some severely overfished populations continue to be overfished.

Marine fish are a public resource that no group should be permitted to misuse. Conservation and management measures to prevent overfishing and rebuild depleted fish populations must be given priority over any other considerations. Management plans for each fishery should contain a clear, measurable definition of overfishing as well as measures to prevent that condition from occurring.

In the case of depleted fisheries, recovery plans should establish specific rebuilding goals and specific timetables for achieving those goals. Although there will be short-term social and

economic impacts associated with rebuilding fisheries to a healthy state, over the long-term the increased yield from restored populations will provide the greatest benefit to the nation as a whole, and the fishing industry will be the primary beneficiary.

Adopt a Precautionary, Risk-Averse Approach to Fisheries Management

The framers of the Magnuson Act recognized in 1976 that certainty is a rare commodity in fisheries science and so instructed managers to base their decisions on "the best scientific information available" at the time. They also intended that, in order to prevent overfishing, management measures should contain a built-in buffer against uncertainties in the science and other unknowns.

But in their unending struggle to strike a balance between conservation and the immediate financial interests of fishermen, decision-makers typically choose to err in favor of fishing. "In the face of uncertainty and pressure from the fishing industry," the National Marine Fisheries Service points out (1991 Strategic Plan), "fishery managers have often tended to base their decisions on an optimistic view of the condition of fishery resources. These 'risk-prone' decisions eventually result in overfishing."

Better science would help increase the accuracy and reliability of the information available to managers. But when uncertainty exists, the risk of overfishing can be reduced by giving the benefit of the doubt to fish conservation, i.e., making "risk-averse" decisions, instead of erring towards overfishing.

Conservation and management measures should minimize risk by providing a margin of safety to act as a buffer against overfishing and damage to associated species and ecosystems. Additionally, the burden of proof to demonstrate that damage will not occur should be on those who would exploit fish, not on those charged with conserving them.

Reduce Conflicts of Interest on Fishery Management Councils

When Congress created the regional fishery management council system, it wanted those persons active in the fisheries being managed to be a part of the process so that decisions could benefit from their knowledge and experience. This is both a major strength and a major weakness of the Act.

Council members include fishing vessel owners, commercial fishermen and fishing industry employees with an immediate financial stake in the fisheries they regulate. This amounts to a classic conflict of interest, and because of it, councils have frequently failed to adopt timely and effective management measures.

Fishery management benefits from the advice of active fishermen. But fishermen serving as council members should not be permitted to vote on matters relating to or in any way influencing a fishery in which they have a direct or indirect financial interest. More individuals unaffiliated with any user group, but knowledgeable about fisheries and the marine environment, should be appointed to serve on the councils to enhance their effectiveness as well as to ensure fair representation of the broad public interest.

Improve Conservation of Large Pelagic Fishes

Effective management of the large, ocean-wandering predators - the tunas, sharks and billfish that occupy the top of the ocean food chain - has been especially elusive. As a result of poor management and related overfishing, the large pelagic fishes (defined as "highly migratory species" in the Act) are among the most at-risk fish in the sea.

In the Atlantic, for instance, the bluefin tuna's breeding population has declined 90% since the mid-1970s. The number of adult swordfish has been reduced by half in even less time; the majority of swordfish are caught by fishermen before they've reached reproductive age.

Marlin, killed primarily as bycatch in tuna and swordfish fisheries, are declining in both the Atlantic and Pacific. A modest plan to protect sharks in the Atlantic and Gulf of Mexico that will take effect in 1993 will impose the first-ever federal limits on shark fishing, despite grave concerns that some species may have already been devastated by excessive fishing.

Until 1990, the tuna fisheries (along with their bycatch of billfish and sharks) were unregulated under the Magnuson Act. That year, Congress gave the Pacific Ocean management councils authority over tuna, but transferred responsibility for all highly migratory species in the Atlantic Ocean to the National Marine Fisheries Service. NMFS, however, is prohibited from enacting measures to conserve Atlantic large pelagics that are stricter than those recommended by an international commission. Yet throughout its 25-year history, the International Commission for the Conservation of Atlantic Tunas has failed to keep catches at sustainable levels or to stem ongoing declines.

International cooperation to enhance the conservation of large pelagic fishes throughout their migratory range is essential. The U.S. should more aggressively pursue, through ICCAT and other international bodies, the conservation objectives established in the Magnuson Act. But because of the poor record of international fisheries treaties to date, the U.S. must remove any and all constraints on its authority to act unilaterally when more conservative measures are in the best interests of American fishermen and the health of the resources they depend on.

Minimize Bycatch Problems

The use of non-selective fishing gear - essentially, any type of gear that catches large amounts of unintended fish and other marine species - causes intolerable waste and serious conservation problems. Worldwide, discarded bycatch amounts to an estimated 12 to 20 billion pounds of sea life every year, 20% of the overall catch.

Examples of selective gear include large high-seas drift nets that catch virtually anything that tries to swim through the netting, or trawl nets that are used to drag the ocean bottom, scooping up all species in the path of the net. Perhaps the most egregious example is the Gulf of Mexico shrimp trawl fishery, where 9 to 11 pounds of juvenile fish are caught and thrown overboard for every pound of shrimp that is taken.

The astronomical number of fish killed as bycatch, usually unreported, is not just a problem of waste. Bycatch contributes to overfishing. For instance, red snapper in the Gulf of Mexico, one of over a hundred species caught in shrimp trawls, is severely depleted primarily because of the enormous number of young fish killed as bycatch.

The Magnuson Act is largely silent on the subject of bycatch and dead discards. Bycatch is restricted only where it threatens a species protected under a non-fishery statute (e.g., dolphins and sea turtles) or where it includes species highly valued and sought after by competing fishermen.

The Magnuson Act should include a definition of undesirable bycatch and make it a national policy to minimize the negative impact of bycatch on fish populations and the marine ecosystem. Researchers should accumulate better data on the extent of bycatch and its impact in each fishery, and managers should include provisions to reduce the incidental capture of fish and other marine animals in all fishery management plans.

More research needs to be conducted in the area of gear selectivity, including the development of bycatch-reducing technologies. Management strategies should include incentives for fishermen to increase gear selectivity or use more selective methods of fishing.

Protect Marine Habitats

The continuing loss and degradation of fish habitat - to pollution, development, population

pressures and other human activities could become the greatest long-term threat to the future viability of coastal marine fisheries. Damage to estuaries, wetlands, seagrass meadows, reefs and river systems are leading factors in the decline of many shore-dependent and anadromous species.

Major threats to fish habitats are:

- *Destruction.* Over half our coastal wetlands, essential habitat to 75% of the nation's marine fisheries, have been destroyed.

- *Pollution.* Contaminants effect spawning behavior, survival of young fish, and the incidence of deformities and tumors. They also threaten human health.

- *Nutrient overload.* Agricultural runoff and dumping of untreated sewage triggers massive increases in algal growth, choking off sunlight to bottom-dwelling organisms and depleting the water of life-giving oxygen.

- *Water diversion.* In some river systems, dams have eliminated 80-100% of the migration routes for salmon, striped bass, shad and other marine species that spawn in fresh water. Excessive diversions of water from bays and estuaries destroy important spawning and nursery grounds for numerous coastal fish.

The Magnuson Act gives neither the National Marine Fisheries Service nor the fishery management councils direct control over these activities, even though they may severely reduce fish abundance.

The U.S. should adopt and implement a strong national habitat protection program to preserve the productive capacity of fish habitats. The program should include research to quantify fishery-related habitat values and require certification that federally-approved projects will not harm essential fish habitats. The National Marine Fisheries Service should have authority to modify, restrict or prohibit projects or activities which will alter, degrade or destroy essential fish habitats.

To properly manage fisheries, regulations must be enforceable and the total fish catch accurately tabulated. But few fisheries in the U.S. are subject to onboard observer coverage; catch data are supplied by the harvesting vessels or processors, usually on a voluntary basis. Consequently, this information is generally inaccurate and incomplete.

More precise and reliable data on catch and effort, as well as fishery-independent information, must be made available to fishery scientists for the purpose of assessing population sizes, and to fishery managers for the purpose of regulating fishing activities.

As management plans are now written, most regulations must be enforced at sea. With a small force of agents burdened with a mounting number of rules to enforce and fishermen to enforce them upon, violators know the chances of being caught are slim. As a result, compliance with fishery laws is poor in some fisheries, almost non-existent in others.

Funding for monitoring and enforcement activities must be increased. A universal licensing scheme is needed to give managers the information they need on who's fishing when, where and how and what they are catching. A comprehensive at-sea observer program to monitor commercial fisheries would help provide unbiased and detailed information on fishing activities as they occur. The presence of observers on fishing vessels is necessary for adequate enforcement. In the future, managers should be required to rely less on measures that must be enforced offshore and more on rules that are enforceable at the dock or at the point of sale.

Provide Adequate Funding for Fisheries Research and Conservation

Of the 153 species of fish whose status has been assessed by the National Marine Fisheries Service, 42% are overfished. But the status of more than a third of the species under Magnuson Act jurisdiction is unknown due to lack of funding for basic research. Even where general population trends are known, the data are often imprecise. This imprecision in assessing fish abundance undermines the ability of managers to respond to overfishing in a timely and effective manner.

There are critical gaps in fishery catch statistics, both in terms of the amount of information collected and the adequacy of the collection systems. These gaps deny managers essential information on the current levels of harvest, both commercial and recreational, fish discarded as well as landed. As managers propose quota-based and limited entry management programs, the need for more accurate and precise information becomes acute.

These research and information shortfalls are largely the result of chronic underfunding. So is the poor state of habitat and ecosystem-based studies. Because fish do not live in a vacuum, we need to better understand the interdependent relationships in their environment. This means studying predator/prey interactions (both fish/fish and mammal/fish) and the effects of selectively and intensively removing certain species from an ecosystem. Research is needed to assess the effects of altering the physical and chemical environment on fish behavior, growth, feeding and reproduction.

Essential research has been held up by years of inadequate funding. Funding for management-related scientific research and data collection should be increased, along with funding for monitoring and enforcement. To the extent that new appropriations are not available in sufficient amounts, the needed money should

be obtained through re-prioritizing existing funds and developing new, innovative sources of funding.

Presently, fishermen pay no fees to the federal government to exploit publicly-owned resources. Congress should consider user fees and/or excise taxes on the landed value of fish. Compensatory revenues should be deposited in a trust fund dedicated to supporting research, management, enforcement and other fundamental fisheries programs.

Conclusion

Too many of the nation's economically important commercial and recreational fishes are depleted or in decline, producing far below their biological potential. While each year new species are added to the growing list of those that are overfished, efforts to restore depleted populations are slow and ineffective.

The price we are paying for poor management is more than we can afford. In New England alone, the annual cost of overfishing the nation's oldest fishery - cod and flounder - is estimated at \$350 million. That's almost twice the annual budget of the National Marine Fisheries Service. Nationally, commercial and recreational industries, jobs, lifestyles, quality of life and the quality of our environment hang in the balance.

The Marine Fish Conservation Network urges Congress to act forcefully to strengthen the Magnuson Fishery Conservation and Management Act to protect, restore and conserve our marine fisheries.

* * * * *

For more information, contact the Steering Committee, Marine Fish Conservation Network, 1725 DeSales Street, N.W., Suite 500, Washington, DC 20036, or any one of the network member organizations.

A NATIONAL AGENDA TO PROTECT, RESTORE AND CONSERVE MARINE FISHERIES

THE MARINE FISH CONSERVATION NETWORK

Steering Committee:

Center for Marine Conservation
Greenpeace
National Audubon Society
National Coalition for Marine
Conservation
World Wildlife Fund

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U.S. House of Representatives
Committee on
Merchant Marine and Fisheries
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April 19, 1993

Mr. Richard Lauber
Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99510-3136

Dear Mr. Lauber:

I am writing to request that the North Pacific Fishery Management Council continue its efforts to rebuild the Pacific Ocean Perch (POP) stocks in the Gulf of Alaska.

The Magnuson Fishery Conservation and Management Act requires the Council to take appropriate actions to conserve and manage our living marine resources. In regard to POP stocks, the Council took such action in January when it established total allowable catch specifications for the Gulf of Alaska. The specifications for POP were conservative, reflecting a need to rebuild the depressed stocks. Unfortunately, the Council's rebuilding efforts have been delayed by the National Marine Fisheries Service. It is my belief that the Council must continue to err on the side of conservation and set new catch specifications that reflect the needs of the fishery.

I recognize that Council decisions are often considered controversial because of their varying effects on users of marine resources. However, in this instance I hope that the Council and all users can agree that the biological needs of the POP stocks must be given a higher priority than competing economic considerations.

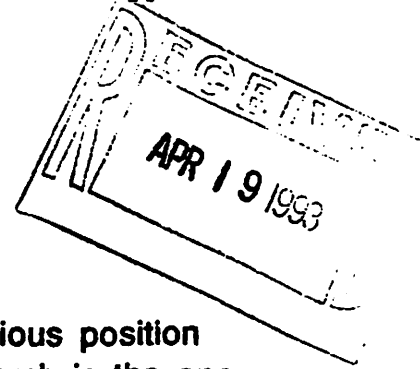
Sincerely,



Don Young
Ranking Republican Member
Subcommittee on Fisheries
Management

DY: rmm

April 5, 1993



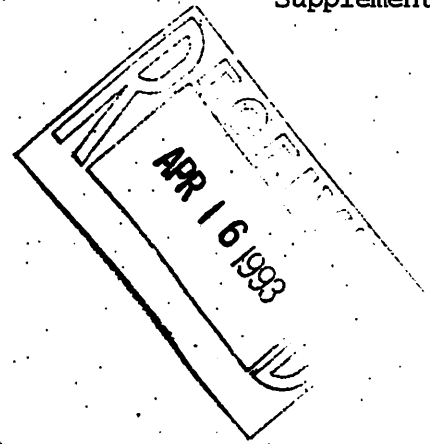
To North Pacific Fisheries Management Council

I am very concerned that the NPFMC uphold their previous position set on POP in the upcoming April meeting. Pacific Ocean Perch is the one fish under the jurisdiction of the NPFMC that is really depressed and it is only proper for the Council to take a conservative stand on this. I have read and heard a lot of grumbling by various people about how the different fishery councils in the country are rife with conflict of interest and only out for the fishermen, not the out to protect fish stocks etc... So here we have the NPFMC taking a conservative rebuilding approach to the POP stocks and what happens? It gets thrown back by NMFS in Washington D.C. It is due to pressure from the trawl organizations that this is up for reconsideration. They want to be able to catch more fish at the expense of the health of the fish stocks. They have been lobbying heavily in Washington D.C. to try to get this. It appears that money talks. So now just who has the conflict of interest, the Council of NMFS? I urge the Council to return the management plan for POP unchanged. To do anything different would be to bow to the pressure of big business and money over the health of the fish stocks which would be to jeopardize the whole Council system since it is very definitely under scrutiny by many concerned groups at this time.

Sincerely,
Carolyn Nichols
305 Islander Drive
Sitka AK 99835



April 15, 1993



Mr. Richard B. Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Dear Mr. Chairman:

On behalf of the World Wildlife Fund and our 1.25 million members, I am writing to urge the North Pacific Fishery Management Council to uphold its December 1992 decision to take strong steps towards the rebuilding of Pacific Ocean Perch (POP) populations in the Gulf of Alaska.

WWF supports the North Pacific Council's decision to set a TAC which would allow for bycatch only of depleted POP in the Gulf of Alaska. After reviewing the history of management of this fishery, we have serious reservations about the recent propagation of a targeted fishery for POP. As you know, POP are a long-lived species with a low natural mortality rate. The biomass of POP was reduced by approximately 90% due to overfishing during the early 1970's.

Steps to reduce the TAC for POP were taken during the mid-1980's. According to NMFS data, however, the resulting decreases in fishing mortality have generated only modest increases in biomass. Levels of catch per unit effort have remained extremely low for this species. In fact, the 1990 triennial trawl survey by NMFS showed a 54% decrease in abundance of POP between 1987 and 1990. Although there have been questions about the validity of the 1990 trawl data, there is also apparently no other explanation for the results of that survey. This and other information clearly point to a lack of certainty about the status of POP populations in the Gulf of Alaska.

Recent management of POP has not reflected the uncertainty regarding the status of Gulf of Alaska populations. Specifically, when the management classification for rockfish in the Gulf of Alaska was changed in 1988, the TAC for POP and other slope rockfish increased dramatically, and has also seen yearly increases since that date. We support the North Pacific Council's recent initiative to rebuild Gulf of Alaska POP populations through reducing the TAC in this fishery. We feel that such action represents a necessary precautionary approach to management for a species which has been severely overfished

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and whose present status remains uncertain, given the best available scientific information. Considering that, of the 156 species of U.S. marine fish whose status has been assessed, 43% are overfished, it is clear that we simply cannot afford to let optimism be our guide in managing fish populations where there is scientific uncertainty.

Some have argued that the Council decision to develop a strong rebuilding program is rooted in allocation disputes among user groups. Upon review of this matter, we find that there is little substance to this argument. Further, we would like to encourage the Council to take the additional step of researching the extent of habitat destruction or disturbance which results from the current methods of harvest of POP in the Gulf of Alaska.

In conclusion, we applaud the North Pacific Council's initial decision to take a risk averse approach to protection of the severely depleted Pacific Ocean Perch. We encourage the Council to uphold this decision during its April meeting, through the adoption of Alternative #4 presented in the draft analysis of rebuilding alternatives for Pacific Ocean Perch in the Gulf of Alaska.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Sutton". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael Sutton, Director
Marine and International Activities.

GREENPEACE

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April 19, 1993

Richard Lauber, Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK
99510

Dear Chairman Lauber,

On behalf of Greenpeace and its approximately 1.8 million supporters here in the United States, I would like to comment on the 1993 total allowable catch (TAC) for Pacific ocean perch (POP) in the Gulf of Alaska (GOA).

I would also like to commend the North Pacific Fishery Management Council (NPFMC) for its decision in December of 1992 to lower the total allowable catch (TAC) of POP in the GOA to "bycatch only". This decision represented the willingness of the NPFMC to adopt conservation oriented harvest strategies.

Greenpeace is concerned about the depleted status of POP in the Gulf of Alaska, and we ask the NPFMC to reaffirm its December 1992 decision that provided a lower level of fishing mortality, i.e. "bycatch only" and specified a TAC of 2560 metric tons (mt) of POP in the GOA. This decision also indicated that a rebuilding strategy for POP would be implemented.

In light of this decision, we ask that the NPFMC move forward and adopt alternative policy 4 in the draft Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) of alternative harvest policies for rebuilding POP in the GOA.

In our view, alternative policy 4 follows the provisions of fishery management plans (FMPs) to prevent overfishing and to protect, restore and promote the long-term health and stability of the fishery. These comments seek to highlight and justify the promulgation of the rebuilding strategy contained in alternative

policy 4.

In the draft analysis, it is recognized that the fastest rebuilding rate will occur under the policy with the lowest fishing mortality rate. Although there are no guarantees that rebuilding will occur, failure to implement a rebuilding plan would be working at cross purposes to the FMP.

HISTORY OF PACIFIC OCEAN PERCH IN THE GULF OF ALASKA

The POP fishery in the Gulf of Alaska represents a typical "boom and bust" pattern characterized by massive initial fishing effort followed by rapid decline in catches due to stock collapse. Japanese and soviet trawl fisheries began fishing POP in the early 1960s and by 1964, had removed a peak catch of 350,000 metric tons (mt). Subsequently, catches dropped off precipitously and during the heavy fishing years an estimated 60-99% of the virgin (unfished) POP biomass was removed (Ito 1982). POP have life history characteristics that make them especially vulnerable to overfishing: long lives (up to 100 years), late age of reproduction, and limited movement patterns. Before fishing began, the virgin POP population consisted of many age classes (ages 0-100) accumulated over the previous 100 years. Since 1982, NPFMC quotas for POP have been set low (below 20,000 mt) but there are no signs that the population is rebounding.

According to the National Marine Fisheries Service's (NMFS') population assessment models, the Gulf of Alaska POP population collapsed due to overfishing in the 1960s, reaching minimum population levels during the late 1970s and early 1980s. Since then, POP biomass has shown minimal growth, if any. Current abundance is estimated at about 10% of pristine levels. According to the trawl survey abundance estimates, the POP population has undergone further decline since 1984 (43%). Data from the 1987 survey show that only 12% of the POP population is older than 15 years of age, which is an indication of a severely reduced reproductive potential of the stock.

THE NEED TO LESSEN FISHING MORTALITY AND IMPLEMENT A REBUILDING STRATEGY FOR PACIFIC OCEAN PERCH

The poor stock status of POP warrants a rebuilding strategy. There are biological considerations that must be addressed when adopting and committing to a rebuilding plan. These reasons argue that for biological purposes, rebuilding should occur in the shortest time possible. Recruitment may fall below current levels due to reduced number of spawners, increasingly younger spawners, and ensuing reduced stock fecundity. Because more than 80% of the POP population is in fact young fish, further exploitation can be expected to magnify this problem by removing fish at a time in their life when additions to the stock through

growth exceed losses due to natural mortality. By rebuilding the stock in a way that older fish are more abundant, fecundity will increase, and the chances of good recruitment will improve. It is evident that the length of time required for the rebuilding period is largely dependent on the harvest level chosen.

Relative to pristine populations, heavily exploited stocks have more skewed age compositions because more individuals are concentrated in fewer age-classes (Rosemberg & Brault, 1991). These authors consider that in addition to yields and spawning stock biomass, the compression of the age structure needs to be used to assess the appropriate time scale for reducing exploitation of overfished stocks. The rationale for this is that with a wide range of adult age-groups in the population, the size of the adult stock is buffered against variations in the strength of individual year classes.

In summary, the restoration of POP populations will be contingent upon attainment and maintenance of adequate levels and age structure of the spawning stock biomass. In order to properly rebuild POP, current fishing mortality patterns need to be modified to increase the total fecundity of the stock and the improve its ability to produce recruitments that more than replace the removals from the fishery. Therefore, it would be pragmatic to analyze various rebuilding schedules and objectives in addition to reducing the amount of fishing mortality.

CONCLUSION

Rockfish species in the Gulf of Alaska have been subject to adversely high fishing mortality that has only recently been recognized by fishery managers. There is adequate proof that most of these species have been subject to overfishing and that these species are extremely vulnerable to overfishing. Current knowledge of rockfish population biology indicates that these stocks may be able to rebound if properly managed. Pristine levels of POP may never be realized, but prudent conservation measures may aid in these species' recovery.

From a conservation and economical standpoint there is a strong argument in favor of restoring the rockfish species in the Gulf of Alaska. Resource managers that seek to balance the competing needs of stock conservation and the economic viability of the fishing industry must move forward with a holistic approach that reflects the long term sustainability of the marine ecosystem. The pattern of the "boom and bust" fisheries where one commercial fish species replaces another, has a cascading effect on all species throughout the marine ecosystem. It is a fundamental

responsibility of the stewards of the resource to strive to achieve sustainable living marine resources for both present and future participants, and to include commercial and non-commercial users.

Greenpeace respectfully requests that you uphold your December decision and maintain a TAC for POP of bycatch only. Additionally, we ask that you refer to alternative policy 4 in the draft EA/RIR/IRFA when deliberating the long-term goals of rebuilding POP.

Thank you for advocating the restoration of POP in the Gulf of Alaska.

Sincerely,



Penny Pagels
Northwest Fisheries Campaigner

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