


MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke  
Executive Director 

DATE: April 9, 1999

SUBJECT: Steller Sea Lions

ESTIMATED TIME 8 HOURS
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**ACTION REQUIRED**

- (a) Receive report on Federal and State research activities.
- (b) Initial review of Amendment package.

**BACKGROUND**

Federal and State Research Activities

At the February meeting, the Council requested that NMFS and ADF&G provide more details of their research on Steller sea lions. NMFS staff will provide a report at this meeting.

Initial Review of Amendment Analysis

In December, the Council reviewed the Biological Opinion (Section 7 consultation) from NMFS, which concluded with a 'Jeopardy Finding' relative to the pollock fisheries in both the BSAI and the GOA. In order to allow these fisheries to be prosecuted in 1999, the Council took emergency action to implement measures consistent with NMFS' proposed Reasonable and Prudent Alternatives (RPAs). The RPAs, in summary, proposed spatial and temporal distribution of the pollock fisheries as well as additional closure areas around specific rookery and haul-out sites used by sea lions. For the BSAI, the Council's actions include: (1) separating the pollock fisheries into four seasons (A1, A2, B, and C seasons), with a limit of 30% of the total TAC coming from any one season; (2) reducing the overall roe season fishery to 40% of the annual total TAC; (3) limiting the overall A season removals from the sea lion critical habitat area/catcher vessel operational area (CH/CVOA) to 62.5% of the total TAC for those seasons; (4) eliminating a directed pollock fishery in the Aleutian Islands subarea; and, (5) expanding closure areas around rookery and haul-out sites. For the GOA, the Council also created four seasons with limits on the percentage of the TAC which can be taken from any one season, expanded the closure areas around rookery and haul-out sites, and established a 300,000 pound trip limit for pollock in the western and central Gulf areas.

These measures were implemented by emergency rulemaking for the first half of 1999. At the June 1999 meeting, the Council will need to take final action on permanent regulations to protect Steller sea lions for 2000 and beyond, as well as adopt additional emergency rules for the second half of 1999.

The Council is scheduled to make an initial review of the analysis at this meeting. NMFS staff will be on hand to discuss the results of their analysis.

3/04/99

To: Mr. Richard B. Lauber, Chairman  
North Pacific Fishery Management Council  
605 West 4th Ave, Suite 306  
Anchorage, AK 99501-2252

**RECEIVED**

MAR 17 1999

N.P.F.M.C

From: Darin VanderPol, Captain.  
Ocean Enterprise  
131 E. 74th Ln  
Lynden, WA 98264-9484

Dear Mr. Lauber,

I'm writing to express my concerns about the possibility of changes of pollock "B" season sea lion rookery ranges. The addition of, and changes to 20 mile rookeries of Akutan / Reef-Lava, Akutan / Cape Morgan, Rootok, Akun / Billings Head, Tanginak and Tigalda are going to have a serious negative effect on the onshore sector of the pollock fishery.

This is a very large and significant area of our fishery to lose and will have a large impact on our ability to catch our quota for the "B" season. I can document that in the years 1996, 1997, and 1998 that 61% of our "B" season fish comes from within the proposed closed area. I'm sure that the rest of the onshore fleet numbers would be close to this as well. As you can see, this will be a huge burden to us. By forcing us all to the north, this will also be a problem for the salmon bycatch as well. With more boats fishing in areas with traditionally higher bycatch, the savings areas could close very early and cause even more burden to us.

I realize that we have to work on the Stellar sea lion situation. I just hope that you will make changes that will actually have positive effect on them, not ones that will cause undue on us without the benefit to them. We have lost a lot of very valuable fishing ground already, this would be a very serious blow to us.

Thank you for your time and consideration. I hope this can be resolved in a manner that is beneficial to both of us. I realize that you have a large job to tackle with this, and lots of outside pressure. We all have to trust that you will do the right thing. Thanks again and good luck.

Sincerely,



Darin VanderPol

3/04/99

To: Mr. Richard B. Lauber, Chairman  
North Pacific Fishery Management Council  
605 West 4th Ave, Suite 306  
Anchorage, AK 99501-2252

RECEIVED

MAR 17 1999

N.P.F.M.C

From: Darin VanderPol, Captain  
Ocean Enterprise  
131 E. 74th Ln  
Lynden, WA 98264-9484

Dear Mr. Lauber,

I am writing to you to comment on the proposal to increase the Cape Sarichef rookery to 20 miles in the year 2000. This year we have had to adjust again to the loss of our valuable fishing areas with the addition of the 10 mile rookery on Cape Sarichef. As a 10 mile pollock only rookery, it had been a hardship for us, but at least it's a manageable hardship. We have lost fishing opportunities by this, but we still have been able to make it by fishing the edges of it. Next year if you increase it to 20 miles, we will lose a significant amount of very productive pollock grounds. This by itself will make it difficult for us, but this area also gives us a chance to fish when it's blowing from south to east, when we couldn't fish otherwise outside of this area.

We appreciate the fact that this is a pollock only rookery. It also is a fair compromise if it is a 10 mile rookery. I believe that making it a 20 mile rookery is going to be a hardship to us beyond any effect it will have on the Stellar sea lions. I realize that I'm only a fisherman and not a scientist, but I spend a lot of time in this area. I have not seen one sea lion around this area in years. I hope that decisions made on this will be open minded on what you will get in return for what you take from us. We have to believe that you will do the right thing. I really appreciate your time and consideration.

Sincerely,



Darin VanderPol

# NORTH PACIFIC MARINE SCIENCE FOUNDATION

The North Pacific Universities Marine Mammal Research Consortium  
 300 Elliott Avenue West, Suite 360 Room 18, Hut B-3, 6248 Biological Sciences Road  
 Seattle, WA 98119 Vancouver, B.C. Canada V6T 1Z4  
 Telephone: (206) 281-1667 Main Office: (604) 822-8181  
 Facsimile: (206) 283-2387 Facsimile: (604) 822-8180  
 e-mail: consortium@zoology.ubc.ca

February 18, 1999

Mr. Joe Kyle  
 Pacific Associates, Inc.  
 234 Gold  
 Juneau, AK 99801

Post-It Fax Note	7671	Date	2-23	# of pages	4
To	Clarence	From	John Ross		
Co./Dept		Co.			
Phone	As add to	Phone	next Council		
Fax #	meeting	Fax #	ickets		

Dear Mr. Kyle:

I understand from Glenn Reid that you asked at the last Council meeting whether the work of the North Pacific Universities Marine Mammal Research Consortium Researchers was peer reviewed. All of the research conducted by Consortium researchers, including my work, follows the standard scientific review process.

The review process begins with informal discussions with colleagues about the findings we are obtaining. Results are then presented at workshops, symposiums, conferences, public meetings and invited lectures. Verbal feedback (both positive and negative) is received and incorporated into written documents. These manuscripts are typically circulated to a select group of colleagues for written comments, and leads to revised manuscripts that are submitted to scientific journals for publication. The editors of the journals will typically send the submitted manuscripts to one or two peer reviewers. The reviewers will comment on the manuscripts (usually anonymously) and make a recommendation to the editor on whether the manuscripts should be published, revised or rejected. Reviewers are normally selected based on their ability to judge the science that is being reported. Total time from beginning to end of the review process can range from 2-5 years.

I am enclosing a list of papers that have been published by Consortium scientists in the past 5 years, as well as a list of papers presented at conferences, and a list of papers submitted for publication (these are in addition to other manuscripts we are working on). Our research began 5 years ago with very little and we are no beginning to obtain an increasing number of results from our studies. You will be hearing a lot more from us over the coming years as more and more of our research reaches completion.

Please contact me if you would like any more information about the review process and our research program.

Yours truly,



Andrew W. Trites, Ph.D.,  
 Research Director, North Pacific Universities Marine Mammal Research Consortium

enc.  
 c. Glenn Reid.

# NORTH PACIFIC MARINE SCIENCE FOUNDATION

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February 19, 1999

## LIST OF PUBLICATIONS, CONFERENCES, SYMPOSIUMS, WORKSHOPS

### PUBLICATIONS:

- Cottrell, P.W., Trites, A.W. and E.H. Miller. 1996. Assessing the use of hard parts in faeces to identify harbour seal prey: results of captive feeding trials. *Canadian Journal of Zoology*, 74: 875-880.
- Trites, A.W., and P.A. Larkin. 1996. Changes in the abundance of Steller sea lions (*Eumetopias jubatus*) in Alaska from 1956 to 1992: how many were there? *Aquatic Mammals* 22:153-166.
- Rosen, D.A.S. and A.W. Trites. 1997. Heat increment of feeding in Steller sea lions, *Eumetopias jubatus*. *Comparative Biochemistry and Physiology* 118A: 877-881.
- Trites, A.W., D.Pauly, and V. Christensen. 1997. Competition between fisheries and marine mammals for prey and primary production in the Pacific Ocean. *Journal of Northwest Atlantic Fishery Science* 22: 173-187.
- Springer, A.M. and S.G. Speckman. 1997. A forage fish is what? Summary of the symposium. In *Forage Fishes in marine ecosystems*. Pages 773-806. Univ. Of Alaska Sea Grant Program Report 97-01.
- Springer, A.M. 1997. Prerecruit pollock in seabird food webs of the Bering Sea. In R.D. Brodeur, P.A. Livingston, T.R. Loughlin, and A.B. Hollowed (eds.), Ecology of juvenile pollock. NOAA Tech. Rep. NMFS 126: 198-200.
- Hunt, G.L., Jr., A.S. Kitaysky, M.B. Decker, D.E. Dragoo, and A.M. Springer. 1997. Changes in the distribution and size of juvenile walleye pollock as indicated by seabird diets at the Pribilof Islands and by bottom trawl surveys in the eastern Bering Sea. In: R.D. Brodeur, P.A. Livingston, T.R. Loughlin, and A.B. Hollowed (eds.), Ecology of juvenile pollock. NOAA Tech. Rep. NMFS 126: 125-139.
- Trites, A.W. 1997. The role of pinnipeds in the ecosystem. In G. Stone, J. Goebel, and S. Webster. (eds.). Pinniped populations, eastern north Pacific: Status, trends and issues. American Fisheries Society Symposium Report. Pages 31-39. New England Aquarium, Monterey Bay Aquarium, Monterey California, August 1997.
- Trites, A.W. and D. Pauly. 1998. Estimating mean body masses of marine mammals from maximum body lengths. *Canadian Journal of Zoology*. 76:886-896

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Andrews, R.D. 1998. Remotely releasable instruments for monitoring the foraging behaviour of pinnipeds. *Marine Ecology Progress Series*, Vol 175:289-294.

Rosen, D.A.S. and A.W. Trites. 1998. Changes in metabolism in response to varying energy intake in a marine mammal, the Steller sea lion. Proceedings of the Comparative Nutrition Society, Banff Alberta, August 1998, pp. 182-187.

Springer, A.M. (in press). Is it all climate change? Why marine bird and mammal populations fluctuate in the North Pacific. In: Biotic impacts of extratropical climate change in the Pacific, 'Aha Huliko'a Proceedings, University of Hawaii.).

#### IN REVIEW:

Rosen, D.A.S. and A.W. Trites. *In review*. Pollock and the decline of Steller sea lions: testing the junk-food hypothesis. *Journal of Zoology*, London 0:000-000.

Rosen, D.A.S., L. Williams, and A.W. Trites. *In review*. Effect of ration size and meal frequency on digestive and assimilation efficiency in juvenile Steller sea lions, *Eumetopias jubatus*. *Journal of Mammalogy* 0:000-000.

Trites, A.W. and D.A.S. Rosen *In review*. A morphometric index of body condition for Steller sea lion pups (*Eumetopias jubatus*). *Marine Mammal Science* 0:000-000.

Rosen, D.A.S. and A.W. Trites. *In review*. Metabolic effects of low-energy diet on Steller sea lions, *Eumetopias jubatus*. *Physiological Zoology* 0:000-000. Jonker, R.A.H., and A.W. Trites. *In review*. The reliability of calipers to measure the blubber thickness of Steller sea lion pups (*Eumetopias jubatus*). *Marine Mammal Science* 0:000-000.

Burg, T., A.W. Trites, and M.J. Smith. *In review*. Mitochondrial and microsatellite analyses of eastern Pacific harbour seals, *Phoca vitulina richardsi*. *Canadian Journal of Zoology*.

Trites, A.W. and R.A.H. Jonker. *In review*. Morphometric measurements and body conditions of healthy and starveling Steller sea lion pups (*Eumetopias jubatus*). *Aquatic Mammals* 0:000-000.

Winship, A.J., A.W. Trites and D.G. Calkins. *In review*. Physical growth of Steller sea lions (*Eumetopias jubatus*). *Journal of Mammalogy* 0:000-000.

**CONFERENCES, SYMPOSIUMS, WORKSHOPS:**

- Trites A.W. and D. Pauly 1997. ECOPATH: an ecosystem model of the Eastern Bering Sea. Bering Sea Ecosystem Workshop, Anchorage AK (Oct 6-7, 1997)
- Christen, D.R., D.A.S. Rosen and A.W. Trites. 1998. Effectiveness of morphological measures for predicting body condition in an otariid, the Steller sea lion (*Eumetopias jubatus*). 12<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Monaco, January 1998, p. 26.
- Jonker, R.A.H. and A.W. Trites. 1998. Body composition of Steller sea lion pups (*Eumetopias jubatus*) and the reliability of calipers to measure blubber thickness. 12<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Monaco, January 1998, p. 69
- Rosen, D.A.S. and A.W. Trites. 1998. Scope of metabolic depression in Steller sea lions, *Eumetopias jubatus*. 12<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Monaco, January 1998, p. 117.
- Stelle, L.L., R.W. Blake and A.W. Trites, 1998. Drag and energetics of swimming in Steller sea lions. 12<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Monaco, January 1998, p. 128.
- Trites, A.W. 1998. Northern fur seals: changes in body length and carrying capacity in the Bering Sea and Gulf of Alaska [Abstract]. 12<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, Monaco, January 1998, p. 136.
- Trites, A.W., P. Livingston, M.C. Vasconcellos, S. Mackinson, A.M. Springer and D. Pauly. 1998. Ecosystem Considerations and the Limitations of Ecosystem Models in Fisheries Management: Insights from the Bering Sea. *In* Proceedings of Ecosystem Considerations in Fisheries Management. 16<sup>th</sup> Lowell Wakefield Fisheries Symposium and American Fisheries Society joint meeting. Anchorage, Alaska, USA. September 30 – October 3, 1998.
- Trites, A.W. 1999. A mass balance model for the eastern Bering Sea: insights into the ecosystem effects of fisheries and regime shifts NPFMC Ecosystem Committee Workshop, Anchorage, Alaska, USA January 21-22, 1999.
- Trites, A.W., P. Livingston, M.C. Vasconcellos, S. Mackinson, A.M. Springer and D. Pauly. 1999. Ecosystem effects of fishing in the eastern Bering Sea: insights from trophic mass balance assessments. ICES/SCOR Symposium on Ecosystem Effects of Fishing, Montpellier, France, 15-19 March 1999.



April 13, 1999

RECEIVED  
APR 13 1999  
N.P.F.M.C

All Members  
North Pacific Fisheries Management Council  
605 W 4<sup>th</sup> Ave., Ste. 306  
Anchorage, AK 99501

RE: Stellar Sealion Issue

Dear Members:

The Ounalashka Corporation being the major landowner in Unalaska, which has properties leased to companies and individuals that depend on the Bering Sea Fishery for their livelihood, are concerned about your upcoming regulations.

We understand the need to protect the Stellar Sealions and all of the ecosystem and at the same time keep a healthy fishery, but what we do not understand is making changes in the regulations without the scientific data to back it up. No one can tell at this point, whether these changes are having any effect on the Stellar Sealion, yet they will have an enormous impact on the economy in Unalaska and many other Aleutian Island communities that participate in the Bering Sea Fishery.

We would urge you to give careful and thoughtful consideration to all the facts and begin to base decisions based on scientific data rather than arbitrary decisions that could not only have adverse effect on the fishery, but also the economic well being of a lot of people who depend on this fishing for their livelihood.

Good decisions are made when you have all the facts to consider and bad decisions are made under political pressure without good information for a basis, they then are made arbitrarily and capriciously.

Please take your duties and responsibilities seriously and demand the scientific data before making your decision.

Sincerely,

Richard L. Davis, Jr.  
Chief Executive Officer



W. Scott Diener  
PO Box 18  
Unalaska, AK 99685  
907-581-3752

RECEIVED  
APR 14 1999  
N.P.F.M.C

April 12, 1999

North Pacific Fisheries Management Council  
All Members  
605 West 4<sup>th</sup> Avenue, Suite 306  
Anchorage, Alaska 99501-2252

by fax: 271-2817

Re: Steller Sea Lion Protective Measures, April Meeting

Dear Members of the Council:

I am writing you as an eight-year resident of Unalaska/Dutch Harbor and a 23-year resident of Alaska. I am currently employed as an upper-level executive of the City of Unalaska, whereby I am tasked with ensuring orderly, sound and sustainable development occurs within the City.

It is with great concern that we in Unalaska have tried to map our future during recent budget cycles and capital planning. Future City revenues are generally expected to decrease and local businesses are expecting today's downturn to continue and possibly worsen. Yet yearly operations and maintenance costs to provide necessary and basic services to a fishery-dependant community of over 4,000 continue to grow.

I have strong concerns, as I am sure you do, that the protective measures in place are not designed to allow methods for examining their efficacy. It is my understanding the Council has not been allowed an independent and coordinated review of biological data and relevant information relating to Stellers and their prey. However, you are being compelled to prepare for long-term management of Steller issues, without necessary consideration of the consequences to our resources and the many communities dependant on those resources.

Please resolve to craft a solution that truly fits the 'reasonable and prudent' test. If that is not possible, due to the lack of necessary information and advice, please continue to look for alternative measures which will produce positive outcomes for both the Steller and all of us who depend on responsible and viable management of our fisheries. Your due consideration is greatly appreciated.

Sincerely,

  
Scott Diener

cc: National Marine Fisheries Service  
Governor Tony Knowles  
Senator Ted Stevens  
Senator Frank Murkowski  
Representative Don Young

Shirley Marquardt  
P.O. Box 920021  
Dutch Harbor, AK. 99692

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APR 14 1999

N.P.F.M.C

April 14, 1999

North Pacific Fisheries Management Council  
All Members  
605 West 4<sup>th</sup> Avenue, Suite 306  
Anchorage, Alaska 99501-2252

Re: Steller Sea Lion Protective Measures, April Meeting

Dear Members of the Council:

I write to you as a two term Unalaskan City council member and a 18-year resident of Unalaska/Dutch Harbor. It has been with great trepidation that we in Unalaska have tried to plan for our future during this year 2000 budget cycle. City revenues are forecast to decrease while the operations and maintenance costs to provide necessary services to this fishery - dependent community of over 4,000 continue to grow.

Given the financial uncertainty already facing Unalaska/Dutch Harbor, we are greatly concerned about the potential for further revenue declines that would result if certain Steller sea lion protection measures are adopted. While we share concern about the Steller decline, we are not convinced that the pollock fishery poses jeopardy and that further restrictions to the fishery would facilitate the Stellers recovery.

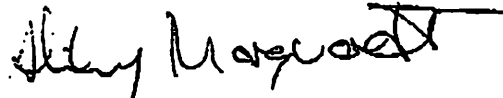
I have strong concerns, that the protective measures in place, both new and old, were crafted without guidelines for examining their efficacy. Nor has there been an independent review of the biological data and relevant information relating to Stellers and their prey. Yet the North Pacific Council is being asked to prepare for long-term management of the Steller sea lion,

North Pacific Fisheries Management Council  
April 14, 1999  
Page 2

without the time for due consideration of the consequences, for both man and mammal. This is profoundly troubling to me.

Please stand firm in your resolve to craft a solution that truly fits the "reasonable and prudent" test. And if that is not possible, please continue to look for alternative measures that will produce positive outcomes for both the Steller and those of us who depend on the responsible and practical management of our fisheries for our livelihood.

Thank you,



Shirley Marquardt

# Alaska Groundfish Data Bank

P.O. Box 2298 • Kodiak, Alaska 99615

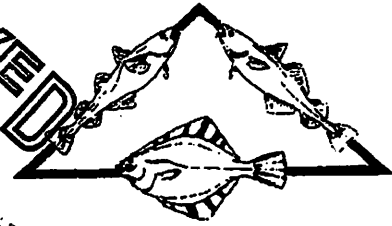
TO: RICK LAUBER, CHAIRMAN  
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

RE: COMMENTS ON AGENDA ITEM C-2(b)

DATE: APRIL 14, 1999

SENT BY FAX: 6 PP

RECEIVED  
APR 14 1999  
N.P.F.M.C.



AGENDA ITEM C-2(b)

## COMMENTS ON THE MARCH 1999 DRAFT EA/RIR PROVISIONS TO PROTECT THE GULF OF ALASKA STELLER SEA LIONS - INITIAL REVIEW

SUBMITTED BY ALASKA GROUND FISH DATA BANK APRIL 13, 1999

### 1. REQUEST FOR CLARIFICATION

It is Alaska Groundfish Data Bank's members understanding that the objective of the RPA's is to reduce localized depletion of pollock caused by the commercial pollock fishery.

It is also our understanding that there is no data showing that localized depletion occurs due to the pollock fishery nor data suggesting the fishery duration/removal rate of pollock which may create a localized depletion sufficient to jeopardize the access by sea lions to pollock.

Since there is no data against which to evaluate whether a sea lion protective measure is effective the proposed sea lion protective measures are a set of intuitively derived concepts laid out in the biological opinion.

#### QUESTION 1: WHAT IS THE MAIN GOAL OF THE PROPOSED SEA LION PROTECTIVE MEASURES?

- To conform with the plan in the biological opinion?
- To reduce the rate of removals?
- To reduce the number of fishing days?
- To spread the fleet out over space?
- To decrease as much as possible the area in which pollock fishing occurs?
- To conduct the fishery in areas of low pollock abundance?

This is not a trivial set of questions. In the Gulf of Alaska a seasonal pollock fishing period may be as little as 12 hours and often less than a week as shown in the appendix to these comments. In order to propose or evaluate sea lion protective measures it is necessary to know the priority of each criteria.

The Gulf pollock fishery responds in different ways depending on the quota and preseason estimate of fishing days.

- If the season is short the fishery is more localized and intense, but lasts only a few days.
- The more the estimated fishing days the more likely the fleet is to slow down and spread out.
- The shorter the fishing time the less attention paid to fish size and quality by the fleet as each vessel races for its share.

AGDB Comments on the Preliminary Sea Lion EA/RIR -- April 14, 1999 -- Page 2 of 6

How the Gulf pollock fisheries are managed to reduce localized depletion depends on the priority set on the different criteria in the biological opinion. As an example:

1. If slowing down the fishery is the primary objective then the objective would be best met by reducing the number of fishery periods to allow time for the fleet to spread out.
2. If limiting the number of fishing days on the grounds or the amount of area fished is the primary objective, than a short intense fishery meets the objective.

When quotas are low it is not possible to balance spatial, temporal or fleet intensity simultaneously.

**QUESTION 2: HOW MUCH FISHING TIME OR CATCH CONSTITUTES LOCALIZED DEPLETION?**

1. A one day fishery? A four day fishery?
2. What percent of the biomass taken in a fishery? Less than 10%? Less than 5%?

**QUESTION 3. DOES THE SIZE AND/OR QUALITY OF THE POLLOCK HARVESTED MATTER?**

The biological opinion does not seem to address the issue of pollock size and condition. The omission of any attention to fish size and quality seems to infer that it does not matter if the fleet fishes six inch pollock or 18 inch pollock.

Nor is there any concern raised about pollock condition. When pollock are in poor condition, the number of pollock per MT is greater than it would have been if the pollock had been in good condition.

Intuitively the pollock fishing industry has assumed that harvesting small fish was to be avoided. The fleets fishing the 1998 June Central/Western Gulf opening voluntarily stopped fishing Chirikof because the area contained mostly small pollock. The fleet did, however, stay on the grounds until the only the tonnage allowable for rollover to the next opening remained.

Under the current emergency rule provisions it is unlikely the fleet would have taken the same action since it would have been a use it or lose it situation.

If fish quality and/or size is of concern then a more liberal rollover provision is required. To maintain the Gulf pollock fishery's ability to avoid small pollock it is necessary to assure that the fleet has adequate fishing areas. Keeping the eight haulouts scheduled for closures in 2000 will provide the flexibility required.

Gulf pollock aggregations between years and within years change location.

**IT APPEARS THAT THE SEA LION PROTECTIVE MEASURES WERE DESIGNED FOR THE BERING SEA POLLOCK FISHERY AND TRANSFERRED TO THE GULF WITHOUT CONSIDERATION OF THE DIFFERENCES IN FLEETS, QUOTAS, FISHERY AREAS, AND COMMUNITIES.**

We suggest that the marine mammal biologists come to Kodiak in May for a workshop with the Gulf fishermen and processors to develop Gulf specific RPA's. Because most of the fleet fishes multiple fisheries and processing facilities run almost all year there is an opportunity to be innovative and better meet whatever the priorities of the RPA's with the least threat to fishermen and economic welfare of the communities.

Any effect of the RPA's in the Kodiak Area was overwhelmed by the increased effort, much of which occurred due to the late pollock opening date in the Bering Sea. The increased effort created a 1999 pollock fishery which was twice as fast and intense as the 1998 fishery. SEE Page 5, ITEM B.

AGDB Comments on the Preliminary Sea Lion EA/RIR -- April 14, 1999 -- Page 3 of 6**II. ALASKA GROUND FISH DATA BANK POSITIONS AND COMMENTS ON THE PROPOSED PROVISIONS IN THE PRELIMINARY EA/RIR****ISSUE 1. DO NOT PROHIBIT TRAWLING FOR POLLOCK NOVEMBER 1 THRU JANUARY 19:**

This provision implementing a November 1 automatic closure date ignores the problem weather may cause in the fall. Many of the Gulf trawlers are small enough they must stay in port during storms. In some years the delays caused by storms and/or icing conditions could be frequent enough to prevent taking the fourth quarter pollock quota.

The Gulf seasonal pollock quotas are so small that it is unlikely that an open access fishery would continue into November unless the amount of storm and/or icing is extreme.

**ISSUE 2. GULF POLLOCK SEASONS:**

Fishing four seasons is acceptable; However the Kodiak fishermen feel that the Gulf pollock openings should be concurrent with the Bering Sea openings. The openings for the Gulf would be the same as the Bering Sea A1 and A2 seasons which means the Gulf will forego any June pollock fishery.

The Gulf preference in the fall is to start both the Gulf and Bering Sea B season September 1 instead of the current August 15, assuming that the Bering Sea sectors are able to take the C season quota prior to November 1.

Provisions should be made to accommodate the Gulf pollock fishery when the quota is too low to permit a manageable fishery under a quarterly system. This was the justification for moving from a quarterly to a trimester fishery last round.

**ISSUE 3. REQUIRE A BREAK BETWEEN SEASONS:**

This provision is reasonable.

**ISSUE 4. SEASONAL EXCLUSIVE REGISTRATION:**

There is general consensus that seasonal exclusive registration is necessary between the Gulf of Alaska, including West Yakutat, and the Bering Sea.

**ISSUE 5. TRIP LIMITS:**

There is not a consensus within the AGDB membership for trip limits. However there was consensus that if there are trip limits in the Central Gulf the limits should include West Yakutat.

**ISSUE 6. POLLOCK TENDERS:**

Though small tendering operations have been used to help smaller vessels in two Kodiak areas, the group consensus was since part of the rationale for the sea lion protective measures is to slow down the fishery, tendering should be banned.

**ISSUE 7. TRADITIONAL QUOTA AREAS:**

Maintain the traditional quota areas: West Yakutat, Kodiak, Chirikof and Shumagins. Based on stock distribution these areas appear to reasonably represent the major spawning biomasses.

AGDB Comments on the Preliminary Sea Lion EA/RIR -- April 14, 1999 -- Page 4 of 6**ISSUE 8. DROP SHELIKOF STRAIT QUOTA:**

Shelikof is only one of several known Gulf spawning areas: Davidson Banks, Sanak, Prince William Sound and West Yakutat are also sites of spawning pollock biomasses which, unfortunately, with the exception of Prince William Sound in recent years, have not been surveyed.

Unless NMFS can provide information establishing that the Shelikof Strait spawning biomass is in same way different from other spawning biomasses it should be treated no differently from other Gulf spawning biomasses.

**ISSUE 9. LOW HARVEST OF SHELIKOF POLLOCK COMPARED TO OUTSIDE SHELIKOF**

The preliminary EA/RIR analysis that Shelikof Strait pollock are under harvested and reaches the conclusion that if Shelikof Strait pollock are under harvested, than pollock outside Shelikof must be over harvested and suggests that the quota outside Shelikof should be reduced to assure that over harvest does not occur.

This discussion seems to assume that the spawning biomass of pollock in Shelikof Strait remains in the Strait all year. The reality is that the spawning biomass moves out of the Strait and no one knows where the fish go -- Western Gulf? Bering Sea? Dispersed around Kodiak Island?

Analysis of the age class structure over time indicates strongly that starting around age five an increasingly smaller proportion of the older year classes return to Shelikof. The assumption is that the older fish spawn outside Shelikof, possibly in small aggregations known as haystacks.

After the pollock leave Shelikof Strait a portion will be harvested in the areas where they end up -- unless they all cluster within areas closed to pollock fishing.

The reason Shelikof Strait is often lightly harvested is because it is often the site of a lot of small pollock. Which brings up issue 10.

**ISSUE 10. DOES THE SIZE OR CONDITION OF POLLOCK MATTER**

The EA/RIR has a great deal to say about spatial and temporal management measures, but fails to express any concern about the size and condition of the pollock taken by the commercial fishery.

Based on Preliminary EA/RIR it appears that taking small pollock is not of concern, nor is taking pollock in poor condition which requires more pollock per MT than pollock in good condition.

The industry has worked hard to avoid small pollock and processors have not purchased the equipment to process small pollock under the assumption that it was best to leave small pollock on the grounds.

**ISSUE 11. KEEP EIGHT HAULOUTS OPEN IN THE GULF.**

Keep the eight haulouts left open in emergency rule open until another solution which allows the fleet to spread out, find pollock and retain the ability to search for commercial sized pollock is developed.

**ISSUE 12. ROLLOVERS:**

AGDB members support rollovers as long as the 30% rule is not violated.

AGDB Comments on the Preliminary Sea Lion EA/RIR -- April 14, 1999 -- Page 5 of 6

**III. SOME VERY PERSONAL OBSERVATIONS**

**A. SECOND TIME AROUND (IT FEELS LIKE DEJA VUE):**

In 1991 Greenpeace sued National Marine Fisheries Service to reduce the Gulf pollock quota.

Measures taken were:

1. Spread out the fishery in space: The Gulf quota was apportioned between Kodiak (Area 630) and Western Gulf (Area 620 + 610). Later the Gulf was further split into three areas as allocative measure.
2. Spread the fishery over time: The Gulf pollock fishery was fixed at four quarters, later dropped to three openings when the quota got too low to have manageable quarterly fisheries.
3. Shelikof was a separate quota. Later this quota disappeared.
4. All rookeries were closed out to ten miles.
5. The Gulf pollock openings did not line up with the Bering Sea openings and the issue was never adequately addressed, though restraints on the part of the Dutch Harbor plants and their fleets kept total chaos from erupting.

So eight years later new people arrive and decide to close more area, this time just for pollock (we salute this improvement), more talk about spatial and temporal distribution (Been there, done that and am doing it again).

And once again the Gulf and Bering Sea pollock openings are not concurrent. It rather like being caught up in the movie "Groundhog Day."

**B. ANOTHER SIMILARITY BETWEEN 1991 AND 1999** is that NMFS didn't consult with the fleet at the beginning of the process, but sat down in front of a computer and made a plan. For the Gulf the plan doesn't work very well, as every fishermen knew when the Bering Sea opening dates were announced.

The Sea Lion protective measures assured that Kodiak would have more vessels, a more intense fishery and fewer fishing days. The result was

**KODIAK 1998 AND 1999 QUOTAS, FISHING DAYS AND AVERAGE VESSEL LENGTH**

KODIAK AREA	1998 JAN POLLOCK FISHERY	1999 JAN POLLOCK FISHERY
QUOTA	9830 MT	9165 MT
NO. FISH DAYS	13.5	7.5
AVE. VESSEL SIZE	77 Feet	85 feet

ADF&G DATA

**KODIAK AREA CHANGES IN FLEET COMPOSITION AND AVERAGE CATCH 1999 & 1999**

YEAR	VESSELS PRESENT	# VESSELS	AVE LENGTH	AVERAGE JAN OPENING CATCH
1998	1997 & 1998	29	79 FEET	569018 MT
1999	1998 & 1999	29	79 FEET	305234 MT
1998	1998 ONLY	15	75 FEET	215321 MT
1999	1999 ONLY	18	95 FEET	649993 MT



AGDB Comments on the Preliminary Sea Lion EA/RIR -- April 14, 1999 -- Page 6 of 6

It would be interesting to see what the industry would propose if asked to develop a plan to spread the pollock fishery in space and time. I guarantee it would not speed up and intensify the Gulf pollock fisheries.

Chris Blackburn, Director  
Alaska Groundfish Data Bank

# Alaska Groundfish Data Bank

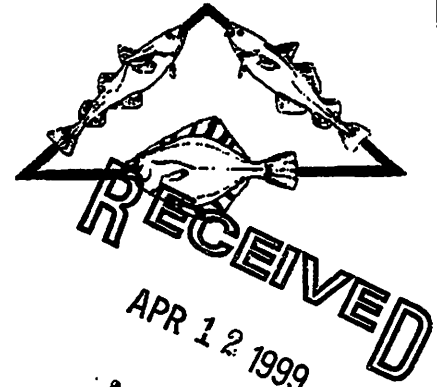
P.O. Box 2298 • Kodiak, Alaska 99615

TO: RICK LAUBER, CHAIRMAN  
NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

DATE: APRIL 9, 1999

SENT BY FAX: THIS SHEET + 8 PP

AGENDA ITEM C-2(b)



**APPENDIX  
TO  
COMMENTS ON THE 1999 EMERGENCY RULE DECREASING INTERACTIONS  
BETWEEN THE COMMERCIAL POLLOCK FISHERY AND STELLER SEACTIONS**

**SUBMITTED TO THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL  
BY ALASKA GROUND FISH DATA BANK  
APRIL 9, 1999**

The following set of tables show are provided to give a perspective on the amount of time, catch, average catch/day and regulatory history of the Gulf of Alaska pollock fishery 1991 thru 1998.

The first page summarizes the number of days by quarter that fishing for pollock was opened 1991 - 1998. The following seven pages detail the opening and closure dates, catch, average MT/day and regulatory changes for the years 1991-1998.

### CAVEATS

1. Inseason catch data was used. Since corrections often occur after pollock fishery closes the catch data shown represents all the pollock taken from the start of one opening to the start of the subsequent pollock opening. The effect is to somewhat overstate the target catch and somewhat over state the catch/MT.
2. Storms, price strikes and difficulty finding pollock can increase the length of a season. In other words, it should not be considered that fishing occurred every day open to fishing.
3. Pollock fishing in Chirikof usually starts after the Kodiak pollock fishery closes, so the number of days over usually overstates the actual number of fishing days. Also, Chirikof pollock is usually taken in the South end of the area by Sandpoint/Dutch Harbor fishermen and the Northern end is fished by Kodiak fishermen.

GFDSUMAP.079

SUMMARY GULF OF ALASKA POLLOCK FISHING DAYS 1991 THRU 1998			
JANUARY POLLOCK OPENINGS			
	AREA 630	AREA 620	AREA 610
	KODIAK	CHIRIKOF	SHUMAGIN
YEAR	#DAYS	#DAYS	#DAYS
1991	8	*	*45
1992	18	8	50
1993	36	36	63
1994	29	20	35
1995	4	6	13
1996	3	9	8
1997	15	18	6
1998	13	18	6
			WG=620&610
JUNE POLLOCK OPENINGS			
	AREA 630	AREA 620	AREA 610
	KODIAK	CHIRIKOF	SHUMAGIN
YEAR	#DAYS	#DAYS	#DAYS
1991	17	*	17
1992	11	16	2
1993	23	17	13
1994	21	4	1
1995	4	4	1
1996	4	0.25	0.25
1997	8	7	0.75
1998	11	*30	13
		*94 YR Class problem	
JULY POLLOCK OPENINGS			
	AREA 630	AREA 620	AREA 610
	KODIAK	CHIRIKOF	SHUMAGIN
YEAR	#DAYS	#DAYS	#DAYS
1991	20	*	24
1992	8	13	1
1993	19	7	10
1994	14	14	1
1995	4	5	1
1996	0.5	0	0
1997	0	0	0
1998	0	0	0
FALL POLLOCK OPENINGS			
	AREA 630	AREA 620	AREA 610
	KODIAK	CHIRIKOF	SHUMAGIN
YEAR	#DAYS	#DAYS	#DAYS
1991	4	*	4
1992	7	10	0
1993	12	9	2
1994	9	9	3
1995	3	1	0.5
1996	*10	18	17
1997	11	20	6
1998	15.5	41	8
	*1996 -- 2 days Sept., 8 days Oct.	*94 YR Class problem	

## APPENDIX A -- 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1991 GULF OF ALASKA POLLOCK FISHERY						
POLLOCK REGULATORY MEASURES - 1991						
YEAR	REGULATORY ACTION					
1991	SHELIKOF HAS SEPARATE POLLOCK QUOTA FOR FIRST OPENING					
1991	CENTRAL & WESTERN GULF ONE POLLOCK QUOTA AREA					
	January 1 thru June 12					
1991	GREENPEACE FILES LAWSUIT					
1991	RETENTION OF POLLOCK PROHIBITED MAR. 1					
	Pollock becomes prohibited species until sea lion protective measures in place					
1991	SEA LION PROTECTION MEASURES EFFECTIVE JUNE 13					
1991	WESTERN & CENTRAL GULF SPLIT INTO TWO SUBAREAS					As of June 13
	Western Gulf = 610 & 620		Central Gulf = 630			
1991	FIRST QUARTER CATCH APPORTIONED BETWEEN CENTRAL & WESTERN GULF					
	July 1					
FIRST QUARTER 1991						
SHELIKOF AREA						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1991	1/1/91	2/4/91	34	6424	189	
CENTRAL/WESTERN GULF - POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1991	1/1/91	2/15/91	45	18795	418	
SECOND, THIRD & FOURTH QUARTERS 1991						
Note that Second and Third Quarters -- June & July Fisheries were continuous						
CENTRAL GULF POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1991	1/1/91	2/15/91	45	13881	308	
1991	6/13/91	7/20/91	37	24508	662	
1991	10/21/91	10/25/91	4	9726	2432	
<b>TOTALS</b>			<b>86</b>	<b>48115</b>	<b>559</b>	
WESTERN GULF POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1991	1/1/91	2/15/91	45	6572	146	
1991	6/13/91	7/24/91	41	26692	651	
1991	10/21/91	10/25/91	4	9038	2260	
<b>TOTALS</b>			<b>90</b>	<b>42302</b>	<b>470</b>	

1992 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1992						
1992	FIRST QUARTER OPENING DATE CHANGED FROM JAN. 1 TO JAN. 20					
1992	POLLOCK REPORTING AREAS CHANGED					
Western Gulf split into Shumagin and Chirikof, Shelikof reporting area eliminated						
1992	INSHORE/OFFSHORE 1 IMPLEMENTED JUNE 1					
1992 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH	%/W CAT	BIOMASS	CATXBIOM	
KODIAK	46200	50211	59.88			
CHIRIKOF	18480	15518	18.51			
SHUMAGN	19320	18127	21.62			
TOTAL	84000	83856	100.00	1196000		7.0
1992 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATA						
KODIAK GULF POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1992	1/20/92	2/7/92	18	14355	798	
1992	1/20/92	6/12/92	11	10298	936	
1992	6/1/92	7/7/92	8	10837	1355	
1992	9/28/92	10/5/92	7	14721	2103	
TOTALS			44	50211	1141	
CHIRIKOF GULF POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1992	1/20/92	1/28/92	8	5533	692	
1992	6/1/92	6/17/92	16	4245	265	
1992	6/29/92	7/12/92	13	2650	204	
1992	9/28/92	10/8/92	10	3090	309	
TOTALS			47	15518	330	
WESTERN GULF POLLOCK						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1992	1/20/92	3/10/92	50	12609	252	
1992	6/1/92	6/3/92	2	2371	1186	
1992	6/29/92	6/30/92	1	2988	2988	
1992	9/28/92	9/28/92	0	159	#DIV/0!	
TOTALS			53	18127	342	

APPENDIX A -- 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1993 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1993						
POLLOCK OPENING DATES REVISED						
Jan. 26, June 1, July 1, and October 1						
SEA LION ROOKERY TRANSIT ZONES ESTABLISHED						
Akutan Island, Clubbing Rocks, Outer Island, Akutan Pass, Wildcat Pass						
1993 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH	%/W CAT	BIOMASS	CATXBIOM	
KODIAK	60939	62936	58.31			
CHIRIKOF	25974	23788	22.04			
SHUMAGN	24087	21204	19.65			
TOTAL	111000	107928	100.00	1076000	10.0	
1993 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATA						
KODIAK GULF POLLOCK - 630						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1993	1/20/93	2/25/93	36	15319	426	
1993	6/1/93	6/24/93	23	11529	501	
1993	7/1/93	7/20/93	19	18981	999	
1993	10/1/93	10/13/93	12	17107	1426	
TOTALS			90	62936	699	
CHIRIKOF GULF POLLOCK - 620						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1993	1/20/93	2/25/93	36	8240	229	
1993	6/1/93	6/18/93	17	9552	562	
1993	7/1/93	7/7/93	6	326	54	
1993	8/9/93	8/10/93	1	1254	1254	
1993	10/1/93	10/10/93	9	4416	491	
TOTALS			69	23788	345	
WESTERN GULF POLLOCK - 610						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1993	1/20/93	3/24/93	63	5257	83	
1993	6/1/93	6/14/93	13	7945	611	
1993	7/1/93	7/11/93	10	7173	717	
1993	10/1/93	10/3/93	2	829	415	
TOTALS			88	21204	241	

APPENDIX A -- 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1994 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1993						
1994 NONE						
1994 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH	%C/W CAT	BIOMASS	CATXBIOM	
KODIAK	56000	61488	59.15			
CHIRIKOF	23870	22593	21.73			
SHUMAGN	22130	19875	19.12			
TOTAL	102000	103956	100.00	890000		11.7
1994 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATA						
KODIAK GULF POLLOCK - 630						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1994	1/20/94	2/18/94	29	18460	637	
1994	6/1/94	6/22/94	21	15666	746	
1994	7/1/94	7/15/94	14	9840	703	
1994	10/1/94	10/10/94	9	17522	1947	
TOTALS			73	61488	842	
CHIRIKOF GULF POLLOCK - 620						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1994	1/20/94	2/9/94	20	7369	368	
1994	6/1/94	6/5/94	4	888	222	
1994	7/1/94	7/15/94	14	10081	720	
1994	10/1/94	10/10/94	9	4255	473	
TOTALS			47	22593	481	
WESTERN GULF POLLOCK - 610						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1994	1/20/94	2/24/94	35	7007	200	
1994	6/1/94	6/2/94	1	5524	5524	
1994	7/1/94	7/2/94	1	3495	3495	
1994	10/1/94	10/4/94	3	3849	1283	
TOTALS			40	19875	497	

APPENDIX A - 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1995 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1993						
1995 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH	%C/W CAT	BIOMASS	CAT%BIOM	
KODIAK	16310	26360	37.41			
CHIRIKOF	15310	13257	18.81			
SHUMAGN	30380	30853	43.78			
TOTAL	62000	70470	100.00	709000		9.9
1995 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATA						
KODIAK GULF POLLOCK - 630						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1995	1/20/95	1/24/95	4	4774	1194	
1995	6/1/95	6/5/95	4	3004	751	
1995	7/1/95	7/5/95	4	5162	1291	
1994	10/1/95	10/4/95	3	13420	4473	
TOTALS			15	26360	1757	
CHIRIKOF GULF POLLOCK - 620						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1995	1/20/95	1/24/95	4	953	238	
1995	2/8/95	2/10/95	2	4137	2069	
1995	6/1/95	6/5/95	4	3167	792	
1995	7/1/95	7/6/95	5	3974	795	
1994	10/1/95	10/2/95	1	1026	1026	
TOTALS			16	13257	829	
WESTERN GULF POLLOCK - 610						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1995	1/20/95	2/2/95	13	10327	794	
1995	6/1/95	6/2/95	1	7994	794	
1994	7/1/95	7/2/95	1	4387	4387	
1994	10/1/95	10/1/95	0.5	8145	16290	
TOTALS			16	30853	1,991	

APPENDIX A -- 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.



1996 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1996						
1996 POLLOCK FISHERY CHANGES FROM QUARTERS TO TRIMESTERS						
Openings are Jan. 20, June 1 and September 1						
1996 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH %/W CAT	BIOMASS	CATXBION		
KODIAK	13680	1360	26.80			
CHIRIKOF	12840	12293	24.66			
SHUMAGN	25480	2420	48.54			
TOTAL	52000	49853	100.00	922000	5.4	
1996 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATE						
KODIAK GULF POLLOCK - 630						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1996	1/20/96	1/23/96	3	1320	440	
1996	1/29/96	2/2/96	4	5397	1349	
1996	6/1/96	6/1/96	0.5	2143	4286	
1996	9/1/96	9/3/96	2	4196	2098	
1996	10/5/96	10/13/96	8	1624	203	
TOTALS			10	13056	1374	
CHIRIKOF GULF POLLOCK - 620						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1996	1/20/96	1/29/96	9	3946	438	
1996	6/1/96	6/1/96	0.25	927	3708	
1996	9/1/96	9/19/96	18	7420	412	
TOTALS			27	12293	451	
WESTERN GULF POLLOCK - 610						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1996	1/20/96	1/28/96	8	8291	1036	
1996	6/1/96	6/1/96	0.25	1918	7672	
1996	9/1/96	9/18/96	17	13991	823	
TOTALS			25	24200	958	

APPENDIX A - 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

APPENDIX A - 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1997 GULF OF ALASKA POLLOCK FISHERY					
NEW POLLOCK REGULATORY MEASURES - 1997					
1997 POLLOCK FISHERY CHANGES FROM QUARTERS TO TRIMESTERS					
Openings are Jan. 20, June 1 and September 1					
1997 ANNUAL QUOTA, CATCH & BIOMASS					
AREA	QUOTA	CATCH	%C/W CAT	BIOMASS	CAT%BIOM
KODIAK	24550	25023	29.79		
CHIRIKOF	31250	32839	39.09		
SHUMAGN	18600	26141	31.12		
<b>TOTAL</b>	<b>74400</b>	<b>84003</b>	<b>100.00</b>	<b>907000</b>	<b>9.3</b>
1997 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATE					
KODIAK GULF POLLOCK - 630					
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY
1997	1/20/97	2/4/97	15	8948	597
1997	6/1/97	6/9/97	8	6189	774
1997	9/1/97	9/12/97	11	9886	899
<b>TOTALS</b>			<b>34</b>	<b>25023</b>	<b>736</b>
CHIRIKOF GULF POLLOCK - 620					
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY
1997	1/20/97	2/7/97	18	9571	532
1997	6/1/97	6/8/97	7	7368	1053
1997	9/1/97	9/21/97	20	15900	795
<b>TOTALS</b>			<b>45</b>	<b>32839</b>	<b>730</b>
WESTERN GULF POLLOCK - 610					
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY
1997	1/20/97	1/26/97	6	7321	1220
1997	6/1/97	6/2/97	0.75	2931	3908
1997	9/1/97	9/7/97	6	15889	2648
<b>TOTALS</b>			<b>13</b>	<b>26141</b>	<b>2,050</b>

APPENDIX A - 1991 THRU 1998 POLLOCK FISHING DAYS, CATCH, ETC.

1998 GULF OF ALASKA POLLOCK FISHERY						
NEW POLLOCK REGULATORY MEASURES - 1998						
1998 POLLOCK FISHERY CHANGES FROM QUARTERS TO TRIMESTERS						
Openings are Jan. 20, June 1 and September 1						
1998 ANNUAL QUOTA, CATCH & BIOMASS						
AREA	QUOTA	CATCH	%C/W CAT	BIOMASS	CAT%BIOM	
KODIAK	39315	39035	33.25			
CHIRIKOF	50045	49043	41.78			
SHUMAGN	29790	29308	24.97			
<b>TOTAL</b>	<b>119150</b>	<b>117386</b>	<b>100.00</b>	<b>867000</b>	<b>13.5</b>	
1998 POLLOCK OPENINGS, CLOSURES, CATCH BY QUARTER DATE						
KODIAK GULF POLLOCK - 630						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1998	1/20/98	2/2/98	13	9173	706	
1998	6/1/98	6/12/98	11	14002	1273	
1998	9/1/98	9/16/98	15	13816	921	
1998	9/26/98	9/26/98	0.5	2044	4088	
<b>TOTALS</b>			<b>39</b>	<b>36991</b>	<b>948</b>	
CHIRIKOF GULF POLLOCK - 620						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1998	1/20/98	2/7/98	18	12316	684	
1998	6/1/98	7/1/98	30	10253	342	
1998	9/1/98	10/12/98	41	26474	646	
<b>TOTALS</b>			<b>89</b>	<b>49043</b>	<b>551</b>	
WESTERN GULF POLLOCK - 610						
YEAR	OPEN	CLOSE	#DAYS	MT CAT	MT/DAY	
1998	1/20/98	1/26/98	6	5867	978	
1998	6/1/98	6/3/98	2	4680	2340	
1998	6/8/98	6/19/98	11	6726	611	
1998	9/1/98	9/2/98	1	4494	4494	
1998	9/8/98	9/14/98	6	6598	1100	
1998	9/24/98	9/25/98	1	943	943	
<b>TOTALS</b>			<b>20</b>	<b>21767</b>	<b>1088</b>	

# GREENPEACE



Rick Lauber, Chairman  
North Pacific Fishery Management Council  
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**RE: Item C-2, Analysis of Steller Sea Lion RPA Options**

Mr. Chairman,

N.P.F.M.C.

Greenpeace and American Oceans Campaign submit these comments for your consideration of options for final sea lion conservation regulations.

In April, 1998, Greenpeace, American Oceans Campaign and Sierra Club Alaska sued the National Marine Fisheries Service (NMFS) for failure to recommend new measures designed to reduce or eliminate trawl fishing in the critical foraging habitat of the endangered Steller sea lion in western Alaska, habitat which has become ground zero for the largest trawl fisheries in North America since the 1980s.

In December 1998, NMFS issued a Section 7 Biological Opinion for the Alaska pollock and Atka mackerel fisheries, pursuant to the Endangered Species Act. The Biological Opinion concluded that the pollock fisheries jeopardize the endangered Steller sea lion and adversely modify sea lion critical habitat, the most important component of which is the prey base. Since food limitation is believed to be driving the decline of the Steller sea lion population in western Alaska, it is simply not reasonable or prudent to allow these large trawl fisheries to concentrate their efforts on prime sea lion prey in critical foraging habitats.

In February 1999, the Council put forth a set of management options and alternative measures for analysis by NMFS in preparation for Council action on the final regulatory amendments that will satisfy the requirements of the Endangered Species Act. The existing emergency RPA rules fall far short of complying with the Opinion's RPA objectives and principles. However, the Opinion's RPA example also falls short of its stated objectives and fails to avoid jeopardy or adverse modification of critical habitat as required by the ESA. The Council's options and alternatives are premised on some combination of features from the emergency RPA and/or the Opinion's RPA example, and therefore provide no reasonable assurance of avoiding jeopardy or adverse modification.

Major shortcomings in both the NMFS and Council RPA measures are outlined below and in our comments:

- ***The emergency RPA and the Opinion's RPA example fail to achieve major reductions in catch from critical habitat.***

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- *The emergency RPA measures and the Opinion's RPA example fail to eliminate the possibility of competition between Steller sea lions and the fisheries in all designated critical foraging habitat around rookeries and haulouts.*
- *The emergency RPA measures and the Opinion's RPA objectives fail to address seasonal differences in sea lion foraging ranges or to eliminate the possibility of competition in the large aquatic foraging areas beyond 20 nm in Shelikof Strait and the Aleutian Islands.*
- *The emergency RPA measures and the Opinion's RPA example fail to prevent the majority of the catch from being concentrated in the difficult fall and winter months when NMFS says sea lion prey is more scarce and nutritional stress is most likely.*
- *The emergency RPA measures and the Opinion's RPA example fail to spread out and slow down the fisheries temporally by distributing the quota in four distinct seasons, especially in the Bering Sea.*
- *The emergency RPA measures fail to satisfy outstanding requirements of the Opinion's RPA principles, including (1) spatial dispersion by establishment of area-specific TACs in the Bering Sea, (2) adequate temporal separation of the "seasonal" TACs to avoid a single pulse of fishing, (3) establishment of required no-trawl zones around Cape Sarichef in the eastern Aleutian Islands and 8 Gulf of Alaska haulout sites, and (4) a prohibition on winter fishing for Gulf of Alaska pollock from 1 November to January 20, consistent with the Bering Sea provision.*

We have summarized RPA measures that we believe are necessary to provide any real assurance of avoiding the jeopardy condition in Table 1, at the end of these comments.

## **1. RPA REDUCTION TARGETS FOR CATCH IN CRITICAL FORAGING HABITAT DO NOT REPRESENT A SIGNIFICANT DEPARTURE FROM STATUS QUO**

### **A. NMFS Has Not Demonstrated A Safe Level Of Trawl Fishing For Steller Sea Lion Prey In Critical Foraging Habitat**

After reviewing the history of pollock fishery removals from areas subsequently designated as Steller sea lion critical habitat in 1993, and providing "benchmarks" (BO: 118) for comparing recent fishery removals in critical habitat, NMFS suggests that a 50% cap would provide a "meaningful" reduction, even though this level does represent not a significant departure from the recent history of the fisheries which has lead NMFS to conclude jeopardy.

For instance, the Biological Opinion notes that prior to 1987 less than 30% of the annual Bering Sea/Aleutian Islands pollock TAC was taken from Steller sea lion critical habitat in all years except 1971 (BO: 117). In the absence of management controls on distribution of the catch, pollock fishery removals in the southeastern Bering Sea/CVOA region have increased steadily since 1980, averaging 279,069 mt during 1980-1985, 611,178 mt during 1986-1991, and 724,676 mt during

1992-1997. Since 1987, the annual percent of the TAC removed from critical habitat has ranged from 36-69% with a 1987-1997 average of 52%.

In the Gulf of Alaska, "...the percent of the annual pollock TAC taken from critical habitat was on the order of a few percent until 1979, when the level rose to about 35%. From 1982 to 1997, the level has been consistently above 50%, ranging to as high as 93% in 1988. Here, a cap of 50% from critical habitat is consistent with the lower limit of catches since 1982, but also represents a meaningful reduction from the mean annual percent over this period" (BO: 118).

Given the large percentages of catch taken from critical habitat in both management areas, it is difficult to understand how a cap at the lower end of this range represents a "meaningful" reduction of catches from critical habitat, since this level of fishery removals from critical habitat represents a continuation of the status quo in which Steller sea lion critical habitat remains a major focus of the fishery. This is why NMFS has concluded that the fisheries jeopardize sea lions in the first place.

#### **B. The So-Called "50% Principle" Is Politically Expedient, Not Biologically Justified.**

There is no "50% principle" in the Biological Opinion. Under BO Section 8.1.2 (Spatial Dispersion), NMFS says catch must be dispersed spatially in accordance with 5 principles (a-e). Principle *b*) requires limits on the maximum percent of TAC to be taken from critical habitat:

*"Absent good scientific estimates of pollock biomass distribution, place a maximum limit on the percent of TAC allocations from CH areas for each season. A cap of 50%, for example, is consistent with past fishing practices, but still leads to meaningful reduction in the percent of TAC from CH"* (BO: 119).

Thus, a "maximum limit on the percent of TAC allocations from CH areas for each season" is the principle here, separate from any specific percent cap. 50% is an arbitrary threshold suggested by NMFS to illustrate how the principle might be applied, but there is no analysis to demonstrate that 50% is sufficient to avoid jeopardy or adverse modification.

NMFS does not provide any biological basis for supporting this threshold. Rather the goal appears intended to minimize any immediate changes from past fishing practices, a point repeatedly made in the Biological Opinion's example RPA: "A cap of 50%, for example, is consistent with past fishing practices...A 50% cap would also minimize the immediate consequences to the fisheries..." (BO: 118-119). NMFS repeats this point in the draft analysis of RPA options, noting that the Opinion's RPA principles were presented to the Council "to allow the Council and the public to participate in the process of identifying conservation measures to satisfy the principles with the least disruption to the fisheries" and "A cap of 50% was chosen to reduce the current levels of catch in critical habitat without a major disruption to the fishery" (Draft EA/RIR: x, 10).

Political and economic considerations, not the best interests of the endangered species or the requirements of the ESA, have dominated both NMFS' and the Council's thinking as to the acceptable limits to pollock fishing in critical sea lion foraging habitat.

**C. The "50% Principle" Of The Emergency RPA And Council's RPA Options Does Not Constitute A Meaningful Reduction In Critical Habitat Catches From The Status Quo Jeopardy Condition.**

The emergency RPA measures do not establish a fishing regime which effectively limits overall catches in sea lion critical habitat or differs in any significant respect from the status quo, as illustrated by preliminary fishery data from the recently concluded 1999 pollock A-seasons in the Bering Sea and Gulf of Alaska:

- 92% of the Gulf of Alaska A-season TAC was taken in critical habitat, exceeding the recent three-year average of 90%.
- 58% of the Bering Sea A-season pollock TAC was taken in critical habitat, exceeding the ten-year (1987-1997) average of 52% overall and well within the 53-91% range taken in the CH/CVOA during the A-seasons of 1992-1997.

Data provided by NMFS in the Biological Opinion and in the RPA Analysis indicate that the RPA threshold target of 50% for catch in critical habitat overall is well within the status quo levels of the past decade:

**1. Bering Sea/Aleutian Islands:**

A phased-in cap of catches from critical habitat of 50% does not provide a meaningful change from the status quo operation of the fishery over the past decade (1987-1997):

*"Prior to 1987, less than 30% of the annual catch was taken from Steller sea lion critical habitat [largely in the summer] in all years except 1971 (when about 31% was taken). After 1987, the annual percent of the TAC removed from critical habitat increased to between 36% and 69%, with the 1987-1997 mean of about 52%. In the winter or A season (1995 to 1997), the mean percent of catch has been about 75%" (BO: 117-118).*

**2. Gulf of Alaska:**

The emergency RPA does not establish an explicit cap on overall pollock catches from Gulf of Alaska critical foraging habitat, even though the percent of the catch taken from Steller sea lion critical habitat since the early 1980s has been very high. The Biological Opinion notes that 50-90% of the GOA pollock catch has been taken from areas subsequently designated as Steller sea lion critical habitat since the early 1980s, concentrated in the fall and winter months:

*"Even after catches declined in 1986-1989 in response to declining pollock biomass, the proportion caught in fall and winter remained above 70%" (BO: 27).*

Crucially, the percent of the GOA pollock TAC taken from critical habitat did not decline overall even as the pollock stock biomass plummeted after 1985, in the wake of the massive but short-lived Shelikof Strait roe-pollock bonanza:

*"In the GOA, pollock catches from critical habitat increased (as the TAC increased) from trace amounts prior to 1979 to over 200,000 mt in 1985, primarily from Shelikof Strait (Figure 16). Pollock landings from the GOA critical habitat dropped (as the annual TAC declined) to about 50,000 mt in 1986, and have ranged between 35,000 and 90,000 mt through 1997. However, the percentage of total GOA pollock catches taken from critical habitat did not decline after 1985, but has remained between 50% and 90%" (BO: 28).*

**D. Any Credible Analysis Should Evaluate A Range Of Percent Caps On TAC Taken From Critical Habitat, Including No Pollock Fishing (0%) In CH.**

Given the difficulty of quantifying the competitive effects of high-volume, concentrated trawling for sea lion prey in critical habitat, the only level of pollock (and Atka mackerel) fishing in critical habitat that can provide a real assurance of *avoiding* food web competition and jeopardy to Steller sea lions or adverse modification of critical habitat is 0%. Yet neither the Biological Opinion nor the Draft EA/RIR for final sea lion conservation RPAs considered an option to exclude pollock fisheries from critical habitat altogether. In order to make a credible case for the so-called "50% principle," the Council should have requested NMFS to evaluate a range of allowable fishing levels for pollock and Atka mackerel in critical habitat, including 0%. Instead the agency has only, and arbitrarily, considered a value (50% cap) at the lower end of the status quo.

NMFS cannot justify such high levels of catch in critical habitat, given the dire condition of the Steller sea lion and the findings of the Biological Opinion. A 50% cap in the amount of TAC taken from critical habitat does not represent a significant reduction *below* the status quo levels or a significant change in the jeopardy condition in which Steller sea lion critical habitat continues to remain a major focal point of the fisheries. Lack of evaluation of a range of lower percent caps on the allowable catch in critical habitat (e.g., 0-25-50%) belies the arbitrary and capricious nature of the "50% rule." Even if all agreed that a 50% cap represented a "meaningful" reduction from the recent record levels of pollock TAC taken in critical habitat, NMFS' own analysis clearly indicates that 50% is a not a significant departure from the recent historical practice of the fisheries which has lead to a finding of jeopardy and adverse modification.

**2. THE RPA NO-TRAWL ZONES AROUND ROOKERIES AND HAULOUTS FAIL TO ELIMINATE THE POSSIBILITY OF COMPETITION BETWEEN STELLER SEA LIONS AND THE TRAWL FISHERIES, AS REQUIRED IN THE BIOLOGICAL OPINION.**



The EA/RIR for Amendments 25 and 20 to the FMPs of the GOA and BS/AI (Prohibition to groundfish trawling in the vicinity of sea lion rookeries) recommended special management measures to prohibit trawling in certain areas because: (1) trawl fisheries account for the majority of the catch of species of concern in critical habitat; (2) trawlers have higher bycatch of non-target prey species including juvenile pollock, squid, octopus, salmon, herring, capelin, eulachon, and sand lance, as well as flatfish and shellfish, any number of which may serve as important seasonal or secondary items in the sea lion diet, depending on availability; (3) trawlers are the primary source of lethal incidental entanglements in nets; (4) trawlers are responsible for benthic habitat disturbances and changes in species composition (NPFMC/NMFS 1991).

The only way to *eliminate* the possibility of competition from the major trawl fisheries in nearshore critical habitat is to prohibit ALL trawling within a radius of 20 nm around these sites. Both the emergency RPA and the Opinion's RPA example fail to prohibit pollock trawling or any other trawling across the full extent of designated critical habitat around rookeries and haulouts out to 20 nm:

- 36 rookery sites in western Alaska would retain year-round trawl exclusion zones, but only 10 rookery sites in the eastern Aleutian/eastern Bering Sea receive trawl-closure protection encompassing the full extent of designated critical foraging habitat (a radius of 20 nm).
- Although some critical foraging habitat areas around haulout sites receive some protection, the new haulout trawl restrictions apply only to the pollock fisheries, not all trawling.
- Under the NMFS proposal, approximately 47 haulouts would receive year-round pollock trawl exclusion zones and 40 haulouts would receive seasonal no-trawl zones. 27 of the haulout sites are located in the Aleutian Islands and would not be operative in 1999 because there will be no Aleutian pollock fishery in 1999.
- Only 17 out of the 87 haulout sites would receive seasonal or year-round protection encompassing the full extent of designated critical foraging habitat (within a radius of 20 nm).
- The final emergency RPA proposal exempts haulout areas where the pollock trawlers fish heavily now, including the 20 nm zone around Cape Sarichef in the eastern Aleutian Islands and 8 haulout sites in the west-central Gulf of Alaska. NMFS is requiring that these sites be included under a two-year phase-in that would not go into effect in the Gulf of Alaska until year 2000, in violation of the ESA.

#### **A. 10 nm Trawl Exclusion Zones Are Inadequate**

Although the stated regulatory intent of the rookery no-trawl zones established between 1991-1993 was to disperse trawl fisheries and minimize the likelihood that groundfish fisheries would create localized depletions of sea lion prey in critical sea lion habitats (Fritz and Ferrero

1997), the existing buffers have proven totally inadequate. The reason is that areas within these rookery trawl exclusion zones were not heavily utilized by the groundfish trawl fisheries, with the exception of the Atka mackerel fishery. For instance, from 1984-1991 the annual percentage of pollock caught within 10 nm of rookeries and haulouts in the BS/AI ranged only from 1-7% and 0-3% in the GOA (Fritz and Ferrero 1997; BO at 28).

The inadequacies of the 10 nm rookery zones were apparent to NMFS even at the time they were proposed:

*“Available data indicate that 10 nm zones would not be sufficient to cover feeding trips of animals during the winter, females without pups throughout the year, and some feeding trips of postpartum females during the breeding season.”* (NPFMC/NMFS 1991)

NMFS initially recommended that trawl fishing be prohibited within 20 nm of the listed northern sea lion rookeries in the Gulf of Alaska (Aron memo, 16 May 1991). The 16 May 1991 recommendation was based on satellite telemetry data obtained from nursing females during the breeding season. The agency subsequently reduced the recommended trawl closure zones to only 10 nm around rookeries (Aron note, 30 May 1991). The 30 May 1991 memo demonstrated clearly that the 10 nm trawl closures would provide little protection to critical habitat foraging areas because very little groundfish fishing occurred in these areas, and most fishery removals occurred within 10.1 and 20 nm:

*“Data collected by fisheries observers suggests that 10 nm closures around northern sea lion rookeries would not seriously restrict the pollock fishery. From 1980-89, an annual average of 88.2% of all pollock caught within 20 nm of rookeries was caught between 10.1 and 20 nm.”*

It is abundantly clear that the existing rookery trawl exclusion zones are inadequate for at least several crucial reasons:

- Since very little trawling occurred within the 10 nm rookery no-trawl zones, closing them was not likely to reduce the impacts of trawling significantly. The 10 nm zones have done nothing to prevent the fisheries from becoming more concentrated in Steller sea lion critical foraging habitats during the 1990s.
- Telemetry tracking studies of seasonal foraging patterns (Merrick and Loughlin 1993, 1997; Merrick 1992, 1993) and platform-of-opportunity sightings indicate clearly that 10 nm zones are *“too small to effectively separate the local effects of trawlers on sea lion prey from foraging sea lions.”* (NRC 1996)
- The 10 nm zones do not protect much larger areas of critical foraging habitat that are used in the non-breeding season, primarily from haulouts.

In addition to these shortcomings, the 10 nm no-trawl zones do not provide adequate protection to important but overlooked segments of the sea lion population whose health and nutritional status is crucial to the eventual recovery of the species. For example, Calkins and Pitcher

(1982) and Calkins (1996) found that mature females without pups comprise a large portion of the adult female population in any given year – 33-40% in the Kodiak area during 1970s and 1980s. Research by Calkins (1996) in Southeast Alaska indicates that summer adult females without pups travel longer distances and move more extensively between haulout and rookery sites in a given region even in the summer. Thus rookery no-trawl zones of 10 or 20 nm do not encompass foraging areas of this portion of the population even in the summer months.

#### **B. RPA No-Trawl Zones Are Only No-Pollock Zones Around Haulouts.**

Although NMFS has retained the prohibition on ALL trawling around rookeries for reasons stated by the agency previously (i.e., because: (1) trawl fisheries account for the majority of the catch of species of concern in critical habitat; (2) trawlers have higher bycatch of non-target species of importance to Steller sea lions, including juvenile pollock, squid, octopus, salmon, herring, capelin, eulachon, and sand lance, as well as flatfish and shellfish, any number of which may serve as important seasonal or secondary items in the sea lion diet, depending on availability; (3) trawlers are the primary source of lethal incidental entanglements in nets; (4) trawlers are responsible for benthic habitat disturbances and changes in species composition), the zones around haulouts are pollock-only trawl exclusion zones.

NMFS has not demonstrated that pollock-only trawl exclusion zones are adequate to ensure that the major trawl fisheries for Atka mackerel, Pacific cod and others are not causing significant harm to Steller sea lion critical foraging habitat around haulouts, where as much as two-thirds of the population has been found in the non-breeding seasons.

#### **C. RPA No-Trawl Zones Do Not Provide Year-Round Protection Of All Critical Habitat Around Most Haulouts.**

Haulout sites are critical to Steller sea lions at all times of the year. In the fall and winter months as much as 2/3rds of the population has been counted at these sites. Their use by sea lions is associated with adjacent foraging areas at sea.

- Under the NMFS proposal, approximately 47 haulouts would receive year-round pollock trawl exclusion zones and 40 haulouts would receive seasonal no-trawl zones. 27 of the haulout sites are located in the Aleutian Islands and would not be operative in 1999 because there will be no Aleutian pollock fishery in 1999.
- Only 17 out of the 87 haulout sites would receive seasonal or year-round protection encompassing the full extent of designated critical foraging habitat (i.e., within a radius of 20 nm).

#### **D. Year-Round No-Trawl Zones Encompassing The Full Extent Of Critical Habitat Around Rookeries and Major Haulouts Are The Only Means Of ELIMINATING**

**The Possibility Of Competition In These Core Areas, The Stated Goal Of The Biological Opinion's Trawl Exclusion Strategy.**

NMFS has acknowledged the crucial importance of *eliminating* the potential for fishery competition for sea lion prey in the critical foraging areas around rookeries and haulouts:

*“Complete exclusion of pollock trawl fishing is based on the available evidence that the regions around major rookeries and haulouts are so essential to the recovery and conservation of the western population that risk of competition from pollock trawl fisheries must be excluded completely. Such exclusions are particularly important to protection of prey resources for reproductive females and for pups and juveniles learning to forage”* (BO: 119).

The only way to achieve that objective is to extend the no-trawl zones to encompass the full extent of critical foraging habitat out to 20 nm around rookeries and haulouts year-round. The merits of extending the no-trawl zones to encompass all designated critical habitat affected by this fishery (e.g., from 10 to 20 nm around rookeries, and to at least 20 nm around haulouts listed as critical habitat) include:

- Catches of primary sea lion prey (pollock, Atka mackerel, Pacific cod) in designated critical habitat areas have soared under U.S. management from 1977-1997, and removals have become concentrated in the first quarter of the year. Existing 10 nm zones have not constrained, much less reduced, fishery removals from these critical areas at crucial times of the year.
- Existing no-trawl exclusion zones of 10 nm around rookeries in western Alaska (extending to 20 nm around 6 EAI rookeries during the Bering Sea pollock A-season, including Seguam Island) provide some limited “buffers” for foraging habitat frequented by nursing females on rookeries in summer months but do not encompass foraging areas of the non-breeding population in the summer or the much larger adult female foraging ranges in the fall and winter.
- The importance of protecting sea lion winter foraging habitat goes hand-in-hand with protecting aquatic zones adjacent to haulout sites, since haulouts are where as much as two-thirds of the animals have been counted in the non-breeding season (NMFS 1993). Existing rookery buffers do nothing to protect feeding areas of adults and juveniles adjacent to haulout sites even though NMFS has identified winter as a crucial time of year, when sea lions are expected to be more vulnerable to nutritional stress (Fritz and Ferrero 1997).
- The radio telemetry data suggests that juvenile foraging ranges are broadly encompassed within existing critical habitat (20 nm), and juveniles are thought to be the most at-risk segment of the population in terms of foraging ability and finding adequate prey. Mothers with pups also appear to stay closer to shore than non-nursing animals, and their

nutritional needs are believed to be much greater in order to sustain a young-of-the-year pup and carry a fetus to term the next spring.

- Since Steller sea lions are broadly distributed in winter and can move extensively between haulout sites depending on weather and prey availability. Eliminating high-volume trawling in all critical habitat foraging areas provides the simplest, most efficient, and only effective way to provide reasonable protective coverage across all seasons around all the land-based sites listed as critical habitat in western Alaska.

#### **E. Expanded No-Trawl Zones Are Necessary To Protect Accustomed Fall And Winter Foraging Areas On Spawning Grounds.**

Although 20 nm trawl buffer zones will provide expanded protection for core nearshore foraging areas around critical land sites, they do not begin to encompass the extensive foraging ranges of Steller sea lions, particularly in the fall and winter months. In particular, spatial and temporal concentration of the giant eastern Bering Sea pollock fishery in the critical habitat/CVOA complex jeopardizes the ability of the sea lions to find adequate prey at a time when the animals are expected to be more nutritionally stressed due to adverse weather, fewer available prey, and higher nutritional demands on pregnant and/or nursing females and weaned pups (NMFS 1993).

NMFS has previously determined that a seasonal trawl closure strategy comprised of 20 nm closures in summer and 60 nm closures in winter (Oct 1-Apr 30) would best approximate Steller sea lion seasonal foraging patterns (NMFS 1991), and that a large area of the eastern Aleutian Islands out to the continental shelf break contains critical winter foraging habitat on pollock spawning grounds (NMFS 1993). A Section 7 Consultation on Amendment 18 to the BS/AI FMP, February 1992, found that *“increased fishing effort in the CVOA may diminish the availability of food resources to Steller sea lions that forage in this geographic region and may adversely affect their survival and recovery.”*

These larger, at-sea foraging areas were first recommended by the Steller Sea Lion Recovery Team in 1991 and encompass major pollock spawning grounds in the Gulf of Alaska (Shelikof Strait) and eastern Aleutian Islands (from Unimak Island to Islands of the Four Mountains, 164-170W longitude) as well as Atka mackerel spawning grounds in Seguam Pass. Although the Steller Sea Lion Recovery Team expressed the need for more information, the Recovery Team also noted that nutritional factors appeared to be involved in the population decline and emphasized the need for designating at-sea areas adjacent to population centers where sea lions were commonly known to forage, and where the groundfish fisheries, particularly for pollock, were heavily concentrated (SSLRT 1991). The Recovery Team recommendation led to designation as critical habitat by NMFS in 1993:

*“These sites were selected because of their geographic location relative to Steller sea lion abundance centers, their importance as Steller sea lion foraging areas, their present or historical importance as habitat for large concentrations of Steller sea lion prey items that are essential to the species’ survival, and because of the need for special consideration of*

*Steller sea lion prey and foraging requirements in the management of large commercial fisheries that occur in these areas.” (NMFS 1993)*

The existing sea lion research supports the importance of the larger at-sea foraging habitat in the CVOA, particularly in the winter months when large schools of spawning pollock gather in the area:

*“Satellite telemetry data from tagged eastern Aleutian sea lions indicate that the shallow portion of the CVOA is an important foraging area for Steller sea lions. Most of the tagged eastern Aleutian Islands animals generally foraged on the shelf area within the Krenitzen Islands and to the east on the north and south sides of Unimak Island. Winter sea lion distribution data indicate that the number of animals on rookery sites generally decreases after the summer breeding season whereas use of haulouts increases. In the eastern Aleutians, animals appear to move from rookeries to haulout sites closest to the eastern Bering Sea shelf and perhaps the western GOA shelf.” (Mello memo, 8 September 1992)*

In the EA./RIR for Amendments 20 and 25 to the BS/AI and GOA Fishery Management Plans (Proposed Prohibition to Groundfish Trawling in the Vicinity of Steller Sea Lion Rookeries, 1991), NMFS determined that a seasonal trawl closure strategy comprised of 20 nm closures in summer and 60 nm closures in winter (Oct 1-Apr 30) would best approximate Steller sea lion seasonal foraging patterns:

*“This alternative approximates the maximum observed foraging distance of females with pups during the breeding season, and provides a large closed area during winter to better encompass winter foraging habitats and compensate for increased nutritional need and stresses” (NPFMC/NMFS 1991).*

Thus the agency has acknowledged that rookery and haulout no-trawl zones of 10 or 20 nm do not reflect broad seasonal foraging patterns and are not sufficient to protect accustomed winter foraging grounds farther offshore, which are necessary for the survival and recovery of the species in the CVOA/CH complex as well as the Shelikof Strait and central Aleutians around Seguam Pass (NMFS 1993). Failure to protect these broader foraging areas is in violation of the ESA.

### **3. THE RPAs FAIL TO DISPERSE POLLOCK CATCHES OUT OF THE WINTER SEASON**

#### **A. The Emergency RPA And The Opinion's Example RPA Fail To Significantly Disperse Pollock Catches Away From The Winter Season In The Bering Sea.**

The catch statistics below are preliminary as of 3/19/99, as summarized in the NMFS Analysis of RPA Options and Alternatives, Table 3-2 (page 73). They demonstrate that the levels of catch from critical habitat during the 1999 eastern Bering Sea pollock A-season were not a significant departure from status quo:

- A total of 384,428 metric tons were removed from the A-season in the Bering Sea out of a quota of 387,475 mt, or 99% of the A-season TAC.
- 221,804 mt (58%) of the total A1/A2 TAC were taken in the critical habitat/CVOA complex. This compares to 50-90% of the A-season TACs taken from the CH/CVOA during 1992-1997 (NMFS RPA Analysis: 35). The 1999 A1/A2 percent of the TAC taken in CH/CVOA falls well within the range of the 1990s, and thus is not a departure from the conditions which prompted NMFS to find jeopardy for these fisheries.
- Although 221,804 mt is below the 236,628 mt cap for the CH/CVOA in the 1999 A-season, and is the lowest total tons since 1992, when 255,433 mt was taken in the CH/CVOA (BO: Figure 18), 221,804 mt is still four and a half times the average winter pollock removals in the BS/AI prior to 1987, when catches did not exceed 50,000 mt during the first quarter of the year (NPFMC/NMFS 1998).

The Draft EA/RIR for Inshore/Offshore-3 has previously highlighted this dramatic growth in the first quarter roe pollock fishery as well as its concentration in the CH/CVOA complex. It is abundantly clear from the preliminary data provided by NMFS that neither the quantity of the 1999 A-season catch nor the percent of TAC taken from the CH/CVOA complex represent significant departures from the status quo operations of the winter fishery during the recent past, as described in the Biological Opinion:

*"The recent increase in BSAI critical habitat catches has occurred principally during the A-season (January-March), as evidenced by high amounts (between 250,000 and 550,000 mt) and percentages (between 50-90%) removed from critical habitat between 1992 to 1997 (Figure 18)." (BO: 27)*

#### **B. The Emergency RPA Increases Winter Pollock Fishery Removals In The Gulf Of Alaska.**

The emergency RPA actually *increases* the percent of the TAC taken in the Gulf of Alaska during the winter months from 25% in 1998 to 30% in 1999. In the 1999 A-season, the west/central Gulf pollock fishery took an estimated 30,500 mt of pollock, exceeding the A-season TAC by 10% overall. The season lasted 8 days in Area 630 and exceeded the TAC by 16%. The season lasted 12 days in Area 610 and exceeded the TAC by 21%. Area 620 fishing proceeded more slowly for 29 days and took 99% of the area-specific TAC. 92% of A-season TAC was taken in critical habitat, exceeding the recent three-year average of 90%.

These statistics do not represent a significant departure from the status quo operation of the fishery, since the long-term average percent of TAC taken from critical habitat in the winter

has been above 70% since the 1980s and the recent three-year average for removals in January has been 90% (BO: 27-28).

**C. The Emergency RPA Measures Failed To Slow Down The 1999 Winter Fisheries Appreciably Or Achieve A Significant Extension Of Season Length.**

Prior to the start of the 1999 A-season, NMFS estimated that the emergency RPA measures would extend the winter roe pollock fishery in the Bering Sea by about 3 weeks compared to 1998. Even with the addition of three weeks (21 days), the 1999 A1/A2-season will be less than half as long as the original A-season of 1990 and shorter than the 53-day A-season of 1991 or the 46-day A-season of 1992. This does not represent a change in the status quo during the 1990s.

Despite the stated objectives of the Biological Opinion, the emergency RPA measures for 1999 failed to slow down these rapid, intense pulse fisheries on spawning pollock aggregations or to significantly extend the winter fishing season, judging from the 1999 fishery data:

- The W/C Gulf pollock A-season took an estimated 30,500 mt of pollock, exceeding the A-season TAC by 10% overall. The season lasted 8 days in Area 630 and exceeded the TAC by 16%. The season lasted 12 days in Area 610 and exceeded the TAC by 21%. Area 620 fishing proceeded more slowly for 29 days and took 99% of the area-specific TAC. Thus the fishery continues to be taken in rapid bursts, and most of it (92%) was taken in critical habitat in 1999.
- In the Bering Sea, the inshore catcher vessel fleet fished from 1/20 to 2/28. A1-season ceased on 2/11. Altogether, the inshore fleet A1/A2 season lasted only 32 days, four and a half weeks. By comparison, 1998 the inshore fleet A-season lasted 30 days, and the 1992-1996 A-seasons averaged 46 days.
- The mothership fleet fished from 2/1 to 2/19 before reaching its quota share. The fleet took 52% of its A-season allocation in CH/CVOA by 2/9 and fished outside CH/CVOA from 2/9-2/17.
- The factory trawl fleet fished from 1/20 to 2/15, and from 2/20 to 3/19. As of 3/19, the fleet had reached 99% of its A1/A2 allocation although the A2 season technically remained open. The fleet took 36% of its total A-season quota in CH/CVOA, 88% of its allowable CH/CVOA quota.
- This was the longest A-season for the factory trawl fleet since 1990-91. In 1990, the offshore A-season lasted from January 1 to April 15 and in 1991 the A-season lasted from Jan 1-Feb 22 (53 days). This year the factory trawl fleet took approximately 99% of its A1/A2 quota by March 19 – 54 fishing days, nearly 8 weeks. The AFA-mandated pollock co-op, not the Steller sea lion RPA, appears responsible for slowing down the offshore fleet's daily catch rate and extending the A-season overall (NMFS RPA Analysis: 29).



- The 2/15-2/20 “stand-down” between A1 and A2 openings did not achieve a cessation of fishing and thus did not achieve a true separation: *“Because the CDQ and mothership sectors both have a single A-season under the emergency rule and can fish during the 5-day stand-down period in effect for the inshore and catcher/processor sectors, the separation of the A1 and A2 seasons is not complete”* (NMFS RPA Analysis: 21).

The differences in offshore fleet A-season duration during this A-season compared 1993-1998 were not attributable to the emergency RPA measures. Major reasons include:

#### 1. Lower A-season Quota

- The 1999 A1/A2-season open access fishery quota was reduced from 45% to 40% of the total TAC.

#### 2. Lower TAC

- The 1999 eastern Bering Sea pollock TAC was 992,000 metric tons, an 11% reduction from the 1,110,000 mt TAC of 1998.
- The 1996 and 1998 the A-season catch was 510,000 metric tons, whereas the 1999 A1/A2-season TAC (including CDQ shares) was 387,425 mt.

#### 3. Lower Daily Take

- In past years, removals of metric tons of fish exceeded 10,000 mt/day regularly during the peak of the A-season.
- In 1999, there were only several days when total catch exceeded 10,000 mt/day. *“Most, if not all, of this reduction is directly attributable to the C/P sector, presumably resulting from the co-oping provisions of the AFA”* (NMFS Analysis of RPA Options: 29).

#### 4. Factory Trawler Co-op And Fewer Vessels Overall

- The AFA-mandated pollock co-op, not the Steller sea lion RPA, appears to be responsible for slowing down the offshore fleet’s daily catch rate and extending the A-season overall.
- 9 factory trawlers were removed from the 1999 fishery, reducing the total number of pollock factory trawlers to 20. 12-16 of the 20 factory trawlers were actually reported fishing during the 1999 A-season.

**4. THE EMERGENCY RPA PROPOSAL FAILS TO SPREAD THE BS/AI AND GOA POLLOCK FISHERIES ADEQUATELY IN TIME AND AREA, AS REQUIRED IN THE BIOLOGICAL OPINION.**

Recognizing the need for more effective time-area management of the pollock fishery in the Bering Sea, particularly in light of declines not only of sea lions but other pollock predators, the Bering Sea Ecosystem report (NRC 1996) included the following recommendation to broaden the distribution of fishing effort in space and time, especially for pollock:

*“The concentrated fishing for pollock in some places at specific times probably reduces the availability of food for marine mammals and birds, especially juveniles. Thus one step that might help improve the food supply for and reverse declines in marine mammals and birds would be to distributed fishing over wider areas and over longer periods. This management strategy is unlikely to have any adverse effects”* (NRC 1996: 6).

A key weakness of existing NMFS/Council management of the pollock fisheries in the 1990s is that it has not established concurrent seasons or consistent seasonal management principles for the BS/AI and GOA pollock fisheries. The seasonal allocation schemes in the January 20 emergency rule perpetuate this situation, for instance if catcher vessels from the BS/AI enter the GOA fishery, thereby exacerbating the race for fish, shortened seasons, higher bycatch rates, overages of the TACs and competitive disadvantages to smaller GOA vessels, particularly in Area 610. A true quarterly allocation scheme, consistently applied in the GOA and BS/AI, is the only way to satisfy the temporal dispersion objective of the Biological Opinion, while concurrent seasons should also go a long way toward addressing the problems created by the current lack of concurrence between GOA and BS/AI pollock seasons. Table 1 below presents our recommended seasonal TAC allocation alternative.

#### **A. The RPAs Fail To Distribute The BS/AI TAC Into At Least Four Seasons, The Second Principle Of Temporal Dispersion In The Biological Opinion.**

The emergency RPA defeats the intent of the Biological Opinion to spread the pollock removals into at least *four seasons*, two in the period from January through May and two in the period from June to November 1 (BO, p. 117). But NMFS' own RPA example of temporal spacing in the eastern Bering Sea pollock fishery also makes a mockery of the four-season approach. A desire not to alter significantly the status quo A/B seasonal pattern of fishing appears to have been the agency's prime concern. Moreover, under the emergency RPA, both the Gulf seasonal scheme and the Bering Sea pollock seasonal scheme ensure that the majority of the TACs would continue to be concentrated in the fall and winter months, the times of year identified by NMFS as most difficult for foraging sea lions.

Specifically, the emergency RPA proposal establishes two *openings* for the pollock fishery during the winter or A-season, the first on January 20 (A1, 27.5% of the quota) and second on February 20 (A2, 12.5% of the quota) – and attempts to pass this scheme off as two separate “seasons.” The Biological Opinion's RPA example recommended an A2 start date of March 1, but this recommendation was opposed by the industry. Neither the Opinion's example RPA nor the emergency RPA constitute two seasons, one opening in the winter (January 20) and one in the spring (e.g., April 15). Furthermore, the emergency RPA's February 20 opening date fro the A2 “season” ensures that the fishery will remain concentrated entirely in the winter, on spawning aggregations.

In addition, the emergency RPA provides no stand-down period to separate the proposed B/C seasons in the eastern Bering Sea, thus ensuring a continuous pulse fishing that is not any different from the B-season of prior years. The NMFS RPA Analysis at 2.1.1.5, notes that the January 20 emergency rule set September 15 as both the ending date for the B season and starting date for the C season,

*“thus providing no stand-down period to separate the openings. The result is one continuous B/C season, broken up in name only, from 1 August to 1 November ...Such a management regime would not ensure the integrity of separate B and C seasons, would not be consistent with the RPA principles, specifically the second and fifth temporal RPA principles which call for four separate seasons and institution of mechanism to avoid concatenation of adjacent seasons” (NMFS RPA Analysis: 23).*

Both the A1/A2 and B/C seasonal allocations fail to achieve the objectives of the Biological Opinion for the temporal dispersion of the fishery across four seasons.

**B. The Quarterly, Four-Season Approach To Temporal Dispersion Of Pollock Fisheries Has Long Been Regarded As A Fundamental Component Of Sea Lion Conservation In The NMFS Section 7 Record**

The history of the Section 7 consultation record and the established facts concerning sea lion biology/fishery interactions in critical habitat demonstrate that quarterly allocations of the pollock TACs for the BS/AI and Gulf of Alaska are a fundamental component of comprehensive sea lion conservation measures that will reduce the likelihood of jeopardizing sea lions, adversely modifying their critical habitat, and limiting their recovery.

NMFS frequently has recognized the importance of a quarterly allocation. A memo of 10 March 1993 from Aron to Pennoyer strongly opposed a proposal for adopting the Bering Sea A/B seasonal pollock allocation scheme in the Gulf, because it would increase catches in the winter roe fishery and because it would violate the strategy of temporal allocation of the fishery:

*“The quarterly approach is fundamental to the NMFS conservation strategy of temporal and spatial allocation of the pollock TAC to minimize sea lion impacts. That NMFS took this approach was probably a fundamental reason why the U.S. District Court and the Court of Appeals found in favor of the Service in the complaint filed by Greenpeace over the 1991 walleye pollock GOA TAC. Adoption of the BSAI approach would contradict past actions by NMFS, without allowing the strategy [i.e., quarterly allocations in the GOA] sufficient time to have positive effects on the sea lion population.”*

The Section 7 record is replete with concerns for this fall/winter period. For instance, a 30 March 1993 Memorandum summarized general Steller sea lion/fishery conflict issues and goals of past management measures. In that memo, the importance of the November through

April period was identified as a time of higher stress for sea lions, hence any measure that concentrates fishing in this period is a problem:

*"Because of stress associated with winter weather, weaning season, gestation, and reduced prey diversity and availability, anything that increases fishing effort at known haulouts or rookeries from November through April may require formal consultation."*

A 4 April 1993 Memorandum of William Aron to Steven Pennoyer further emphasizes the need to avoid concentrating the pollock TAC in the fall months. In that consultation, AFSC staff assessed the effect of a GOA pollock third quarter starting date of September 1 with respect to effects on Steller sea lions:

*"This starting date is likely to cause adverse impacts on Steller sea lions by concentrating fishing effort in the fall and winter when juvenile sea lions may be vulnerable to shortages of prey resources."*

And:

*"We do not support a September 1 third quarter starting date in the Gulf of Alaska pollock fishery and retain support of our previous recommendation of January 20, June 1, August 15 and October 1 quarterly starting dates with equal TAC releases in each quarter."*

Despite the repeated concerns voiced in the Section 7 record, however, both the Biological Opinion and the emergency RPA continue to concentrate the Bering Sea pollock fishery into two large pulses of fishing in the fall and winter months. At a minimum, these TACs should be allocated on a quarterly basis. A true quarterly allocation of the TAC is the bare minimum of seasonal divisions which will ensure that at least half of the catch is directed away from the fall-winter months, and a strong case can be made for dividing these large fishery quotas into even smaller seasonal apportionments to truly ensure that the impacts of big pulse fisheries are spread evenly across the year.

Quarterly apportionments across four seasons are not a panacea. But when combined with explicit spatial management to disperse the fisheries geographically and with year-round trawl exclusion zones around rookeries and haulouts to eliminate competition in those nearshore areas of critical habitat, four-season allocations of TAC serve to further reduce the adverse impacts of high-volume pulse fishing by spreading out the effort and catches across the year in a precautionary manner. Table 1 provides our recommended quarterly allocation scheme for this fishery.

### **C. The Emergency RPA Measures Fail To Meet The Biological Opinion's Objectives For Spatial Dispersion Of The Pollock Fisheries.**

In the Biological Opinion, a primary objective of spatial dispersion *"is to have the distribution of catch mirror the distribution of exploitable pollock biomass for each seasonal TAC, including allocations made to areas within critical habitat and outside of habitat"* (NMFS

RPA Analysis: 160). This is a sound precautionary principle even in the absence of sea lion RPAs, in the interests of the sustainable management of the fishery and in order to avoid overfishing of regional pollock stocks such as has occurred in the Shelikof Strait, the Bogoslof/Aleutian Basin region, and along the Aleutian Islands chain.

### **1. Final RPAs Must Set Area-Specific TACs for the Eastern Bering Sea Pollock Fishery.**

The Council's final RPA regulations must establish area-specific TACs for CH/CVOA, east of 170W long. and west of 170W long. in the eastern Bering Sea, based on most recent survey estimates of biomass distribution of the stock, in accordance with principle *a*) in the Biological Opinion (BO: 118). The Biological Opinion clearly establishes the objective of spatial dispersion of TAC by at least these three management areas as an essential component of RPA measures required to avoid jeopardy. This is hardly a radical step, but it would at least bring spatial management of the EBS pollock fishery up to code, so to speak, with current practice in the GOA pollock fishery and the Aleutian Atka mackerel fishery. Unused portions of the TAC in one management area should not be transferable to other management areas.

The evidence for geographically concentrated trawling and disproportionate fishery removals in the southeastern Bering Sea is illustrated in the NMFS analysis of RPA options using fishery and survey data over the time series from 1982-1998 (EA/RIR: 94-101). The evidence is compelling, consistent with longer-term trends in the CH/CVOA complex:

*"The available evidence suggests that a relatively small portion of the pollock biomass is in the CH/CVOA during the B/C season. The evidence is based on summer surveys, which indicate that, on average, about 15% (ranged 6% to 27%) of the biomass has been in this region each year from 1991 to 1998. From 1992 to 1997, about 36% to more than 50% of the annual B season catch was taken from the CH/CVOA, suggesting that the harvest rate in this area may have been on the order of two to three times greater than expected on the basis of total biomass and overall harvest rate" (EA/RIR: 37).*

Geographically concentrated trawling and excessive fishery removal rates in the CH/CVOA complex have been a longstanding concern in the NMFS Section 7 record. For instance, the consultation of 4 November 1991 envisaged a worst case scenario in which Amendment 18 to the BS/AI FMP (creating the CVOA) "*concentrates fishing effort even further in an area that has had a declining pollock biomass and has experienced relatively higher fishery exploitation rates during the last 5 years.*" NMFS scientists documented the trend in disproportionately high exploitation rates in the CH/CVOA during the pollock "B" season beginning in the early 1990s, noting that "*Pollock are harvested disproportionately to their areal biomass distribution. Harvest rates in the CVOA during the B-season are much higher than in Areas 51 and 52*" (Fritz et al. 1995).

The disturbing trends of increasing catches and declining pollock biomass in the southeastern Bering Sea first identified by NMFS during 1986-1990 have continued during the 1990s and into the present. While survey estimates of eastern Bering Sea pollock abundance

have declined 38% from 1994-1997, for instance, the decline has been concentrated in the heavily exploited CH/CVOA complex, where the abundance plummeted 81% from 1994-1997 – more than twice the rate of decline for the managed stock as a whole (NPFMC/NMFS 1998). The concentration of the fall fishery and the rapid decline in biomass have resulted in alarmingly high estimates of fishery removal rates on pollock in the region, as estimated from the summer trawl/acoustic surveys of 1991, 1994, 1996, and 1997.

What the summer surveys tell us in the 1990s is that a small percentage of the total stock biomass is in the CVOA going into the fall – less than 10% in recent years – yet 36% to more than 50% of the B-season TAC has been taken out of this area in the 1990s. As CVOA pollock abundance has declined sharply in the summer/fall months, the B-season extraction rate has risen correspondingly: to 30% of the stock size estimate for the CVOA in the summer survey of 1996 and nearly 50% of the estimate in 1997 – nearly HALF of the estimated standing stock in the area (BO: Figure 30). At this level of extraction, localized depletions of schools fish are likely to have a huge impact on prey availability for foraging sea lions across a broad area of critical habitat.

However, it is not sufficient simply to limit fishery removals within the CH/CVOA complex because pollock abundance in critical habitat is determined by factors inside and outside critical habitat. Redistribution of the fishery catches outside the CH/CVOA and in proportion to the estimates of stock biomass east and west of 170W longitude not only makes prudent fishery management sense, it is the only way to ensure that the fishery does not concentrate immediately outside the CH/CVOA or other areas of critical habitat adjacent to rookeries and haulouts, thus simply transferring the problem to the boundaries of critical habitat.:

*“Pollock stocks are thought to be relatively mobile, and the abundance (or biomass) of pollock in Steller sea lion critical habitat is, therefore, determined by factors both inside and outside of critical habitat. If the catch were divided into just two areas, then fishing vessels could concentrate effort in critical habitat until that portion of the TAC was taken, and then simply move to just outside critical habitat and take the remainder of the catch” (EA/RIR: 11).*

Explicit spatial management to disperse this giant fishery geographically serves the interests of sea lion conservation as well as the long-term viability of the fishery, and it is long overdue. The Council should be doing this already, in the interests of responsible and prudent fishery management.

## **2. The RPAs Must Establish A Separate Shelikof Strait Management District, Combining Areas 621 And 631 And Setting An Area-Specific TAC.**

NMFS' analysis of RPA options clearly requires consistent application of spatial management principles in the Bering Sea and Gulf of Alaska pollock fisheries: *“Consistent with RPA principle two, management areas for the spatial dispersion of pollock trawl fishing effort in the eastern Bering Sea and GOA target fisheries should be based on these and/or other meaningful geographic delineations which are proportionate to pollock stock distribution” (EA/RIR: 160).*

In the GOA, geographic management areas 610, 620 and 630 have already been established for purposes of setting pollock TACs spatially, based on survey information about stock biomass distribution. However, these broad areas do not prevent locally concentrated trawl fishing in critical habitat, and the Biological Opinion identifies the Shelikof Strait as a critical habitat management area of particular concern.

Under the emergency RPA rule, a cap on catches in the Shelikof Strait was established by a formula recommended in the Biological Opinion. The 1999 A-season fishery data indicates that actual distribution of the catches did not meet the target distribution goals set by NMFS. Based on the concentration of pollock biomass in the Shelikof Strait during the late winter/early spring hydroacoustic surveys, NMFS says a higher proportion of the GOA pollock fishery should have occurred in the Shelikof region. NMFS established a 1999 target goal of 57% of the A-season TAC to be taken from Shelikof, based on biomass distribution of the stock:

- Total A-Season TAC: 27,744 metric tons
- Target: 57% of A-season catch in Shelikof Strait (15,587 mt)

Estimated 1999 GOA A-season pollock catches by major fishing areas indicate clearly that the spatial distribution targets were not achieved:

- The total W/C GOA pollock A-season catch of about 30,500 mt of pollock exceeded the TAC by about 10% overall.
- Considerably more of the A-season TAC in Area 630 (>9,000 mt, 31%) was taken on the east side of Kodiak Island, in the Cape Barnabas/Chiniak areas, than NMFS anticipated.
- NMFS set a Shelikof Strait target of 57% of total catch, but only about 11,000 mt (36% of the total A-season catch) was taken in the Shelikof region.

In the absence of area-specific allocation of the TAC to the Shelikof Strait, the fishery concentrated its efforts more heavily on the east side of Kodiak Island. These pollock aggregations (within critical sea lion habitat) are believed to be considerably smaller than the Shelikof spawning aggregation, and therefore are likely to be more vulnerable to the effects of concentrated trawling, including disproportionately high fishery removal rates and fishery-induced depletions:

*"In the GOA, overall pollock fishery harvest rates have varied from about 5% to 10% since 1990. Since 1994, the estimated harvest rate in Shelikof Strait has been on the order of 1% to 3%, or well below the overall harvest rate for the GOA (Fig 2-12). This discrepancy suggests that the biomass of pollock in Shelikof Strait is under-utilized relative to the biomass of pollock outside the Strait. It therefore follows that relative to the overall harvest rate, pollock biomass outside the Strait must be over-utilized"* (EA/RIR: 57).

Principle *e*) under the objective of Spatial Dispersion (BO: 119) clearly establishes the need for a combined 621/631 Shelikof Strait management area for purposes of setting the winter pollock TAC, and the NMFS analysis of RPA options further recommends a separate TAC for Shelikof Strait rather than a cap (EA/RIR: 15, 55-57). In order to comply with principle *e*) of the spatial dispersion objective in the Biological Opinion, the Council must establish a combined Area 621/631 Shelikof Strait management district for purposes of setting the winter pollock TAC at the very least. Unused portions of the Shelikof District TAC should not be transferable to other management areas.

## **6. FAILURE TO FIND JEOPARDY IN THE ALEUTIAN ATKA MACKEREL FISHERY IS ARBITRARY AND CAPRICIOUS**

### **A. The Four-Year Phase In Of Measures In Areas 542 And 543 Ensures That The Fisheries Will Continue To Jeopardize Steller Sea Lions And Adversely Modify Critical Habitat in 1999, In Violation Of The ESA**

The Atka mackerel regulatory measures approved by the Council in 1998 will not go into full effect for four years. Given the BS/AI Plan Team's recently recommended 1999 ABC of 73,000 mt, the proposed regulations will only reduce the percentage of the 1999 TAC taken in critical habitat in Districts 542 and 543 by about 15% from the recent average percentage of the TAC taken from critical habitat:

*"The regulatory amendment for the 1999 Atka mackerel fishery will reduce the amount of Atka mackerel caught within critical habitat in areas 542 and 543 from an average (1995-1997) of 95% and 85%, respectively, to 80% and 65%, respectively. It is estimated that approximately 55,700 mt of Atka mackerel could be caught inside critical habitat in 1999, which is 65% of the recommended 1999 ABC. This a decline of about 15% in the recent average percentage of Atka mackerel TAC taken from critical habitat" (Lowe and Fritz, 1998).*

### **B. Temporally And Spatially Concentrated Trawling, Disproportionately High Fishery Removal Rates, And Localized Depletions In Critical Habitat Are Not Avoided By Existing Regulations.**

In the Aleutian Islands, where Atka mackerel is a primary sea lion prey, the Atka mackerel fishery has always been concentrated in nearshore areas of critical habitat proximal to sea lion rookeries and haulouts, occurring in the same few locations every year (Lowe and Fritz 1997). Catches in this fishery were low throughout the late 1970s and never exceeded 40,000 metric tons in the 1980s, averaging about 25,000 metric tons prior to the 1990s. Since 1991, catches have soared, reaching a record 104,000 metric tons in 1996. Although the target harvest rate for the managed stock as a whole is believed to be 10-15%, based on overall stock biomass estimates, fishery data indicates that local rates in fished areas have ranged as high as 55-91% (Lowe and Fritz 1997; Fritz 1997, 1998).



Since the Atka mackerel fishery has always been concentrated in highly localized areas primarily within 20 nm of sea lion rookeries and haulouts in the Aleutians, the risk of adversely affecting sea lion prey availability and/or quality of prey is greatly increased by the record-high TACs for Atka mackerel in the 1990s. In addition, there has been a complete shift in effort by an overcapitalized factory trawl fleet to the first quarter of the year as vessels race for shares of the quota. A broad spatial division of the quota into three subareas has not reduced the concentration of removals from within critical habitat boundaries. In fact, as the TAC has reached record-high levels in the 1990s, the volume of fishery removals from critical habitat has soared. The measures adopted by NMFS and the North Pacific Fishery Management Council in June, 1998, do not adequately address the concerns for concentrated Atka mackerel trawling in critical habitat.

Locally high catch rates have been shown to cause localized depletions in the size and density of Atka mackerel populations *“which could affect foraging success during the time the fishery is operating and for a period of unknown duration after the fishery is closed. This raises concerns about how the fishery may affect food availability and the potential recovery of the population”* (Lowe and Fritz 1997). There is compelling evidence for widespread fishery-induced localized depletions in the Aleutian Islands critical habitat which pose a direct and immediate competitive threat to prey availability for Steller sea lions:

*“If lack of available prey is an impediment to the recovery of the western population of Steller sea lions, then the evidence for fishery-induced localized depletions of Atka mackerel and the persistent distribution of the fishery within critical habitat support the hypothesis of sea lion fishery competition and fishery impacts on Steller sea lion population dynamics.”* (NMFS 1998)

The Council voted in June, 1998, to restructure the Aleutian Atka mackerel fishery on the basis of this peer-reviewed information but did not adopt measures adequate in scope to avoid the jeopardy condition.

**C. The NMFS/Council Regulations For The Aleutian Atka Mackerel Fishery Do Not Adequately Reduce Catches In Critical Habitat, Do Not Achieve Adequate Temporal Dispersion, And Are Not Applied Consistently In All Fished Areas.**

Under the regulations adopted by the Council in June 1998, there is an A/B season split of the fishery as well as a critical habitat split of the TAC (40% inside CH, 60% outside CH) in order to achieve an overall 50% reduction in the percentage of the TAC caught within critical habitat from the roughly 80% average today -- but only for Aleutian management areas 542 and 543. Area 541 (encompassing the eastern Aleutian Islands to Seguam Pass) was excluded from this provision and no satisfactory rationale was provided.

- NMFS decided arbitrarily that a 50% reduction (for Areas 542 and 543 but *not* for Area 541) in total fishery removals from critical habitat, phased in over 4 years, is adequate to avoid localized depletion or adverse modification of critical habitat. It *might* achieve the first goal if the fishery participants are spread out evenly, according to NMFS' own

analysis; but in reality the factory trawl fleet is *not* spread out evenly and the choice of 50% does not ensure that localized depletions, adverse modification of critical habitat, and jeopardy to the species' are avoided. Nor does a 50% reduction ensure that an adequate level of prey will be available to halt the decline and promote the recovery of the population in the region.

- The addition of an A-B seasonal division of the Atka mackerel TAC only divides the quota into two large pulse fisheries, both of which exceed the average annual catch of pre-1992 years at the present high TAC levels. This seasonal division was initially proposed by the Atka mackerel fishing fleet to coincide with the A/B-seasons for pollock in the BS/AI, in order to prevent pollock trawlers from participating in this overcapitalized fishery. However, the requirement to divide the BS/AI pollock fisheries into four seasons has eliminated that rationale. NMFS never provided a good biological basis for establishing only two seasons in the Atka mackerel fishery, and never demonstrated that such a seasonal division would ensure that the fishery is not jeopardizing Steller sea lions or adversely modifying their critical habitat.
- The proposed A/B seasonal 50-50 split of the TAC is not sufficient to prevent locally high extraction rates and localized depletions in the fishery, as assessed in the May 1998 EA/RIR prepared by NMFS. Even in instances where the fleet's effort is presumed to be evenly distributed across all fishery sites, NMFS demonstrates that catch would exceed 20% of the largest Leslie initial biomass estimate at most sites analyzed in Districts 542 and 543. Since the TAC has risen to record levels of 64,000-100,000 mt from 1993-1998, ranging from 2-4 times the historical average, both the "A" and "B" season TACs will exceed the entire catch of earlier years. NMFS has not proposed to reduce the TAC to levels nearer the historical average even though agency scientists have noted that localized depletions tend to occur in areas with the largest concentrations of the catch.

In summary, a large Aleutian trawl fishery targeting primary sea lion prey will continue to operate as a large, concentrated pulse fishery in areas proximal to rookeries and haulouts listed as critical habitat, and therefore will likely continue to create localized depletions in Steller sea lion critical habitat by NMFS' own reckoning (NMFS/AFSC 1998). NMFS cannot reasonably ensure that the Atka mackerel proposal is not jeopardizing the species or adversely modifying critical habitat under the current proposal.

## **7. CONCLUSION**

Exhaustive analyses of the fisheries and sea lion research have determined that the pollock fisheries are likely to jeopardize the survival and recovery of Steller sea lions and adversely modify their critical habitat in the manner described in the Biological Opinion.

Members of the Council family from the pollock industry have expressed surprise and dismay over the Steller sea lion measures now under consideration, and much has been made of the scientific uncertainties surrounding this issue. There have been strident industry demands for

more research before taking any action to protect Steller sea lion critical habitat. In effect we have been told that management restrictions on trawling to protect sea lion foraging habitat must first be demonstrated to work before they can be implemented. This is not reasonable or prudent under the ESA, for it places the burden of proof entirely on the species despite the fact that the fisheries in question remain concentrated in foraging habitat deemed essential to the survival and recovery of the species, and in the face of compelling evidence that the fisheries pose a serious competitive threat to sea lion food supplies and adversely modify that habitat.

The Council's focus on scientific uncertainty does not obscure the clear facts of this case. The misuse of uncertainty as a delaying tactic to forestall significant action in this case is transparent and should not stand. It is worth repeating that the Council routinely makes decisions in the face of huge scientific uncertainties. Uncertainty has not prevented the Council from allocating millions of tons of quota every year with limited data at best and lots of educated guessing, often with rudimentary knowledge of the target species, their life histories or habitat requirements, and usually without any long-term baseline environmental data to indicate what the range of natural variation is and whether current quotas are sustainable in the ecosystem context over time-scales longer than the annual production cycles for individual fisheries. Management action in the face of formidable uncertainties is the norm, not the exception.


Under the ESA, a jeopardy finding requires Reasonable and Prudent Alternative measures to avoid the jeopardy condition. Since NMFS has elected to implement the RPA objectives and principles through the Council process, under the Magnuson-Stevens Act, it is now incumbent upon the Council to comply. The Council must adopt a comprehensive package of management measures that will satisfy the requirements of the Endangered Species Act. However, the RPA example provided by NMFS in the Biological Opinion falls substantially short of avoiding jeopardy or adverse modification in the ways we have outlined, and the Council's options for consideration from the February Council meeting do not represent an improvement over those measures.

The test of the NMFS/Council RPAs is not whether they satisfy the demands of the industry to avoid affecting the conduct of the fisheries in any significant way, but whether they satisfy the ESA's requirements to avoid the jeopardy condition. We urge NMFS and the Council to remedy these shortcomings in the ways we have suggested in order to prevent the fisheries in question from remaining concentrated in critical foraging habitats and temporally and spatially compressed.

Thank you for your consideration.



Paul Clarke  
Greenpeace

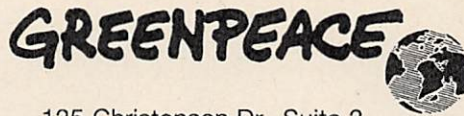


Ken Stump  
American Oceans Campaign

Table 1. -- A conservation example implementing sea lion ecosystem principles.

Management Action	Eastern Bering Sea Pollock	Gulf of Alaska Pollock	Aleutian Islands Pollock	Atka Mackerel
<b>Temporal TAC Distribution</b>	<p>A minimum of 4 Seasons:</p> <p>A (Jan 20) 15%</p> <p>B (April 15) 30%</p> <p>C (July 1) 30%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 – Jan 19 Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>	<p>A minimum of 4 Seasons:</p> <p>A (Jan 20) 15%</p> <p>B (April 15) 30%</p> <p>C (July 1) 30%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 - Jan 19 – Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>	<p>Short-term: prohibit directed fishery for pollock</p> <p>Long-term: establish consistent time/area scheme</p>	<p>4 Seasons:</p> <p>A (Jan 20) 25%</p> <p>B (April 15) 25%</p> <p>C (July 1) 25%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 – Jan 19—Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>
<b>Spatial TAC Distribution</b>	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Maximum 35% of pollock TAC from CVOA-CH</li> <li>TAC allocated to:                             <ol style="list-style-type: none"> <li>CVOA-CH</li> <li>Areas 517, 513, 514, 521, 522, 523</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Areas 610, 620, 630, Shelikof (621/631)</li> </ul>	N/A	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Areas 541, 542, 543</li> <li>Subarea allocations within existing areas to avoid localized concentration</li> </ul>
<b>Trawl Exclusion Zones</b>	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>60 nm seasonal for foraging range / year-round CVOA</li> <li>All haulouts and rookeries identified as CH</li> </ul>	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>All haulouts and rookeries identified as CH</li> </ul>	N/A	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>All haulouts and rookeries identified as CH</li> </ul>
<b>TAC Reductions</b>	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.	N/A	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.

- Support jeopardy/adverse modification opinions for pollock fisheries
- Do not support no jeopardy opinion for Atka mackerel fishery.
- Our recommended pollock RPAs consistent with BiOp's conservation principles
- RPAs benefit SSLs
- RPAs benefit pollock stocks, long-term future of fisheries
- RPAs benefit crab and halibut habitat
- RPAs benefit other predators that are in decline/ecosystem as a whole



Revised

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April 14, 1999

**RE: Item C-2, Analysis of Steller Sea Lion RPA Options**

Mr. Chairman,

Greenpeace and American Oceans Campaign submit these comments for your consideration of options for final sea lion conservation regulations, as discussed in the NMFS Draft EA/RIR for Reasonable and Prudent Steller Sea Lion Protection Measures in the Pollock Fisheries of the Bering Sea and Gulf of Alaska (April 5, 1999).

In April, 1998, Greenpeace, American Oceans Campaign and Sierra Club Alaska sued the National Marine Fisheries Service (NMFS) for failure to recommend new measures designed to reduce or eliminate trawl fishing in the critical foraging habitat of the endangered Steller sea lion in western Alaska, habitat which has become ground zero for the largest trawl fisheries in North America since the 1980s.

In December, 1998, NMFS issued a Section 7 Biological Opinion for the Alaska pollock and Atka mackerel fisheries, pursuant to the Endangered Species Act. The Biological Opinion concluded that the pollock fisheries jeopardize the endangered Steller sea lion and adversely modify sea lion critical habitat, the most important component of which is the prey base. Since food limitation is believed to be driving the decline of the Steller sea lion population in western Alaska, it is simply not reasonable or prudent to allow these large trawl fisheries to concentrate their efforts on prime sea lion prey in critical foraging habitats.

In February, the Council put forth a set of management options and alternative measures for analysis by NMFS in preparation for Council action on the final regulatory amendments that will satisfy the requirements of the Endangered Species Act. The existing emergency RPA rules fall far short of complying with the Opinion's RPA objectives and principles. However, the Opinion's RPA example also falls short of its stated objectives and fails to avoid jeopardy or adverse modification of critical habitat as required by the ESA. The Council's options and alternatives are premised on some combination of features from the emergency RPA and/or the Opinion's RPA example, and therefore provide no reasonable assurance of avoiding jeopardy or adverse modification.

Major shortcomings in both the NMFS and Council RPA measures are outlined below and in our comments:

- *The emergency RPA and the Opinion's RPA example fail to achieve major reductions in catch from critical habitat.*
- *The emergency RPA and the Opinion's RPA example fail to eliminate the possibility of competition between Steller sea lions and the fisheries in all designated critical foraging habitat around rookeries and haulouts.*
- *The emergency RPA and the Opinion's RPA objectives fail to address seasonal differences in sea lion foraging ranges or to eliminate the possibility of competition in the large aquatic foraging areas beyond 20 nm in Shelikof Strait and the Aleutian Islands.*
- *The emergency RPA and the Opinion's RPA example fail to prevent the majority of the catch from being concentrated in the difficult fall and winter months when NMFS says sea lion prey is more scarce and nutritional stress is most likely.*
- *The emergency RPA and the Opinion's RPA example fail to spread out and slow down the fisheries temporally by distributing the quota in four distinct seasons, especially in the Bering Sea.*
- *The emergency RPA fails to satisfy outstanding requirements of the Opinion's RPA principles, including (1) spatial dispersion by establishment of area-specific TACs in the Bering Sea, (2) adequate temporal separation of the "seasonal" TACs to avoid a single pulse of fishing, (3) establishment of required no-trawl zones around Cape Sarichef in the eastern Aleutian Islands and 8 Gulf of Alaska haulout sites, and (4) a prohibition on winter fishing for Gulf of Alaska pollock from 1 November to January 20, concurrent with the Bering Sea provision.*

We have summarized RPA measures that we believe are necessary to provide any real assurance of avoiding the jeopardy condition in **Table 1**, at the end of these comments.

## **1. RPA REDUCTION TARGETS FOR CATCH IN CRITICAL FORAGING HABITAT DO NOT REPRESENT A SIGNIFICANT DEPARTURE FROM STATUS QUO**

### **A. NMFS Has Not Demonstrated A Safe Level Of Trawl Fishing For Steller Sea Lion Prey In Critical Foraging Habitat**

After reviewing the history of pollock fishery removals from areas subsequently designated as Steller sea lion critical habitat in 1993, and providing "benchmarks" (BO: 118) for comparing recent fishery removals in critical habitat, NMFS suggests that a 50% cap would provide a "meaningful" reduction, even though this level does represent not a significant departure from the recent history of the fisheries which has lead NMFS to conclude jeopardy.

For instance, the Biological Opinion notes that prior to 1987 less than 30% of the annual Bering Sea/Aleutian Islands pollock TAC was taken from Steller sea lion critical habitat in all years except 1971 (BO: 117). In the absence of management controls on distribution of the catch, pollock fishery removals in the southeastern Bering Sea/CVOA region have increased steadily since 1980, averaging 279,069 mt during 1980-1985, 611,178 mt during 1986-1991, and 724,676 mt during 1992-1997. Since 1987, the annual percent of the TAC removed from critical habitat has ranged from 36-69% with a 1987-1997 average of 52%.

In the Gulf of Alaska, *"...the percent of the annual pollock TAC taken from critical habitat was on the order of a few percent until 1979, when the level rose to about 35%. From 1982 to 1997, the level has been consistently above 50%, ranging to as high as 93% in 1988. Here, a cap of 50% from critical habitat is consistent with the lower limit of catches since 1982, but also represents a meaningful reduction from the mean annual percent over this period"* (BO: 118).

Given the large percentages of catch taken from critical habitat in both management areas, it is difficult to understand how a cap at the lower end of this range represents a "meaningful" reduction of catches from critical habitat, since this level of fishery removals from critical habitat represents a continuation of the status quo in which Steller sea lion critical habitat remains a major focus of the fishery. This is why NMFS has concluded that the fisheries jeopardize sea lions in the first place.

#### **B. The So-Called "50% Principle" Is Politically Expedient, Not Biologically Justified.**

There is no "50% principle" in the Biological Opinion. Under BO Section 8.1.2 (Spatial Dispersion), NMFS says catch must be dispersed spatially in accordance with 5 principles (a-e). Principle b) requires limits on the maximum percent of TAC to be taken from critical habitat:

*"Absent good scientific estimates of pollock biomass distribution, place a maximum limit on the percent of TAC allocations from CH areas for each season. A cap of 50%, for example, is consistent with past fishing practices, but still leads to meaningful reduction in the percent of TAC from CH"* (BO: 119).

Thus, a *"maximum limit on the percent of TAC allocations from CH areas for each season"* is the principle here, separate from any specific percent cap. 50% is an arbitrary threshold suggested by NMFS to illustrate how the principle might be applied, but there is no analysis to demonstrate that 50% is sufficient to avoid jeopardy or adverse modification.

NMFS does not provide any biological basis for supporting this threshold. Rather the goal appears intended to minimize any immediate changes from past fishing practices, a point repeatedly made in the Biological Opinion's example RPA: *"A cap of 50%, for example, is consistent with past fishing practices...A 50% cap would also minimize the immediate consequences to the fisheries..."* (BO: 118-119). NMFS repeats this point in the draft analysis of RPA options, noting that the Opinion's RPA principles were presented to the Council *"to allow*

*the Council and the public to participate in the process of identifying conservation measures to satisfy the principles with the least disruption to the fisheries” and “A cap of 50% was chosen to reduce the current levels of catch in critical habitat without a major disruption to the fishery”* (Draft EA/RIR: x, 10).

Political and economic considerations, not the best interests of the endangered species or the requirements of the ESA, have dominated both NMFS’ and the Council’s thinking as to the acceptable limits to pollock fishing in critical sea lion foraging habitat.

**C. The “50% Principle” Of The Emergency RPA And Council’s RPA Options Does Not Constitute A Meaningful Reduction In Critical Habitat Catches From The Status Quo Jeopardy Condition.**

The emergency RPA measures do not establish a fishing regime which effectively limits overall catches in sea lion critical habitat or differs in any significant respect from the status quo, as illustrated by preliminary fishery data from the recently concluded 1999 pollock A-seasons in the Bering Sea and Gulf of Alaska:

- 92% of the Gulf of Alaska A-season TAC was taken in critical habitat, exceeding the recent three-year average of 90%.
- 58% of the Bering Sea A-season pollock TAC was taken in critical habitat, exceeding the ten-year (1987-1997) average of 52% overall and well within the 53-91% range taken in the CH/CVOA during the A-seasons of 1992-1997.

Data provided by NMFS in the Biological Opinion and in the RPA Analysis indicate that the RPA threshold target of 50% for catch in critical habitat overall is well within the status quo levels of the past decade:

**1. Bering Sea/Aleutian Islands:**

A phased-in cap of catches from critical habitat of 50% does not provide a meaningful change from the status quo operation of the fishery over the past decade (1987-1997):

*“Prior to 1987, less than 30% of the annual catch was taken from Steller sea lion critical habitat [largely in the summer] in all years except 1971 (when about 31% was taken). After 1987, the annual percent of the TAC removed from critical habitat increased to between 36% and 69%, with the 1987-1997 mean of about 52%”* (BO: 117-118).

**2. Gulf of Alaska:**

The emergency RPA does not establish an explicit cap on overall pollock catches from Gulf of Alaska critical foraging habitat, even though the percent of the catch taken from Steller sea lion critical habitat since the early 1980s has been very high. The Biological Opinion notes



that 50-90% of the GOA pollock catch has been taken from areas subsequently designated as Steller sea lion critical habitat since the early 1980s, concentrated in the fall and winter months:

*"Even after catches declined in 1986-1989 in response to declining pollock biomass, the proportion caught in fall and winter remained above 70%" (BO: 27).*

Crucially, the percent of the GOA pollock TAC taken from critical habitat did not decline overall even as the pollock stock biomass plummeted after 1985, in the wake of the massive but short-lived Shelikof Strait roe-pollock bonanza:

*"In the GOA, pollock catches from critical habitat increased (as the TAC increased) from trace amounts prior to 1979 to over 200,000 mt in 1985, primarily from Shelikof Strait (Figure 16). Pollock landings from the GOA critical habitat dropped (as the annual TAC declined) to about 50,000 mt in 1986, and have ranged between 35,000 and 90,000 mt through 1997. However, the percentage of total GOA pollock catches taken from critical habitat did not decline after 1985, but has remained between 50% and 90%" (BO: 28).*

**D. Any Credible Analysis Should Evaluate A Range Of Percent Caps On TAC Taken From Critical Habitat, Including No Pollock Fishing (0%) In CH.**

Given the difficulty of quantifying the competitive effects of high-volume, concentrated trawling for sea lion prey in critical habitat, the only level of pollock (and Atka mackerel) fishing in critical habitat that can provide a real assurance of *avoiding* food web competition and jeopardy to Steller sea lions or adverse modification of critical habitat is 0%. Yet neither the Biological Opinion nor the Draft EA/RIR for final sea lion RPAs considered an option to exclude pollock fisheries from critical habitat altogether. In order to make a credible case for the so-called "50% principle," the Council should have requested NMFS to evaluate a range of allowable fishing levels for pollock and Atka mackerel in critical habitat, including 0%. Instead the agency has only, and arbitrarily, considered a value (50% cap) at the lower end of the status quo.

NMFS cannot justify such high levels of catch in critical habitat, given the dire condition of the Steller sea lion and the findings of the Biological Opinion. A 50% cap in the amount of TAC taken from critical habitat does not represent a significant reduction *below* the status quo levels or a significant change in the jeopardy condition in which Steller sea lion critical habitat continues to remain a major focal point of the fisheries. Lack of evaluation of a range of lower percent caps on the allowable catch in critical habitat (e.g., 0-25-50%) belies the arbitrary and capricious nature of the "50% rule." Even if all agreed that a 50% cap represented a "meaningful" reduction from the recent record levels of pollock TAC taken in critical habitat, NMFS' own analysis clearly indicates that 50% is not a significant departure from the recent historical practice of the fisheries which has led to a finding of jeopardy and adverse modification.

## **2. THE RPA TRAWL EXCLUSION ZONES AROUND ROOKERIES AND HAULOUTS FAIL TO ELIMINATE THE POSSIBILITY OF COMPETITION BETWEEN STELLER SEA LIONS AND THE TRAWL FISHERIES, AS REQUIRED IN THE BIOLOGICAL OPINION.**

The EA/RIR for Amendments 25 and 20 to the FMPs of the GOA and BS/AI (Prohibition to groundfish trawling in the vicinity of sea lion rookeries) recommended special management measures to prohibit trawling in certain areas because: (1) trawl fisheries account for the majority of the catch of species of concern in critical habitat; (2) trawlers have higher bycatch of non-target prey species including juvenile pollock, squid, octopus, salmon, herring, capelin, eulachon, and sand lance, as well as flatfish and shellfish, any number of which may serve as important seasonal or secondary items in the sea lion diet, depending on availability; (3) trawlers are the primary source of lethal incidental entanglements in nets; (4) trawlers are responsible for benthic habitat disturbances and changes in species composition (NPFMC/NMFS 1991).

The only way to *eliminate* the possibility of competition from the major trawl fisheries in nearshore critical habitat is to prohibit ALL trawling within a radius of 20 nm around these sites. Both the emergency RPA and the Opinion's RPA example fail to prohibit pollock trawling or any other trawling across the full extent of designated critical habitat around rookeries and haulouts out to 20 nm:

- 36 rookery sites in western Alaska would retain year-round trawl exclusion zones, but only 10 rookery sites in the eastern Aleutian/eastern Bering Sea receive trawl-closure protection encompassing the full extent of designated critical foraging habitat (a radius of 20 nm).
- Although some critical foraging habitat areas around haulout sites receive some protection, the new haulout trawl exclusion restrictions apply only to the pollock fisheries, not all trawling.
- Under the NMFS proposal, approximately 47 haulouts would receive year-round pollock trawl exclusion zones and 40 haulouts would receive seasonal zones. 27 of the haulout sites are located in the Aleutian Islands and would not be operative in 1999 because there will be no Aleutian pollock fishery in 1999.
- Only 17 out of the 87 haulout sites would receive seasonal or year-round protection encompassing the full extent of designated critical foraging habitat (within a radius of 20 nm).
- The emergency RPA rule exempts haulout areas where the pollock trawlers fish heavily now, including the 20 nm zone around Cape Sarichef in the eastern Aleutian Islands and 8 haulout sites in the west-central Gulf of Alaska. NMFS is requiring that these sites be included under a two-year phase-in that would not go into effect in the Gulf of Alaska until year 2000, in violation of the ESA.

### **A. 10 nm Trawl Exclusion Zones Are Inadequate**

Although the stated regulatory intent of the rookery no-trawl zones established between 1991-1993 was to disperse trawl fisheries and minimize the likelihood that groundfish fisheries would create localized depletions of sea lion prey in critical sea lion habitats (Fritz and Ferrero 1997), the existing buffers have proven totally inadequate. The reason is that areas within these rookery trawl exclusion zones were not heavily utilized by the groundfish trawl fisheries, with the exception of the Atka mackerel fishery. For instance, from 1984-1991 the annual percentage of pollock caught within 10 nm of rookeries and haulouts in the BS/AI ranged only from 1-7% and 0-3% in the GOA (Fritz and Ferrero 1997; BO at 28).

The inadequacies of the 10 nm rookery zones were apparent to NMFS even at the time they were proposed:

*“Available data indicate that 10 nm zones would not be sufficient to cover feeding trips of animals during the winter, females without pups throughout the year, and some feeding trips of postpartum females during the breeding season.” (NPFMC/NMFS 1991)*

NMFS initially recommended that trawl fishing be prohibited within 20 nm of the listed Steller sea lion rookeries in the Gulf of Alaska (Aron memo, 16 May 1991). The 16 May 1991 recommendation was based on satellite telemetry data obtained from nursing females during the breeding season. The agency subsequently reduced the recommended trawl closure zones to only 10 nm around rookeries (Aron note, 30 May 1991). The 30 May 1991 memo demonstrated clearly that the 10-nm trawl closures would provide little protection to critical habitat foraging areas because very little groundfish fishing occurred in these areas, and most fishery removals occurred within 10.1 and 20 nm:

*“Data collected by fisheries observers suggests that 10 nm closures around northern sea lion rookeries would not seriously restrict the pollock fishery. From 1980-89, an annual average of 88.2% of all pollock caught within 20 nm of rookeries was caught between 10.1 and 20 nm.”*

It is abundantly clear that the existing rookery trawl exclusion zones are inadequate for at least several crucial reasons:

- Since very little trawling occurred within the 10-nm rookery no-trawl zones, closing them was not likely to reduce the impacts of trawling significantly. The 10 nm zones have done nothing to prevent the fisheries from becoming more concentrated in Steller sea lion critical foraging habitats during the 1990s.
- Telemetry tracking studies of seasonal foraging patterns (Merrick and Loughlin 1993, 1997; Merrick 1992, 1993) and platform-of-opportunity sightings indicate clearly that 10 nm zones are *“too small to effectively separate the local effects of trawlers on sea lion prey from foraging sea lions.”* (NRC 1996)

- The 10 nm zones do not protect much larger areas of critical foraging habitat that are used in the non-breeding season, primarily from haulouts.

In addition to these shortcomings, the 10 nm no-trawl zones do not provide adequate protection to important but overlooked segments of the sea lion population whose health and nutritional status is crucial to the eventual recovery of the species. For example, Calkins and Pitcher (1982) and Calkins (1996) found that mature females without pups comprise a large portion of the adult female population in any given year – 33-40% in the Kodiak area during 1970s and 1980s. Research by Calkins (1996) in Southeast Alaska indicates that summer adult females without pups travel longer distances and move more extensively between haulout and rookery sites in a given region even in the summer. Thus rookery no-trawl zones of 10 or 20 nm do not encompass foraging areas of this portion of the population even in the summer months.

#### **B. RPA "No-Trawl Zones" Are Pollock-Only Trawl Exclusion Zones Around Haulouts.**

Although NMFS has retained the prohibition on ALL trawling around rookeries for reasons stated by the agency previously, the zones around haulouts are pollock-only trawl exclusion zones.

NMFS has not demonstrated that pollock-only trawl exclusion zones are adequate to ensure that the major trawl fisheries for Atka mackerel, Pacific cod and others are not causing significant harm to Steller sea lion critical foraging habitat around haulouts, where as much as two-thirds of the population has been found in the non-breeding seasons.

#### **C. RPA Pollock Trawl Exclusion Zones Do Not Provide Year-Round Protection Of All Critical Habitat Around Most Haulouts.**

Haulout sites are critical to Steller sea lions at all times of the year. In the fall and winter months as much as 2/3rds of the population has been counted at these sites. Their use by sea lions is associated with adjacent foraging areas at sea. The NMFS RPA example of the December, 1998, Biological Opinion falls far short of providing comprehensive protection from trawling around haulout sites:

- Under the NMFS proposal, approximately 47 haulouts would receive year-round pollock trawl exclusion zones and 40 haulouts would receive seasonal zones. 27 of the haulout sites are located in the Aleutian Islands and would not be operative in 1999 because there will be no Aleutian pollock fishery in 1999.
- Only 17 out of the 87 haulout sites would receive seasonal or year-round protection encompassing the full extent of designated critical foraging habitat (i.e., within a radius of 20 nm).

**D. Year-Round No-Trawl Zones Encompassing The Full Extent Of Critical Habitat Around Rookeries and Major Haulouts Are The Only Means Of ELIMINATING The Possibility Of Competition In These Core Areas, The Stated Goal Of The Biological Opinion's Trawl Exclusion Strategy.**

NMFS has acknowledged the crucial importance of *eliminating* the potential for fishery competition for sea lion prey in the critical foraging areas around rookeries and haulouts:

*“Complete exclusion of pollock trawl fishing is based on the available evidence that the regions around major rookeries and haulouts are so essential to the recovery and conservation of the western population that risk of competition from pollock trawl fisheries must be excluded completely. Such exclusions are particularly important to protection of prey resources for reproductive females and for pups and juveniles learning to forage” (BO: 119).*

The only way to achieve that objective is to extend the no-trawl zones to encompass the full extent of critical foraging habitat out to 20 nm around rookeries and haulouts year-round. The merits of extending the no-trawl zones to encompass all designated critical habitat affected by this fishery (e.g., from 10 to 20 nm around rookeries, and to at least 20 nm around haulouts listed as critical habitat) include:

- Catches of primary sea lion prey (pollock, Atka mackerel, Pacific cod) in designated critical habitat areas have soared under U.S. management from 1977-1997, and removals have become concentrated in the first quarter of the year. Existing 10 nm zones have not constrained, much less reduced, fishery removals from these critical areas at crucial times of the year.
- Existing no-trawl exclusion zones of 10 nm around rookeries in western Alaska (extending to 20 nm around 6 EAI rookeries during the Bering Sea pollock A-season, including Seguam Island) provide some limited “buffers” for foraging habitat frequented by nursing females on rookeries in summer months but do not encompass foraging areas of the non-breeding population in the summer or the much larger adult female foraging ranges in the fall and winter.
- The importance of protecting sea lion winter foraging habitat goes hand-in-hand with protecting aquatic zones adjacent to haulout sites, since haulouts are where as much as two-thirds of the animals have been counted in the non-breeding season (NMFS 1993). Existing rookery buffers do nothing to protect feeding areas of adults and juveniles adjacent to haulout sites even though NMFS has identified winter as a crucial time of year, when sea lions are expected to be more vulnerable to nutritional stress (Fritz and Ferrero 1997).
- The radio telemetry data suggest that juvenile foraging ranges are broadly encompassed within existing critical habitat (20 nm), and juveniles are thought to be the most at-risk segment of the population in terms of foraging ability and finding adequate prey.

Mothers with pups also appear to stay closer to shore than non-nursing animals, and their nutritional needs are much greater in the fall and winter when nursing a young-of-the-year pup and carrying a fetus to term the next spring.

- Steller sea lions are broadly distributed in winter and can move extensively between haulout sites depending on weather and prey availability. Eliminating high-volume trawling in all critical habitat foraging areas provides the simplest, most efficient, and only effective way to provide reasonable protective coverage across all seasons around all the land-based sites listed as critical habitat in western Alaska.

#### **E. Expanded No-Trawl Zones Are Necessary To Protect Accustomed Fall And Winter Foraging Areas On Spawning Grounds.**

Although 20 nm trawl buffer zones will provide expanded protection for core nearshore foraging areas around critical land sites, they do not begin to encompass the extensive foraging ranges of Steller sea lions, particularly in the fall and winter months. In particular, spatial and temporal concentration of the giant eastern Bering Sea pollock fishery in the critical habitat/CVOA complex jeopardizes the ability of the sea lions to find adequate prey at a time when the animals are expected to be more nutritionally stressed due to adverse weather, fewer available prey, and higher nutritional demands on pregnant and/or nursing females and weaned pups (NMFS 1993).

NMFS has previously determined that a seasonal trawl closure strategy comprised of 20 nm closures in summer and 60 nm closures in winter (Oct 1-Apr 30) would best approximate Steller sea lion seasonal foraging patterns (NMFS 1991), and that a large area of the eastern Aleutian Islands out to the continental shelf break contains critical winter foraging habitat on pollock spawning grounds (NMFS 1993). A Section 7 Consultation on Amendment 18 to the BS/AI FMP, February 1992, found that *"increased fishing effort in the CVOA may diminish the availability of food resources to Steller sea lions that forage in this geographic region and may adversely affect their survival and recovery."*

These larger, at-sea foraging areas were first recommended by the Steller Sea Lion Recovery Team in 1991 and encompass major pollock spawning grounds in the Gulf of Alaska (Shelikof Strait) and eastern Aleutian Islands (from Unimak Island to Islands of the Four Mountains, 164-170W longitude) as well as Atka mackerel spawning grounds in Seguam Pass. Although the Steller Sea Lion Recovery Team expressed the need for more information, the Recovery Team also noted that nutritional factors appeared to be involved in the population decline and emphasized the need for designating at-sea areas adjacent to population centers where sea lions were commonly known to forage, and where the groundfish fisheries, particularly for pollock, were heavily concentrated (SSLRT 1991). The Recovery Team recommendation led to designation as critical habitat by NMFS in 1993:

*"These sites were selected because of their geographic location relative to Steller sea lion abundance centers, their importance as Steller sea lion foraging areas, their present or historical importance as habitat for large concentrations of Steller sea lion prey items that are essential to the species' survival, and because of the need for special consideration of*

*Steller sea lion prey and foraging requirements in the management of large commercial fisheries that occur in these areas.” (NMFS 1993)*

The existing sea lion research supports the importance of the larger at-sea foraging habitat in the CVOA, particularly in the winter months when large schools of spawning pollock gather in the area:

*“Satellite telemetry data from tagged eastern Aleutian sea lions indicate that the shallow portion of the CVOA is an important foraging area for Steller sea lions. Most of the tagged eastern Aleutian Islands animals generally foraged on the shelf area within the Krenitzen Islands and to the east on the north and south sides of Unimak Island. Winter sea lion distribution data indicate that the number of animals on rookery sites generally decreases after the summer breeding season whereas use of haulouts increases. In the eastern Aleutians, animals appear to move from rookeries to haulout sites closest to the eastern Bering Sea shelf and perhaps the western GOA shelf.” (Mello memo, 8 September 1992)*

In the EA/RIR for Amendments 20 and 25 to the BS/AI and GOA Fishery Management Plans (Proposed Prohibition to Groundfish Trawling in the Vicinity of Steller Sea Lion Rookeries, 1991), NMFS determined that a seasonal trawl closure strategy comprised of 20 nm closures in summer and 60 nm closures in winter (Oct 1-Apr 30) would best approximate Steller sea lion seasonal foraging patterns:

*“This alternative approximates the maximum observed foraging distance of females with pups during the breeding season, and provides a large closed area during winter to better encompass winter foraging habitats and compensate for increased nutritional need and stresses” (NPFMC/NMFS 1991).*

Thus the agency has acknowledged that rookery and haulout no-trawl zones of 10 or 20 nm do not reflect broad seasonal foraging patterns and are not sufficient to protect accustomed winter foraging grounds farther offshore, which are necessary for the survival and recovery of the species in the CVOA/CH complex as well as the Shelikof Strait and central Aleutians around Seguam Pass (NMFS 1993). Failure to protect these broader foraging areas is in violation of the ESA.

### **3. THE RPAs FAIL TO DISPERSE POLLOCK CATCHES OUT OF THE WINTER SEASON**

#### **A. The Emergency RPA And The Opinion's Example RPA Fail To Significantly Disperse Pollock Catches Away From The Winter Season In The Bering Sea.**

The catch statistics below are preliminary as of 3/19/99, as summarized in the NMFS Analysis of RPA Options and Alternatives, Table 3-2 (page 73). They demonstrate that the levels of catch from critical habitat during the 1999 eastern Bering Sea pollock A-season were not a significant departure from status quo:

- A total of 384,428 metric tons were removed from the A-season in the Bering Sea out of a quota of 387,475 mt, or 99% of the A-season TAC.
- 221,804 mt (58%) of the total A1/A2 TAC were taken in the critical habitat/CVOA complex. This compares to 50-90% of the A-season TACs taken from the CH/CVOA during 1992-1997 (NMFS EA/RIR: 35). The 1999 A1/A2 percent of the TAC taken in CH/CVOA falls well within the range of the 1990s, and thus is not a departure from the conditions which prompted NMFS to find jeopardy for these fisheries.
- Although 221,804 mt is below the 236,628 mt cap for the CH/CVOA in the 1999 A-season, and is the lowest total tons since 1992, when 255,433 mt was taken in the CH/CVOA (BO: Figure 18), 221,804 mt is still four and a half times the average winter pollock removals in the BS/AI prior to 1987, when catches did not exceed 50,000 mt during the first quarter of the year (NPFMC/NMFS 1998).

The EA/RIR for Inshore/Offshore-3 (NPFMC/NMFS 1998) has previously highlighted this dramatic growth in the first quarter roe pollock fishery as well as its concentration in the CH/CVOA complex. It is abundantly clear from the preliminary data provided by NMFS that neither the quantity of the 1999 A-season catch nor the percent of TAC taken from the CH/CVOA complex represent significant departures from the status quo operations of the winter fishery during the recent past, as described in the Biological Opinion:

*"The recent increase in BSAI critical habitat catches has occurred principally during the A-season (January-March), as evidenced by high amounts (between 250,000 and 550,000 mt) and percentages (between 50-90%) removed from critical habitat between 1992 to 1997 (Figure 18)." (BO: 27)*

#### **B. The Emergency RPA Increases Winter Pollock Fishery Removals In The Gulf Of Alaska.**

The emergency RPA actually *increases* the percent of the TAC taken in the Gulf of Alaska during the winter months from 25% in 1998 to 30% in 1999. The preliminary 1999 A-season reveal data indicate that the pattern of rapid pulse fishing in critical habitat continues unchanged:

- The west/central Gulf pollock fishery took an estimated 30,500 mt of pollock, exceeding the A-season TAC by 10% overall.
- The season lasted 8 days in Area 630 and exceeded the TAC by 16%.
- The season lasted 12 days in Area 610 and exceeded the TAC by 21%.



- Area 620 fishing proceeded more slowly for 29 days and took 99% of the area-specific TAC.
- 92% of A-season TAC was taken in critical habitat, exceeding the recent three-year average of 90%.

These statistics do not represent a significant departure from the status quo operation of the fishery, since the long-term average percent of TAC taken from critical habitat in the winter has been above 70% since the 1980s and the recent three-year average for removals in January has been 90% (BO: 27-28).

### **C. The Emergency RPA Measures Failed To Slow Down The 1999 Winter Fisheries Appreciably Or Achieve A Significant Extension Of Season Length.**

Prior to the start of the 1999 A-season, NMFS estimated that the emergency RPA measures would extend the winter roe pollock fishery in the Bering Sea by about 3 weeks compared to 1998. Even with the addition of three weeks (21 days), the 1999 A1/A2-season would be less than half as long as the original A-season of 1990 and shorter than the 53-day A-season of 1991 or the 46-day A-season of 1992. This does not represent a change in the status quo during the 1990s.

Despite the stated objectives of the Biological Opinion, the emergency RPA measures for 1999 failed to slow down these rapid, intense pulse fisheries on spawning pollock aggregations or to significantly extend the winter fishing season, judging from the 1999 fishery data in both the GOA and Bering Sea:

- The W/C Gulf pollock A-season took an estimated 30,500 mt of pollock, exceeding the A-season TAC by 10% overall. The season lasted 8 days in Area 630 and exceeded the TAC by 16%. The season lasted 12 days in Area 610 and exceeded the TAC by 21%. Area 620 fishing proceeded more slowly for 29 days and took 99% of the area-specific TAC. Thus the fishery continues to be taken in rapid bursts, and most of it (92%) was taken in critical habitat in 1999.
- In the Bering Sea, the inshore catcher vessel fleet fished from 1/20 to 2/28. A1-season ceased on 2/11. Altogether, the inshore fleet A1/A2 season lasted only 32 days, four and a half weeks. By comparison, 1998 the inshore fleet A-season lasted 32 days, and the 1992-1996 A-seasons averaged 46 days.
- The mothership fleet fished from 2/1 to 2/19 before reaching its quota share. The fleet took 52% of its A-season allocation in CH/CVOA by 2/9 and fished outside CH/CVOA from 2/9-2/17.
- The factory trawl fleet fished from 1/20 to 2/15, and from 2/20 to 3/19. As of 3/19, the fleet had reached 99% of its A1/A2 allocation although the offshore A2 season

technically remained open. The fleet took 36% of its total A-season quota in CH/CVOA, 88% of its allowable CH/CVOA quota.

- This was the longest A-season for the factory trawl fleet since 1990-91. In 1990, the offshore A-season lasted from January 1 to April 15 and in 1991 the A-season lasted from Jan 1-Feb 22 (53 days). This year the factory trawl fleet took approximately 99% of its A1/A2 quota by March 19 – 54 fishing days, nearly 8 weeks. The AFA-mandated pollock co-op, not the Steller sea lion RPA, appears responsible for slowing down the offshore fleet's daily catch rate and extending the A-season overall (NMFS RPA Analysis: 29).
- The 2/15-2/20 "stand-down" between A1 and A2 openings did not achieve a cessation of fishing and thus did not achieve a true separation: *"Because the CDQ and mothership sectors both have a single A-season under the emergency rule and can fish during the 5-day stand-down period in effect for the inshore and catcher/processor sectors, the separation of the A1 and A2 seasons is not complete"* (NMFS RPA Analysis: 21).

The difference in the Bering Sea offshore fleet A-season length during this A-season compared 1993-1998 was not attributable to the emergency RPA regulations. Major reasons include:

#### 1. Lower A-season Quota

- The 1999 A1/A2-season open access fishery quota was reduced from 45% to 40% of the total TAC.

#### 2. Lower TAC

- The 1999 eastern Bering Sea pollock TAC was 992,000 metric tons, an 11% reduction from the 1,110,000 mt TAC of 1998.
- The 1996 and 1998 the A-season catch was 510,000 metric tons, whereas the 1999 A1/A2-season TAC (including CDQ shares) was 387,425 mt.

#### 3. Lower Daily Take

- In past years, removals of metric tons of fish exceeded 10,000 mt/day regularly during the peak of the A-season.
- In 1999, there were only several days when total catch exceeded 10,000 mt/day. *"Most, if not all, of this reduction is directly attributable to the C/P sector, presumably resulting from the co-oping provisions of the AFA"* (NMFS Analysis of RPA Options: 29).

#### 4. Factory Trawler Co-op And Fewer Vessels Overall

- The AFA-mandated pollock co-op, not the Steller sea lion RPA, appears to be responsible for slowing down the offshore fleet's daily catch rate and extending the A-season overall.
- 9 factory trawlers were removed from the 1999 fishery, reducing the total number of pollock factory trawlers to 20. 12-16 of the 20 factory trawlers were actually reported fishing during the 1999 A-season.

#### **4. THE EMERGENCY RPA RULES FAIL TO SPREAD THE BS/AI AND GOA POLLOCK FISHERIES ADEQUATELY IN TIME AND AREA, AS REQUIRED IN THE BIOLOGICAL OPINION.**

Recognizing the need for more effective time-area management of the pollock fishery in the Bering Sea, particularly in light of declines not only of sea lions but other pollock predators, the Bering Sea Ecosystem report (NRC 1996) included the following recommendation to broaden the distribution of fishing effort in space and time, especially for pollock:

*“The concentrated fishing for pollock in some places at specific times probably reduces the availability of food for marine mammals and birds, especially juveniles. Thus one step that might help improve the food supply for and reverse declines in marine mammals and birds would be to distributed fishing over wider areas and over longer periods. This management strategy is unlikely to have any adverse effects” (NRC 1996: 6).*

A key weakness of existing NMFS/Council management of the pollock fisheries in the 1990s is that it has not established concurrent seasons or consistent seasonal management principles for the BS/AI and GOA pollock fisheries. The seasonal allocation schemes in the January 20 emergency rule perpetuate this situation, for instance if catcher vessels from the BS/AI enter the GOA fishery, thereby exacerbating the race for fish, shortened seasons, higher bycatch rates, overages of the TACs and competitive disadvantages to smaller GOA vessels, particularly in Area 610. A true quarterly allocation scheme, consistently applied in the GOA and BS/AI, is the only way to satisfy the temporal dispersion objective of the Biological Opinion, while concurrent seasons should also go a long way toward addressing the problems created by the current lack of concurrence between GOA and BS/AI pollock seasons. **Table 1** below presents our recommended seasonal TAC allocation alternative.

##### **A. The RPAs Fail To Distribute The BS/AI TAC Into At Least Four Seasons. The Second Principle Of Temporal Dispersion In The Biological Opinion.**

The emergency RPA defeats the intent of the Biological Opinion to spread the pollock removals into at least *four seasons*, two in the period from January through May and two in the period from June to November 1 (BO, p. 117). But NMFS' own RPA example of temporal spacing in the eastern Bering Sea pollock fishery also makes a mockery of the four-season approach. A desire not to alter significantly the status quo A/B seasonal pattern of fishing appears to have been the agency's prime concern. Moreover, under the emergency RPA, both the Gulf seasonal scheme and the Bering Sea pollock seasonal scheme ensure that the majority of the TACs would continue to be

concentrated in the fall and winter months, the times of year identified by NMFS as most difficult for foraging sea lions.

Specifically, the emergency RPA proposal establishes two *openings* for the pollock fishery during the winter or A-season, the first on January 20 (A1, 27.5% of the quota) and second on February 20 (A2, 12.5% of the quota) – and attempts to pass this scheme off as two separate “seasons.” The Biological Opinion’s RPA example recommended an A2 start date of March 1, but this recommendation was opposed by the industry. Neither the Opinion’s example RPA nor the emergency RPA constitute two seasons, one opening in the winter (January 20) and one in the spring (e.g., April 15). Furthermore, the emergency RPA’s February 20 opening date from the A2 “season” ensures that the fishery will remain concentrated entirely in the winter, on spawning aggregations.

In addition, the emergency RPA provides no stand-down period to separate the proposed B/C seasons in the eastern Bering Sea, thus ensuring a continuous pulse fishing that is not any different from the B-season of prior years. The NMFS RPA Analysis at 2.1.1.5, notes that the January 20 emergency rule set September 15 as both the ending date for the B season and starting date for the C season,

*“thus providing no stand-down period to separate the openings. The result is one continuous B/C season, broken up in name only, from 1 August to 1 November ...Such a management regime would not ensure the integrity of separate B and C seasons, would not be consistent with the RPA principles, specifically the second and fifth temporal RPA principles which call for four separate seasons and institution of mechanism to avoid concatenation of adjacent seasons” (NMFS RPA Analysis: 23).*

Both the A1/A2 and B/C seasonal allocations fail to achieve the objectives of the Biological Opinion for the temporal dispersion of the fishery across four seasons.

#### **B. The Quarterly, Four-Season Approach To Temporal Dispersion Of Pollock Fisheries Has Long Been Regarded As A Fundamental Component Of Sea Lion Conservation In The NMFS Section 7 Record**

The history of the Section 7 consultation record and the established facts concerning sea lion biology/fishery interactions in critical habitat demonstrate that quarterly allocations of the pollock TACs for the BS/AI and Gulf of Alaska are a fundamental component of comprehensive sea lion conservation measures that will reduce the likelihood of jeopardizing sea lions, adversely modifying their critical habitat, and limiting their recovery.

NMFS frequently has recognized the importance of a quarterly allocation. A memo of 10 March 1993 from Aron to Pennoyer strongly opposed a proposal for adopting the Bering Sea A/B seasonal pollock allocation scheme in the Gulf, because it would increase catches in the winter roe fishery and because it would violate the strategy of temporal allocation of the fishery:

*"The quarterly approach is fundamental to the NMFS conservation strategy of temporal and spatial allocation of the pollock TAC to minimize sea lion impacts. That NMFS took this approach was probably a fundamental reason why the U.S. District Court and the Court of Appeals found in favor of the Service in the complaint filed by Greenpeace over the 1991 walleye pollock GOA TAC. Adoption of the BSAI approach would contradict past actions by NMFS, without allowing the strategy [i.e., quarterly allocations in the GOA] sufficient time to have positive effects on the sea lion population."*

The Section 7 record is replete with concerns for this fall/winter period. For instance, a 30 March 1993 Memorandum summarized general Steller sea lion/fishery conflict issues and goals of past management measures. In that memo, the importance of the November through April period was identified as a time of higher stress for sea lions, hence any measure that concentrates fishing in this period is a problem:

*"Because of stress associated with winter weather, weaning season, gestation, and reduced prey diversity and availability, anything that increases fishing effort at known haulouts or rookeries from November through April may require formal consultation."*

A 4 April 1993 Memorandum of William Aron to Steven Pennoyer further emphasizes the need to avoid concentrating the pollock TAC in the fall months. In that consultation, AFSC staff assessed the effect of a GOA pollock third quarter starting date of September 1 with respect to effects on Steller sea lions:

*"This starting date is likely to cause adverse impacts on Steller sea lions by concentrating fishing effort in the fall and winter when juvenile sea lions may be vulnerable to shortages of prey resources."*

And:

*"We do not support a September 1 third quarter starting date in the Gulf of Alaska pollock fishery and retain support of our previous recommendation of January 20, June 1, August 15 and October 1 quarterly starting dates with equal TAC releases in each quarter."*

Despite the repeated concerns voiced in the Section 7 record, however, both the Biological Opinion and the emergency RPA continue to concentrate the Bering Sea pollock fishery into two large pulses of fishing in the fall and winter months. At a minimum, these TACs should be allocated on a quarterly basis. A true quarterly allocation of the TAC is the bare minimum of seasonal divisions which will ensure that at least half of the catch is directed away from the fall-winter months, and a strong case can be made for dividing these large fishery quotas into even smaller seasonal apportionments to truly ensure that the impacts of big pulse fisheries are spread evenly across the year.

Quarterly apportionments across four seasons are not a panacea. But when combined with explicit spatial management to disperse the fisheries geographically and with year-round trawl exclusion zones around rookeries and haulouts to eliminate competition in those nearshore

areas of critical habitat, four-season allocations of TAC serve to further reduce the adverse impacts of high-volume pulse fishing by spreading out the effort and catches across the year in a precautionary manner. Table 1 provides our recommended quarterly allocation scheme for this fishery.

### **C. The Emergency RPA Measures Fail To Meet The Biological Opinion's Objectives For Spatial Dispersion Of The Pollock Fisheries.**

In the Biological Opinion, a primary objective of spatial dispersion *"is to have the distribution of catch mirror the distribution of exploitable pollock biomass for each seasonal TAC, including allocations made to areas within critical habitat and outside of habitat"* (NMFS Draft EA/RIR: 160). This is a sound precautionary principle even in the absence of sea lion RPAs, in the interests of the sustainable management of the fishery and in order to avoid overfishing of regional pollock stocks such as has occurred in the Shelikof Strait, the Bogoslof/Aleutian Basin region, and along the Aleutian Islands chain.

#### **1. Final RPAs Must Set Area-Specific TACs for the Eastern Bering Sea Pollock Fishery.**

The Council's final RPA regulations must establish area-specific TACs for CH/CVOA, east of 170W long. and west of 170W long. in the eastern Bering Sea, based on most recent survey estimates of biomass distribution of the stock, in accordance with principle *a*) in the Biological Opinion (BO: 118). The Biological Opinion clearly establishes the objective of spatial dispersion of TAC by at least these three management areas as an essential component of RPA measures required to avoid jeopardy. This is hardly a radical step, but it would at least bring spatial management of the EBS pollock fishery up to code, so to speak, with current practice in the GOA pollock fishery and the Aleutian Atka mackerel fishery. Unused portions of the TAC in one management area should not be transferable to other management areas.

The evidence for geographically concentrated trawling and disproportionate fishery removals in the southeastern Bering Sea is illustrated in the NMFS analysis of RPA options using fishery and survey data over the time series from 1982-1998 (EA/RIR: 94-101). The evidence is compelling, consistent with longer-term trends in the CH/CVOA complex:

*"The available evidence suggests that a relatively small portion of the pollock biomass is in the CH/CVOA during the B/C season. The evidence is based on summer surveys, which indicate that, on average, about 15% (ranged 6% to 27%) of the biomass has been in this region each year from 1991 to 1998. From 1992 to 1997, about 36% to more than 50% of the annual B season catch was taken from the CH/CVOA, suggesting that the harvest rate in this area may have been on the order of two to three times greater than expected on the basis of total biomass and overall harvest rate"* (EA/RIR: 37).

Geographically concentrated trawling and excessive fishery removal rates in the CH/CVOA complex have been a longstanding concern in the NMFS Section 7 record. For

instance, the consultation of 4 November 1991 envisaged a worst case scenario in which Amendment 18 to the BS/AI FMP (creating the CVOA) "*concentrates fishing effort even further in an area that has had a declining pollock biomass and has experienced relatively higher fishery exploitation rates during the last 5 years.*" NMFS scientists documented the trend in disproportionately high exploitation rates in the CH/CVOA during the pollock "B" season beginning the early 1990s, noting that "*Pollock are harvested disproportionately to their areal biomass distribution. Harvest rates in the CVOA during the B-season are much higher than in Areas 51 and 52*" (Fritz et al. 1995).

The disturbing trends of increasing catches and declining pollock biomass in the southeastern Bering Sea first identified by NMFS during 1986-1990 have continued during the 1990s and into the present. While survey estimates of eastern Bering Sea pollock abundance have declined 38% from 1994-1997, for instance, the decline has been concentrated in the heavily exploited CH/CVOA complex, where the abundance plummeted 81% from 1994-1997 -- more than twice the rate of decline for the managed stock as a whole (NPFMC/NMFS 1998). The concentration of the fall fishery and the rapid decline in biomass have resulted in alarmingly high estimates of fishery removal rates of pollock in the region, as estimated from the summer trawl/acoustic surveys of 1991, 1994, 1996, and 1997.

What the summer surveys tell us in the 1990s is that a small percentage of the total stock biomass is in the CVOA going into the fall -- less than 10% in recent years -- yet 36% to more than 50% of the B-season TAC has been taken out of this area in the 1990s. As CVOA pollock abundance has declined sharply in the summer/fall months, the B-season extraction rate has risen correspondingly: to 30% of the stock size estimate for the CVOA in the summer survey of 1996 and nearly 50% of the estimate in 1997 -- nearly HALF of the estimated standing stock in the area (BO: Figure 30). At this level of extraction, localized depletions of schools fish are likely to have a huge impact on prey availability for foraging sea lions across a broad area of critical habitat.

However, it is not sufficient simply to limit fishery removals within the CH/CVOA complex because pollock abundance in critical habitat is determined by factors inside and outside critical habitat. Redistribution of the fishery catches outside the CH/CVOA and in proportion to the estimates of stock biomass east and west of 170W longitude not only makes prudent fishery management sense, it is the only way to ensure that the fishery does not concentrate immediately outside the CH/CVOA or other areas of critical habitat adjacent to rookeries and haulouts, thus simply transferring the problem to the boundaries of critical habitat.

*"Pollock stocks are thought to be relatively mobile, and the abundance (or biomass) of pollock in Steller sea lion critical habitat is, therefore, determined by factors both inside and outside of critical habitat. If the catch were divided into just two areas, then fishing vessels could concentrate effort in critical habitat until that portion of the TAC was taken, and then simply move to just outside critical habitat and take the remainder of the catch"* (EA/RIR: 11).

Explicit spatial management to disperse this giant fishery geographically serves the interests of sea lion conservation as well as the long-term viability of the fishery, and it is long

overdue. The Council should be doing this already, in the interests of responsible and prudent fishery management.

## **2. The RPAs Must Establish A Separate Shelikof Strait Management District, Combining Areas 621 And 631 And Setting An Area-Specific TAC.**

NMFS' analysis of RPA options clearly requires consistent application of spatial management principles in the Bering Sea and Gulf of Alaska pollock fisheries: "*Consistent with RPA principle two, management areas for the spatial dispersion of pollock trawl fishing effort in the eastern Bering Sea and GOA target fisheries should be based on these and/or other meaningful geographic delineations which are proportionate to pollock stock distribution*" (EA/RIR: 160).

In the GOA, geographic management areas 610, 620 and 630 have already been established for purposes of setting pollock TACs spatially, based on survey information about stock biomass distribution. However, these broad areas do not prevent locally concentrated trawl fishing in critical habitat, and the Biological Opinion identifies the Shelikof Strait as a critical habitat management area of particular concern.

Under the emergency RPA rule, a cap on catches in the Shelikof Strait was established by a formula recommended in the Biological Opinion. The 1999 A-season fishery data indicates that actual distribution of the catches did not meet the target distribution goals set by NMFS. Based on the concentration of pollock biomass in the Shelikof Strait during the late winter/early spring hydroacoustic surveys, NMFS says a higher proportion of the GOA pollock fishery should have occurred in the Shelikof region. NMFS established a 1999 target goal of 57% of the A-season TAC to be taken from Shelikof, based on biomass distribution of the stock:

- Total A-Season TAC: 27,744 metric tons
- Target: 57% of A-season catch in Shelikof Strait (15,587 mt)

Estimated 1999 GOA A-season pollock catches by major fishing areas indicate clearly that the spatial distribution targets were not achieved:

- The total W/C GOA pollock A-season catch of about 30,500 mt of pollock exceeded the TAC by about 10% overall.
- Considerably more of the A-season TAC in Area 630 (>9,000 mt, 31%) was taken on the east side of Kodiak Island, in the Cape Barnabas/Chiniak areas, than NMFS anticipated. The catch was concentrated between 10 and 20 nm in critical sea lion foraging habitat.
- NMFS set a Shelikof Strait target of 57% of total catch, but only about 11,000 mt (36% of the total A-season catch) was taken in the Shelikof region.



In the absence of area-specific allocation of the TAC to the Shelikof Strait, the fishery concentrated its efforts more heavily on the east side of Kodiak Island. These pollock aggregations (within critical sea lion habitat) are believed to be considerably smaller than the Shelikof spawning aggregation, and therefore are likely to be more vulnerable to the effects of concentrated trawling, including disproportionately high fishery removal rates and fishery-induced depletions:

*"In the GOA, overall pollock fishery harvest rates have varied from about 5% to 10% since 1990. Since 1994, the estimated harvest rate in Shelikof Strait has been on the order of 1% to 3%, or well below the overall harvest rate for the GOA (Fig 2-12). This discrepancy suggests that the biomass of pollock in Shelikof Strait is under-utilized relative to the biomass of pollock outside the Strait. It therefore follows that relative to the overall harvest rate, pollock biomass outside the Strait must be over-utilized"* (EA/RIR: 57).

Principle *e*) under the objective of Spatial Dispersion (BO: 119) clearly establishes the need for a combined 621/631 Shelikof Strait management area for purposes of setting the winter pollock TAC, and the NMFS analysis of RPA options further recommends a separate TAC for Shelikof Strait rather than a cap (EA/RIR: 15, 55-57). In order to comply with principle *e*) of the spatial dispersion objective in the Biological Opinion, the Council must establish a combined Area 621/631 Shelikof Strait management district for purposes of setting the winter pollock TAC at the very least. Unused portions of the Shelikof District TAC should not be transferable to other management areas.

## **6. FAILURE TO FIND JEOPARDY IN THE ALEUTIAN ATKA MACKEREL FISHERY IS ARBITRARY AND CAPRICIOUS**

### **A. The Four-Year Phase In Of Measures In Areas 542 And 543 Ensures That The Fisheries Will Continue To Jeopardize Steller Sea Lions And Adversely Modify Critical Habitat in 1999, In Violation Of The ESA**

The Atka mackerel regulatory measures approved by the Council in 1998 will not go into full effect for four years. Given the BS/AI Plan Team's recently recommended 1999 ABC of 73,000 mt, the proposed regulations will only reduce the percentage of the 1999 TAC taken in critical habitat in Districts 542 and 543 by about 15% from the recent average percentage of the TAC taken from critical habitat:

*"The regulatory amendment for the 1999 Atka mackerel fishery will reduce the amount of Atka mackerel caught within critical habitat in areas 542 and 543 from an average (1995-1997) of 95% and 85%, respectively, to 80% and 65%, respectively. It is estimated that approximately 55,700 mt of Atka mackerel could be caught inside critical habitat in 1999, which is 65% of the recommended 1999 ABC. This a decline of about 15% in the recent average percentage of Atka mackerel TAC taken from critical habitat"* (Lowe and Fritz, 1998).

**B. Temporally And Spatially Concentrated Trawling, Disproportionately High Fishery Removal Rates, And Localized Depletions In Critical Habitat Are Not Avoided By Existing Regulations.**

In the Aleutian Islands, where Atka mackerel is a primary sea lion prey, the Atka mackerel fishery has always been concentrated in nearshore areas of critical habitat proximal to sea lion rookeries and haulouts, occurring in the same few locations every year (Lowe and Fritz 1997). Catches in this fishery were low throughout the late 1970s and never exceeded 40,000 metric tons in the 1980s, averaging about 25,000 metric tons prior to the 1990s. Since 1991, catches have soared, reaching a record 104,000 metric tons in 1996. Although the target harvest rate for the managed stock as a whole is believed to be 10-15%, based on overall stock biomass estimates, fishery data indicates that local rates in fished areas have ranged as high as 55-91% (Lowe and Fritz 1997; Fritz 1997, 1998).

Since the Atka mackerel fishery has always been concentrated in highly localized areas primarily within 20 nm of sea lion rookeries and haulouts in the Aleutians, the risk of adversely affecting sea lion prey availability and/or quality of prey is greatly increased by the record-high TACs for Atka mackerel in the 1990s. In addition, there has been a complete shift in effort by an overcapitalized factory trawl fleet to the first quarter of the year as vessels race for shares of the quota. A broad spatial division of the quota into three subareas has not reduced the concentration of removals from within critical habitat boundaries. In fact, as the TAC has reached record-high levels in the 1990s, the volume of fishery removals from critical habitat has soared. The measures adopted by NMFS and the North Pacific Fishery Management Council in June, 1998, do not adequately address the concerns for concentrated Atka mackerel trawling in critical habitat.

Locally high catch rates have been shown to cause localized depletions in the size and density of Atka mackerel populations *"which could affect foraging success during the time the fishery is operating and for a period of unknown duration after the fishery is closed. This raises concerns about how the fishery may affect food availability and the potential recovery of the population"* (Lowe and Fritz 1997). There is compelling evidence for widespread fishery-induced localized depletions in the Aleutian Islands critical habitat which pose a direct and immediate competitive threat to prey availability for Steller sea lions:

*"If lack of available prey is an impediment to the recovery of the western population of Steller sea lions, then the evidence for fishery-induced localized depletions of Atka mackerel and the persistent distribution of the fishery within critical habitat support the hypothesis of sea lion fishery competition and fishery impacts on Steller sea lion population dynamics."* (NMFS 1998)

The Council voted in June, 1998, to restructure the Aleutian Atka mackerel fishery on the basis of this peer-reviewed information but did not adopt measures adequate in scope to avoid the jeopardy condition.

**C. The NMFS/Council Regulations For The Aleutian Atka Mackerel Fishery Do Not Adequately Reduce Catches In Critical Habitat, Do Not Achieve Adequate Temporal Dispersion, And Are Not Applied Consistently In All Fished Areas.**

Under the regulations adopted by the Council in June 1998, there is an A/B season split of the fishery as well as a critical habitat split of the TAC (40% inside CH, 60% outside CH) in order to achieve an overall 50% reduction in the percentage of the TAC caught within critical habitat from the roughly 80% average today -- but only for Aleutian management areas 542 and 543. Area 541 (encompassing the eastern Aleutian Islands to Seguam Pass) was excluded from this provision and no satisfactory rationale was provided.

- NMFS decided arbitrarily that a 50% reduction (for Areas 542 and 543 but *not* for Area 541) in total fishery removals from critical habitat, phased in over 4 years, is adequate to avoid localized depletion or adverse modification of critical habitat. It *might* achieve the first goal if the fishery participants are spread out evenly, according to NMFS' own analysis; but in reality the factory trawl fleet is *not* spread out evenly and the choice of 50% does not ensure that localized depletions, adverse modification of critical habitat, and jeopardy to the species' are avoided. Nor does a 50% reduction ensure that an adequate level of prey will be available to halt the decline and promote the recovery of the population in the region.
- The addition of an A-B seasonal division of the Atka mackerel TAC only divides the quota into two large pulse fisheries, both of which exceed the average annual catch of pre-1992 years at the present high TAC levels. This seasonal division was initially proposed by the Atka mackerel fishing fleet to coincide with the A/B-seasons for pollock in the BS/AI, in order to prevent pollock trawlers from participating in this overcapitalized fishery. However, the requirement to divide the BS/AI pollock fisheries into four seasons has eliminated that rationale. NMFS never provided a good biological basis for establishing only two seasons in the Atka mackerel fishery, and never demonstrated that such a seasonal division would ensure that the fishery is not jeopardizing Steller sea lions or adversely modifying their critical habitat.
- The proposed A/B seasonal 50-50 split of the TAC is not sufficient to prevent locally high extraction rates and localized depletions in the fishery, as assessed in the May 1998 EA/RIR prepared by NMFS. Even in instances where the fleet's effort is presumed to be evenly distributed across all fishery sites, NMFS demonstrates that catch would exceed 20% of the largest Leslie initial biomass estimate at most sites analyzed in Districts 542 and 543. Since the TAC has risen to record levels of 64,000-100,000 mt from 1993-1998, ranging from 2-4 times the historical average, both the "A" and "B" season TACs will exceed the entire catch of earlier years. NMFS has not proposed to reduce the TAC to levels nearer the historical average even though agency scientists have noted that localized depletions tend to occur in areas with the largest concentrations of the catch.

In summary, a large Aleutian trawl fishery targeting primary sea lion prey will continue to operate as a large, concentrated pulse fishery in areas proximal to rookeries and haulouts listed

as critical habitat, and therefore will likely continue to create localized depletions in Steller sea lion critical habitat by NMFS' own reckoning (NMFS/AFSC 1998). NMFS cannot reasonably ensure that the Atka mackerel proposal is not jeopardizing the species or adversely modifying critical habitat under the current proposal.

## 7. CONCLUSION

Exhaustive analyses of the fisheries and sea lion research have determined that the pollock fisheries are likely to jeopardize the survival and recovery of Steller sea lions and adversely modify their critical habitat in the manner described in the Biological Opinion.

Members of the Council family from the pollock industry have expressed surprise and dismay over the Steller sea lion measures now under consideration, and much has been made of the scientific uncertainties surrounding this issue. There have been strident industry demands for more research before taking any action to protect Steller sea lion critical habitat. In effect we have been told that management restrictions on fishing to protect sea lion foraging habitat must first be demonstrated to work before they can be implemented. This is not reasonable or prudent under the ESA, for it places the burden of proof entirely on the species despite the fact that the fisheries in question remain concentrated in foraging habitat deemed essential to the survival and recovery of the species, and in the face of compelling evidence that the fisheries pose a serious competitive threat to sea lion food supplies and adversely modify that habitat.

The Council's focus on scientific uncertainty does not obscure the clear facts of this case. The misuse of uncertainty as a delaying tactic to forestall significant action in this case is transparent and should not stand. It is worth repeating that the Council routinely makes decisions in the face of huge scientific uncertainties. Uncertainty has not prevented the Council from allocating millions of tons of quota every year with limited data at best and lots of educated guessing, often with rudimentary knowledge of the target species, their life histories or habitat requirements, and usually without any long-term baseline environmental data to indicate what the range of natural variation is and whether current quotas are sustainable in the ecosystem context over time-scales longer than the annual production cycles for individual fisheries. Management action in the face of uncertainty is the norm, not the exception.

Under the ESA, a jeopardy finding requires Reasonable and Prudent Alternative measures to avoid the jeopardy condition. Since NMFS has elected to implement the RPA objectives and principles through the Council process, under the Magnuson-Stevens Act, it is now incumbent upon the Council to comply. The Council must adopt a comprehensive package of management measures that will satisfy the requirements of the Endangered Species Act. However, the RPA example provided by NMFS in the Biological Opinion falls substantially short of avoiding jeopardy or adverse modification in the ways we have outlined, and the Council's options for consideration from the February Council meeting do not represent an improvement over those measures.

The test of the NMFS/Council RPAs is not whether they satisfy the demands of the industry to avoid affecting the conduct of the fisheries in any significant way, but whether they

satisfy the ESA's requirements to avoid the jeopardy condition. We urge NMFS and the Council to remedy these shortcomings in the ways we have suggested in order to prevent the fisheries in question from remaining concentrated in critical foraging habitats and temporally and spatially compressed.

Thank you for your consideration.

## A conservation example implementing sea lion ecosystem principles

Management Action	Eastern Bering Sea Pollock	Gulf of Alaska Pollock	Aleutian Islands Pollock	Atka Mackerel
<b>Temporal TAC Distribution</b>	<p>A minimum of 4 Seasons:</p> <p>A (Jan 20) 15%</p> <p>B (April 15) 30%</p> <p>C (July 1) 30%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 – Jan 19 Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>	<p>A minimum of 4 Seasons:</p> <p>A (Jan 20) 15%</p> <p>B (April 15) 30%</p> <p>C (July 1) 30%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 - Jan 19 – Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>	<p>Short-term: prohibit directed fishery for pollock</p> <p>Long-term: establish consistent time/area scheme</p>	<p>4 Seasons:</p> <p>A (Jan 20) 25%</p> <p>B (April 15) 25%</p> <p>C (July 1) 25%</p> <p>D (Sept 15) 25%</p> <ul style="list-style-type: none"> <li>Nov 1 – Jan 19—Closed</li> <li>Inter-seasonal closures</li> <li>No rollovers</li> </ul>
<b>Spatial TAC Distribution</b>	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Maximum 35% of pollock TAC from CH/CVOA</li> <li>TAC allocated to:               <ol style="list-style-type: none"> <li>CH/CVOA</li> <li>E. of 170W outside CH/CVOA</li> <li>W. of 170W</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Areas 610, 620, 630, Shelikof</li> </ul>	N/A	<ul style="list-style-type: none"> <li>No phase-in</li> <li>Areas 541, 542, 543</li> <li>Subarea allocations within existing areas to avoid localized concentration</li> </ul>
<b>Trawl Exclusion Zones</b>	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>60 nm seasonal for foraging range / year-round CVOA</li> <li>All haulouts and rookeries identified as CH</li> </ul>	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>All haulouts and rookeries identified as CH</li> </ul>	N/A	<ul style="list-style-type: none"> <li>20 nm, year-round</li> <li>ALL trawling</li> <li>All haulouts and rookeries identified as CH</li> </ul>
<b>TAC Reductions</b>	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.	N/A	At least in proportion to reductions in catch from SSL CH and consistent with target catch rates for fishery as a whole.

- Support jeopardy/adverse modification opinions for pollock fisheries
- Do not support no jeopardy opinion for Atka mackerel fishery.
- Our recommended pollock RPAs consistent with bi-op's conservation principles
- RPAs benefit SSLs
- RPAs benefit pollock stocks, long-term future of fisheries
- RPAs benefit crab and halibut habitat
- RPAs benefit other predators that are in decline/ecosystem as a whole