

MEMORANDUM

TO: Council, SSC and AP Members
FROM: Chris Oliver *CO*
Acting Executive Director
DATE: January 30, 2001
SUBJECT: Steller Sea Lions

ESTIMATED TIME
10 HOURS

ACTION REQUIRED

- (a) Review SSC Report on the Biological Opinion.
- (b) Receive report on the Kodiak adaptive management project.
- (c) Discuss the independent scientific review and provide direction.
- (d) Discuss the workplan for the 2002 amendment package.
- (e) Provide direction on the Council's RPA Committee.
- (f) Review analysis of VMS/monitoring alternative: initial review.

OTHER: Discuss Board of Fish action regarding Pacific cod fisheries (proposals 95, 96, 97)

BACKGROUND

SSC Report on the Biological Opinion

In December, the SSC could not provide a scientific review of the 600 page Biological Opinion in the available time, but instead volunteered to provide a more thorough review at a subsequent meeting. At this meeting the SSC will report on its findings, which should feed into the Council's discussions regarding the issues and questions to be addressed in the independent scientific review.

Kodiak adaptive management project

In February 2000, the Council approved a regulatory amendment to examine the effects of fishery closures on Steller sea lions. The study required two regulatory actions: establishing a ban on all trawl fishing in the Chiniak Gully region off the east side of Kodiak Island and allowing the reopening of the 10 nm no trawl zone around Gull Point and Cape Barnabas to conduct experiments on the effects of fishing in nearby waters. It is expected that this action will be in effect from August 1st to a date no later than September 20th during the years 2000 to 2003. The Council requested that NMFS provide an annual update on results of the investigation. NMFS staff will be on hand to provide an update.

Independent scientific review

Part of the Council's motion from December, supported by the P.L. 106-554, calls for an independent scientific review of the BiOp and proposed RPAs, the experimental design, and the underlying hypotheses of that BiOp. The actions of Congress support that initiative and direct the Council to undertake such a

review utilizing the expertise of the National Academy of Sciences (NAS). An initial proposal from the NAS contains a timeline which would not provide such a review in time to provide input into the Council's required actions by this fall. At the January special meeting the Council discussed this further with NAS representatives, and approved a motion calling for a two-stage process whereby a refined, limited set of relevant issues could be reviewed by June of 2001, with a broader set of issues addressed on a more extended timeline. The Council's Steering Committee and staff have been coordinating with NAS to determine the feasibility of this approach, develop a more defined Statement of Work for each stage of the review, and determine the specific role of the NAS in this process. After meeting with NAS recently, it is apparent that a comprehensive review of the BiOp and underlying issues cannot be completed until next year, though such a comprehensive review should be very useful to our long-term actions regarding SSL.

It is also unlikely that the NAS review process will enable them to provide even a short-term review that will be informative to our 2001 process, except perhaps with regard to the experimental design for open/closed areas. Therefore, we need to determine at this meeting whether to proceed with a separate, short-term independent review that could inform our 2001 process on some of the underlying assumptions and hypotheses in question. For example, we could contract with a small group (perhaps two or three of the scientists we used in the 1999 review of pollock RPAs, or some other experts) to provide an expedited review of a focused set of questions by June. It may also be very useful to retain that same small group to advise our process through the summer and fall up to our final action in October. This would allow for that outside expertise to examine the analyses we will be doing, and the alternative RPAs being considered, relative to the information at hand and provide their expert advise on those alternative RPAs relative to SSL protection.

Item C-3(c)(1) is a draft approach to this issue, including questions we would want addressed by the long-term NAS study, and potential questions to be the subject of a separate, short-term independent review. Input we receive at this meeting from our SSC, and others, will need to be considered prior to finalizing this in a formal Statement of Work (SOW) as part of a contract with the NAS, or other independent reviewers. Dr. Chris Elfring from the NAS will be here Friday afternoon to discuss with the Council the potential NAS role in this process. We need to pin this down at this meeting so I can get the necessary wheels turning.

Item C-3(c)(2) is a letter from the Alaska Steller Sea Lion Restoration Team regarding major research questions. Item C-3(c)(3) contains correspondence and information related to potential shark predation on SSL, which should probably be considered in the overall picture along with killer whale predation.

2002 Amendment package

A full amendment package will have to be developed during this year for Council action in October 2001, which would propose a package of protective measures (RPAs) for implementation in January 2002. In January, the Council reaffirmed its direction to begin such an analysis, consistent with its December 2000 motion (attached for reference as Item C-3(d)(1)). Final action on that package would have to occur in October, to allow time for Secretarial review, including a separate Section 7 consultation on that package, and for implementing regulations to be developed by January 2002. Feeding into that process will be the Council's RPA Committee as well as information developed from the independent scientific review of the December 2000 BiOp and its underlying hypotheses. An initial set of alternatives will stem from previous RPAs recommended by the Council, the November 2000 BiOp RPAs, and from the September 2000 EA/RIR/IRFA developed by NMFS for the Pacific cod fisheries and Council recommendations made at that September meeting. Because time will be short after the October 2001 meeting, it is the Council's intent that such an analysis include ESA considerations with regard to the alternatives being considered, so that formal consultation will be expedited after the October final decision.

A 'roadmap', developed by NMFS and Council staff, is attached as Item C-3(d)(2). This describes the flow of events this year, including specific Council actions, the analytical process, interactions with the Council's RPA Committee, and major checkpoints along the way. Council and NMFS staff are working to finalize a tasking gameplan to achieve this formidable schedule, which will involve a huge commitment of staff resources and outside contract assistance. We have had extended discussions with NMFS staff already, and the details of that analysis package (EIS) are still being developed, but we have summarized (Item C-3(d)(3)) the alternatives to date that will be included in that package. We assume that additional alternatives will be developed, and specified in more detail, through the Council/Committee process this spring, with a final set of alternatives identified at the June meeting.

Item C-3(d)(4) is a letter from NMFS describing their commitment to this process over the next several months. We need to confirm that the process outlined comports with the Council's expectations, and need to determine how the NMFS commitment to public hearings around the State interfaces, if at all, with our Committee and analytical process. It may be that the make-up of that Committee can serve, to a large degree, to provide the type of input envisioned in the public hearing process. For your information, Item C-3(d)(5) is a diagram summarizing recent discussions on SSL funding and research among various agencies.

RPA Committee

A critical part of this process in 2001 will involve an RPA Committee to be appointed by the Council at this meeting. The closed areas contained in the Biological Opinion (BiOp) would go into effect on June 10, 2001, subject to modifications proposed by the Council at the April meeting in Anchorage. Such modifications would be subject to meeting certain requirements of the BiOp with regard to minimum critical habitat protection. Longer term closed areas, those to be developed later for 2002 and beyond, will also have to provide for an experimental design and monitoring program, but that will not be the focus of adjustments for the latter half of 2001. In order to provide for ample time, public participation, and relevant information in the process of closed area consideration for the latter half of 2001, the Council will appoint a Committee (consistent with its December 2000 action to appoint an RPA Committee) to develop relevant information and report to the Council with its recommendations prior to the April meeting. This Committee will also be involved in the longer-term development of RPAs and experimental design, but will be tasked in the short term with development of open/closed area recommendations for the latter half of 2001.

The Committee will include members of industry, the conservation community, NMFS, SSC, and State agencies including the Restoration Team. The Committee will be appointed during the February Council meeting and begin its work shortly thereafter. Council direction to that Committee includes consideration of small boat concerns in development of open/closed areas for the latter half of 2001, with the added direction that such measures should be developed in a 'non-allocative' manner.

VMS/monitoring

NMFS will present a regulatory amendment package for initial review at this meeting which contains alternatives and options for a vessel monitoring system (VMS) and other proposed catch monitoring measures to implement the RPAs effectively. Final action would be scheduled for April.

Comments, including a draft resolution from the Alaska State Legislature, are under Item C-3 supplemental.

OTHER: Discuss Board of Fish action regarding Pacific cod fisheries. Comments which were copied to the Council offices are included under Item C-3 (BOF).

DRAFT Approach for Independent Review Process

Discussions with NAS indicate that it is unlikely they will be able to accommodate the Council's proposal for a two-stage independent review of the BiOp. Certain information is considered necessary by June, in order to feed into the Council process for a package of RPA measures in 2002; i.e., that process envisions, effectively, a parallel (informal) consultative process to arrive at a set of measures in October that will likely satisfy a Section 7 consultation. Later this month, the Council Chairman and ED will further discuss with the NAS their potential involvement in this review process, and the Council will need to provide final guidance at their February meeting regarding the nature of the review process and the specific questions we wish to be addressed by June 2001.

One approach would be to proceed with the long-range NAS independent review (a two year process) which would address the broad suite of issues and hypotheses contained in the BiOp, while contracting a separate, short-term review to address a more discrete set of issues which would provide information to the 2001 process to which we are obligated. Based on review of existing SSC, Council, and industry comments on the BiOp, the following abbreviated Statement of Work (SOW) is proposed. This would be finalized after receiving the SSC report in February, reports from the SSL Restoration Team, and other information the Council deems appropriate.

Phase I (could be NAS or other independent scientists)

By June of 2001, the review team would review the BiOp and other relevant information to address the basic questions of (1) **Does the evidence of the degree of overlap and potential adverse interactions of the Atka mackerel, pollock, and Pacific cod fisheries indicate that they (significantly?) impede SSL population recovery?** In addressing this question, the review should examine the types of interaction (overlap) to determine the (realistic) probability of competition that may impede SSL foraging opportunities for the three species. This evaluation should focus at the population level and should illustrate the probability of SSL and fisheries competing in a manner that would negatively affect foraging opportunities due to occupying the same time/space, in pursuit of prey of the same size. Points of overlap may include spacial and temporal distribution of SSL feeding areas and the fisheries under existing management measures, fish size distribution relative to SSL and the fisheries, and the potential effects of the fisheries on the overall groundfish prey base through localized depletion or interactive competition, as demonstrated by available evidence. This evaluation should consider the fraction of fish harvested and not-harvested relative to the total prey base (including all prey species), available analysis of localized depletion, and evidence of nutritional stress (given current SSL population levels and availability prey base). (2) **Given the information evaluated in question 1, what is the marginal benefit to SSL resulting from the November 2000 proposed RPAs, relative to existing RPAs which were previously approved by the Council as recommended by previous BiOps?**

An additional potential task for Phase I could include a review of the BiOp from an editorial perspective; i.e., identify misstatements, erroneous information, and inconsistencies. Choosing an independent review panel (assuming that the NAS process cannot address these short-term issues by June 2001) remains an issue. We have a list of potential reviewers which we could contract directly with, or request NAS to

compile a list, or submit our list to NAS and let them choose from among the list. We should also consider whether members of this short-term team could also be involved in the longer-term NAS study.

Phase II - Long term NAS Review

On a longer time frame to be agreed between the Council and the NAS, the NAS would conduct a comprehensive review of the BiOp and its underlying hypothesis. This review would examine the competition/localized depletion hypothesis in more detail than Phase I, and would compare this to alternative hypotheses relative to SSL declines and impediments to recovery. Issues to be examined include, but are not limited to - changes in adequacy of available forage for SSL as a result of climate regime shifts and other natural phenomena; evidence of competition for prey from groundfish and other fisheries; quantity vs quality of prey fish; updated foraging and migration observations and studies relative to extent of area actually critical to SSL foraging; extrapolated rates of SSL decline; large whale removals; killer whale and shark predation; potential enduring effects of past intentional kills; present subsistence takes; and, other causes of decline or impediments to recovery. Generally this review should attempt to assess whether food limitation, given current and past levels of prey base, is the most likely explanation for SSL population declines and/or ability to recover, relative to other factors. This review will also assess the proposed experimental design, relative to open/closed areas, contained in the BiOp, and/or the experimental design implemented for the January 2002 fisheries. A final report would be provided to the Council at its December 2002 meeting.

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF FISH AND GAME
Division of Commercial Fisheries

P.O. BOX 25526
JUNEAU, AK 99802-5526
PHONE: (907) 465-4150
FAX: (907) 465-2604

January 23, 2001

Mr. James M. Coe
Acting Science & Research Director
National Marine Fisheries Service
Alaska Fisheries Science Center
7600 Sand Point Way N.E.
P.O. Box 15700
Seattle, WA 98115-0070

Dear Mr. Coe:

The Alaska Steller Sea Lion Restoration Team is very supportive of the Alaska Fisheries Science Center's effort to develop a comprehensive and coordinated research program for Steller sea lions (SSL). With the substantial funding made available through the FY01 NMFS appropriations bill, the challenge is to develop an effective plan to answer the most pressing research questions associated with potential causes of SSL declines. Considerable progress on these research questions is crucial, if a restoration plan is to be developed with realistic chances to rebuild depressed SSL populations.

The state's Restoration Team will develop detailed research recommendations over the next several months. However, given your upcoming planning meeting and the desire to begin a process so that new studies can be implemented during the 2001 field season, we offer some general thoughts at this time. The Restoration Team believes that, in addition to gathering new information on critical life history parameters of sea lions (e.g., timing of weaning, seasonal food habits), alternative hypotheses concerning the continued decline and lack of recovery must be tested. Pursuant to these alternative hypotheses, the team has identified the following major research questions that may help to select specific research projects for inclusion in the comprehensive plan:

1. Are juvenile SSL nutritionally stressed, and if so, what are the roles of fisheries and climate-driven ecosystem shifts?

2. What are the current demographic problems associated with the continued SSL decline ? reduced rates of age-specific survival, reproduction, or both?
3. Can cumulative impacts of non-nutritional sources of mortality explain the current rate of SSL population decline? Mortality sources may include killer whale and shark predation, incidental take in fisheries, illegal shooting, subsistence harvest, entanglement in marine debris, and disease.
4. How does fishing affect the abundance, distribution, and consumption of prey at the spatial and temporal scales over which SSL forage?
5. What are the ecological attributes that define the spatial extent of SSL critical habitat?
6. What is the efficacy of fishery exclusion zones to improve SSL survival and reproductive rates by increasing the density of prey that are commercially harvested or otherwise adversely affected by fishing activity?

The Restoration Team realizes that limitations in technology, logistics, experienced personnel, and funding will make it difficult to completely answer these difficult questions. Intensive manipulative experiments are essential to make substantial progress on the most difficult ones – those related to potential fishing effects. We believe that the most successful comprehensive plan is one that draws upon the diverse and extensive knowledge of scientists from various North Pacific and Alaska agencies and institutions who are best suited to collaborate on certain projects given their areas of expertise. The Restoration Team hopes that these suggestions contribute to a successful meeting. If you identify any ways in which the team can assist your agency in your planning efforts, please do not hesitate to ask.

Sincerely,

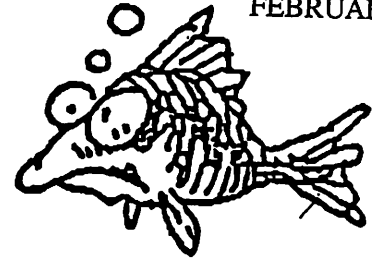


Gordon H. Kruse, Ph.D.

Chair, Alaska Steller Sea Lion Restoration Team

cc: Kevin Duffy, ADF&G Deputy Commissioner

**North
Pacific
Longline
Association**



Agenda B-5

January 24, 2001

Mr. David Benton, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue
Anchorage, AK

RE: Shark Predation and Steller Sea Lions

Dear Dave:

From testimony offered to the Council you may have gathered that we are of the view that predation is the likely cause of the decline and continuing low numbers of Steller sea lions in the BSAI and GOA - not the equivocal "localized depletion." Our prior testimony has focussed on Orcas.

For some years Dr. Bill Aron has urged us to consider sleeper sharks as sea lion predators. Sleeper sharks are large (20 ft.) bottom dwellers known to feed on pinnipeds in Greenland - they are said to have wiped out same near a whaling station that dumped offal into the sea, drawing in the sharks. Recently I have communicated with Bruce Wright of the Auke Bay Laboratory. He has done considerable work on top predators and their food base, most recently completing a study of the diets of sleeper sharks caught in Prince William Sound by the IPHC during a summer survey. Sure enough, marine mammal parts were discovered in several of the sharks. Bruce's communication on this topic is attached.

To us (and to many in the industry) it seems apparent that sleeper sharks near rookeries and haulouts should be studied as possible sea lion predators. Salmon sharks, next of kin to white sharks, have been observed to take sea otters - they might be another good candidate for study.

We hope the Council will review the attached material and assure itself that adequate shark studies are conducted promptly.

Sincerely,

Thorn Smith

From: william aron <waron@u.washington.edu>
To: Smith,thorn <Thorndog@worldnet.att.net>
Date: Thursday, January 25, 2001 4:22 PM
Subject: predation

Thorn:

The long list of comments on localized depletion vs predation, plus other comments clearly shows a pandora's box has been opened. I don't think we are in an either or situation- I'm not trying to discourage the localized depletion work, although it is hard to see that anything but ver expensive studies will result in an unequivocal answer that will satisfy the Courts.

The shark work I propose is cheap- at least in terms of providing a first cut. I doubt it will take more than the examination of 100 sleeper sharks and 100 salmon sharks to demonstrate if these animals are significant predators on sea lions and other marine mammals. The sharks should be taken in close proximity to rookeries during the time of the year that the young animals are leaving for the sea. The sleeper sharks should be at least 8-10 feet in length- the bigger the better, the salmon sharks might do damage to mammals at a smaller size, but again the bigger the better.

This work could be done by a small number of fishermen and a minimal gang to open the sharks. I can't believe this will cost more than \$200,000, especially if people can volunteer some ship time. I can't but believe if there is a credible alternative to the localized depletion theory"- and predation may be the answer- the case against commercial fishing will be weakened.

The sea otter-killer whale work provides something of a model to demonstrate that a relatively low number of predators can severely reduce a marine mammal population. While the population estimates of mackeral sharks are weak and for sleeper sharks they are non-existent, I don't have a shadow of doubt that the shark populations are orders of magnitude greater than the killer whales.

Anyway- I would appreciate you distributing this message- if you agree- to the gang that seem to be involved in the game. It was nice to learn that Terry Leitzell is still around- I'd lost track of him.
Bill

1/31/01

From: william aron <waron@u.washington.edu>
To: Thorn Smith <Thorndog@worldnet.att.net>
Cc: Marasco,Rich <rich.marasco@noaa.gov>
Date: Monday, January 29, 2001 4:31 PM
Subject: Re: Fw: sea lion \$'s - break down by agency

Thorn: I really can't provide any insight on the budget without seeing the actual details of what is planned for each item. I confess that the lateness of the start may cost this field season for determining predation by sharks on young sealions- they'll be long out to sea by the time anything starts. After they have left a failure to find them in shark tummies proves nothing- the studies must be done when the young are leaving the rookeries and the naive babes are available. Alas.

Bill

I'm passing this on to Rich- in case he has not seen the list.

Thorn Smith wrote:


BILL, DOUG DEMASTER LEFT A MESSAGE ON MY TAPE SAYING THAT AT THE RECENT RESEARCH/BUDGET MEETINGS (END OF LAST WEEK) THERE WAS STRONG INTEREST IN SHARK STUDIES (I THINK HE SAID IT HAD TO DO WITH OUR EFFORTS), AND THAT HE THOUGHT THEY MIGHT BE SPENDING AS MUCH AS \$600,000 ON WHALES AND SHARKS. DAVE FRASIER WAS AT THE MEETING, AND SENDS THIS SUMMARY OF STUDY ITEMS. NUMBERS 6,7,30,38,48 SEEM TO BE IN OUR BALLPARK. AS A NONSCIENTIST, I HAVE NO WAY OF EVALUATING THEM - CAN YOU? THORN—

Original Message—

From: dave fraser <dfraser@olympus.net>
To: Terry Litzell <TerryL@IcicleSeafoods.com>; Trevor McCabe <tmccabe@atsea.org>; Brent Paine <bpaine@ucba.org>; Donna Parker <dparker@arcticstorm.com>; Beth Stewart <beth@ptialaska.net>; John Gauvin <gauvin@seanet.com>; John Garner <JGarner@norquest.com>; vidar wespostad <vidar@worldnet.att.net>; Ed Richardson <Erichardson@atsea.org>; Paul MacGregor <PMacGregor@mundtmac.com>; Thorn Smith <Thorndog@worldnet.att.net>; Al Burch <alaska@ptialaska.net>; Jay Stinson <pelagic@ptialaska.net>; John Sevier <jsevier@ssssitka.com>; Glenn Reed <glenn@pspafish.net>; Joe Plesha <JoePlesha@TridentSeafoods.com>
Cc: Steve Hughes (E-mail) <nrc@nrccorp.com>; Wally Pereyra <wpereyra@arcticstorm.com>
Date: Monday, January 29, 2001 3:40 PM
Subject: sea lion \$'s - break down by agency

NMFS still hasn't sent me a copy of the spreadsheet that I could email, so I retyped the important columns and pasted it below. This will give you a vague idea of what the endowed parties intend to do with their grants. It doesn't address what will be done with the discretionary moneys.df

#	agency	cost (\$M)	general title
1	AFSC	1.800	localize depletion - cod, pollock, mackerel
2	AFSC	0.400	satellite tagging
3	AFSC	0.400	food habits studies, foraging behaviour
4	AFSC	0.600	forage fish assessment
5	AFSC	0.400	AI pass study, GLOBEC GOA
6	AFSC	0.400	shark biology and food habits
7	AFSC	0.400	killer whale studies
8	AFSC	2.600	monitoring surveys, branding, food habits
9	AKR	3.540	management, legal compliance
10	AKR	1.900	subsistence monitoring and biosampling
11	AFSC	-	fish stock assesment
12	NWFSC	-	contaminant status
13	OAR	0.500	comprehensive analysis of existing environmental data re ssl
14	OAR	5.000	field and modeling program leading to updated analysis
15	OAR	0.500	coordination, communication, outreach
16	NOS	2.000	competitive process for directed research on predator prey re
17	ADF&G	2.000	ID of sensitive life history stages of ssl, body condition, PTT
18	ADF&G	0.300	collection of ssl vital stats in collaboration w NMML
19	ADF&G	0.150	modeling population responses of ssl to incidental take
20	ADF&G	0.250	surveys of blood borne disease
21	ADF&G	0.250	measurement of contaminants in ssl tissue
22	ADF&G	-	PWS Cook Inlet, Kodiak trawl surveys
23	ADF&G	-	PWS hydroacoustic surveys
24	ADF&G	-	SE AK herring assessment
25	ADF&G	-	Salmon enumeration
26	UAF	0.200	Kodiak seasonal ssl diets
27	UAF	0.300	Kodiak seasonal prey availability
28	UAF	0.100	Kodiak seasonal prey quality
29	UAF	0.200	Kodiak diet of ssl competitors
30	UAF	0.200	Kodiak killer whale and shark diets
31	NPUMMRC	0.250	bioenergetics of ssl
32	NPUMMRC	0.350	blas in scat analysis
33	NPUMMRC	0.040	new technologies for implantable vhf packs
34	NPUMMRC	0.011	effects of atka mackerel on ssl condition
35	NPUMMRC	0.013	ssl scat collection and diet studies - SE AK
36	NPUMMRC	0.019	bioenergetics modeling
37	NPUMMRC	0.012	timing of molt (for placement of tags)
38	NPUMMRC	0.017	killer whale predation modeling
39	NPUMMRC	0.103	Pribolof & Kodiak monitoring - subsistence harvest
40	NPUMMRC	0.050	long term viability in forage fish abundance



41	NPUMMRC	0.050	monitoring diet and demographics of Wash ssl
42	NPUMMRC	0.120	trends in diet and population in Oregon ssl
43	ASLC	1.000	feeding and metabolics of captive ssl, diet analysis of wild ssl
44	ASLC	1.500	remote video cameras, branding and monitoring w NMML
45	ASLC	1.500	capture and short-term holding of ssl, collection of pups
46	ASLC	0.300	endocrin and immune function
47	ASLC	0.500	Chiswell seasonal prey availability
48	ASLC	0.200	Chiswell shark predation studies
49	ASLC	0.500	reproductive biology of ssl & effects of disease w NMML
50	ASLC	0.500	new technologies for implants & instrumentation
51	NPFMC	1.300	management - legal compliance documents
52	NPFMC	0.700	NAS review of BiOp
53	NMFS	4.580	unspecified research - RFP grants, etc
54	NMFS	5.000	contingency fund - FY02 (or earlier, as needed)

From: Bruce Wright <Bruce.Wright@noaa.gov>
To: Thorn Smith <Thorndog@worldnet.att.net>
Cc: Bill Aron <waron@u.washington.edu>
Date: Monday, January 22, 2001 6:23 PM
Subject: Re: shark predation

Thorne,

Three species of sharks have become very abundant in the northeast Pacific and parts of the Bering Sea during the last decade, spiny dogfish sharks, salmon sharks, and Pacific sleeper sharks. I became aware of these changes from reports by commercial fishermen and reports from fishing community residents (local knowledge).

SPINY DOGFISH SHARKS

Spiny dogfish numbers have been a problem for the fishermen near Yakutat and sometimes the Copper River areas. Some reports are of sockeye gillnet fishermen plugging their nets with dogfish sharks and discarding the ruined nets. The only work I have done on this species is to look at historical data sets, which show a marked increase in spiny dogfish shark numbers.

SALMON SHARKS

Salmon sharks are highly migratory based on our satellite tags deployed last summer. Three sharks were tagged in northern Prince William Sound. One of the tagged sharks was last located via satellite off the coast of BC, Canada, and the others are moving south too. An aerial survey last July in Prince William Sound counted 2,000 salmon sharks at the surface of a six square mile area. Average size of the salmon shark we are dealing with is 7 feet and 350 pounds. From the literature there were 2,000,000 salmon sharks out there in the mid 1990s in the western Pacific, and they seem to be using the eastern Pacific now more than ever. According to a paper by Nagasawa, this population of salmon sharks could consume 250,000,000 salmon and 250,000,000 black cod per year. My research on this species is focused on their migratory behavior and diet. I am very interested in being able to understand how the returns of salmon may be impacted by this huge, and highly migratory predator field. Can you imagine what would happen if only 1,000,000 salmon sharks spent a part of next spring near False Pass? Perhaps that's what has been happening to the Yukon River chum runs. We also have visual accounts of salmon sharks killing and eating adult sea otters, and 50,000 sea otters are missing from the Aleutians. I want to know if there is a connection.

The increase of sharks in the region could be a result of several factors including changes in the marine food web (more large fish now like salmon, cod, and pollock), and the elimination of the high-seas gillnet fishery. I would like to work to determine the important factors contributing to the shark population increase.

SLEEPER SHARKS

Sleeper shark numbers and sizes have increased dramatically according to three data sets, including data gathered by the International Pacific Halibut Commission (IPHC). We

1/23/01

participated on the last leg of the 2000 IPHC halibut survey which caught 592 sleeper sharks. We sampled 30 sleeper shark stomachs. Most had fresh pre-spawning adult salmon, one had fresh harbor seal and seven had cetacean chunks (porpoise or whale) in their stomachs. We have received reports of shark attacks on seals near Kodiak and walrus in the Bering Sea. Some fishermen have made contact with us and expressed their concern of the increases of sharks. Kathy Frost, a seal researcher with ADFG, is thinking sleeper sharks may be limiting recovery of harbor seals in Prince William Sound. Right now I don't know how important sleeper sharks were in the decline of Steller sea lions, or if they even eat sea lions, but we need to look.

I believe sleeper sharks are hunting under the cover of darkness and using their sixth sense to detect and attack prey. The apparent sleeper shark scaring on marine mammals indicates the attacks are to the prey's mid-section, likely an attempt to disembowel the prey, resulting in death. This attack may be useful in eviscerating the prey while the shark avoids the harm from the prey's teeth. If the shark is successful in breaching the abdominal wall allowing the intestine to extrude from the cavity, the prey would be expected to go into shock, die and be available for consumption by the sharks. If the shark's attack is in the mid-section but hit ribs the prey would not be eviscerated and would be more likely to escape. Many sharks use a similar technique that causes fatal injuries to their prey, then the shark returns to finish eating the dead animal. I believe that Pacific sleeper sharks are stealthy, aggressive, powerful predators able to kill large, fast moving, and viable animals.

From our data I conclude that Pacific sleeper sharks are more abundant in the eastern Gulf of Alaska than 20 years ago, larger animals are using the area, some to 20 feet long and weighing over 6,000 pounds, and some sleeper sharks are feeding, at least part of the year, on marine mammals. The diet of sleeper sharks may change seasonally. Our data, although only during the summer, indicated sleeper sharks have a preference for salmon. This is not surprising when salmon are so abundant. But when salmon are not abundant the sharks may prey switch to what is more available. The alternative prey are probably available to sleeper sharks all year, including black cod, rock fish, squid, and marine mammals. Even when salmon are abundant during the summer, we found that sleeper sharks were feeding on these alternative prey. Diet work during the late fall to early spring, before or after the salmon spawning runs, are necessary to determine if marine mammals are taken in greater numbers during this time of the year.

Since sleeper sharks appear to use the cover of darkness, and their sixth sense to detect their prey's electromagnetic field, winter might be the time of year that favors the sleeper shark's stealthy hunting strategy. Marine mammals may also be more available to sharks during the winter as they work harder to find prey and fulfill their need for more calories during the colder time of the year.

The National Marine Mammal Lab has access to millions of dollars for sea lion investigations. This is excellent. And, they are interested in funding some shark work. What I'm finding frustrating is that other non-shark NMFS researchers are attempting to take control of the shark research. I agree with your assessment that investigating shark lipids for marine mammal fatty acid signatures is important, and we have been collecting samples for that work for two years now. However, lipid signature analysis is still unproven for these species. What is really needed is a comprehensive approach to the shark vs seal and sea lion questions. I'm currently wrapping up a 10 year, \$13,000,000 project tasked with

understanding the relationship with top predators and their food base (Apex Predator Ecosystem Experiment (see: http://pices.ios.bc.ca/picespub/ppress/May99/APEX_11.pdf). Under my leadership we resolved the "Is it Food?" question, and we are reporting the results during the next year or so. We already have 72 publications from the research effort including addressing the northeast Pacific regime shift of the late 1970's (see: <http://www.fakr.noaa.gov/oil/seasatmillennium.pdf>).

A letter of support from you to Jim Balsiger and Science Center Director Jim Coe would probably be useful. I'm pleased to see that Jim Coe and the Alaska Science Center appear to have a good grasp of the issues that need to be addressed, and they appear to be considering an ecosystem approach to their research effort. This is based upon a memo from Jim Coe on the subject of "Steller Sea Lion Research Planning, dated 1/21/01. That letter's attachments are well thought out, Draft Framework for FY2001 Steller Sea Lion Research.

Thanks for your support.

I look forward to working with you,
Bruce Wright

Bruce Wright, Chief
Alaska Regional Office, Auke Bay Laboratory
11305 Glacier Highway, Juneau, AK 99801
(phone) 907-789-6601
(fax) 907-789-6608
(e mail) bruce.wright@noaa.gov
(web page) www.fakr.noaa.gov/oil/burce.htm

Thorn Smith wrote:

BRUCE,

THANKS FOR THE E-MAIL AND ARTICLES. I WAS UNABLE TO OPEN THE URL ON YOUR IPHC STUDY. I HAVE FORWARDED YOUR E-MAIL TO SEVERAL INDUSTRY REPRESENTATIVES, AND WILL TRY TO GET A LETTER OF SUPPORT FOR YOUR EFFORTS. SHOULD WE ADDRESS IT TO JIM BALSIGER?

HAVING SEEN REPEATEDLY WHAT ORCAS DO TO STELLER PUPS IN CALIFORNIA, I AM A STRONG ADHERENT OF THE PREDATION THEORY - AND NO SUPPORTER OF THE "LOCALIZED DEPLETION" THEORY.

IT SEEMS TO ME THAT IT WOULD BE A GOOD IDEA TO STAB SOME SLEEPER SHARKS NEAR THE ROOKERIES IN THE BSAI. I DON'T KNOW THAT WE FISH NEAR

1/23/01

ROOKERIES,
BUT I'LL FIND OUT. DOUG SHOWED ME THE CROSSBOW SAMPLING
DEVICES THEY HAVE
FOR ORCAS. I DON'T KNOW WHY THEY WOULDN'T WORK ON
SLEEPERS. DO THE
SLEEPERS HAVE FAT UNDER THEIR SKINS? I AM ADVISED BY KIM
DIETIRCH, OBSERVER
BAR NONE, THAT THEY DO. THE FREE FATTY ACID TEST SOUNDS A LOT
EASIER THAN
TRYING TO LAND AND EVISCERATE 20-FOOT SHARKS, EVEN IF THE
ELECTRIC KOOL-AID
ACID TEST IS MORE FUN.

WHAT DO YOU THINK IT WILL TAKE TO GET NMFS MOVING ON THIS?

THORN SMITH

—Original Message—

From: Bruce Wright <Bruce.Wright@noaa.gov>

To: ThornDOG@worldnet.att.net <ThornDOG@worldnet.att.net>

Cc: william aron <waron@u.washington.edu>

Date: Friday, January 19, 2001 8:23 PM

Subject: Re: shark predation

>Hi Thorn,

>

>I suppose Bill has talked to you about our shark work. It's been very

>interesting. Some of the popular press stories may be of interest to you,

>(see: <http://www.fis.com/fis/worldnews/worldnews.asp?l=e&id=16281>

>http://www.uaf.edu/seagrant/NewsMedia/00ASJ/12.08.00_SleeperShark.html

>http://www.uaf.edu/seagrant/NewsMedia/00ASJ/10.12.00_SharkInvasion.html

>http://www.uaf.edu/seagrant/NewsMedia/00ASJ/09.28.00_RiskyScience.html

><http://www.fakr.noaa.gov/oil/sharkADN8272000.htm>

>

>We have summarized some of the early findings in the paper at the following

>URL:

><http://pices.ios.bc.ca/picespub/ppress/May00/Shark.pdf>

>

>We are especially interested in our cooperative survey with the IPHC on

>which we sampled 32 Pacific sleeper sharks and found one to have parts of a

>harbor seal and seven had whale or porpoise parts. We are very interested

in

>obtaining additional stomach samples from sleeper or salmon sharks during

>the seasons when salmon are not present. I'm most interested in determining

>what sleeper sharks are eating near sea lion areas.

>

>The National Marine Mammal Lab is considering passing some funding on to

our

>shark investigations (Doug DeMaster is the director). Any support would be

>appreciated for having them fund our investigations.

>

>Keep in touch,

>Bruce

>

>Bruce Wright, Chief

>NOAA Office of Exxon Valdez Oil Spill Research and Restoration

>Alaska Regional Office, Auke Bay Laboratory

>11305 Glacier Highway, Juneau, AK 99801

>(phone) 907-789-6601

>(fax) 907-789-6608

>(e mail) bruce.wright@noaa.gov

>(web page) www.fakr.noaa.gov/oil/burce.htm

>

>william aron wrote:

>

>> Thorn: I have cc'd Bruce Wright to give you his e-mail. I think he may
>> still be away, but you should be able to reach Mike Dahlberg who can
>> pass you on to Bruce's sidekick on the shark predation issue. I think
>> you should work with them and get some large sharks very quickly from
>> the areas in proximity to the sea lion rookeries. There may be some
>> neat surprises.

>>

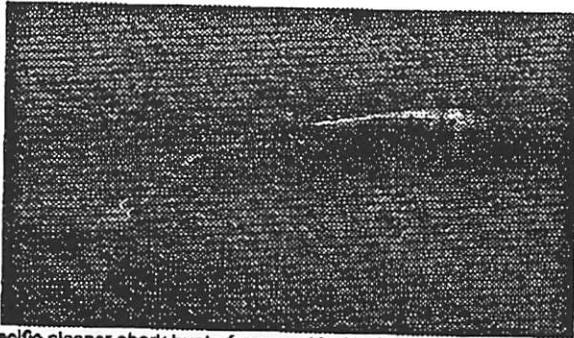
>> For Bruce- Thorn is the Executive Director of the North Pacific Longline
>> Association.

>> Cheers- I hope something happens,

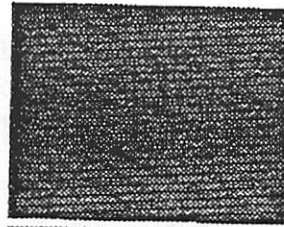
>> Bill

>

>



A Pacific sleeper shark hunts for a meal in Alaska's Prince William Sound.
(Photo:NMFS)



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Certification of fisheries products contributes to responsible fishing
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- Canada**
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Fish boats urged to install flooding detectors
- New Zealand**
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- United States**
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Shrimpers volunteer to test finfish excluders
- Thailand**
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Thai 'Tom Yam Kung' soup might help prevent cancer
- Norway**
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No increase in capelin for human consumption
- Canada**
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Abalone enhancement group wants day in court
- Spain**
Dec 26, 08:00 (GMT + 9):
Fishermen's associations appeal to the central government for further attention

Do sleeper sharks eat Alaska sea lions?



UNITED STATES

Tuesday, December 26, 2000, 07:00 (GMT + 9)

As scientists seek to unravel the causes of Steller sea lion and harbour seal declines in Alaska, a number of likely culprits come to mind. Killer whales, some scientists say, may be responsible. Or perhaps changing ocean conditions are at fault. Now add to the debate a little-known shark called the Pacific sleeper shark. New research shows they eat marine mammals in Alaska.

The Pacific sleeper shark got its name because it's thought to be rather sluggish, and because it is often found just lying around on the ocean floor, says Bruce Wright, a shark scientist with the National Marine Fisheries Service in Juneau, Alaska. "Pacific sleeper sharks usually live down really deep," he says. "Most people think of them as a non-aggressive shark. One of the common names for them is 'mud shark'. When you bring them up alongside the boat, they're very docile."

But recently Wright had the opportunity to see sleeper sharks in action in Alaska's Prince William Sound. Each summer, millions of salmon return to the sound to spawn in streams and hatcheries. Increasingly, thousands of sharks have been converging there to feed on the migrating salmon. Among them are sleeper sharks, which Wright says are not as docile as scientists think.

"We're real interested in the increased number and size of sharks people are catching," says Wright. "Last year we looked at six sleeper shark stomachs and found that the sharks are eating salmon. That indicates that they are not docile, that they can be fast and aggressive predators."

Witnessing sleeper sharks easily catch fast-swimming salmon got Wright to thinking that maybe the sharks are capable of catching even larger, faster prey. He

FIS - World News

Page 2 of 2

wondered if sleeper sharks might be at least partly responsible for the decline of Alaska's Steller sea lions and harbour seals. "My belief was that there is the potential for the Pacific sleeper shark to take seals and other marine mammals, and the reason I thought this might be the case is because the Greenland sleeper shark's primary prey are seals."

To find out, Wright joined researchers with the International Pacific Halibut Commission to conduct longline surveys last summer of halibut in the Gulf of Alaska. Along with halibut, the researchers also caught sleeper sharks. It proved a perfect opportunity.

"When the commission runs their surveys they catch a lot of sleeper sharks, and on the last leg of their survey they caught 592 sleeper sharks," says Wright. "These sharks ranged in size from six to seven feet, to up to 18 feet long, and there's been sleeper sharks caught in these waters that are 24 feet long. So these sleeper sharks can get almost as big as a small orca."

All but thirty sleeper sharks were released unharmed after being measured, weighed and fitted with tags. The sharks taken back to the lab allowed Wright to make a unique discovery. "Thirty sharks were sampled and of those, five of them had harbour seals and Dall's porpoise parts in their stomachs," he says.

That's enough to make Wright wonder if maybe scientists have overlooked the sleeper shark as yet another key player in the North Pacific food chain. Wright says he hopes to obtain funding to learn more about this misunderstood predator of the sea.

By Doug Schneider/Alaska Sea Grant Programme, UAF

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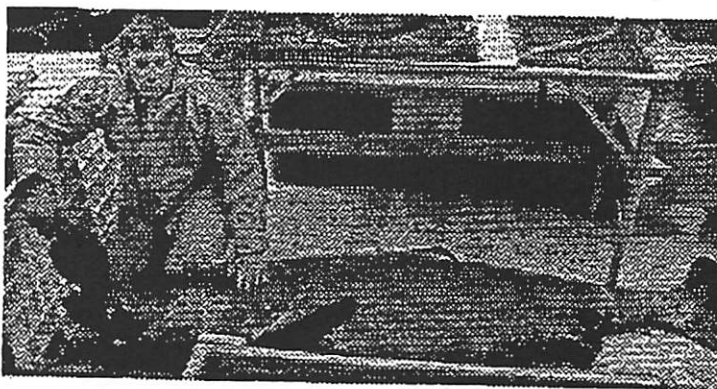
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2000



Lee Hulbert, a biologist with the National Marine Fisheries Service, poses with a Pacific sleeper shark in Prince William Sound, Alaska. Photo courtesy NMFS.

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Sleeper Sharks Not So Sleepy

INTRO: As scientists seek to unravel the causes of Steller sea lion and harbor seal declines in Alaska, a number of likely culprits come to mind. Killer whales, some scientists say, may be responsible. Or perhaps changing ocean conditions are at fault. Now add to the debate a little-known shark called the Pacific sleeper shark. As Doug Schneider reports in this week's Arctic Science Journeys Radio, the sleeper shark may not be so sleepy after all.

STORY: The Pacific sleeper shark got its name because it's thought to be rather sluggish, and because they're often found just lying around on the ocean floor. Bruce Wright is a shark scientist with the National Marine Fisheries Service in Juneau, Alaska.

WRIGHT: "Pacific sleeper sharks usually live down really deep. Most people think of them as a nonaggressive shark. One of the common names for them is mud shark. When you bring them up alongside the boat, they're very docile. They're a real soft-looking shark because they don't have that big square dorsal fin. Almost every researcher I've talked too, even a lot of shark researchers, think of them as a docile and nonaggressive shark."

But recently Wright had the opportunity to see sleeper sharks in action in Alaska's Prince William Sound. Each summer, millions of salmon return to the sound to spawn in streams and hatcheries. Increasingly, thousands of sharks have been converging there to feed on the migrating salmon. Among them are sleeper sharks, which Wright says are not as docile as scientists think.

Arctic Science Journeys Radio: Sleeper Sharks Not So Sleepy

Page 2 of 3

WRIGHT: "We're real interested in the increased number and size of sharks people are catching. Last year we looked at six sleeper shark stomachs and found that the sharks are eating salmon. That indicates that they are not docile, that they can be fast and aggressive predators."

Witnessing sleeper sharks easily catch fast-swimming salmon got Wright to thinking that maybe the sharks are capable of catching even larger, faster prey. He wondered if sleeper sharks might be at least partly responsible for the decline of Alaska's Steller sea lions and harbor seals.

WRIGHT: "My belief was that there is the potential for the Pacific sleeper shark to take seals and other marine mammals, and the reason I thought this might be the case is because the Greenland sleeper shark's primary prey are seals."

To find out, Wright joined researchers with the International Pacific Halibut Commission to conduct surveys last summer of halibut in the Gulf of Alaska. Researchers caught halibut on fishing lines, called longlines. Along with halibut, the researchers also caught sleeper sharks. It proved a perfect opportunity.

WRIGHT: "When the commission runs their surveys they catch a lot of sleeper sharks, and on the last leg of their survey they caught 592 sleeper sharks. These sharks ranged in size from six to seven feet, to up to 18 feet long, and there's been sleeper sharks caught in these waters that are 24 feet long. So these sleeper sharks can get almost as big as a small orca."

All but thirty sleeper sharks were released unharmed after being measured, weighed and fitted with tags. The sharks taken back to the lab allowed Wright to make a unique discovery.

WRIGHT: "Thirty sharks were sampled and of those, five of them had harbor seals and Dall's porpoise parts in their stomachs."

That's enough to make Wright wonder if maybe scientists have overlooked the sleeper shark as yet another key player in the North Pacific food chain. Wright says he hopes to obtain funding to learn more about this misunderstood predator of the sea.

WRIGHT: "For a scientist, it's like being a kid out there, because there's a million questions. Every day we were out there we were learning something new about these species, things that nobody knew at all."

OUTRO: This is Arctic Science Journeys Radio, a production of the Alaska Sea Grant Program and the University of Alaska Fairbanks. I'm Doug Schneider.

Audio version and related websites

Thanks to the following individuals for help preparing this script:

Bruce Wright, Ecologist
NOAA National Marine Fisheries Service
11305 Glacier Highway

Shark abundance increases in the Gulf of Alaska

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Bruce Wright and Lee Hulbert started the Alaska Shark Assessment Program in 1998, as part of the Alaska Predator Ecosystem Experiment (APEX) Project. They were interested in the ecological implications of increasing shark abundance in their study area. Several sources of information identified the increasing role of sharks in the northeast Pacific. Mr. Wright is now the Chief of the Office of Oil Spill Damage Assessment and Restoration, and the Chairman of the Jay Hammond Bald Eagle Research Institute. He graduated from San Diego State University in 1977 with a M.S. degree in ecology. Mr. Hulbert is the principal investigator of the Alaska Shark Assessment Project and is co-principal investigator of the APEX Forage Fish Assessment project. He graduated from the Humboldt State University in 1991 with a B.S. in fisheries biology.

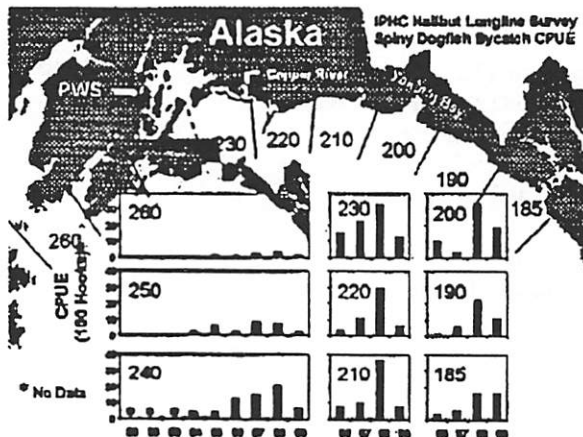


Fig. 1 Bycatch of spiny dogfish (*Squalus acanthias*) in the IPHC survey data in the Gulf of Alaska.

Shark abundance increases in the Gulf of Alaska (GOA) have been apparent to fishermen throughout the 1990s. The predominant shark species in nearshore Alaska waters, spiny dogfish sharks (*Squalus acanthias*), Pacific sleeper sharks (*Somniosus pacificus*), and salmon shark (*Lamna ditropis*), have dramatically increased in abundance in the eastern GOA and Prince William Sound (PWS). Spiny dogfish are commonly taken as bycatch in commercial fishing gear in Alaska. They are well represented in the pelagic trawl pollock fishery and in longline fisheries for sablefish, halibut, Greenland turbot, and Pacific cod.

International Pacific Halibut Commission (IPHC) longline survey data are the only available long-term source of spiny dogfish bycatch records. IPHC grid surveys were expanded in 1996 to include statistical areas east of area 240. The survey data indicate an increasing trend in relative abundance of dogfish along the eastern and central gulf coast of Alaska in the 1990s (Fig. 1).

Dogfish bycatch has presented a formidable problem for IPHC statistical analyses of halibut abundance in recent years (Dan Randolph 1999 pers. comm.). The increasing trend of dogfish abundance is supported by data from Paul Anderson with the National Marine Fisheries Service (NMFS) lab in Kodiak who conducts standardized small mesh trawl surveys in the Kodiak Island region (Fig. 2). The downturn in this trend in 1999 corresponds to a virtual absence of eulachon (*Thaleichthys pacificus*) in the Copper River, although fishermen in the Yakutat area continued to have problems with dogfish swamping salmon gillnets.

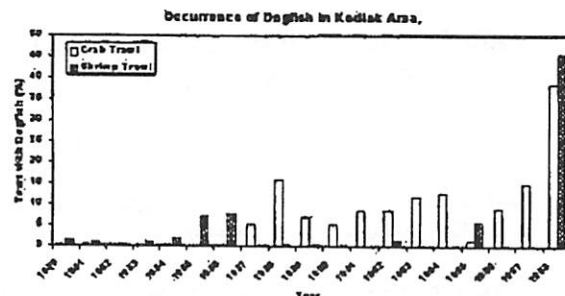


Fig. 2 Occurrence of spiny dogfish (*Squalus acanthias*) in the Kodiak Island region.

Another shark species that has increased in abundance in recent years is the Pacific sleeper shark (Figs. 3 and 4). Sleeper sharks are one of the few sharks found in polar waters year-round. They are a large demersal species generally inhabiting deep water, although they occasionally come to the surface at high latitudes. NMFS and IPHC researchers in Alaska have caught specimens in the six meter range although they average 1.8-2.4 meters in length in PWS sablefish surveys. Sleeper sharks are opportunistic predators whose diet consists primarily of groundfish, squid, and salmon. They are also known to prey on marine mammals, including harbor seals and southern right whale dolphins.

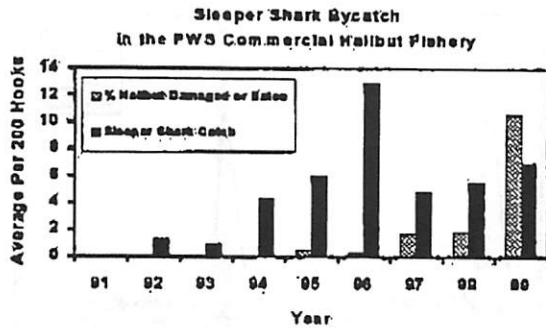


Fig. 3 Bycatch of Pacific sleeper shark (*Somniosus pacificus*) in the PWS commercial halibut fishery.

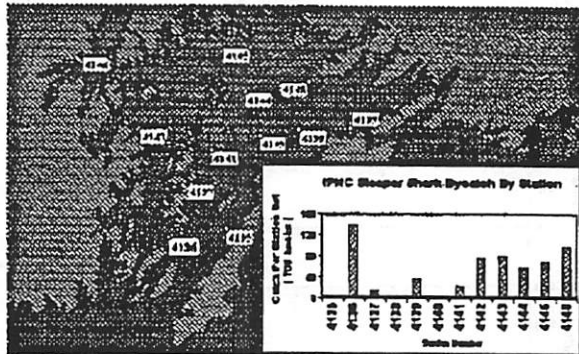


Fig. 4 Bycatch of Pacific sleeper shark (*Somniosus pacificus*) in the 1998 IHPC survey.



Fig. 5 Halibut damage.

Sleeper sharks are suspected of attacking halibut that has been caught on fishing gear (Fig. 5). Alaska Department of Fish and Game sablefish survey data also indicate an increasing trend in sleeper shark abundance since the survey began in 1996. While finding empirical data for relative trends in sleeper shark and dogfish bycatch in Alaska is difficult, it is particularly hard for salmon sharks.

Salmon sharks are rarely caught in commercial gear and information on trends in abundance is largely anecdotal. However, salmon sharks appear to be the predominant large predatory pelagic fish in the coastal GOA (Fig. 6). A member of the family Lamnidae, they are the Pacific congener of the porbeagle shark in the Atlantic and are closely related to white and mako sharks. Throughout the 1990s, salmon shark abundance in the northern GOA increased dramatically.

The vast majority of salmon sharks aggregating in surface waters of the GOA are adult females. They have been reported to reach 3m in length, although normal size range appears to

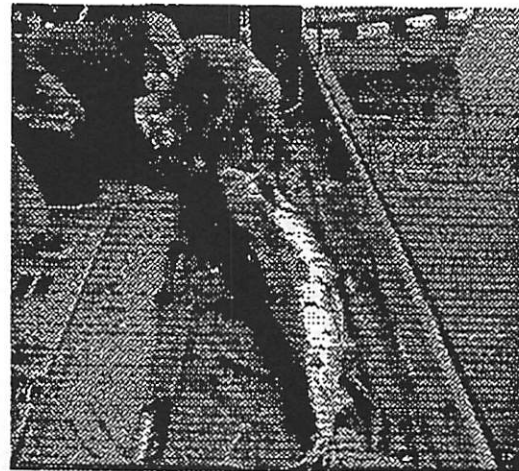


Fig. 6 Salmon shark (*Lamna ditropis*).

be between 1.8 and 2.4m. Salmon sharks maintain an elevated body temperature and studies have shown that they may have the highest body temperature of any shark, as much as 13.6°C above ambient water temperatures. Because of this, they likely possess a relatively high metabolic rate and daily ration. Their diet consists primarily of salmon, squid, and groundfish.

As part of the Alaska Predator Ecosystem Experiment (APEX) project (See PICES Press July 1999, pages 35-36), the NMFS Auke Bay Laboratory conducted a pilot salmon shark study in 1999, the first sampling effort ever directed at salmon sharks in the eastern Pacific. We collected non-lethal stomach contents, tissue samples for fatty acids, stable isotope, and population genetics analyses. The sharks were tagged with Floy tags, and three were released with "pop-up" archival satellite tags. Although large surface aggregations of salmon sharks have become common during summer months in PWS in recent years, data collected from the satellite tags, hydroacoustics, and underwater video indicate that the majority of the sharks present are below the surface at any given time. The pop-up archival satellite tag data from late July to late September indicates that the sharks spend the majority of their time between 10 and 50 meters depth. The sharks did not have clear diel patterns of depth preference. The hydroacoustics, and underwater video data support this finding.

What caused the increase in abundance of sharks in coastal GOA?

An ocean climate regime shift occurred in the winter of 1976/77. One of the major findings from the evaluation of historic data is that there has been a dramatic shift in the biotic communities in the GOA in the past two decades. A biota dominated by crustaceans and capelin in the early 1970s and before, shifted to a biota dominated by gadids and flatfish by the late 1980s (See PICES Press July 1999 pages 35-36). This shift coincides with a shift in temperatures (sea surface

(cont. on page 22)

Model experiments and comparisons

The MODEL Task Team plans to vary three factors: the model, the geographical location and corresponding sets of biological parameters, and physical forcing scenarios. The model comparison protocols will be used as a basis of comparison.

Recommendations for future work

- Perform a sensitivity/stability analysis on NEMURO.
- Test the sensitivity of production of small and large zooplankton, P/B ratio, and ecological efficiency to inclusion of the microbial food web.
- Develop a way to measure when a change in model output is "significant". The metric should consider time, space, and some absolute values of parameters.
- Future work should be coordinated by the MODEL Task Team Co-Chairmen, and participants encouraged to present their results at the next Annual Meeting of PICES. Cooperation and coordination with other CCCC Task Teams are very important.
- Issues related to model management need to be addressed to control the increasing number of different versions of model, including process equations, parameter files, physical forcing data files, and post processing programs. We propose to examine the ICES/GLOBEC experience to obtain guidance as to how best to proceed.
- Develop a NEMURO/Stella Box Model using the Stella software package.
- Make progress on making an executable version of the prototype model available on the WWW.
- Develop a means of staying in contact to continue unfinished work.
- Develop a project home page.

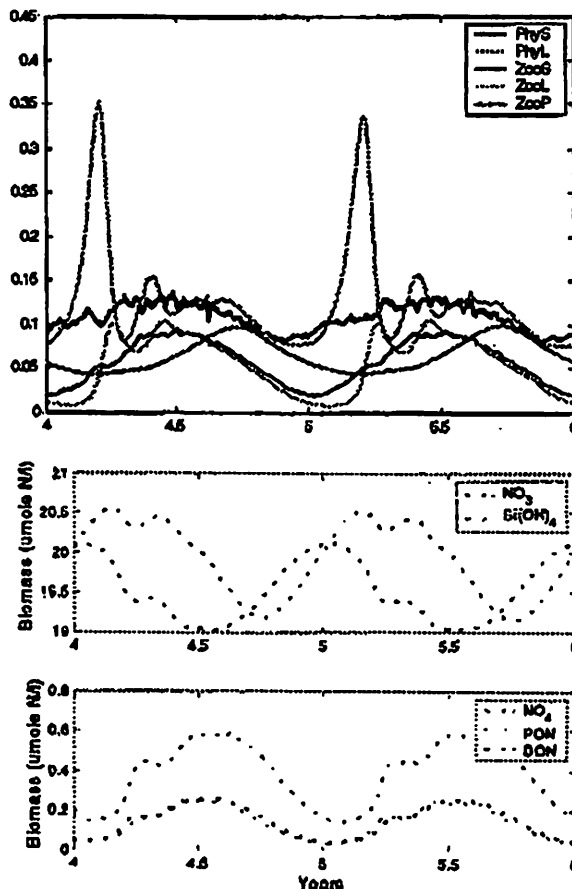


Fig. 5 Details of plankton fields for years 4 through 6 of the NEMURO/MATLAB Box model 20-year base run for Station P.

(Shark abundance – cont. from page 17)

temperature, air temperature, and ocean temperature at 250 meters depth) from cooler to warmer. Forage species began a rapid decline between 1977 and 1980 and high trophic level groundfish increased 250% in biomass by the 1990s. By the late 1980s the GOA saw dramatic declines in abundance indices of sea lions, fur seals, and harbor seals.

The forage base responds quickly to changes in climate regimes and is further impacted by predation as groundfish biomass increases. It may be that shark succession in trophic community structure is a natural response to the regime shift, but delayed due to low intrinsic rates of population increase. Has enough time elapsed following the trophic regime shift to justify an explanation of the trend to an increase in shark numbers? Little is known of salmon shark and sleeper shark life history parameters and dogfish age at maturity appears to vary greatly with region and environmental stressors. Considering low intrinsic rates of population increase for sharks in general, it may seem unlikely that the trend follows an increase in numbers. However, changes in reproductive

potential due to favorable conditions is a factor that should not be ruled out. Until demographic parameters of these sharks in the GOA are described, the answer is highly speculative. Other reasons for the increase in shark abundance in the northeast Pacific may be due to increased salmon production, both hatchery and wild salmon, reduced mortality from high seas gillnetting, or a shift in the shark populations in reaction to changes in water temperatures.

In conclusion, we believe that a combinations of factors has resulted in the increased shark abundance in the northeast Pacific and they are now one of the predominant apex predators in the region. The cause and consequences of this trend are unclear. Monitoring shark population trends through better shark bycatch data records and directed surveys, combined with research describing the sharks' spatial and temporal movements, diet, and demographics, will contribute greatly to the understanding of the role of sharks as indicators of, and their affects on, trophic community structure in the GOA.

Final Council Motion on SSL at 9:35 am - 12/9/00

- A. That the Council not adopt the conclusions of the BiOp of 11/30/2000 with regard to Steller sea lions or the RPAs contained therein.
- B. Call for a Council review and analysis of the proposed RPAs in the current biological opinion compared to the 1999 pollock and Atka mackerel RPAs, and RPA options in the 2000 draft EA for Pacific cod, to determine the potential benefits to recovery of SSLs versus the costs to the groundfish fishing industry.
- C. Move that the Council conduct an independent peer review of the BiOp and experimental design and to evaluate other possible explanations for the decline of Steller sea lions and the ability of Steller sea lions to recover. The peer review should include independent scientists and a subset of SSC members.
- D. Establish a committee to develop a proposal for RPAs and an experimental design that satisfies ESA mandates and is consistent, to the extent possible, with Magnuson-Stevens Act standards.

The Committee should be of a workable size, and include representatives for the Agency, the State, the SSC, Council, industry & conservation community.

In developing the experimental design, we task the committee with testing the fisheries impacts hypothesis, and the differential impacts of various gear types.

The Committee should begin work ASAP, bringing an initial report back to the Council in April and thereafter as needed, with final recommendations to be presented to the Council (family) no later than December 2001.

- E. The Council announces its commitment to disregard 2001 catch history in any future rationalization plan, and
- F. The Council requests NMFS to:
 - 1. clarify coordinates of closed areas; and
 - 2. allow vessels to participate in State Pacific cod fishery without surrendering Federal groundfish permits.

DATE	COUNCIL ACTION	RPA COMMITTEE ACTION	STAFF ACTION	STATUTE DRIVEN PROCESS
February Council meeting	<ol style="list-style-type: none"> 1. Select RPA committee members 2. Receive SSC review of BiOp 3. Identify process and issues for for 2001 independent scientific review 4. Initial review of analysis on VMS monitoring 			
Mid February	Secure contracts for independent scientific reviews	<ol style="list-style-type: none"> 1. Meet to identify alternatives for June 10 open and closed CH areas and/or other modifications to 2001 ER 	Begin Analysis of 2002 RPA	
March		<ol style="list-style-type: none"> 1. Meet to review progress on staff analysis on modification of 2001 ER; select preferred alternative 2. Meet to receive public input on modification of 2002 RPA 	<ol style="list-style-type: none"> 1. Analyze alternatives for modification of 2001 ER 2. Prepare NEPA document for extension of 2001 ER 	
April Council meeting	<ol style="list-style-type: none"> 1. Adopt changes to 2001 emergency rule 2. Final action on VMS 			

DATE	COUNCIL ACTION	RPA COMMITTEE ACTION	STAFF ACTION	STATUTE DRIVEN PROCESS
April - June		Continue to develop options for Alternative RPA. Coastal Community workshops?	<ol style="list-style-type: none"> 1. Prepare rulemaking and final NEPA documents for 2001 ER extension and/or modification 2. Continue analytical work on 2002 RPA 	
Late May-early June		<ol style="list-style-type: none"> 1. Receive reports on independent scientific reviews 2. Finalizes options for modification of 2002 RPA 	Continue analytical work on 2002 RPA	Implement emergency rule provisions that need to be effective June 10 or include any modifications in emergency rule extension effective July 17
June Council meeting	Receive presentation on independent scientific reviews Recommend options for modification of 2002 RPA		Continue analytical work on 2002 RPA	
June - August		Review analysis & provide comments to staff	Incorporate alternatives for modified RPA into 2002 RPA analysis	
September meeting	Initial review of 2002 analysis for public distribution			

DATE	COUNCIL ACTION	RPA COMMITTEE ACTION	STAFF ACTION	STATUTE DRIVEN PROCESS
Sept-October		Meet to recommend preferred alternative		
October meeting	Select preferred alternative for modified RPA			
Oct - Nov			<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 1. Complete NEPA document supporting Council's action </div> 2. Prepare draft emergency rule implementing modified RPA	Section 7 consultation
December meeting	Receive conclusion of section 7 consultation; follow-up action if necessary			
January 1, 2002			Emergency rule implementing RPA effective	
December 2002	Council receives NAS review of biological opinion.			

Summary of Initial Alternatives for Analysis of 2002 RPA
proposed by staff 2/1/01

- Alternative 1** No Action. Regulatory measures implemented by emergency rule, and designed to protect Steller sea lions, would expire. *Note that this is not a viable alternative, as it is non-compliant with the ESA and P.L. 106-554.*
- Alternative 2** Implement the suite of RPA measures that were in place for the 2000 pollock and Atka mackerel fisheries, and implement measures for the Pacific cod fishery that include seasonal apportionments and harvest limits within critical habitat (this assumes we will need to add measures for Pacific cod).
- Alternative 3** Implement the measures detailed in Alternative 2, and prohibit all trawling within critical habitat (injunction).
- Alternative 4** The RPA detailed in the November 30, 2000 Biological Opinion will be implemented in its entirety.
- Alternative 5** The RPA developed by the Council and its Committees.

Details of Alternative 2

Applicable to all fisheries:

- No transit zones within 3 nm of 37 rookeries.
- Closure within 10 or 20 nm of 37 rookeries to all trawling year-round.

Applicable to pollock fisheries

- Closure to pollock fishing within 10 or 20 nm of 75 haulouts, seasonally or year-round based on use by sea lions.
- In the Bering Sea pollock fishery: four seasons with harvest limits within sea lion critical habitat foraging areas; and two seasons (40:60% allocation) outside critical habitat.
- In the Gulf of Alaska pollock fishery: fishery distributed over 4 seasons (30:15:30:25).
- Closure of the Aleutian Islands to pollock fishing.

Applicable to the Atka mackerel fisheries

- Atka mackerel fishery: two equal seasonal TAC apportionment, with restrictions on harvest within critical habitat, and a VMS requirement.

Applicable to the Pacific cod fisheries

- In the BSAI cod fishery: separate TACs would be established for the Bering Sea and Aleutian Islands, two seasons (A season Jan 20-April 30 at 40% of TAC; B season May 1-Nov 1 at 60% of TAC) with harvest limits within critical habitat based on best estimates of biomass. Using these estimates, the Bering Sea TAC limits within CH are 20% in the A season and 3.6% in the B season. In the Aleutian Islands, the TAC limits within CH are 20% in the A season and 48.3% in the B season.
- In the GOA cod fishery: two seasons (A season Jan 20-April 30 at 40% of TAC; B season May 1-Nov 1 at 60% of TAC) with harvest limits within critical habitat based on best estimates of biomass. Based on these estimates, the TAC limits within CH to start with are 20% in the A season and 31.8% in the B season.

FEBRUARY 2001



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, Maryland 20910

JAN 30 2001

Mr. David Benton
Chairman
North Pacific Fishery Management Council
605 West 4th Ave, Suite 306
Anchorage, Alaska 99510

Dear Mr. *David* Benton:

Over the coming months, the North Pacific Fishery Management Council (Council) will be reviewing the November 30, 2000, Biological Opinion that resulted from last year's Endangered Species Act Section 7 consultation on the authorization of the Bering Sea, Aleutian Islands, and Gulf of Alaska groundfish fisheries. Part of the review may include development of options to the reasonable and prudent alternative (RPA) contained in the opinion. I am writing to convey the commitment of the National Marine Fisheries Service (NMFS) to work closely with you to facilitate your review and analysis.

Section 11.8 of the opinion stated our intent to submit the opinion for scientific and public review and consult with the Council to determine the best schedule for their review. We also committed to the following actions:

1. Initiate discussion of a National Academy of Sciences (NAS) review;
2. Invite the five independent scientific experts who were retained to provide initial comments on the earlier draft of the opinion to review the completed document;
3. Invite the State of Alaska Steller Sea Lion Restoration Team to review the opinion and provide its recommendations;
4. Hold public hearings on the opinion in Dutch Harbor, Kodiak, Sand Point, Anchorage, and Seattle; and
5. Consult with the plaintiffs and others in the environmental community to determine the best schedule and mechanism for their review of the opinion.



2


Depending on the results of the reviews, we stated in our news release of December 1, 2000, our willingness to revise the opinion and regulations in light of new scientific information as early as the 2002 fishing season. Any such revision must be consistent with the Endangered Species Act. While NMFS will make the final decision regarding ESA consistency, we will work with, and advise the Council during this process so that any alternatives developed will meet ESA standards.

I am aware that the Council already has initiated its review of the opinion, primarily through its scientific and statistical committee and advisory panel, the NAS, and by external experts. The Council also may require analytical support to determine the efficacy of alternative management measures in protecting Steller sea lions, and to assess the economic and social impacts of the alternatives. By copy of this letter to the NMFS Alaska Regional Administrator, the Science Center Director, and the Director, Office of Protected Resources here at headquarters, I am requesting that they work closely with the Council, and provide, to the maximum extent practicable, analytical support for your review. They also should work closely with the Council in determining research priorities on Steller sea lions.

As former Secretary Mineta stated: "We can and we will continue to work with the fishing industry, the environmental community, state, local, and tribal governments, and the public at large to ensure that the goals of a vibrant economy and the protection of the natural world upon which much of our economy depends, remain in balance."

You have our commitment to follow through on the activities listed above, and I offer my assistance should you need help in coordinating the NAS review, or finding experts here and abroad to help you in your review of the opinion.

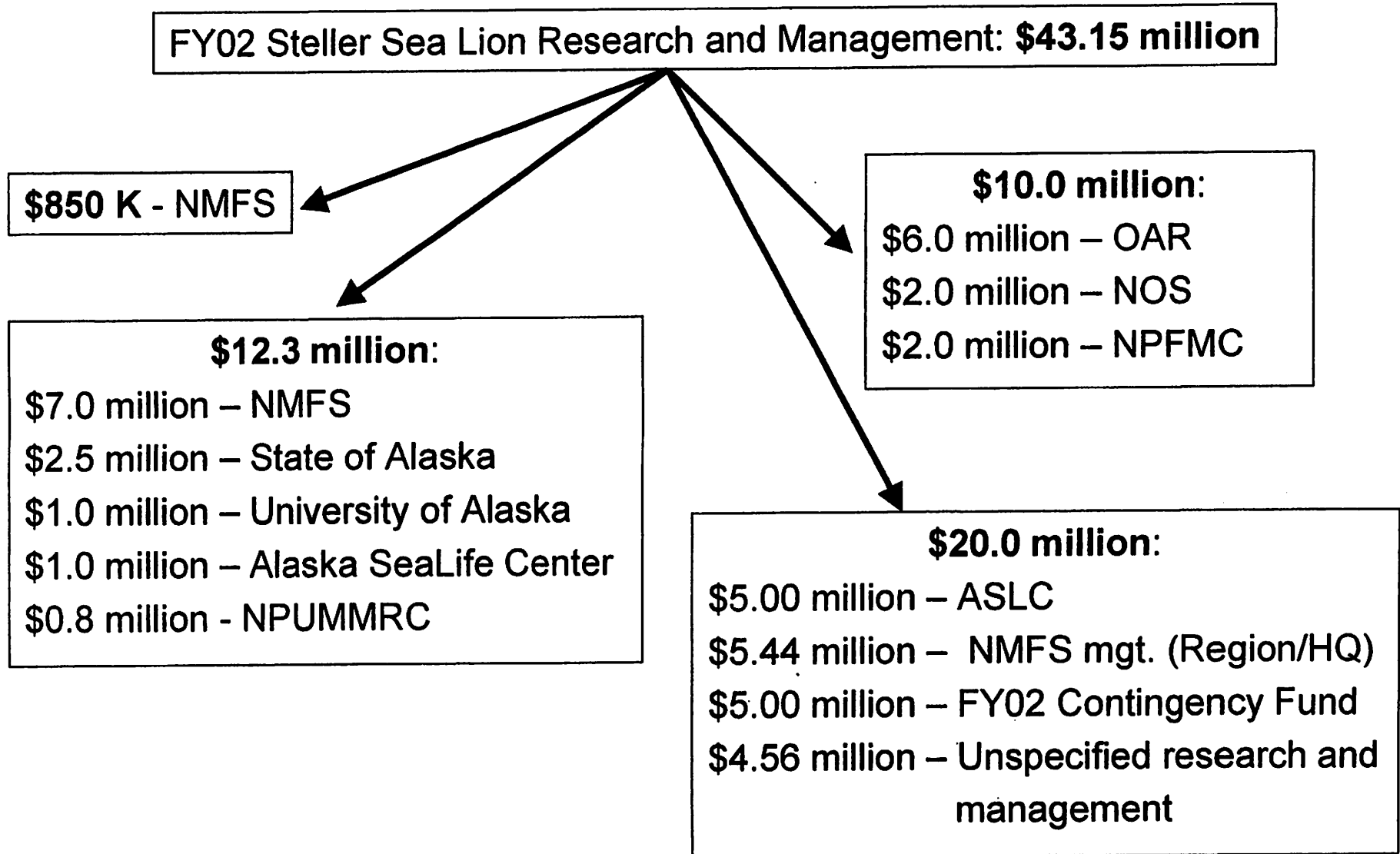
Sincerely,



Clarence G. Pautzke, Ph.D.
Acting Deputy Assistant
Administrator for Regulatory
Programs

cc: James Balsiger, Ph.D.
James Coe
Donald Knowles

Funding Landscape



22-LS0339J

HOUSE JOINT RESOLUTION NO. 10
IN THE LEGISLATURE OF THE STATE OF ALASKA
TWENTY-SECOND LEGISLATURE - FIRST SESSION

BY THE HOUSE RESOURCES COMMITTEE

Introduced: 1/31/01

Referred: House Special Committee on Fisheries, Resources

A RESOLUTION

1 **Relating to the management of the Bering Sea/Aleutian Islands and Gulf of Alaska**
2 **groundfish fisheries and the protection and restoration of the Steller sea lion.**

3 **BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 **WHEREAS** the population of Steller sea lions has substantially declined over the past
5 25 years; and

6 **WHEREAS** the National Marine Fisheries Service has listed the western Alaska
7 population of Steller sea lions as endangered under the Endangered Species Act of 1973; and

8 **WHEREAS** the reasons for the decline in the population of Steller sea lions are
9 poorly understood; under one theory, the decline is associated with high levels of groundfish
10 (particularly pollock), Pacific cod, and Atka mackerel harvest; and

11 **WHEREAS** the National Marine Fisheries Service, as the result of litigation and
12 criticism by a federal district court, has undertaken a series of increasingly strict restrictions
13 on groundfish fishing in areas where Steller sea lions congregate; and

14 **WHEREAS** the National Marine Fisheries Service lacks an adequate scientific basis
15 for such restrictions on groundfish fishing and has not explained why the restrictions are
16 scientifically or legally necessary; and

1 **WHEREAS** regulations promulgated by the National Marine Fisheries Service in July
2 2000, banned all trawlers from fishing within 20 miles of 122 rookeries and haul-outs and
3 three large "at-sea foraging areas" in the Bering Sea and Gulf of Alaska from Prince William
4 Sound to the Aleutian Islands chain; and

5 **WHEREAS** these regulations had the effect of closing the majority of the groundfish
6 fishery; and

7 **WHEREAS** the economic loss to the groundfish fishing fleet in the Bering Sea and
8 Gulf of Alaska is estimated to exceed \$170,000,000 if the regulations remain in effect through
9 the first half of 2001; and

10 **WHEREAS** additional immeasurable economic losses would be suffered by
11 businesses, families, and individuals who rely on this fishery for economic support and by
12 state and local governments that receive taxes from this fishery; and

13 **WHEREAS** the United States Congress, through the efforts of Senator Ted Stevens,
14 has been able to delay to some extent the full impact of these regulations and new measures
15 proposed in the biological opinion of November 30, 2000; and

16 **WHEREAS**, during 2001, the United States Department of Commerce and the
17 National Marine Fisheries Service are to cooperate with the North Pacific Fishery
18 Management Council and the National Academy of Sciences in conducting an independent
19 scientific review of the November 30, 2000, biological opinion for the Bering Sea/Aleutian
20 Islands and Gulf of Alaska groundfish fisheries; to prepare proposed conservation and
21 management measures for the Bering Sea/Aleutian Islands and Gulf of Alaska groundfish
22 fisheries; to develop and implement a coordinated comprehensive research and recovery
23 program for the Steller sea lion; and to provide funds for payment to communities, businesses,
24 groups, and individuals to mitigate the economic losses caused by Steller sea lion protection
25 measures;

26 **BE IT RESOLVED** that the Alaska State Legislature expresses its support for the
27 efforts of the United States Congress and Senator Ted Stevens to place restrictions on the
28 implementation of the alternatives contained in the November 30, 2000, biological opinion
29 prepared by the National Marine Fisheries Service; and be it

30 **FURTHER RESOLVED** that the Alaska State Legislature also expresses its support
31 for the independent scientific review of the November 30, 2000, biological opinion for the

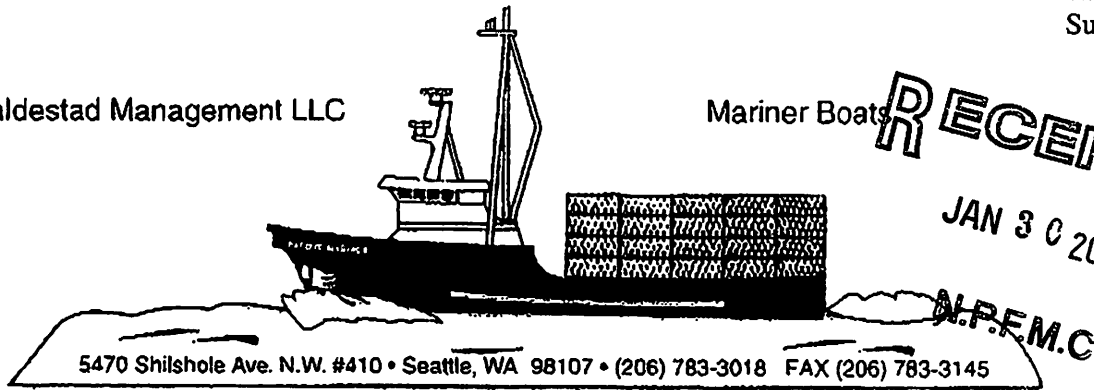
1 Bering Sea/Aleutian Islands and Gulf of Alaska groundfish fisheries; and be it

2 **FURTHER RESOLVED** that the Alaska State Legislature respectfully requests the
3 United States Department of Commerce and the National Marine Fisheries Service to work
4 with the North Pacific Fishery Management Council to develop a scientifically sound and
5 legally sufficient management program for the Bering Sea/Aleutian Islands and Gulf of
6 Alaska groundfish fisheries that harmonizes the pollock, Pacific cod, and Atka mackerel
7 fisheries with the requirements of the Endangered Species Act of 1973 for the protection and
8 restoration of the Steller sea lion in western Alaska by December 31, 2002.

9 **COPIES** of this resolution shall be sent to the Honorable Donald L. Evans, United
10 States Secretary of Commerce; the Honorable Penelope D. Dalton, Assistant Administrator,
11 National Marine Fisheries Service, United States Department of Commerce; and to the
12 Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the
13 Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

Kaldestad Management LLC

Mariner Boats



January 30, 2001

North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK. 99501-2252

Re: C-3 Steller Sea Lion Measures

Dear Council Members,

Our company operates vessels which participate in the Bering Sea pot cod fishery. I am concerned about the possible restrictions which are being proposed for the pot cod fishery by NMFS and their effects on the fishery. One of these possible restrictions include no pot cod fishing inside the RPA's. Beside the general feeling that pot cod fishing does not cause disruption of aggregated stocks, there are other factors I feel are important to consider.

The Bering Sea pot cod fishery primarily operates in the Unimak Pass area. Since our deliveries are shoreside and are limited by a 72 hour window for fish quality, we need to operate as close to the markets as possible. This is especially vital as fuel prices are at or near an all-time high. In a very marginally profitable fishery, drastic increases in fuel (which is what we are facing compared to last year), an expected decrease in ex-vessel prices along with increased observer and bait costs, could cripple the fishery to where no one could operate profitably. At a time when other pot (ie. crab) fisheries are severely depressed, no vessel can afford to operate in the red fishing for cod.

More importantly, the pot cod fishery as it has existed in the Unimak Pass area, has virtually no bycatch, according to observer reports. Cod pots (which are often converted crab pots) can, by the fact that they are on the bottom and use the same bait as crab fisheries, catch and retain crab as bycatch in certain areas. Moving the fishery away from a clean fishing area such as Unimak Pass to other areas of traditional crab grounds, makes no sense from a management standpoint. This is especially true at a time when all Bering Sea crab stocks are either considered overfished by definition or are severely depressed. While no one has an exact rate for handling mortality, common sense tells us it is not good to increase bycatch and handling of crab in any fishery.

I would urge the council to allow the pot cod fishery to operate in the RPA'S and, at a minimum, allow the fishery to occur in the Unimak Pass area where it traditionally occurred.

Sincerely,

Kevin L. Kaldestad

January 30, 2001

Mr. David Benton
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK. 99501-2253

RECEIVED

JAN 31 2001

N.P.F.M.C

Re: Agenda Item C-3

Dear Mr. Benton,

Western Gulf of Alaska Fishermen is an association of groundfish fishermen who operate trawl, longline, and pot vessels out of Sand Point, Kodiak, and Homer, Alaska. We believe that the localized depletion hypothesis that is central to the RPA in BiOp3 is fundamentally wrong. We support efforts to refute the hypothesis and over rule the conclusions of BiOp3. We do not support any new plan amendments or RPAs that attempt to reallocate p-cod in the Gulf of Alaska to any specific class of vessels, or gear types. Any such efforts to reallocate fish to different users based on vessel size or gear type will lead to further escalation in the race for fish, and will exacerbate an already volatile situation.

Although Western Gulf of Alaska Fishermen rejects the localized depletion hypothesis, we do believe that there are too many vessels chasing fish in smaller and smaller areas. If the trend continues of compressing the fishing seasons spatially and temporally, the localized depletion hypothesis could become a self-fulfilling prophecy.

We know that we are lucky to be fishing at all right now in the Gulf. Our industry got a stay of execution by the last Congress, thanks mostly to the huge efforts of Senator Stevens. We also know that all we got was a delay, BiOp3 is still alive. Congress gave us the delay, but they also gave the Council directions to design a suitable Comprehensive Rationalization Program for the groundfish fisheries in the Gulf of Alaska. We believe that rationalization is integral to any long-term survival of groundfish fisheries in the Gulf of Alaska. Even BiOp3 endorses the implementation of such a program.

We hope that the NPFMC will emphasize the importance of rationalization in any management changes that it develops. We must achieve a system that will allow our fleets to simultaneously; operate efficiently, and react to environmental changes and problems. New RPAs that fail to rationalize our groundfish fishery will not satisfy increasing environmental concerns and at the same time provide for a vibrant fishing community.

Please, do not let rationalization of our current fishing industry, be overshadowed and side tracked by efforts to reallocate the resource during the months ahead. Rationalization provides a solution to the dilemma; reallocation will only intensify the race.

Good luck with the work ahead,

Joe Childers
Director
Western Gulf of Alaska Fishermen

OCEAN STORM FISHERIES INC.
2273 66TH Avenue South East
Mercer Island, Wa. 98040
(206) 232 6647

January 31, 2001

Chairman Dave Benton
NPMC
605 4th Avenue
Suite 306
Anchorage, Ak. 99501

RECEIVED

JAN 31 2001

N.P.F.M.C

Dear Chairman Benton,

My name is Mike Alfieri and I am the owner operator of the 58 foot Fishing Vessel Ocean Storm. The boat operates out of Sand Point, Alaska where I have been Salmon fishing since 1979 and trawling since 1992. First of all I wish to applaud the Council for the action you took at the December council meeting. It was about time somebody stood up to NMFS to try to make some sense out of all the recent actions to shut down the Pollock and Cod fisheries in the Gulf.

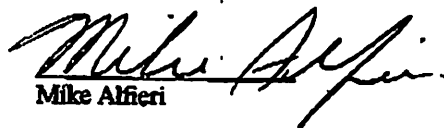
Believe me I do mean that under any part of Biop 3 Pollock and Cod fishing in the Gulf will become financially impossible and will cease to exist. I was fishing in area 610 in August, September and October for Pollock in the C and D seasons. Out of 16110 available Tons only 8237 Tons were harvested, roughly 50% of the available quota. That was fishing in the relatively calm summer and fall months. That 50% figure will only decrease if we are forced to fish that way in winter and spring. Right now trawling accounts for roughly 80% of my income for the year, as Salmon is severely depressed and there are no promising outlooks for that fishery. Under any part of Biop 3 you will cause financial ruin to myself and my wife and 2 children. There is no other fishery this boat or I can move on to.

One fact I would like to point out is Biop 3 is being touted as a 6 year study to see if there is any improvement in Stellar stocks. Since the Fall of 1998 there has been no harvest of Pollock or Cod in area 620 of the Gulf due to the Haul Outs at Mitrofanina and Kak Island. That is a 2 1/2 year study already in place. What the last Sea Lion count supposedly shows is a continued downward trend in their numbers. When I go to the Council meetings and sit and listen to the Scientific community come up with explanation after explanation of why fishing is not harming the Stellar and then it is proven out with a mini Biop 3 around Mitrofanina and Kak Island I am even more dumbfounded as to why I am being put out of business for absolutely no reason at all.

I am also the President of a non profit group called Western Gulf of Alaska Fishermen, WGOAF, that represents a group of fishermen that fish in the Sand Point and Kodiak areas. Our main reason for forming this association is to promote rationalization in the Gulf. We feel that with rationalization we can be more flexible as fishermen to address some of the concerns of the environmental community. What we want most of all is to secure our history in the Gulf and be given an opportunity to harvest that history.

Somebody has to be accountable for all of these harmful actions being brought against fishermen and I beg of you and the Council to please do everything you can to let the Gulf trawl fisheries to continue to be one of the best managed fisheries in the World.

Sincerely,



Mike Alfieri

Sent By: B;

2064318687;

Jan-11-01 2:52PM;

Page 2/3

SENT BY: NPFMC;

907 271 2817 ;

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TEL: 202 887 5293

P. 002



RECEIVED

JAN 16 2001

N.P.F.M.C

January 10, 2001

Ms. Penny Dalton
 Assistant Administrator, NOAA-National Marine Fisheries Service
 1315 East-West Highway
 SSMC3
 Silver Spring, MD 20910

Dear Ms. Dalton,

On behalf of World Wildlife Fund (WWF)'s Bering Sea ecoregion program, I'd like to thank you for your efforts to address conservation of the endangered Steller sea lion in Alaska's marine waters. I heard your address to a nervous audience at the Fish Expo in Seattle, and appreciate the challenge you are facing to balance fishing and wildlife needs through ecosystem based management reform.

As the National Marine Fisheries Service now prepares regulations to implement changes in fisheries management in response to the Biological Opinion Reasonable and Prudent Alternatives (RPAs), WWF encourages you to consider the future of the rich biodiversity of the Bering Sea. WWF encourages NMFS to consider using this opportunity not only to protect Steller sea lions, but also to ensure adequate protection for seafloor habitat, seabird foraging areas, and other fish and wildlife.

WWF has identified the Bering Sea as one of 60 marine areas that are globally significant for harboring the world's biological diversity. We selected this ecoregion based on its central role in harboring some of the largest seabird colonies in the world; some 25 species of marine mammals; diverse marine invertebrate populations; and of course, one of the most productive fisheries in the world. The high productivity of the sea can be attributed to rich benthic environments and upwellings.

We feel it is essential to ensure conservation of these important values while determining future regulations in the Bering Sea fishery. Toward that end, we urge NMFS to take all measures possible to prevent harm to benthic habitats, seabird colonies, coral formations, and all marine mammals, including Steller sea lions and sea otters, whose populations are now plummeting.

One area of particular concern is the Aleutian Island archipelago. On recommendation of the North Pacific Fishery Management Council, this area was closed to pollock trawling in 1998. Yet the RPAs in the Biological Opinion outline a plan to reopen part portions of the waters surrounding the Aleutian Islands to pollock trawling. Marine waters surrounding the Aleutian Islands harbor some of the Bering Sea's most important and vulnerable habitats. It would be counterproductive to place these habitats and species in jeopardy by reopening the area to trawling.

About half of the western Steller sea lion population once lived in the Aleutian Islands; thus, this area is important to the recovery of the species. Sea otters, harbor seals, and other species are also in decline in the Aleutians, and may warrant increased protection. Increasing trawling pressure on this region does not seem prudent or adequately precautionary in light of these other species and habitat vulnerabilities.

World Wildlife Fund

1250 Twenty-Fourth St. NW Washington, DC 20037-1132 USA

Tel: (202) 293-4800 Fax: (202) 293-9211

www.worldwildlife.org

Affiliated with World Wide Fund for Nature



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Page 3/3

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TEL: 202 887 5293

P. 003

The Aleutians Islands encompass some of the ecoregion's richest coral formations as well as foraging areas and nesting habitat for numerous seabirds, including the endemic red-legged kittiwake. Most of these seabirds also depend upon the same forage fishes that sea lions and seals subsist upon. The region also supports large populations of long-lived rockfish, which may suffer new pressures as they are taken as bycatch.

We appreciate your team's efforts to design and implement an experimental design which will help us better understand impacts of fishing on sea lion foraging areas. However, this design could be improved through minimizing all harvest of prey species within the "red zones." This will likely provide a clearer signal of impacts of fishing than closed areas which allow harvest of prey species as bycatch.

In light of these concerns, we urge you to consider the following measures:

- Maintain the pollock trawl closure in the Aleutian Islands put in place by the Council;
- In order to provide greater protection for sea lions, close the entire Aleutian Islands to trawling for pollock, Aka mackerel, and Pacific cod and other fisheries which harvest those species as bycatch;
- Work closely with USFWS seabird biologists to curtail potential impacts of the RPAs on seabird nesting and foraging areas;
- In finalizing management measures for the Bering Sea, establish a standard of no net increase in seafloor habitat impacts.

In 1999, working with experts throughout Russia, Alaska, and other parts of the US, WWF and The Nature Conservancy (TNC) of Alaska led an ecoregion-wide effort to identify key areas for biodiversity in the Bering Sea. I enclose our final report for you here. WWF is now using this information to guide the development of a conservation program directed at biodiversity conservation in the Bering Sea ecoregion. (We recently established a field office in Anchorage, now being directed by David Cline.) We hope this will be a useful reference for you also. We urge NMFS to consider the importance of conserving the biodiversity and broad ecosystem functions in these areas while implementing the RPAs.

Finally, I was very impressed by your presentation in Seattle, yet was unable to absorb all of the technical information you provided. I would be grateful if you would send a copy of your power point presentation to me in print or via email.

Thank you very much, and best wishes in your endeavor to improve marine resource management in the Bering Sea.

Sincerely,



Margaret Williams, Director
Bering Sea Ecoregion Program
E-mail: margaret.williams@wwfus.org

- cc. Governor Tony Knowles, State of Alaska
dd. Dr. Michael Payne, Protected Resources Division, NMFS
ee. Dr. Jim Balsiger, Regional Administrator, NMFS



NMFS AK REGION

→→→ NPFMC

002

UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

National Marine Fisheries Service

P.O. Box 21668

Juneau, Alaska 99802-1668

AGENDA C-3(d)

FEBRUARY 2001

February 1, 2001

RECEIVED

FEB -1 2001

N.P.F.M.C

Dave Benton, Chairman
North Pacific Fishery Management Council
605 W. 4th Avenue, Room 306
Anchorage, Alaska 99510

Regard: NEPA Analysis for Amendments to the Alaska Groundfish
FMPs to Respond to Comprehensive Section 7 Consultation

Dear Chairman Benton:

The Council is working toward a Reasonable and Prudent Alternative in response to the November 30, 2000, comprehensive biological opinion. We have determined that an Environmental Impact Statement is the appropriate National Environmental Policy Act (NEPA) analysis document for this action. Our determination is based both on the fact that significant impacts will result from implementation of the action and that the action is controversial. This letter contains information on this requirement for Council discussion under Agenda Item C-3 Steller Sea Lion Measures.

Our comments are arranged under these general topics: 1) Alternatives for analysis, 2) Planning the analysis, 3) Schedule for the analysis, and 4) Approaching the new workload.

1) Alternatives to analyze. The analysis should present the environmental impacts of the proposal and the alternatives in comparative form to assist with sharply defining the issues and providing a clear basis for choice among options. The Council already suggested several analytical alternatives for purposes of obtaining information necessary to distinguish and weigh the relative impacts and expected benefits to Steller sea lions of the reasonable and prudent measure contained in the November 30, 2000, biological opinion. The analytical team will work with the Council at the upcoming meeting, and throughout scoping, to flesh out the analytical alternatives.

2) Planning the analysis. The analytical planning process includes determining the scope of issues to be addressed and identifying the significant issues relating to the proposed action. Public comment at the December 2000 and January 2001 Council meetings, the draft Pacific cod analysis, and our general



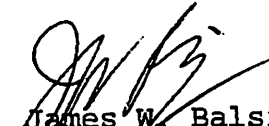
familiarity with this action can be utilized for planning the analysis. The next step in planning is to outline the EIS incorporating treatment of issues and other required EIS components. A draft table of contents will be brought to the April meeting.

3) Schedule of the analysis. The Council on Environmental Quality regulations direct agencies to integrate the NEPA process with other planning at the earliest possible time to insure that planning and decision making reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. A very basic timeline of the major EIS milestones is enclosed. While fully acknowledging this is a demanding schedule, we are committed to working with the Council to attempt a schedule that meets 2002 fishery needs.

4) Approaching the new workload. NMFS affirms this analysis as one of our highest priority projects. Toward that end I have assigned my staff member Tamra Faris as co-project leader and writer, overseeing the analytical design and parts to be written by NMFS employees. I understand David Witherell is similarly assigned co-project leader and analyst. We will endeavor to contract out as much of the analysis as possible. Additional Regional and Center staff will be assigned as necessary. The agency is also heavily engaged in preparation of the programmatic supplemental EIS for the groundfish FMPs, the American Fisheries Act EIS, and numerous other analytical documents, all of which contain analysis that can be applied to this project.

I am prepared to discuss all of these topics further at the upcoming meeting.

Sincerely,



James W. Balsiger
Administrator, Alaska Region

January 31, 2001

Draft EIS Schedule in Major Milestones

Milestone	Date
Scoping Period Notice of Intent to Prepare an EIS Date(s) of Scoping Meetings	February 2001 To Be Determined
List of Issues to Analyze	January-February 2001
Outline / Table of Contents	April 2001
Suite of alternatives to be analyzed	February-April 2001
Analysis and Writing	February-September 2001
DEIS complete	September 2001
Public Review of DEIS (45 day minimum)	October 2001
Response to comments on DEIS	November 2001
Final EIS (30 day minimum)	November 2001
Record of Decision (Approve Amendment or publish Rule)	December 2001

Note: The schedule given above is technically possible applying the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA. Such schedule may, however, be overly ambitious for an EIS process that consists of an action that is both controversial and contains numerous kinds of significant impacts on the human environment.

RECEIVED

DEC 21 2000

F/V Irene H
Mark Vickstrom
PO Box 318, Kodiak, AK 99615

N.P.F.M.C

Mr. Dan Coffey, Chair
Alaska Board Of Fisheries
Juneau, AK 99802-5526

December 19, 2000

1. For the Special Meeting of the Board on December 21, 2000
2. For the Regular Meeting of the Board in January, 2001

Dear Mr. Coffey,

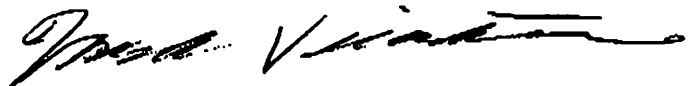
I am opposed to Proposals 95 & 96 which limit the length of vessels that are allowed to operate with pots in the state waters of Kodiak, Chignik and the South Peninsula state management areas during the open federal fishery for p. cod. I can see no justification to kick out vessels that are over 60' from the South Peninsula area and part of the Chignik area, or vessels that are over 75' from the Kodiak area and part of the Chignik area. I am LLP qualified to fish during the federal fishery in these areas. I have traditionally fished for p. cod with pots during the federal fishery in the state waters of these areas with the F/V Irene H, an 83' vessel. I also harvest p. cod with pots in the state-waters fishery. I am also opposed to the 60 pot limit in the state waters of these areas during the federal fishery. I do not believe that it is possible to efficiently enforce a 60 pot limit in state waters during the federal fishery, and the 60 pot limit is unnecessarily limiting. I do not think that it is cost effective for the state to be spending their limited enforcement funds on enforcing this regulation. I do not object to the existing 60 pot limit during the state waters p. cod pot fishery.

I am the operator of and a partner in the F/V Irene H. I am an Alaskan resident, and I have two sons and one daughter who live and attend school in Kodiak. I employ approximately 4 persons on my vessel. I believe that my fishing business is important to the employment, support businesses, economies and communities where I deliver my product, and where I live. I have been fishing p. cod with pots in the Kodiak area since approximately 1990. My partner and I were some of the very early participants in this fishery. We also were the early advocates of providing a special quota for a special state-waters p. cod pot fishery.

If you do decide to attempt something along these lines, I believe that you should grandfather those of us who have traditionally fished in these areas. Vessels that are LLP qualified for these areas should be permitted to continue to fish in these areas. I believe that an upper limit of 112' is the minimum length that should be considered, and would let traditional vessels continue to fish. I depend on these areas, and it is not reasonable or justifiable to kick me out because I am only 83'. 83' is considered a small vessel by most standards, and I need the opportunity to fish in the areas that are proposed to be closed. There are many vessels that are under 60' and 75' that are not Alaskan residents, and who do not have the history or dependence that many of us have in this fishery.

Sincerely,

Mark Vickstrom
Owner/Operator
F/V Irene H



phone, 907-486-7622
fax machine, 907-486-0418

F/V Ruff & Reddy, Inc.
P.O. Box 69, Kodiak, AK 99615
Tel: 907-486-4289; Fax: 907-486-4092
December 16, 2000

RECEIVED
DEC 18 2000
N.P.F.M.C

Mr. Dan Coffey, Chairman
Alaska Board of Fisheries
Juneau, AK 99802

Re: Proposals 95 and 96 for January, 2001, Board Meeting;
p. cod considerations at the December 21, 2000, Special Board meeting.

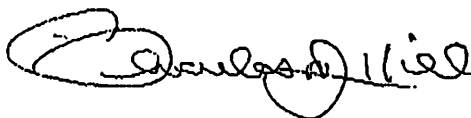
Dear Chairman Coffey,

I am opposed to Proposals 95 and 96, and any other initiatives that restrict the size of Alaskan resident vessels from harvesting p. cod in state waters during the federal fishery for p. cod, or during the "State Waters" p. cod fishery. Proposal 95 proposes to prohibit vessels over 75' LOA from harvesting p. cod in the state waters of the Kodiak, Chignik, Cook Inlet and Prince William Sound state management areas during the federal fishery for p. cod in the Gulf of Alaska. Proposal 96 proposes to impose a similar prohibition on vessels over 60' LOA in the state waters of the Chignik and South Peninsula state management areas during the federal fishery for p. cod.

I own and operate a 90' vessel (F/V Ruff & Reddy) that harvests p cod with pots in state waters in the Kodiak area during the federal fishery. I have been an Alaskan resident since 1974. My crew historically have for the most part been Alaskan residents, and currently are all Alaskan residents who need to support families who primarily live and attend schools in Kodiak. I was one of the first fishermen who developed the pot fishery for p. cod (approximately 1986), and one of the first proponents of the "state waters" concept for putting aside a quota for harvesting cod with pots in state waters. On December 10, 1990, the Anchorage Times did a story on my involvement in the development of the pot fishery for p. cod in the Kodiak area, and wrote that "Combined with Hill's ventures with pots, some are hailing the new allocation as a new method for smaller Alaskan based ships to gain a toehold in an industry dominated by factory trawlers, shore based trawlers, and factory longliners using baited hooks."

My vessel is a small boat by many standards. I have a substantial history harvesting p. cod with pots in state waters, both during the federal fishery, and during the "State Waters" fishery. I do not believe that it is right for the Board to arbitrarily expel me from what for me is a traditional fishery and a traditional area for the benefit of vessels who are less than 70' LOA, many of whom have no history (or only a recent history) of harvesting p. cod with pots in these areas, and many of whom are not Alaskan residents.

Sincerely,



Charles "Jack" Hill
Owner/Operator, F/V Ruff & Reddy

Dan Oliver
F/V Midnite Sun
P.O. Box 2356, Kodiak, AK 99615

December 23, 2000
Mr. Dan Coffey, Chair
Alaska Board Of Fisheries
Juneau, AK 99802-5526

RECEIVED
DEC 26 2000
N.P.F.M.C

Kodiak/Chignik/South Peninsula Proposals 95 & 96/Federal cod fishery restrictions

Mr. Coffey,

I am opposed to proposals 95 & 96. I am not only opposed to the 75' and 60' vessel size limits that are included in these proposals, but also to the 60 pot limit that is also proposed. I am the operator of and partner in the F/V Midnite Sun, which is an 85' vessel that fishes for cod with with pots in the state waters of Kodiak, Chignik and the South Peninsula during the federal fishery. My vessel has pretty much fished in these areas every year since the inception of the pot fishery for cod. These proposals pick arbitrary vessel lengths, and they are discriminatory against a segment of the small vessels that mostly fish out of Alaska. I am LLP qualified in the Central and Western Gulf of Alaska federal fixed gear groundfish fisheries, therefore, I should be allowed to fish in state waters during the federal fishery. An 85' vessel is a small vessel, and has fewer opportunities that many vessels that are under 75' or 60', and certainly fewer opportunities than much larger vessels. For example, although I have a history in the Bering Sea crab fisheries, it is difficult for me to effectively compete unless I get lucky with weather. Why not target the vessels who are not LLP qualified, and who have little or no history? Many vessels that are smaller than the F/V Midnite Sun can carry more product than my 85' vessel, and have similar or greater harvesting power, depending on the design of the vessel, and the operator of the vessel.

My fishing activities provide for 4 crewmen in addition to me. Most of my crew have generally been Alaskan residents. I have a wife and 3 kids who depend on my ability to provide for them. My children go to school in Kodiak. My crewmen and their families are as important as any crewman or family that is associated with a vessel that is less than 75' or 60'.

I think that you should look at the history of the boats that you will expel from the state waters before you kick us out. You should consider giving grandfather rights to those of us with a history. I ask you to realize that many vessels that are less than 75' or 60' do not have the history that I do in the state waters of the South Peninsula, Chignik and Kodiak areas. Why do the proposals discriminate against small vessels that are over 75' in the Kodiak and Chignik areas, and over 60' in the South Peninsula and Chignik areas? Why would the Board want to kick out a vessel with a history and dependence, in favor of vessels who may not have history or dependence, or who may not even be Alaskan residents? What is the justification for the vessel lengths that are used in these proposals? I need the opportunity to fish in state waters during the federal fishery for p. cod, and during the state waters cod fishery also.

Sincerely,



Dan Oliver
Owner/Operator
F/V Midnite Sun

phone 907-486-6924/fax 907-486-6924

**F/V Irene H. Inc.**

Box 813 • Kodiak, Alaska 99615 • CHARLIE JOHNSON
907-486-4320 • 907-486-4445

Dec. 26, 2000

RECEIVED

DEC 27 2000

N.P.F.M.C

North Pacific Fishery Management Council

Proposals 95 and 96 to restrict the size of vessels in the federal fishery for p. cod with pots

Dear Mr. Sirs,

I respectfully request that you reject Proposals 95 and 96. I do not want to be excluded from a fishery and an area in which I have an historical presence with my vessels, and which I helped develop. I also believe that the 60 pot limit is too restrictive during the federal fishery, and that the state should be using their enforcement dollars to catch illegal activities that threaten the resource, and that break other more important regulations. I am the owner and operator of two vessels (F/V Irene H. 83', and the F/V Midnite Sun, 85') that have harvested pacific cod with pots during the federal groundfish fishery in the state waters of Kodiak, Chignik and the South Peninsula. I also harvest cod with pots during the state waters cod fishery, and I helped promote the establishment of that fishery. My 83' and 85' vessels are small vessels, and we need as many opportunities as we can to continue our traditional business. We have been using these vessels to harvest pacific cod with pots since the late 1980's. Vessels in this length class up to approximately 115' have been very important to the communities, economies, businesses and employment of Kodiak, and the other coastal communities in western Alaska. I ask you to consider that there are several vessels that are 58' that pack as much or more product than my 83' and 85' vessels, therefore, why not eliminate them also? Why is a vessel that is less than 75' or 60' any more important than a vessel that is larger than 75' or 60'?

I am LLP qualified to fish during the federal fishery in these areas. I do not think that it is justified to eliminate pot vessels over 75' and over 60' who are LLP qualified to fish during the federal fishery. Possibly, the Board should look at eliminating vessels that are not LLP qualified during the federal cod fishery. Vessels that are LLP qualified for these areas should be permitted to continue to fish in these areas during the federal fishery and during the state waters fishery. Possibly, the Board should look at grandfathering in vessels that have traditionally fished in these areas. My business depends on these areas, and I do not think that it is fair to prohibit me from fishing with my small vessels in favor of other small vessels who may not be LLP qualified, who carry as much or more product, who might not be state residents, or who have little or no history or past dependence in these areas.

Sincerely,
Charles Johnson
Owner/Operator
F/V Irene H. and the F/V Midnite Sun