AGENDA B-7
OCTOBER 2004

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver
Executive Director

ESTIMATED TIME
2 HOURS

DATE: September 28, 2004

SUBJECT: Protected Resources

ACTION REQUIRED

Receive staff report on Protected Resources issues and take action as necessary.

BACKGROUND

At its June 2004 meeting, the Council requested staff to prepare a Protected Resources report for review at the October meeting. The Council expressed particular interest in receiving an update from NMFS on the agency's plans for reinitiating consultation under the Endangered Species Act on groundfish fishery interactions with Steller sea lions. This and other PR issues are discussed in this report.

The following are brief summaries of Protected Resources issues of possible interest to the Council:

A. New faces

Dr. Tom Loughlin, long-time senior marine mammal research scientist with the National Marine Mammal Laboratory (NMML) has retired. During his long tenure with NMFS, Tom was well known for his extensive research and publications on fur seals and sea lions, and was most recently Program Leader for NMML's Alaska Ecosystems Program. Perhaps as one of his last "official" duties, although he's doing this on his own, Tom gave the opening Plenary Session address at the recent Lowell Wakefield Symposium on Sea Lions of the World.

Taking Tom's place at NMML will be Dr. Tom Gelatt, previously a marine mammal scientist with the Alaska Dept. of Fish & Game, where he was Program Leader for the department's Steller sea lion research efforts. Dr. Gelatt will now direct NMML's research programs that involve otariids.

Dr. Sue Moore has left her position as Director of NMML. Taking her place as Director is Dr. John Bengtson. John has been with NMML for many years, working with marine mammals across the world, most recently on Alaskan coastal marine mammals, particularly harbor seals.

Shane Capron with NMFS Office of Protected Resources is taking a six-month temporary detail to work out of NMFS' Portland, Oregon office with endangered salmon in the Columbia River. Temporarily taking

Shane's place during this time period is Dr. Sharon Melin, a scientist who has been working with sea lions at NMML.

Dr. Lorrie Rea, ADF&G sea lion biologist, has taken a position with ADF&G as Program Leader for the department's Steller sea lion research program. Lorrie will work out of an office and laboratory on the University of Alaska Fairbanks campus.

And Dr. Peter Boveng at NMML will assume the position of Program Leader of NMML's Polar Ecosystems Program where he will work on harbor seals and other phocids. Peter has assumed the position vacated by John Bengtson who is now NMML Director.

B. Northern sea otter

The southwest Alaska Distinct Population Segment (DPS or "stock") of northern sea otter (*Enhydra lutris*) has been proposed by the U.S. Fish & Wildlife Service (USFWS) for listing under the Endangered Species Act (ESA). The USFWS, the agency responsible for sea otter management, has observed a steady decline in abundance of this stock. The reasons for the decline are unknown, but population studies suggest that adult mortality appears to be a major source. The USFWS published a Proposed Rule on Feb. 11, 2004 (69 FR 6600) to list this sea otter stock as threatened under the ESA. At its June 2004 meeting, the Council discussed whether to submit comments on the Proposed Rule, and decided to submit a letter on June 10, 2004.

Since June, the listing process has continued, but the USFWS has not made a final decision. The agency is in the process of preparing the Final Rule, however, and included in that rule will be the comments received and the agency's response to these comments. Their goal is to have the Final Rule published on approximately February 11, 2005, one year from publication of the Proposed Rule.

The Final Rule could be one of the following:

1. A determination that insufficient information exists to warrant listing this stock at this time,
2. A determination to list the stock as threatened, or
3. A determination to list the stock as endangered.

If listed, the agency would begin work on a Recovery Plan and likely would appoint a Recovery Team to help prepare the Recovery Plan.

Designation of critical habitat for this sea otter stock would be a separate process. The agency recognized in their Proposed Rule that insufficient information exists with which to determine what features comprise CH for this stock at this time. The agency will continue to collect information on CH, conduct an economic analysis of the impacts of designating CH, and then make a proposal.

Alaska groundfish fisheries currently are not known to adversely interact with or impact this sea otter stock through either spatial or temporal overlap with sea otter distribution or through the harvest of fish or shellfish species that are important in sea otter diets. In 1992 some sea otters were taken in the Aleutian Islands sablefish pot fishery and one sea otter was reportedly taken in a trawl in 1997 in the BSAI, but no 'takes" have been reported in Alaskan groundfish fisheries since then, according to the latest sea otter stock assessment (Angliss and Lodge 2003).

Attached as Item B-7(a) is a map showing the distribution of the southwest Alaska sea otter stock, the Council letter dated June 10, 2004 commenting on the Proposed Rule to list the sea otter as threatened, and

the most recent sea otter stock assessment from Angliss and Lodge (2003). Additional information on the listing process is in Council notebooks under Item B-6.

C. Seabirds

The following are brief summaries of several seabird issues prepared by Kim Rivera. Paul MacGregor and Thorn Smith are here to help with these presentations.

(1) Update on short-tailed albatross movement studies

Satellite tracking studies of the short-tailed albatross (*Phoebastria albatrus*) have been conducted annually for the past several years; no tracking work was accomplished in 2004. An update report that briefly summarizes the data compiled to date is provided in the attached Item B-7(b). This seabird breeds on several small islands off the coast of Japan, mostly on Torishima Island. Juvenile birds equipped with satellite tags move northeast fairly quickly, foraging primarily along the continental shelf edge and slope throughout the Alaskan EEZ, but especially in the Bering Sea and AI areas. Batteries on these tags have a limited life, and data from about mid summer and beyond are very limited. Future studies will likely focus on birds tagged at sea and tracked throu the summer and fall. Also largely unknown are the winter movements of this seabird and the movement of breeding birds (October through May).

(2) Short-tailed Albatross Recovery Team meeting, May 2004, Chiba, Japan

The U.S. Fish & Wildlife Service's (USFWS) Short-tailed Albatross Recovery Team (START) met for the second time in May 2004. Two key objectives of this meeting were to develop recovery and reclassification (endangered to threatened) criteria for the species and to list and prioritize recovery tasks. Both objectives were accomplished as well as finalizing comments on a draft recovery plan. The highest priority recovery tasks included continued population monitoring and habitat enhancement at the primary colony on Torishima Island and establishment of new colonies at non-volcanic sites. Fishery-related interactions and bycatch reduction was in the Top 10 List of recovery tasks. Discussions included how best to use allocated recovery funds. The START team leader is Greg Balogh, USFWS. Team members from Alaska fisheries include: Ed Melvin, Washington Sea Grant Program; Kim Rivera, NOAA Fisheries; and Thorn Smith, North Pacific Longline Association. A final recovery plan should be available in late 2004 or early 2005.

(3) Third International Albatross and Petrel Conference, August 2004, Montevideo, Uruguay

The First International Albatross and Petrel Conference was held in 1995 to address growing concerns about the incidental mortality of albatrosses and petrels in longline fisheries. The conference continues to address this issue. The 3rd conference was attended by participants from every continent and presentations and posters reported on the latest research and information in the fields of: population status and trends, population dynamics, molecular ecology and systematics, general biology and behavior, feeding ecology and foraging area, incidental mortality and mitigation, and conservation policies and international initiatives. A START Workshop was held in conjunction with the conference and discussion primarily focused on translocation methods to move chicks/fledglings from a natal site to a new colony location. NOAA Fisheries sponsored a workshop held by Dr. Rebecca Lewison, Duke University, "Quantifying Seabird Bycatch: A Global Perspective". The work on seabird bycatch reduction in the Alaska fisheries was well-represented in posters and presentations by several Alaska and Washington participants.

(4) Seabird/trawl fishery interactions

Efforts are currently underway to address seabird interactions with trawl fisheries. A September 2003 Biological Opinion issued by the USFWS identified this issue as needing additional study. The Biological Opinion requires NMFS to develop a means to assess these interactions and recommends that we investigate methods to minimize these trawl 3rd wire/bird collisions. Cooperative research with the trawl industry to develop and test seabird mitigation measures has been initiated by Washington Sea Grant Program and the Pollock Conservation Cooperative. NMFS/AFSC has recently published a NOAA Technical Memorandum (NMFS-AFSC-147), "Electronic monitoring of seabird interactions with trawl third-wire cables on trawl vessels-a pilot study" reporting on a study that NMFS contracted with Archipelago Marine Research, Ltd., to determine if electronic monitoring technology provided a feasible means to monitor seabird interactions with the trawl 3rd wire apparatus. Results indicate that electronic monitoring is a useful tool for detecting the presence, abundance, and general behavior of seabirds during most daylight hours, and could detect third-wire entanglements, although it was not possible to detect the cause for the entangelments. The usefulness of this tool could be improved through several tandem deployments of electronic monitoring systems and direct observer monitoring. Potentially, electronic monitoring could also be used to monitor the effectiveness of seabird mitigation measures. Additional information can be obtained from Shannon Fitzgerald at the Alaska Fisheries Science Center (shannon.fitzgerald@noaa.gov).

[In 2004, the Alaska Fisheries Science Center extended the stationary brid survey described below under "small boat seabird mitigation" to the triennial groundfish trawl survey to gather additional information on seabird interactions with trawl gear.]

(5) Integrated Weight Groundline research

This experimental work has been postponed until 2005 when cooperating vessels may be available. At its June 2004 meeting, the Council approved granting an Exempted Fishing Permit to the Washington Sea Grant Program to conduct this work. Tests would evaluate the efficacy of integrated weight groundlines (50g/m) at reducing seabird incidental take. IW line sinks gear more rapidly and may provide an effective deterrent to seabird interactions with baited hooks.

(6) 'Small boat' seabird mitigation

When the Council took final action on revisions to the seabird avoidance regulations, it recognized that additional work was required to fine tune the requirements for vessels under 55 ft LOA. The USFWS has contracted with the University of Alaska's Marine Advisory Program for a project that is addressing mitigation methods on small boats. Additionally, the WSGP initiated stationary seabird surveys on existing longline research survey cruises with IPHC, ADF&G, and NMFS to determine the distribution of seabirds on the fishing grounds. Results from 200 are available in a WSGP report, "The Distribution of Seabirds on Alaskan Longline Fishing Grounds: 2002 Data Report" available at http://www.wsg.washington.edu/outreach/mas/fisheries/datareport.pdf. The stationary seabird surveys have now been expanded to the NMFS trawl surveys. The report referenced here was provided in a recent Council mailing.

(7) World Wildlife Fund's Russian Far East Program to address seabird bycatch in Russia longline fisheries

In June 2004, Ed Melvin and Mark Lundsten were invited by WWF to participate in a workshop held in Vladivostok and Petropavlovsk-Kamchatsky to share information with Russian government and longline industry representatives on Alaska's successful cooperative efforts to develop and use effective seabird avoidance measures (i.e. paired streamer lines). One of the biggest longlining companies was represented (AKROS) and has agreed to work with WWF and WSGP scientists to test the paired streamer lines and

integrated weight groundline. USFWS sponsored the participation of the US experts as well as donating streamer lines. Short-tailed albatross recovery efforts include outreach to other North Pacific longline fishing nations to address the seabird bycatch issue. We recently learned of a confirmed take of a short-tailed albatross by a Russian longliner.

Attachment: Item B-7(b) provides a summary report from the Short-tailed Albatross Recovery Team on their May 2004 meeting in Japan; the announcement for the Third International Albatross and Petrel Conference held in Montevideo, Uruguay; a summary report from Thorn Smith on the Montevideo conference; and an editorial in Pacific Fishing by Mark Lundsten on the issue of Russian fishery interactions with and potential take of short-tailed albatross.

D. North Pacific right whale

During a 2004 cetacean research cruise in the North Pacific, scientists from the National Marine Mammal Laboratory observed and then approached on a small inflatable two North Pacific right whales (*Eubalaena japonica*) in the east-central Bering Sea. Satellite tags were placed on these animals, and for the first time North Pacific right whales were tracked using this technology. Additional information on the tracking work, and a map showing the results of this 2004 tracking effort, are attached as Item B-7(c). Almost all sightings of this endangered whale in Alaskan waters has been in "the box"; these cumulative sightings are shown on the attached map (Item B-7(c)).

E. Northern fur seal

(1) Draft EIS on renewing fur seal subsistence harvest regulations

The northern fur seal (*Callorhinus ursinus*) inhabits in the North Pacific Ocean and occupies the Pribilof Islands and Bogoslof Island during the summer/fall breeding season. The fur seal is harvested by subsistence hunters of the Aleut communities of St. Paul and St. George on the Pribilofs, and this subsistence harvest is managed cooperatively between NMFS and the Tribal Governments of St. Paul and St. George.

At its June 2003 meeting, the Council was informed that NMFS planned to prepare a draft Environmental Impact Statement on renewing the subsistence harvest regulations for the fur seal harvest on the Pribilof Islands. NMFS indicated that an EIS would be required as opposed to an Environmental Assessment because of the potential cumulative effects of the subsistence harvest combined with the finding in the Steller sea lion protection measures EIS that groundfish fisheries may have conditionally significant adverse effects on fur seals. In June, the Council appointed a Fur Seal Committee to monitor preparation of the dEIS and to provide information to NMFS regarding fishery management issues that would be included in the dEIS, and to report back to the Council on the content of the dEIS and any recommendations for further Council action.

The dEIS was released for public review on August 20, 2004. The comment period ends on October 19. The Council's Fur Seal Committee met on September 29 to discuss the dEIS and to prepare comments for Council consideration at its October meeting. The minutes of the Fur Seal Committee's meeting announcement and agenda is Item B-7(d). The Fur Seal Committee meeting minutes are available as B-7 (Supplemental).

(2) Status report on northern fur seals of the North Pacific Ocean

Attached as Item B-7(e) is a summary of information on northern fur seals, including a brief review of fur seal distribution in the North Pacific, population size and trends over the past several decades, an update on the fur seal surveys completed this past summer, information from telemetry studies that illustrate fur seal foraging patterns in the Bering Sea, diet information, and an update on an ongoing study that compares fur

seals on St. Paul Island (where the population is declining) and Bogoslof Island (where that population is increasing). Item B-7(e) also includes an August 17 press release announcing the male fur seal counts and a NMFS memo dated September 2 on the 2004 fur seal pup counts.

The 2004 count data were obtained from only St. Paul and St. George Islands. These data show that pup production on St. Paul is down 15.7% since 2002 and on St. George is down 4.1% since 2002. These data indicate the recent downward trends are continuing on the Pribilof Islands, with overall pup production on both islands combined declining at a rate of 6.2% per year since 1998. Territorial adult males with females increased slightly on St. George but continued to decline on St. Paul, at a rate of about 5% since 2003. Idle male counts show a 33.6% decline since 2003 on St. Paul and a 21.8% decline since 2003 on St. George. Combined male fur seal abundance on both islands had declined 23.8% since 2003. (Females spend large amounts of time at sea during the breeding season, and thus female counts are not considered reliable.) The tables below summarize count data for recent years. A press release dated August 17 summarizing the male fur seal count data, and a NMFS memo from Rod Towell summarizing the 2004 pup count data, are part of Item B-7(e).

Table 1 Number of harem (class 3) and idle male (classes 2 and 5, combined) northern fur seals counted in mid-July, Pribilof Islands, Alaska, 1993-2004.

Year	St. Paul		St. George		Total	
	Harem	Idle	Harem	Idle	Harem	Idle
1993	6,405	9,301	1,123	1,422	7,528	10,723
1994	5,715	10,014	1,174	1,590	6,889	11,436
1995	5,154	8,459	1,242	1,054	6,396	9,513
1996	5,643	9,239	1,248	790	6,891	10,029
1997	5,064	8,560	910	1,503	5,974	10,063
1998	4,718	8,280	1,113	1,081	5,831	9,361
1999	3,801	7,589	1,052	916	4,819	8,505
2000	3,646	6,998	869	1,295	4,515	8,293
2001	3,388	7,174	779	1,477	4,167	8,651
2002	3,669	7,877	899	1,265	4,568	9,142
2003	3,652	7,572	716	1,158	4,368	8,730
2004	3,286	5,027	760	905	4,046	5,932

Table 2 Estimated numbers of northern fur seal pups born on St. Paul, St. George and Bogoslof Islands, Alaska, from 1992-2004

Year	St. Paul	St. George	Bogoslof
1992	182,437	25,160	
1993			898
1994	192,104	22,244	1,472
1995			1,272
1996	170,125	27,385	
1997			5,096
1998	179,149	22,090	
1999			
2000	158,763	20,176	
2001			
2002	145,716	17,593	
2003			
2004	122,803	16,876	

F. 2004 Steller sea lion survey

In cooperation with the National Marine Mammal Laboratory, the NMFS Southwest Fisheries Science Center conducted an aerial survey of the western stock of Steller sea lions (wSSL) (*Eumetopias jubatus*) during June 2004. This survey utilized aerial photography as a tool for documenting sea lion occurrence on rookeries and haulouts; the scientists used a larger format camera system this year with a vertical photography aspect. In previous years NMFS has used smaller format camera equipment and oblique photographic techniques. Both techniques were used ~~this year~~ 2002+03 in order to compare the resolution between the two procedures.

Bill Wilson corrected in his rpt.

SSL counts for 2004 indicate a continued increase in abundance of the wSSL. Total counts at trend sites in 2004 are about 6-7% higher than the last survey in 2002. NMFS notes that this increase is similar to the increase in wSSL abundance observed over the period 2000 to 2002, marking a second consecutive trend site count increase. However, in the 2004 count data, the three Aleutian Islands subareas all show increases, which was not the case in the 2002 data. From 2000 to 2002 overall SSL counts showed an increase, but in the western AI subarea non-pups declined 23.7%. The western AI subarea non-pup counts from 2002 to 2004 increased 10.1%. In the eastern portion of the wSSL range, the 2004 data show a near stable population near Prince William Sound or a slight decrease in abundance around Kodiak Island.

Item B-7(f) includes a press release from NMFS on the SSL and fur seal counts for 2004 and a NMFS memorandum from Lowell Fritz with more detailed data on the 2004 SSL counts.

G. Steller Sea Lion Recovery Team

The Steller Sea Lion Recovery Team (SSLRT) met in Homer September 14-16, 2004 to continue their work on preparation of a Recovery Plan for both the eastern and the western stocks of Steller sea lion. During this

most recent meeting, the SSLRT reviewed recent results from the NMFS fishery interaction studies (Atka mackerel, Pacific cod, and pollock), discussed the draft "threats table" which will form an integral part of the Team's likely recommendations for SSL recovery, and outlined remaining tasks which include reviewing results from a contracted population viability analysis and developing specific recovery criteria. The Team plans to meet during the week of November 8 to continue work, with a goal of drafting the Recovery Plan by early 2005. The Team will have its draft plan peer reviewed, and then will finalize the Plan and submit it to NMFS. A draft Table of Contents of the Recovery Plan is provided as Item B-7(g).

H. Steller sea lion research program of the Aleutians East Borough

The Aleutians East Borough (AEB) has received a grant from Congress to conduct a three-year study of Steller sea lions in the Shumagin Islands area of the Gulf of Alaska. The objective of this study is to gather data on the seasonal distribution and abundance of sea lions in this subarea of the GOA and to examine sea lion diets through analysis of scat samples. Beth Stewart from the AEB will be available to answer questions and provide the Council with additional information on this study. A brief summary report from the AEB study is attached as Item B-7(h).

I. Update on changes to SSL protection measures in the GOA

At its June 2004 meeting, the Council approved several changes to SSL regulations which affect the pollock and Pacific cod fisheries in the GOA. These changes maintain protection for SSLs yet provide some economic relief to Gulf communities. Changes approved by the Council are to (a) relax the pollock trawl fishing closure around the Puale Bay wSSL haulout and increase the closed area around the Cape Douglas haulout, (b) relax the P. cod pot fishing closure around the Kak Island wSSL haulout, (c) relax the P. cod pot fishing closure around the Castle Rock wSSL haulout, (d) remove the 2-week stand-down periods between the A and B and the C and D seasons in the GOA pollock trawl fishery, and (e) change the method for rolling over unharvested pollock TAC in the Western/Central Regulatory Areas in the GOA pollock trawl fishery. The Federal Register Proposed Rule was published September 21, 2004 and is attached as Item B-7(i).

J. Lowell Wakefield Symposium on Sea Lions of the World

The Alaska Sea Grant Program recently convened an international conference focusing on sea lions. Approximately 140 oral and poster papers were presented at this conference held at the Marriott Hotel in Anchorage, September 30-October 3, 2004. Proceedings of this symposium will be published by Alaska Sea Grant and should be available in approximately one year. A list of the papers presented in this 2004 symposium is provided as Item B-7(j). Alaskan SSL scientists presented a large number of papers, showcasing recent research results.

K. Compendium of literature supporting the SSL BiOps and new SSL research

At its April 2004 meeting, the Council asked staff to assemble copies of abstracts of scientific papers and reports that formed the basis for: (a) the 2000 FMP-level Biological Opinion on groundfish fishery interactions with Steller sea lions, (b) the 2001 BiOp and its 2003 Supplement on SSL protection measures for the Atka mackerel, Pacific cod, and pollock fisheries, and (c) research on Steller sea lions conducted since the above BiOps were prepared. Staff have worked on this request intermittently since April, and have compiled the requested materials. We propose to prepare three volumes, each with an index, containing abstracts in the above three categories. The compendium is rather large in size, and Council direction is requested on what form to publish the Compendium might be preferred and to whom this should be distributed. Staff are available to discuss this further and to answer questions.

L. List of Fisheries for 2005

Under Section 118 of the Marine Mammal Protection Act (MMPA), NMFS must place all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery (16 U.S.C. 1387(c)(1)). The categorization of a fishery on the List of Fisheries determines whether participants in that fishery may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements. NMFS annually reviews the List, considers new information on fishery interactions with marine mammals, and then publishes in the Federal Register any necessary changes to the List after opportunity for public comment. The criteria used to place fisheries into categories is provided as Item B-7(k).

NMFS is considering changes in the List of Fisheries that may affect certain Alaskan commercial fisheries. NMFS staff are available to provide the Council with more information on the proposed List of Fisheries for 2005.

M. Future consultation on Alaskan groundfish fishery interactions with Steller sea lions

In a letter to the Council dated September 24, 2004, NMFS outlined the agency's plans for future consultations on groundfish fishery interactions with Steller sea lions. At this time the agency does not have a schedule for reinitiating ESA Section 7 consultations at either an FMP level or a fishery-specific level. NMFS intends to wait until the results of new research on SSL interactions with fisheries is available and the SSL Recovery Plan has been completed. Similarly, NMFS does not plan to address the issue of designation of SSL critical habitat until the SSL Recovery Plan is available. The agency's September 24 letter on this issue is attached as Item B-7(l). NMFS staff will be available to answer questions.

N. Steller Sea Lion Mitigation Committee report

A report from the Council's Steller Sea Lion Mitigation Committee is attached as Item B-7(m). The prinicpal issues in that report are summarized below (Background material to that report is available separately).

(1) Development of an Aleut Corporation proposal for changes in AI SSL protection measures

At its June 2004 meeting, the Council tasked its Steller Sea Lion Mitigation Committee (SSLMC) to work with industry and NMFS to develop a proposal for changing SSL protection measures in the Aleutian Islands so that the small vessels that will participate in the newly-approved AI pollock fishery may operate more safely. The Council's mandate was to explore possible SSL regulatory changes without triggering the need for formal ESA consultation. The SSLMC has met twice, on July 19-20 and September 8-9, and has worked with the Aleut Enterprise Corporation (AEC) on a proposal to relax SSL closed areas in two areas near Adak. However, the Committee has been unable to develop a proposal without requiring formal consultation with NMFS under the Endangered Species Act. NMFS Protected Resources Division reviewed the original AEC proposal and a modified AEC proposal, and indicated that if implemented, the proposed SSL regulatory changes would result in a finding of "likely to adversely affect" the wSSL, and thus to further pursue this proposal, the agency would have to open formal consultation. During its work, the SSLMC received from NMFS the quidelines the agency uses to determine if formal consultation is required. These guidelines, included in Item B-7(m), describe the criteria used by NMFS to determine "likely to adversely affect".

Since the Council has given specific instructions to the SSLMC not to pursue a proposal that would trigger formal consultation, the Committee has ended its work for now. The SSLMC developed the following statement on this issue at its September 8-9 meeting:

> 9 Sept 2004:
>
> Proposal: The SSL MC believes that development of an AI pollock fishery in CH for the wSSL cannot occur without formal consultation. For the SSL MC to continue to work on the proposal, the Council would have to change the Committee's Terms of Reference. The SSL MC recognizes that there are concerns regarding the consequences of formal consultation. Therefore, the Council should request guidance from NOAA General Counsel concerning potential legal risks of this strategy.
>
> If it is the Council's desire to change the SSL MC's Terms of Reference, the Committee suggests the following possible process:
> 1) SSL MC reports back to the Council at the Dec. or Feb. Council meeting with its recommendations,
> 2) in the interim the SSL MC will work with NMFS PR and SF staff to craft a proposal that is acceptable and is unlikely to result in jeopardy or adverse modification of CH (pending formal consultation),
> 3) as part of the above process the SSL MC would agree to maintain a narrow focus in developing a pollock fishery within 100 nm of Adak that would only consider changes to pollock fishing in the AI,
> 4) once the SSL MC reports to the Council, the Council could decide to reject the proposal, modify it, or move it forward as a proposed action,
> 5) following initial review of the proposal and if the Council decides to move the proposal forward, NMFS would initiate a formal consultation,
> 6) following the conclusion of the formal consultation and accompanying decisions, the Council would take final action.

Larry Cotter noted on this

(2) VMS issues

At its June 2004 meeting, the Council asked the SSLMC to review concerns that have been expressed by fishermen regarding the requirement to use VMS equipment when operating Federally-licensed fishing vessels or fishing for species other than the three fisheries where VMS equipment is required - fisheries for Atka mackerel, P. cod, or pollock. The SSLMC investigated this issue during its July and September meetings, and collected data from NMFS to better understand the problems being voiced by industry. Industry's principal concern is the requirement that Federally-licensed and endorsed vessels must operate VMS equipment when not involved in the three fisheries that must comply with SSL closed area restrictions (Atka mackerel, Pacific cod, and pollock). The SSLMC believes that VMS was intended to be a tool to more closely monitor vessel activity near SSL critical habitat and not as a tool to monitor vessels engaged in other fishing activities. The SSLMC believes that, if NMFS and the Council wish to expand the use of VMS for purposes other than compliance with SSL protection measures, the Council should debate this issue directly and then take appropriate action. The SSLMC report has been provided to the Council's Enforcement Committee at this meeting.

(3) New trade-off tool

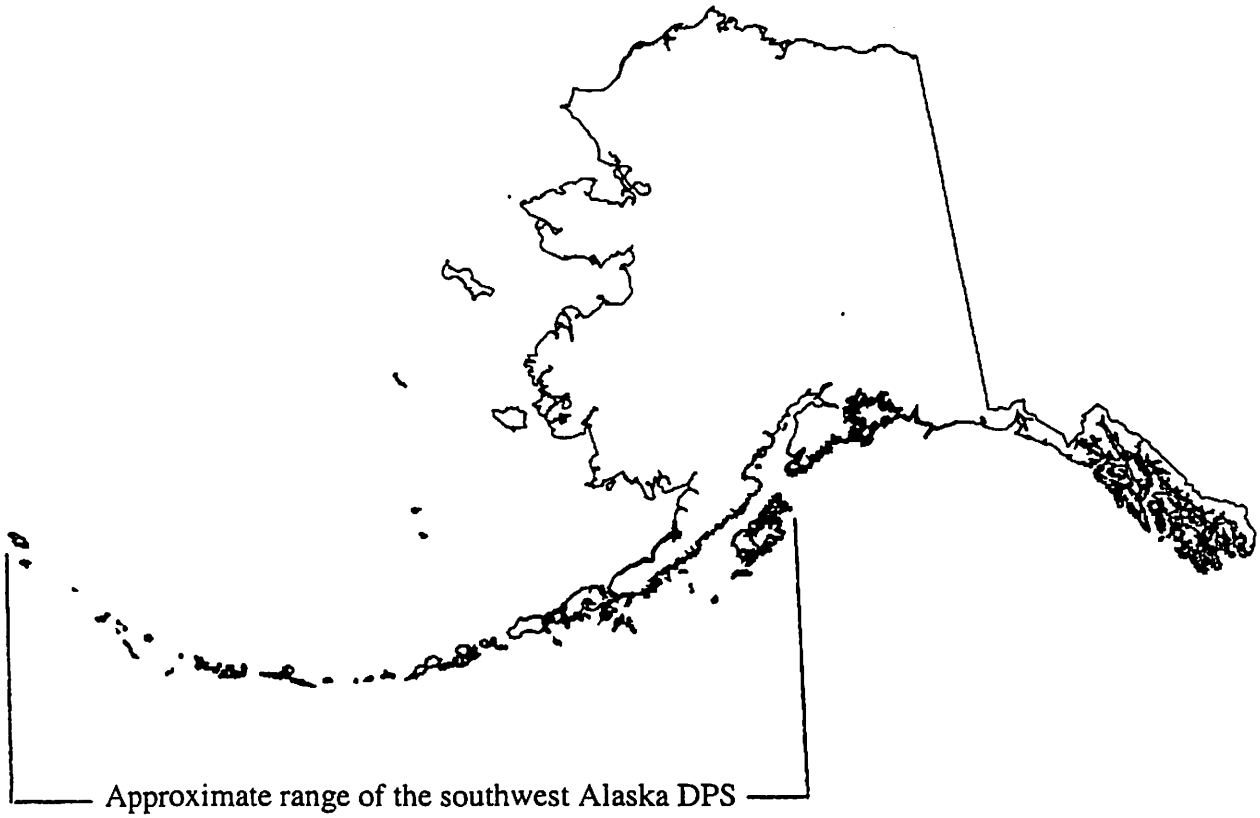
The SSLMC has been working to develop a new trade-off tool for evaluating proposals for changes in SSL protection measures. This tool, termed BUMP II, was initially reviewed by the Council's SSC in June 2004. The SSC expressed support for its continued development, but with some caveats. The SSLMC has

continued to work on the tool, and would like to develop it further, primarily by staff at the Alaska Fisheries Science Center. Additional information on this effort is in the SSLMC meeting minutes (Item B-7(m)).

(4) Possible new proposals

At the SSLMC meeting in September 2004, members of industry reported on several new ideas they intend to bring to the Council in the near future. These include changing the start date for the BSAI pollock fishery and possible alternative ways of "funding" the upcoming AI pollock fishery TAC.

Distribution of the northern sea otter in Alaska.



June 10, 2004

Supervisor
U.S. Fish and Wildlife Service
Marine Mammals Management Office
1011 East Tudor Road
Anchorage, AK 99503

RE: Federal Register Notice of Proposed Rulemaking in 50 CFR 17: Proposed listing of the southwest Alaska distinct population segment of the northern sea otter as threatened under the Endangered Species Act

Dear Supervisor:

The North Pacific Fishery Management Council, in partnership with the National Marine Fisheries Service, is responsible for management of the marine fishery resources harvested in the Exclusive Economic Zone (EEZ: 3-200 n mi) offshore of Alaska. The proposed Endangered Species Act listing of the southwest Alaska distinct population segment (DPS) of northern sea otter as threatened raises several issues that concern the Council. Of most concern is the potential increased regulatory burden that might be imposed on fishery management from future regulatory actions taken by the USFWS as a result of any listing, particularly regarding designation of critical habitat for this DPS. The Council asks that the USFWS consider the following.

1. The stated basis for the proposed listing includes consideration of the magnitude of the sea otter decline in a portion of the proposed DPS' range, and limited genetic stock identification data collected in various parts of the range of this species in Alaska and in other areas of the north Pacific. These data suggest that there is high variability in the rate of decline in various regions, and these declines do not appear to align well with the proposed geographic boundary of this DPS. The genetic data suggest some population differentiation, but according to the scientists who collected the genetic data cited in support of the boundary of this DPS, the data do not appear to be sufficient to warrant separation of the sea otter into a southwest Alaska DPS (Cronin et al. 2002). Given the equivocal nature of the data the USFWS will use to justify the existence of the DPS, the Council questions the validity of the geographic definition of this DPS and thus also questions the efficacy of an ESA listing until more data are available. More definitive data should be available prior to a decision of this magnitude (the importance of a sound scientific basis for natural resource management decision-making is one of the primary recommendations from the President's U.S. Commission on Ocean Policy).

2. The Council understands that an ESA listing of this proposed DPS would require certain State and Federal agencies, municipalities, and other organizations to consult with the USFWS regarding Federal actions that might be proposed, or are currently ongoing, in the Critical Habitat for this DPS (in the event Critical Habitat is designated), potentially imposing considerable regulatory and administrative burdens. Yet the stated reason for much, if not most, of the sea otter decline appears to be killer whale predation. It does not seem logical to impose likely ESA listing regulatory burdens when the recognized source of the decline is natural and beyond the control of agencies or other entities; i.e. any human actions that an ESA listing may mandate cannot stop killer whale predation, so why use the ESA as the vehicle for stemming this decline? The geographic definition of the proposed DPS does not comport with the areas of significant decline (west of Castle Cape); perhaps if killer whale predation is the primary cause, this may reflect the predator's foraging range and not define a DPS.
3. Regardless of the USFWS action on this issue, the Council believes that the great majority of crab, scallop, and groundfish fisheries managed by the North Pacific Fishery Management Council have not in the past, and currently do not, overlap geographically with sea otters in Alaska and thus do not injure or cause mortality to sea otters in Alaska. The Council also believes that these fisheries do not harvest marine species that are utilized as prey by sea otters; in fact, the Federal Register notice recognizes that sea otter declines are likely the result of increased adult mortality from predation and not the result of nutritional, disease, or pollution concerns (Estes et al. 1998). The Council believes that the fisheries it manages do not jeopardize the continued existence of the sea otter. The Council requests that the USFWS recognize the minimal interaction Council-managed fisheries may have with the proposed sea otter DPS.

The Council looks forward to further discussions on this issue with the USFWS. Thank you for the opportunity to comment on this proposed action.

Sincerely,

Stephanie Madsen
Chair, North Pacific Fishery Management Council

cc: Anthony DeGange, USFWS

NOAA Technical Memorandum NMFS-AFSC-144

Alaska Marine Mammal Stock Assessments, 2003

by
R. P. Angliss and K. L. Lodge

with contributions from
R. Hobbs, T. Loughlin, S. Moore, M. Perez, D. Rugh, J. Sease, K. Shelden, A. York,
and the Publications Unit of the Alaska Fisheries Science Center.

Alaska Fisheries Science Center
National Marine Mammal Laboratory
7600 Sand Point Way N.E.
Seattle, WA 98115

U.S. DEPARTMENT OF COMMERCE
Donald L. Evans, Secretary
National Oceanic and Atmospheric Administration
Vice Admiral Conrad C. Lautenbacher, Jr., U.S. Navy (ret.), Under Secretary and Administrator
National Marine Fisheries Service
William T. Hogarth, Assistant Administrator for Fisheries

August 2004

SEA OTTER (*Enhydra lutris*): Southwest Alaska Stock

STOCK DEFINITION AND GEOGRAPHIC RANGE

Sea otters occur in nearshore coastal waters of the U.S. along the North Pacific Rim from the Aleutian Islands to California. The species is most commonly observed within the 40 m depth contour since animals require frequent access to foraging habitat in subtidal and intertidal zones (Reidman and Estes 1990). Sea otters in Alaska are not migratory and generally do not disperse over long distances, although movements of tens of kilometers are normal (Garshelis and Garshelis 1984). Individuals are capable of long distance movements of >100 km (Garshelis *et al.* 1984), however movements of sea otters are likely limited by geographic barriers, high energy requirements of animals, and social behavior.

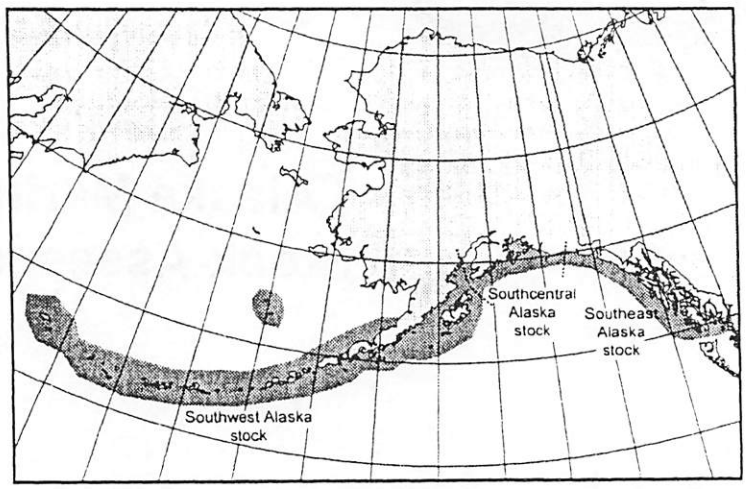


Figure 1. Approximate distribution of sea otters in Alaska waters (shaded area).

Applying the phylogeographic approach of Dizon *et al.* (1992), Gorbics and Bodkin (2001) identified three sea otter stocks in Alaska: southeast, southcentral,and southwest. The ranges of these stocks are defined as follows: (1) Southeast stock extends from Dixon Entrance to Cape Yakataga; (2) Southcentral stock extends from Cape Yakataga to Cook Inlet including Prince William Sound, the Kenai peninsula coast, and Kachemak Bay; and (3) Southwest stock which includes Alaska Peninsula and Bristol Bay coasts, the Aleutian, Barren, Kodiak, and Pribilo Islands (Fig. 1). The phylogeographic approach of stock identification, which considers four types of data, is presented in greater detail below.

1) Distributional data: geographic distribution is continuous from Kachemak Bay to Cape Suckling, at which point 125 miles of vacant coastal habitat between Cape Suckling and Yakutat Bay separates the southeast and southcentral Alaska stocks (Doroff and Gorbics 1998). Sea otters in Yakutat Bay and southeast Alaska are the result of a translocation of 412 animals from Prince William Sound and Amchitka in the late 1960s (Pitcher 1989; Reidman and Estes 1990). Prior to translocation, sea otters had been absent from these habitats since the beginning of the 20th century. Distribution is nearly continuous from Attu Island in the western Aleutians to the Alaska Peninsula, although distances of >200 km between island groups in the Aleutians may effectively limit exchange of individuals. Sea otters do not occur in upper Cook Inlet, and population densities are currently low between the Kenai peninsula and the Alaska Peninsula, which suggests discontinuity in distribution at the stock boundary. Physical features that may limit movements of otters between the Kenai and Alaska peninsulas include approximately 100 km of open water across Cook Inlet with a maximum water depth of 100 m, and 70 km of open water between the Kenai Peninsula and the Kodiak Archipelago with a maximum water depth of 200 m. However, the open water between Kenai and Kodiak is interrupted mid-way by the Barren Islands (Gorbics and Bodkin 2001).

Contaminant levels may also indicate geographic isolation of stocks. In general, tissues from sea otters in Alaska contain relatively low levels of contaminants; however, higher levels of heavy metals and trace elements were found in animals from southcentral Alaska, with the general trend among groups being southcentral>southwest>southeast (Comerci *et al.*, in prep.). Patterns of contamination are consistent with distribution of pollutants from anthropogenic sources in populated areas. High levels of PCBs in some otters from the Aleutian Islands (southwest Alaska) likely reflect local "point sources," such as military installations (Estes *et al.* 1997; Bacon *et al.* 1999).

2) Population response data: variation in growth rates and reproductive characteristics among populations likely reflect local differences in habitat and resource availability rather than intrinsic differences between geographically distinct units (Gorbics and Bodkin 2001) .

3) Phenotypic data: significant differences in sea otter skull sizes exist between Southwest and Southcentral Alaska (Gorbics and Bodkin, 2001).

4) Genotypic data: the three stocks exhibit substantial differences in both mitochondrial and nuclear DNA (Cronin *et al.* 1996; Bodkin *et al.* 1992, 1999, Larson *et al.* in prep.). Significant differences in frequencies of mtDNA haplotypes and genetic differences among geographic areas show sufficient variation to indicate restricted gene flow (Gorbics and Bodkin 2001). A recent analyses of mitochondrial and nuclear DNA by Cronin *et al.* (2002) corroborates the stock structure proposed by Gorbics and Bodkin (2001).

POPULATION SIZE

Historically, sea otters occurred across the North Pacific Rim, ranging from Hokkaido Japan through the Kuril Islands, the Kamchatka Peninsula, the Commander Islands, the Aleutian islands, peninsular and south coastal Alaska and south to Baja, California, Mexico (Kenyon 1969). In the early 1700s, the worldwide population was estimated to be between 150,000 (Kenyon 1969) and 300,000 individuals (Johnson 1982). Prior to large-scale commercial exploitation, indigenous people of the North Pacific hunted sea otters. Although it appears that harvests periodically led to local reductions of sea otters (Simenstad *et al.* 1978), the species remained abundant throughout its range until the mid 1700s. Following the arrival in Alaska of Russian explorers in 1741, extensive commercial harvest of sea otters over the next 150 years resulted in the near extirpation of the species. When sea otters were afforded protection by the International Fur Seal Treaty in 1911, probably fewer than 2,000 animals remained in thirteen remnant colonies (Kenyon, 1969). Population regrowth began following legal protection and sea otters have since recolonized much of their historic range in Alaska.

The most recent population estimates for the Southwest Alaska stock are presented in Table 1.

Table 1. Population estimates for the Southwest Alaska stock of sea otters.

Survey Area	Year	Unadjusted Estimate	Adjusted Estimate	CV	N_{min}	Reference
Aleutian Islands	2000	2,442	8,742	0.215	7,309	Doroff *et al.* (in press)
North Alaska Peninsula	2000	4,728	11,253	0.337	8,535	USFWS Unpublished data
South Alaska Peninsula - Offshore	2001	1,005	2,392	0.816	1,311	USFWS Unpublished data
South Alaska Peninsula - Shoreline	2001	2,190	5,212	0.087	4,845	USFWS Unpublished data
South Alaska Peninsula - Islands	2001	405	964	0.087	896	FWS Unpublished data
Unimak Island	2001	42	100	0.087	93	FWS Unpublished data
Kodiak Archipelago	2001		5,893	0.228	4,875	USFWS Unpublished data
Kamishak Bay	2002		6,918	0.315	5,340	USGS Unpublished data
Total			41,474		33,203	

Surveys of the Aleutian Islands in summer 2000 included the Near, Rat, Andreanof, Delarof, Four Mountain and Fox Island groups, and resulted in a population estimate of 8,742 (CV= 0.215) sea otters (Doroff *et al.*, in press). In the Aleutian Islands, aerial surveys consisted of shoreline counts that used a correction factor to account for sightability.

A survey of offshore area of the North Alaska Peninsula from Unimak Island to Cape Seniavin flown in summer 2000 produced an abundance estimate of 4,728 (CV= 0.326) sea otters (USFWS unpublished data). A similar survey of offshore areas of the south Alaska Peninsula from False Pass to Pavlov Bay conducted in summer 2001 resulted in a population estimate of 1,005 (CV= 0.811) animals. Applying a correction factor of 2.38 (CV = 0.087) for sea otter

aerial surveys using a twin-engine aircraft (Evans *et al.* 1997) produces adjusted estimates of 11,253 (CV = 0.337) and 2,392 (CV = 0.816) for the north and south Alaska Peninsula offshore areas, respectively.

In 2001, aerial surveys along the shoreline of the South Alaska Peninsula from Seal Cape to Cape Douglas recorded 2,190 sea otters (USFWS unpublished data). Additional aerial surveys of the South Alaska Peninsula island groups (Sanak, Caton, and Deer Islands, and the Shumagin and Pavlov island groups) and a survey of Unimak Island, recorded 405 otters for the South Alaska Peninsula island groups and 42 animals for Unimak Island. Applying the same correction factor of 2.38 (CV = 0.087) for sea otter aerial surveys using a twin-engin aircraft produces adjusted estimates of 5,212 (CV = 0.087), 964 (CV = 0.087) and 100 (CV = 0.087) for the south Alaska Peninsula shoreline, south Alaska Peninsula islands, and Unimak Island, respectively.

An aerial survey of the Kodiak Archipelago conducted in 2001 provided a population estimate of 5,893 (CV = 0.228) sea otters (USFWS unpublished data). The population estimate was calculated by applying a ratio estimate of density to the entire study area, and a correction factor was applied to account for group size bias and undetected diving animals.

Finally, an aerial survey of Kamishak Bay conducted in June 2002 produced a population estimate of 6,918(CV = 0.315) sea otters. This population estimate was also calculated by applying a ratio estimate of density to the entire study area, and a correction factor was applied to account for group size bias and undetected diving animals.

Combining the adjusted estimates for these study areas areas results in a total estimate of 41,474 sea otters for the southwest Alaska stock.

Minimum Population Estimate

The minimum population estimate (N_{MIN}) for this stock is calculated using Equation 1 from the PBR Guidelines (Wade and Angliss 1997): $N_{MIN} = N/\exp(0.842 \times [\ln(1+[CV(N)]^2)]^{1/2})$. The N_{MIN} for each survey area is presented in Table 1; the estimated N_{MIN} for the southwest Alaska stock is 33,203.

Current Population Trend

The first systematic aerial surveys of sea otters in southwest Alaska were conducted from 1957 to 1965. These surveys indicated that sea otter populations were growing and that animals were recolonizing much of their former range. Additionally, surveys showed that the greatest concentration of sea otters in the world was located in the Aleutian Islands (Kenyon 1969). By the 1980s, sea otters were present in all the island groups in the Aleutians (Estes 1990), and the total population in the Aleutian Islands was estimated as 55,100 to 73,700 individuals (Calkins and Schneider 1985). In 1992, nearly three decades after the original aerial surveys, USFWS conducted another systematic aerial survey of the Aleutian Islands. The total uncorrected count for the entire area was 8,042 sea otters. Survey results showed that sea otter abundance had declined since 1965 by more than 50% in several island groups in the central Aleutians (Evans *et al.* 1997). Boat-based surveys conducted during the 1990s independently documented severe declines in sea otter abundance within portions of the central Aleutians (Estes *et al.* 1998). In spring 2000, USFWS repeated the 1992 aerial survey and observed widespread declines throughout the Aleutian Islands, with the greatest decreases occurring in the central Aleutians. The total uncorrected count for the area in 2000 was 2,442 animals, indicating that sea otter populations had declined 70% between 1992 and 2000. In August 2000, USFWS designated the northern sea otter in the Aleutian Islands (from Unimak Pass to Attu) as a candidate species under the Endangered Species Act.

As part of a continued effort to determine the full range of the sea otter decline in Western Alaska, USFWS conducted aerial surveys along the Alaska Peninsula and the Kodiak Archipelago in 2000 and 2001. Surveys of the Alaska Peninsula repeated methods used in a 1986 aerial survey by Brueggeman *et al.* (1988). When current results were compared with those from the previous study, declines of 93-94% were documented for the South Alaska Peninsula and declines of 27-49% were documented for the North Alaska Peninsula (USFWS unpublished data). In the Kodiak Archipelago, data from 2001 aerial surveys indicates that sea otter populations have decreased as much as 40% since 1994 (USFWS unpublished data).

A recent aerial survey of Kamishak Bay indicates nearly 7,000 sea otters inhabit this area. Kamishak Bay was previously surveyed as part of a boat-based survey of lower Cook Inlet (Agler *et al.* 1995). An estimate for just Kamishak Bay is not available, therefore the population trend for that area is unknown. Although large portions of the southwest Alaska stock appears to have undergone dramatic population declines, several areas do not appear to have been affected. Estimates from the Port Moller/Nelson Lagoon area and the Alaska Peninsula from Castle Cape to Cape Douglas show evidence of population increases. The magnitude of these increases however, does not offset the declines observed in the last 10-15 years.

MAXIMUM NET PRODUCTIVITY RATE

Estes (1990) estimated a population growth rate of 17 to 20% per year for four northern sea otter populations expanding into unoccupied habitat. However, in areas where resources are limiting or where populations are approaching equilibrium density, slower rates of growth are expected (Estes 1990, Bodkin *et al.* 1995). Maximum productivity rates have not been measured through much of the sea otter's range in Alaska. In the absence of more detailed information regarding maximum productivity rates throughout the state, the rate of 20% calculated by Estes (1990) is considered a reliable estimate of R_{MAX}.

POTENTIAL BIOLOGICAL REMOVAL

Under the 1994 reauthorized Marine Mammal Protection Act (MMPA), the potential biological removal (PBR) is defined as the product of the minimum population estimate, one-half the maximum theoretical net productivity rate, and a recovery factor: $PBR = N_{MIN} \times 0.5\ R_{MAX} \times F_R$. Since 1992, sea otter counts in the Aleutians have declined by an average of 70%. In August 2000 sea otters in the Aleutian Islands were designated as a Candidate Species under the Endangered Species Act. Candidate species designation was expanded to encompass the entire southwest Alaska stock of sea otters in June 2002. Given the geographic extent and overall magnitude of the decline, along with the uncertainty regarding the cause, we have set the recovery factor (F_R) for this stock at 0.25. Thus, for the Southwest stock of sea otters, PBR = 830 animals (33,203 x 0.5 (0.2) x 0.25).

ANNUAL HUMAN CAUSED MORTALITY

Fisheries Information

Each year, fishery observers monitor a percentage of commercial fisheries in Alaska and report injury and mortality of marine mammals incidental to these operations. In 1992, fisheries observers reported eight sea otters taken incidentally by the Aleutian Island Black Cod Pot Fishery. During that year, 33.8% of the Bering Sea area groundfish fisheries were observed, resulting in a total estimate of 24 ± 3 sea otter mortalities for the Bering Sea groundfish fisheries in 1992. No other sea otter kills were reported by observer programs operating in the region of the Southwest stock from 1993 through 2000 (Perez et al, 1999). The NMFS is currently conducting a marine mammal observer program for the Kodiak salmon set net fishery that will operate during the 2002 and 2003 fishing seasons.

An additional source of information on the number of sea otters killed or injured incidental to commercial fishery operations in Alaska are fisher self-reports required of vessel-owners by NMFS. In 1997, fisher self-reports indicated one sea otter kill in the Bering Sea and Aleutian Island groundfish trawl. Self-report records were incomplete for 1994, not available for 1995 and reported no kills or injuries in 1996. From 1998 through 2000, there were no further records of incidental take of sea otters by commercial fisheries in this region. Thus, during the period between 1996 and 2000, fisher self-reports resulted in an annual mean of 0.2 sea otter mortalities from interactions with commercial fishing gear. Credle *et al.* (1994), considered this to be a minimum estimate as fisher self-reports and logbook records (self-reports required during 1990-1994) are most likely negatively biased.

Based on the available data, sea otter abundance in the Southwest stock is not likely to be significantly affected by commercial fishery interactions at present. The total fishery mortality and serious injury (0.2) is less than 10% of the calculated PBR (830) and, therefore, can be considered insignificant and approaching a zero mortality and serious injury rate (Wade and Angliss 1997). A complete list of fisheries and marine mammal interactions is published annually by NMFS [67 FR 2410].

Oil and Gas Development

Exploration, development and transport of oil and gas resources can adversely impact sea otters and nearshore coastal ecosystems in Alaska. Sea otters rely on air trapped in their fur for warmth and buoyancy. Contamination with oil drastically reduces the insulative value of the pelage, and consequently, sea otters are among the marine mammals most likely to be detrimentally affected by contact with oil. It is believed that sea otters can survive low levels of oil contamination (< 10% of body surface), but that greater levels (>25%) will lead to death (Costa and Kooyman 1981, Siniff *et al.* 1982). Vulnerability of sea otters to oiling was demonstrated by the 1989 *Exxon Valdez* oil spill in Prince William Sound. Total estimates of mortality for the Prince William Sound area vary from 750 (range 600-1,000) (Garshelis 1997) to 2,650 (range 500 - 5,000) (Garrot *et al.* 1993) otters. Statewide, it is estimated that 3,905 sea otters (range 1,904 - 11,257) died in Alaska as a result of the spill (DeGange *et al.* 1994). At present, abundance of sea otters in some oiled areas of Prince William Sound remains below pre-spill estimates, and evidence from ongoing studies

suggests that sea otters and the nearshore ecosystem have not yet fully recovered from the 1989 oil spill (Bodkin *et al.*, in press, Stephensen *et al.* 2001). Other areas outside of Prince William Sound that were affected by the spill have not been intensively studied for long-term impacts.

Within the range of the Southwest Alaska sea otter stock, oil and gas development occurs only in Cook Inlet. Although the amount of oil transport in southwest Alaska is small, the *Exxon Valdez* oil spill demonstrated that spilled oil can travel long distances and take large numbers of sea otters far from the point of initial release. Annual mortality due to oil and gas development activities has not been estimated for the Southwest sea otter stock. While the catastrophic release of oil has the potential to take large numbers of sea otters, there is no evidence that routine oil and gas development and transport have a direct impact on the Southwest Alaska sea otter stock.

Subsistence/Native Harvest Information

The Marine Mammal Protection Act of 1972 exempted Native Alaskans from the prohibition on hunting marine mammals. Alaska Natives are legally permitted to take sea otters for subsistence use or for creating and selling authentic handicrafts or clothing. Data for subsistence harvest of sea otters in Southwest Alaska were collected by a mandatory Marking, Tagging and Reporting Program implemented by USFWS since 1988. Fig. 2 provides a summary of harvest information for the Southwest stock from 1989 through 2000. The mean annual subsistence take during the past five years (1996-2000) was 97 animals. Age composition during this period was 87% adults, 10.5% subadults, and 2.5% pups. Sex composition during the past five years was 62% males, 20% females and 18% unknown sex.

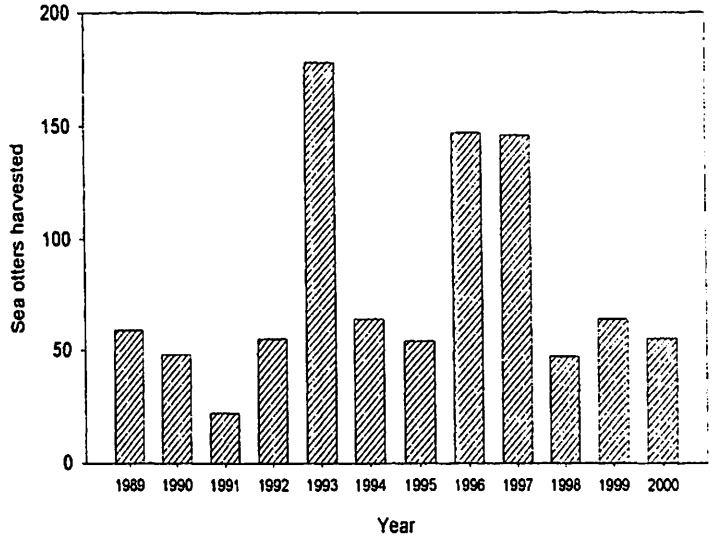


Figure 2. Estimated subsistence harvest of sea otters from the southwest Alaska stock, 1989-2000.

Since 1997, the USFWS and the Alaska Sea Otter and Steller Sea Lion Commission (TASSC) have signed cooperative agreements authorized under Section 119 of the MMPA for the conservation and co-management of sea otters in Alaska. Each of the six TASSC regions has a regional management plan that includes harvest guidelines. Several villages have also developed local management plans that address sea otter harvests.

Research and Public Display

In the past five years, 11 sea otters have been removed from the southwest Alaska stock for public display. A limited amount of live capture for scientific research has been conducted in the Aleutian Islands. There have been no observed effects on sea otter populations in the Southwest Alaska stock from these activities.

STATUS OF STOCK

Sea otters in southwest Alaska are not presently listed as "depleted" under the MMPA. However, based on the best available scientific information that indicates sea otter numbers across southwest Alaska are declining, USFWS designated the southwest Alaska Distinct Population Segment of the northern sea otter as a candidate species under the Endangered Species Act in June 2002. As a result, the southwest Alaska stock is classified as strategic.

In the Aleutians and the Alaska Peninsula, subsistence hunting of sea otters occurs at low levels and does not appear to be a major factor in the decline. Additionally, current levels of incidental take of sea otters by commercial fisheries in southwest Alaska can be considered insignificant and approaching a zero mortality rate. Thus, these populations are declining for unknown reasons that are not explained by the level of direct human-caused mortality.

Habitat Concerns

Potential threats to sea otter populations include natural fluctuations, such as disease or predation, and indirect effects of human activities. Population studies in the Aleutian Islands indicate that observed declines are the result of increased adult mortality. A current theory proposes that predation by transient killer whales may be a leading cause of the population decline (Estes *et al.* 1998). Studies show that disease, starvation and contaminants are not presently implicated in the Aleutians; however, further evaluation of these factors is warranted along with additional investigation of the predation hypothesis to better elucidate the cause of the decline.

Sea otters play an important role in maintaining the coastal ecosystems they inhabit. In near-shore kelp beds, sea otters function as keystone species, strongly influencing ecosystem functions. In the Aleutian archipelago, sea urchins are a dominant herbivore and an important food source for sea otters (Estes *et al.* 1978). If sea otters disappear from these areas, sea urchin populations will be released from the control of sea otter predation, and may soon overgraze the attachments of bull kelp. Detached kelp is swept away, exposing remaining fish, crustaceans and bivalves. A secondary consequence of the decline in sea otter populations in southwestern Alaska is that kelp forests in many areas may also be in decline (Estes *et al.* 1998).

CITATIONS

Agler, B. A., S. J. Kendall, P. E. Seiser, and D. B. Irons. 1995. Estimates of Marine Bird and Sea Otter Abundance in Lower Cook Inlet, Alaska During Summer 1993 and Winter 1994. Migratory Bird Management, U.S. Fish and Wildlife Service, Anchorage, Alaska. 121 pp.

Bacon, C. E., W. M. Jarman, J. A. Estes, M. Simon, and R. J. Norstrom. 1999. Comparison of organochlorine contaminants among sea otter (*Enhydra lutris*) populations in California and Alaska. Environmental Toxicology and Chemistry 18(3):452-458.

Bodkin, J. L., B. E. Ballachey, and M. A. Cronin. 1992. Mitochondrial DNA analysis in the conservation and management of sea otters. Research Information Bulletin, U.S. Department of the Interior 37:1-3.

Bodkin, J. L., R. J. Jameson, and J. A. Estes. 1995. Sea otters in the North Pacific Ocean. Pages 353-356 in LaRoe III, E.T., G. S. Farris, C. E. Pucket, and P. D. Doran, eds. Our Living Resources 1994: a report to the nation on the distribution, abundance and health of U.S. plants, animals and ecosystems. U.S. Department of the Interior, National Biological Service. Washington D.C.

Bodkin, J. L., B. E. Ballachey, M. A. Cronin, and K. T. Scribner. 1999. Population demographics and genetic diversity in remnant and translocated populations of sea otters (*Enhydra lutris*). Conservation Biology 13(6):1378-1385.

Bodkin, J. L., B. E. Ballachey, T. A. Dean, A. K. Fukuyama, S. C. Jewett, L. M. McDonald, D. H. Monson, C. E. O'Clair, and G. R. VanBlaricom. In press. Sea otter population status and the process of recovery from the *Exxon Valdez* spill. Marine Ecology Progress Series.

Brueggeman, J. J., G. A. Green, R. A. Grotefendt, and D. G. Chapman. 1988. Aerial surveys of sea otters in the northwestern Gulf of Alaska and the southeastern Bering Sea. Minerals Management Service and NOAA Final Report. Anchorage, Alaska.

Calkins D. G., and K. B. Schneider. 1985. The sea otter (*Enhydra lutris*). Pages 37-45. In: Marine Mammals Species Accounts. J. J. Burns, K. J. Frost, and L. F. Lowry (eds). Alaska Department of Fish and Game, Technical Bulletin 7.

Comerci, L. R., C. S. Gorbis, A. Matz, and K. A. Trust (in prep.). Tissue concentrations of elemental and organochlorine compounds in sea otters in Alaska. U.S. Fish and Wildlife Service Technical Report, Anchorage, Alaska.

Costa, D. P., and G. L. Kooyman. 1981. Effects of oil contamination in the sea otter *Enhydra lutris*. Outer Continental Shelf Environmental Assessment Program. NOAA Final Report. La Jolla, California.

Credle, V. A., D. P. DeMaster, M. M. Merlein, M. B. Hanson, W. A. Karp, and S. M. Fitzgerald (eds.). 1994. NMFS observer programs: minutes and recommendations from a workshop held in Galveston, Texas, November 10-11, 1993. U.S. Department of Commerce, NOAA Tech. Memo. NMFS-OPR-94-1. 96 pp.

Cronin, M. A., J. L. Bodkin, B. E. Ballachey, J. A. Estes, and J. C. Patton. 1996. Mitochondrial-DNA variation among subspecies and populations of sea otters. Journal of Mammology 77(2):546-557.

Cronin, M. A., W. J. Spearman, W. Buchholz, S. Miller, L. Comerci, and L. Jack. 2002. Microsatellite DNA and mitochondrial DNA variation in Alaskan sea otters. Alaska Fisheries Technical Report.

DeGange, A. R., A. M. Doroff, and D. H. Monson. 1994. Experimental recovery of sea otter carcasses at Kodiak Island, Alaska, following the Exxon Valdez oil spill. Marine Mammal Science 10:492-496.

DeMaster, D. P. 1997. Minutes from the fifth meeting of the Alaska Scientific Review Group, 7-9 May 1997, Seattle, Washington. 21 pp. (available upon request- D.P. DeMaster, National Marine Mammals Laboratory, 7600 Sand Point Way, NE, Seattle, WA 98115).

Dizon, A. E., C. Lockyer, W. F. Perrin, D. P. DeMaster, and J. Sisson. 1992. Rethinking the stock concept: a phylogeographic approach. Conservation Biology 6(1):24-36.

Doroff, A. M., and C. S. Gorbics. 1998. Sea Otter Surveys of Yakutat Bay and Adjacent Gulf of Alaska Coastal Areas - Cape Hinchinbrook to Cape Spencer 1995-1996. Minerals Management Service, OCS Study MMS 97-0026. 31 pp.

Doroff, A. M., J. A. Estes, M. T. Tinker, D. M. Burn, and T. J. Evans. In press. Sea otter population declines in the Aleutian Archipelago. J. Mammalogy.

Estes, J. A., N. S. Smith, and J. F. Palmisano. 1978. Sea otter predation and community organization in the western Aleutian Islands, Alaska. Ecology 59(4):822-833.

Estes, J. A. 1990. Growth and equilibrium in sea otter populations. Journal of Animal Ecology 59:385-401.

Estes, J. A., C. E. Bacon, W. M. Jarman, R. J. Norstrom, R. G. Anthony, and A. K. Miles. 1997. Organochlorines in sea otters and bald eagles from the Aleutian Archipelago. Marine Pollution Bulletin 34(6):486-490.

Estes, J.A., M.T. Tinker, T.M. Williams and D.F. Doak. 1998. Killer whale predation on sea otters linking ocean and nearshore systems. Science 282:473-476.

Evans, T.J., D.M. Burn and A.R. DeGange. 1997. Distribution and Relative Abundance of Sea Otters in the Aleutian Archipelago. USFWS Marine Mammals Management Technical Report, MMM 97-5. 29 pp.

Garrott, R. A., L. L. Eberhard, and D. M. Burn. 1993. Mortality of sea otters in Prince William Sound following the *Exxon Valdez* oil spill. Marine Mammal Science 9:343-359.

Garshelis, D. L., and J. A. Garshelis. 1984. Movements and management of sea otters in Alaska. Journal of Wildlife Management 48(3):665-678.

Garshelis, D. L., A. M. Johnson, and J. A. Garshelis. 1984. Social organization of sea otters in Prince William Sound, Alaska. Canadian Journal of Zoology 62:2648-2658.

Garshelis, D. L. 1997. Sea otter mortality estimated from carcasses collected after the *Exxon Valdez* oil spill. Conservation Biology 11(4): 905-916.

Gorbics, C. S., and J. L. Bodkin. 2001. Stock structure of sea otters (*Enhydra lutris kenyoni*) in Alaska. Marine Mammal Science 17(3): 632-647

Johnson, A. M. 1982. Status of Alaska sea otter populations and developing conflicts with fisheries. Pages 293-299 in: Transactions of the 47th North American Wildlife and Natural Resources Conference, Washington D.C.

Kenyon, K. W. 1969. The sea otter in the eastern Pacific Ocean. North American Fauna 68. U.S. Department of the Interior, Washington D.C.

Larson, S., R. Jameson, J. L. Bodkin, M. Staedler, and P. Bentzen (submitted to J. Mammalogy). Microsatellite and MtDNA sequence variation within and among remnant and translocated sea otter, *Enhydra lutris*, populations.

Perez, M. A. 1999. Compilation of Marine mammal incidental catch data for domestic and joint venture groundfish fisheries in the U.S. EEZ of the North Pacific, 1989-98. NOAA Technical Memorandum, Seattle, WA. 134 pp.

Pitcher, K. W. 1989. Studies of southeastern Alaska sea otter populations: distribution, abundance, structure, range expansion and potential conflicts with shellfisheries. Anchorage, Alaska. Alaska Department of Fish and Game, Cooperative Agreement 14-16-0009-954 with U.S. Fish and Wildlife Service. 24 pp.

Riedman, M. L., and J. A. Estes. 1990. The sea otter *Enhydra lutris*: behavior, ecology, and natural history. Biological Report; 90 (14). U.S. Fish and Wildlife Service.

Simenstad, C. A., J. A. Estes, and K. W. Kenyon. 1978. Aleuts, sea otters, and alternate stable-state communities. Science 200:403-411. 127 pp.

Siniff, D. B., T. D. Williams, A. M. Johnson, and D. L. Garshelis. 1982. Experiments on the response of sea otters *Enhydra lutris* to oil contamination. Biological Conservation 23: 261-272.

Stephensen, S. W., D. B. Irons, S. J. Kendall, B. K. Lance, and L. L. MacDonald. 2001. Marine bird and sea otter population abundance of Prince William Sound, Alaska: trends following the T/V *Exxon Valdez* oil spill, 1989-2000. Restoration Project 00159 Annual Report. USFWS Migratory Bird Management, Anchorage, Alaska. 114 pp.

Wade, P. R., and R. Angliss. 1997. Guidelines for assessing marine mammal stocks: report of the GAMMS workshop April 3-5, 1996, Seattle, Washington. U.S. Department of Commerce, NOAA Technical Memo. NMFS-OPR-12. 93 pp.

Short-tailed Albatross Satellite Telemetry Study – 2004 Update

A Collaboration of:
The United States Fish & Wildlife Service, Anchorage, Alaska, USA
Ministry of Environment, Tokyo, Japan
Oregon State University, Newport, Oregon, USA
Yamashina Institute for Ornithology, Chiba, Japan

Contacts:
Rob Suryan, Hatfield Marine Science Center, Oregon State University, 2030 S.E. Marine Science Dr., Newport, Oregon 97365, USA. rob.suryan@oregonstate.edu
Greg Balogh, U.S. Fish & Wildlife Service, Anchorage, Alaska, USA
Greg_Balogh@fws.gov
Kiyoaki Ozaki, Yamashina Institute for Ornithology, 115 Konoyama, Abiko, 270-1145, Japan. ozaki@yamashina.or.jp
Noriko Moriwake, Nature Conservation Bureau, Ministry of Environment, 1-2-2 Kasumigaseki, Chiyoda-Ku, Tokyo, 100-8975 Japan. noriko_moriwake@env.go.jp

2004

No satellite tracking of Short-tailed Albatrosses occurred in 2004. This third year of a joint Japanese-United States research initiative was dedicated to analyses of data collected to date. Analyses are focused on identifying high-use areas (hotspots) and characterizing marine habitats within these regions. Furthermore, these efforts will be valuable in directing future research efforts.

Future research is anticipated to include at-sea capture and tracking of albatrosses in the Aleutian Islands. Such previous efforts proved valuable in obtaining data for the late summer and fall seasons (a gap in previous data collection efforts) and in tracking juvenile birds who do not attend the breeding colony - but are the most likely to travel along the west coast of North America (as exemplified by our data from 2003). A second gap in at-sea distribution and movement data is during the breeding season (October-May). We hope to initiate tracking studies of breeding birds during the 2005-2006 breeding season.

Summary of previous years

Upon leaving Torishima, all birds flew to the east coast of Japan, concentrating primarily off the coast of Honshu between Tokyo and Sendai. From here, further migration seemed to follow two general patterns, birds flew east, offshore of Japan and the continental shelf then directly north, arriving at the Aleutian Islands, Alaska (USA), by 15 June. Once at the Aleutian Islands, the birds began traveling east, remaining over the continental shelf and slope and within passes between islands and occasionally moving farther offshore (Figure 1). In contrast, other albatrosses remained along the east coasts of Honshu and Hokkaido with one venturing up to the southern Kuril Islands, Russia. For nearly three months they remained in these areas, traveling north and south along the coasts. In early September they too began to move north and east toward the

Aleutian Islands. However, they spent considerable time in the Kuril Islands and southern Kamchatka Peninsula (Russia) along the way.

Tracking data of birds from Torishima in 2003 showed similar migration paths. In 2003, however, most birds traveled particularly rapidly to the Aleutian Islands, five of the seven birds reaching the Aluetians by 30 June. Also, birds tracked from Torishima in 2003 spent less time in the Kuril Islands and moved further north into the Bering Sea compared to birds tracked in 2002.

Albatrosses captured at-sea in the Aleutian Islands likewise spent considerable time along the central Bering Sea shelf break and slope, in addition to the eastern Kamchatcka Peninsula and Aleutian Islands. After circumnavigating much of the Bering Sea, one of the hatch-year birds traveled along the Aleutian Islands, then south from the Alaska Peninsula and east to the coast of British Columbia, Washington, Oregon and Northern California.

Analysis of marine habitats used and environmental factors affecting STAL movement patterns are currently in progress. Even at this stage, however, it is evident that STAL locations are especially concentrated along continental shelf break and slope regions. Therefore, it is not surprising that most of the birds' time at sea is spent within the Exclusive Economic Zones (EEZ) of North Pacific Rim countries. For example, 50% of the locations obtained in 2003 were within the Alaska EEZ (Figure 2). In summary, each Short-tailed Albatross spent varying amounts of time in different areas of Japanese, Russian, Canadian, and American waters, signifying the complexity and importance of international collaboration in the at-sea conservation of this species.

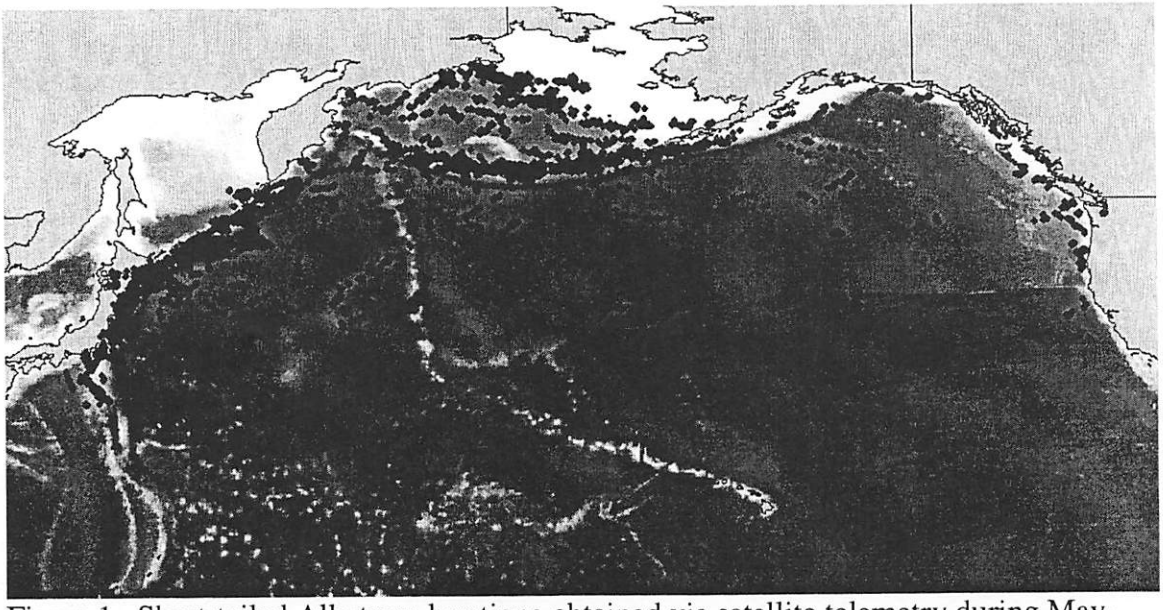


Figure 1. Short-tailed Albatross locations obtained via satellite telemetry during May-November 2002 and 2003 (14 birds).

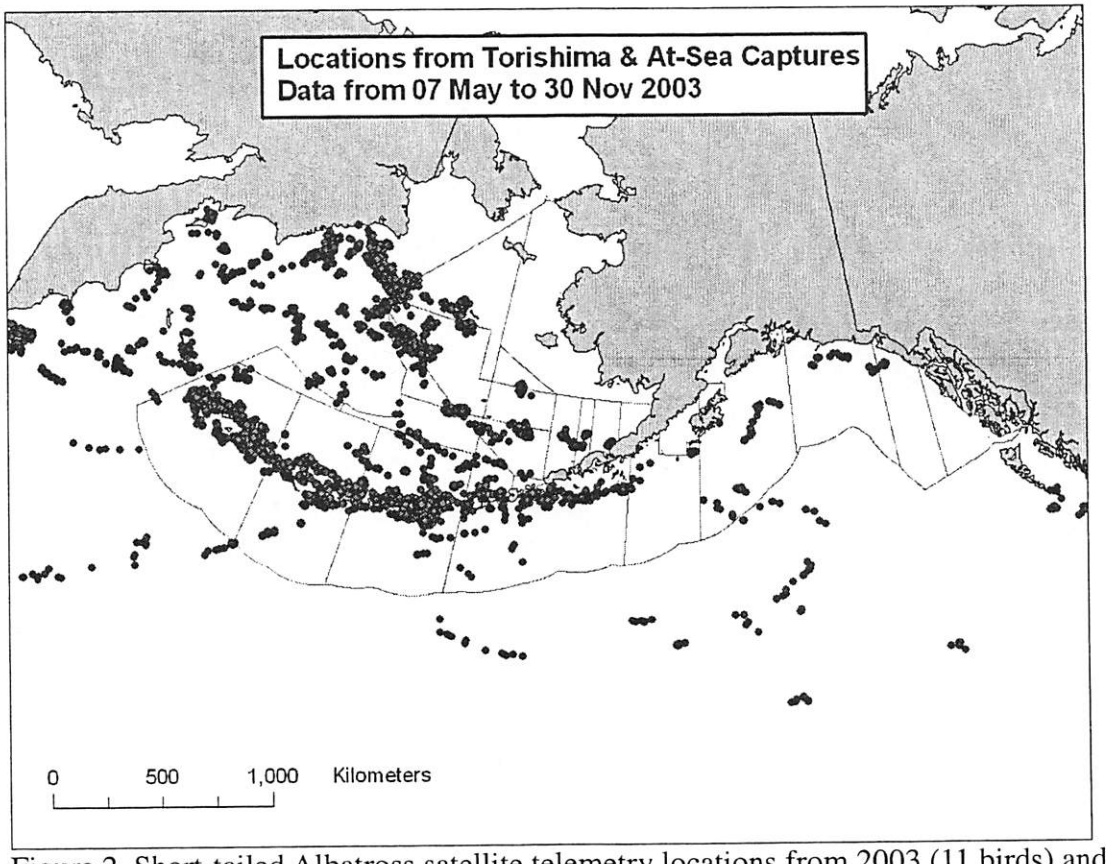


Figure 2. Short-tailed Albatross satellite telemetry locations from 2003 (11 birds) and Alaska EEZ and fishery reporting zones.

U.S. Fish & Wildlife Service

Threatened and Endangered Species

START 2: Short-tailed Albatross Recovery Team Meeting; 2004

Despite a long and rocky road to obtaining foreign travel authorization, the Short-Tailed Albatross Recovery Team (START) managed to pull off its second international recovery meeting in Chiba, Japan, just outside Tokyo, on May 25-28, 2004. The meeting kicked off in usual Japanese style with a lavish reception full of dignitaries, formal introductions, mind-boggling platters of sushi and sashimi, toasts, and lovely beverages. The dignitaries at this particular reception were especially dignified, and included Japan's Imperial Highness Prince Akishino and Princess Norinomiya. Both the Prince and Princess are trained biologists and are closely affiliated with the Yamashina Institute for Ornithology, the non profit institute that takes the lead in many short-tailed albatross recovery actions in Japan.

The team had the pleasure of hosting a number of observers at the meeting, including Hisanaga Shimazu, the Chairman of the Yamashina Institute, and Satoshi Yamagishi, the General Director of the Institute. Koji Hasebe of the Yomiuri Newspaper was present for a portion of the meeting as well. Kazui Horikoshi and Hajime Suzuki from the Institute of Boninology (the Bonin Islands are the presumed site of the next short tailed albatross colony) sat through the entire meeting. They were extremely helpful in helping the team

*Attendees of START2 Welcome Reception (team members in bold). Back row, left to right, Kyouko Yoshiyasu, **Shiho Kanie**, **Kiyoaki Ozaki**, Judy Jacobs, Lynnette Sievert, **Kim Rivera**, Haruo Uchiyama, **Ed Melvin**, **Kim Trust**, **Beth Flint**, Shigeki Asai, **Kathy Kuletz**, Takao Baba, Takashi Hiraoka, Yoshimitu Shigeta, E. Urano, Miyako Turumi, Sayaka Kobayashi, Noboru Nakamura, Ryo Maeyama, Front Row, left to right: Princess Norinomiya, **Paul Sievert**, Greg Balogh, Prince Akishino, **Thorn Smith**, Hisanaga Shimazu, Satoshi Yamagishi, **Haruo Ogi**. Team members, observers, and translators not in photo: Hajime Suzuki, Kazuo Horikoshi, Shinjiro Sasaki, Koichi Kamiga, Ysuyuki Arai, Koji Hasebe, **Rob Suryan**, **Hiroyoshi Higuchi**, **Hiroshi Hasegawa**, **Graham Robertson**, and John Fries.*

recognize which proposed recovery tasks on the Bonin Islands were impractical. John Fries, a familiar presence in the Japanese avian community, served as our interpreter. In addition, we had the good fortune of having a new Yamashina Institute talent, Noboru Nakamura, present to aid Dr. Fries in interpreting. All team members took joy in meeting Hiroshi Hasegawa's new bride, Nagi Hasegawa.

The spirit of the meeting was one of true collaboration in the interest of the resource. Chairman Shimazu captured the atmosphere of the meeting well when he said "There are no national boundaries to the short-tailed albatross. Likewise, there are no national boundaries to the field of ecological research. It is very important and appropriate that Pacific Rim biologists gather to discuss the future of the short-tailed albatross."

The Service had two main objectives for this 4-day meeting, a meeting of unprecedented length in Japanese business culture. These were: 1) development of recovery and reclassification criteria for the species; and 2) listing of, *and prioritization of*, all recovery tasks. These two criteria alone would make for an ambitious meeting. In addition to accomplishing both of these main objectives, the team received updates on albatross investigations that have occurred during the 1.5 years since our last meeting.

We did not explicitly discuss

proposals for use of recovery funds (a third objective). However, much of the groundwork for this discussion was laid in the prioritization of recovery tasks. We now know which proposal topics will rise to the top of the funding priority list, and which will need to wait for future funding opportunities. A final objective, the formation of subcommittees to deal with a number of more specialized recovery topics, was not met. But of all objectives, this one is most easily dealt with via e-mail and telephone.

Other topics not among our original objectives, but that were discussed in an open forum, included restructuring of the team and whether to invite delegates from Russia and Canada onto the START.

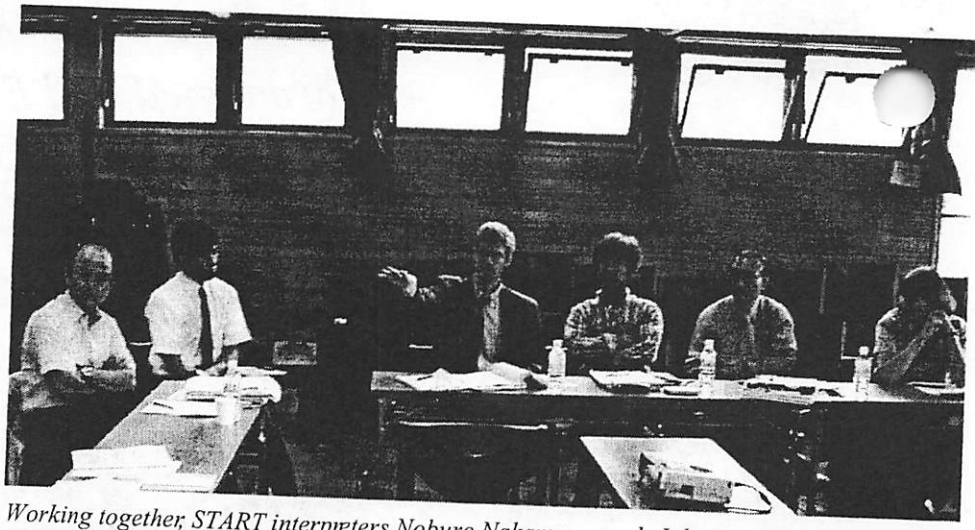
All team members understand that START may be substantially restructured once this recovery plan is finalized and approved. At that time, we may seek to trim down the size of the team somewhat to reign in meeting costs. The team currently consists of 14 individuals and two liaisons.

Recovery Criteria:
The START Team recommends the following criteria for delisting and reclassification:

Delisting:
1000 breeding pairs, with ≥ 250 pairs on ≥ 2 non-volcanic islands, AND ≥ 10% of these (i.e. ≥ 25 pairs) on site/s other than the Senkaku Islands, AND with a 3-year running average growth rate of ≥ 6% for ≥ 7 years.

Endangered to Threatened:
750 breeding pairs, AND ≥5 breeding pairs on each of 3 or more different island groups, AND with a 3-year running average growth rate of ≥ 6% for ≥ 7 years.

Threatened to Endangered:
<750 breeding pairs, with a negative growth rate for ≥ 3 years; OR breeding colonies on < 3 island groups.



Working together, START interpreters Noburo Nakamura and John Fries ensured that nothing is lost in translation. Pictured from left: Kiyoaki Ozaki, Nakamura Noboru, John Fries, Hiroshi Hasegawa, Haruo Ogi, and Beth Flint.

The Team prioritized 53 individual recovery tasks. In addition, it prioritized general categories of recovery efforts to provide managers with additional guidance. The detailed, task-specific, priority list is not included here, but the more general list of recovery task groupings is as follows, ordered from highest to lowest priority:

1. Continue existing Torishima population work.
2. Establish new colonies on Ogasawara Island and Hatsune-zaki colony site.
3. Continue Tsubame-zaki habitat work to enhance fledging success.
4. Establish regular monitoring of colony in the Senkaku Islands.
5. General bird distribution and movement research.
6. Other research (ex. Food habits, genetics, population modeling).
7. Fishery-Related Interactions and bycatch reduction.
8. Outreach and education.
9. Development of sampling, field handling, and carcass-retention protocols.
10. Contaminants sampling and research.
11. Other management (establishment of quick response fund, addition of representative from Japanese Fisheries Agency to the team).

The team was sharply divided o the question of whether to recommend addition of team members from Russia and Canada during the recovery planning stage (which is winding down). They seemed quite receptive, however, to adding representatives from these two countries to the recovery team after the final recovery plan is released and when recovery implementation begins in earnest.

Until recently, Dr. Hiroshi Hasegawa was considered by many to be "married" to the albatross. His new wife, Nagi Hasegawa, provides strong evidence that this is not the case.

A Workshop at IAPC 2004, Montevideo, Uruguay

Quantifying seabird bycatch: A global perspective

Date: Thursday, August 26th
Time: Immediately following the Incidental Mortality Session

Understanding the effects of fisheries bycatch and bycatch mitigation measures on globally-distributed seabirds requires international coordination and collaboration.
To facilitate coordination and collaboration, we invite you to join us for an informal workshop to discuss the seabird bycatch database project.

The goals of this workshop are to:

- ❖ Evaluate project objectives
- ❖ Identify critical questions and potential obstacles
- ❖ Review available data and identify new datasets
- ❖ Establish a network of scientists interested in collaborating in the project.

Come to discuss your ideas, share data and expertise, and meet colleagues.
Refreshments will be served.

IAPC information at http://www.iapc2004.com/

Sponsored by:

National Marine Fisheries Service

Questions? Contact Rebecca Lewison,
rebecca.lewison@duke.edu

Date: September 2, 2004

To: NPLA/MCA

From: CFAM – Thorn Smith

Subject: **International Albatross Festival; Red Wine Dancing**

Pages: 4

SUMMARY: I have just returned from the Third International Albatross and Petrel Conference in Montevideo, Uruguay. One hundred thirty of the world's outstanding seabird scientists discussed their work on a variety of issues, some of considerable importance to us – good news, bad news. Of greatest interest were DNA sequencing (more species?), the influence of our success in mitigation, the worldwide decline of albatrosses, and trawl fishery/seabird interactions. I explained what the MCA is all about, stimulating considerable interest. There was a rump meeting of the Short-tailed Albatross Recovery Team (START). I managed to get all the attendees at the conference to sign a petition for continued START funding. At the request of the organizers I wrote a press release for the conference. FIN

THE SOM'BEECH 767 CRASH LANDED in driving rain and severe crosswinds at Montevideo International, rattling and shaking like our old Volvo wagon on a tank testing track. The overhead bins blew open. Modern technology is great. Bienvenidos a Uruguay!

MONTEVIDEO SLOUCHES WEARILY along the northern bank of the Rio de la Plata, said to be the widest river in the world at this point – you can't even see Argentina on the other side. The Charrua people were here first, with no gold and a nasty habit of eating European explorers, so the Spanish left them alone. The Portuguese established a city in 1680. The Brazilians whupped the Portuguese, who were in turn whupped by the Argentines, so the current language is Spanish with a Portuguese accent. The Charruas are nowhere in sight. This is where the German battleship Graf Spee holed up after being chased all over the Atlantic by the British in WWII. The Old City (you don't go there at night) has some classic South American buildings right out of Central Casting, but a whole lot of crumblers. Uptown is better, but features beggars and wild dogs (not that we don't have

homeless). The dogs rummage through the garbage with aplomb, and generally seem to be in good health and fine spirits. The people are laid-back and friendly, the food and wine impossibly inexpensive and excellent. A fine venue for an albatross festival.

AVES URUGUAY organized the conference with a very small staff and not much money, and must be congratulated for a job well done. The MCA contribution and my attendance were most welcome. A bit of a good thing.

THE PIECE OF RESISTANCE at the conference was the presentations on seabird DNA sequencing. As I feared ten years ago when we fell into this whole catastrophe, bright young lights around the world are wetting their pants over real or putative genetic distinctions among bird populations derived from mitochondrial DNA/nuclear microsatellite analysis. The sort of thing we do here in the office. One argued that there are two species of short-tails, two species of black-footed albatrosses, four species of shy albatrosses, and that altogether we should add ten species to the 24 albatross species now thought to exist. Another asserted that there are 4 distinct populations of wandering albatrosses. Just imagine what it would be like if we had to contend with two species of short-tails! Happily, a senior professor denounced this "new taxonomy" as "a bit of a dog's breakfast" (here a slide of a puppy strewing kibble all over the floor). He described it as "over-splitting and taxonomy driven by conservation legislation." He stated that there is a lack of consensus and confusion regarding genetic distances between taxa that does not support speciation. I wished I'd said that. He cautioned against using sequencing alone and suggested that there must be meaningful taxonomic distinctions you can see and feel to support a new species. All hail! If we continue down the slippery slope of DPS's, or distinct population segments as in the ESA regulaltions, we're cooked. Read sea otters, rougheye rockfish, bloody fulmars. We have a friend.

OUR SUCCESS AT MITIGATION IS NOW WORLD-FAMOUS. Folks from several countries introduced themselves, said they'd heard my name and were impressed by our efforts. Ed Melvin gave an excellent presentation on solving seabird interactions with longline fisheries, I did my usual slide show (turned into an effective powerpoint by Lisa). It is obvious that our pioneering cooperative work with Sea Grant, et. al., led by Ed Melvin, has stimulated similar work in other countries - particularly South America. The Chileans have obliged their toothfishermen to cut their seabird incidental catch by 90%. No science here, the government said 100%, the fishermen were glad to get 90%. Obviously, we don't

want such limits. We did get Mau-maued by Gerald Weingrad of the American Bird Conservancy. He wants zero incidental catch. Fortunately for us, he's retiring.

RED WINE DANCING – Being a kharmic all-terrain executive director sometimes requires efforts beyond the call. On Tuesday evening we were bussed to a shoreside hotel and plied with drink and heavy pu-pus. There was to be "an entertainment," which turned out to be two couples of professional tango dancers oiling their way across the floor. When they got done the female dancers mixed with the crowd and selected new partners. The good news is that one of them grabbed Gerald Weingrad, who was standing next to me. I will say no more on that topic. The bad news is that she next grabbed me, even though I was taking evasive action. There was no way out. Fortunately the red wine was excellent and plentiful and I was shall we say less inhibited than I am while speaking to the Council, not to put too fine a point on it. So I cut loose with all the poise and grace of a wounded hippopotamus. Wearing clogs. I did that thing where you put your cheeks together and your arms out front and sort of goose-step across the floor. Then I threw in some loops and turns from the high school gym. Damned if she wasn't such a professional follower that she made it look good! We were applauded drunkenly, and it was generally agreed that if a picture had been taken it would have appeared on the cover of National Fisherman. Fortunately there were no cameras, or I'd probably be looking for a job. We were awarded both ears and the tail.

WORLDWIDE, ALBATROSS SPECIES ARE IN A TAILSPIN. Unfortunately I have misplaced my notes on this subject, but it's pretty sad. Most of the decline is in the Southern Hemisphere. The issue isn't going away any time soon. But if all the other longlining nations follow our example, there's hope. The short-tailed population, while low at 1,990 worldwide, is expanding at a rate beyond its theoretical maximum. We look very good by comparison.

ROOT CANAL TRAWLING and seabird interactions was a topic of considerable interest. Ben Sullivan, who has worked in the Falklands for some time, explained that it is not just a third wire problem, but also a warp problem. He told me that they have about 40 factory trawlers the size of ours, that fish in the Falklands and elsewhere. Just a month ago the Falklanders required that their factory trawlers deploy tori lines wherever they fish. I will see if I can obtain a copy of the regulations (if any). Ed Melvin explained that we have begun to research our trawl/seabird interactions, but that he is constrained to silence on the details by his

contract. His body language seemed to say that he didn't see any huge problem for our trawlers.

WHICH GOES FIRST, THE CHICK OR THE EGG? START II.5 was held on Wednesday morning. Many of the team members were present, including two from the Yamashina Institute, and Hiroshi Hasegawa. The main question had to do with establishing the third colony on a non-volcanic island. Do we try to do it passively (decoys and sound systems), actively by transporting eggs or chicks, or both? Eggs lost out right away as being too labor intensive (hand raising the chicks). Translocation of chicks has never been done successfully with albatrosses. While Hiroshi wants to move short-tailed chicks before the volcano blows, the Yamashinas are considerably more conservative. At least the senior is. The upshot is that we plan to use both passive and active methods, and will try translocating black-footed chicks for a year before attempting short-tails. Stay tuned.

AN HISTORICAL NOTE - In 1823 Goete noted a strange phenomenon: "En route home from the Leipzig Albatross Festival I chanced upon ten thousand tons of P. cod in a meadow. They stunk ghastly and bore codend lacerations. Trawlers began chasing me. I screamed that I was a genius and consequently could not run very fast, but my words were wasted. Meek and gentle longliners came to my rescue."

FIN

Why Should We Help Russians Avoid Albatross?

Our fisheries could be shut down if we don't

Now and then, when editorial space is scarce and somebody sends us an opinion piece that's too good to reject and too timely to molder for a month, I give up my bully pulpit. This is one of those occasions. The issue Mark Lundsten raises here could erupt upon the Alaska longline fleet at any time, but there's a lot we can do about it. The fleet and the National Marine Fisheries Service already know how to solve this problem, as Mark can attest. As owner of the longliner Masonic, *he participated in experiments to identify the most effective bird deterrent measures, work that helped position the Alaska fleet to meet a "make-or-break" endangered-species challenge. After 27 years fishing in the North Pacific, he sold his operation in 2002. Since then he has served on the National Academy of Science's Ocean Studies Board committee on cooperative research, among other projects.*

— Editor

BY MARK LUNDSTEN

The endangered short-tailed albatross forages in Alaska — and in Russia. That's a problem for Alaska. If Russia catches even a few of them, Alaska will pay. It doesn't matter that Alaskan fleets already have effective seabird bycatch regulations and have no say over how the Russians fish. Our Endangered Species Act (ESA) is draconian: boats in Alaska can face restrictions and closures even if the harm to an endangered species is elsewhere. Alaska's only recourse is to work with the Russians directly and to extend the use of seabird deterrents to Russia, in whatever way possible, as soon as possible.

Hawaiian longliners know this problem well because of sea turtles. Egg collectors on sandy beaches and international, unregulated fishing have caused a serious decline in sea turtles. The only group to face restrictions (so far) is the U.S. fleet, even when they develop viable methods of deterring turtles from their gear. They have endured numerous restrictions, closures of huge sections of the Pacific, and relentless scrutiny from environmental groups. Meanwhile, other nations' fleets have no restrictions. It's not fair, but it's how public policy works when a fleet is subject to the ESA and has open and accessible management. Alaska has the same vulnerability.

I spent the first week of June in the Russian Far East with staff members of the World Wildlife Fund and Ed Melvin of Washington Sea Grant. Ed and I were invited by WWF to tell fishermen how Alaskan longline fishermen avoid killing seabirds. In summary, we told them how our regulations work and how they actually make money for the Alaska fleets: Our baits catch fish, not birds.

The Russians agreed that keeping birds off the gear was a good idea. But after a chaotic first decade of capitalist fishing, including two currency devaluations, their first concern is to have a future. They have work to do — on stocks and markets, on management and enforcement, on the value of the ruble. Plus, they have no Russian ESA and no mandates to use bird deterrents. Seabirds aren't a priority.

But endangered albatrosses are a priority in Alaska, and they fly all over the North Pacific. Ed Melvin charted the foraging flights of short-tailed albatrosses that he hooked up with EPIRB-style transmitters last summer. The tracks of those birds extend from their nests on Torishima Island to the Gulf of Alaska to the Kamchatka peninsula. Russian longliners could catch them as easily as Alaskans.

Convincing Russians to tow streamer lines won't be the same as convincing Alaskan fleets.

The best way to deal with Russia is to do what has proven to work. The development of the seabird bycatch regulations in Alaska is a model of the kind of proactive conservation needed once again. An incendiary issue all over the globe, seabird bycatch did not incite political or legal warfare in Alaska because the fleet learned about the issue, took the problem in hand, and developed a solution — including streamer lines and other measures. Then, in conjunction with scientists, they proved that these methods work and could be used as the basis for a regulation that now mandates bird avoidance practices throughout the fleet. It was tedious work, but it succeeded, and it changed things.

During this process, some environmental NGOs did nothing but write editorials about seabirds slaughtered by greedy fishermen. Political evolution did not favor them. Rather it favored those who cooperated to find a solution. The "confronters" eventually had to go along, or be left out. The keys to approaching this Russian problem are the same ones — education, then cooperation and research, not confrontation.

Convincing Russians to tow streamer lines won't be the same as convincing the Alaskan fleets and the North Pacific Council. But a few lessons are obvious:

1) Streamer lines and a few other basic steps prevent seabird mortality.
2) Russians and Alaskans both want a future.
3) NGOs and fishermen get more done with a common cause than with a war.
4) Lots of direct communication will be necessary.
5) The ball is in Alaska's court, not Russia's.

We all know the ocean is one ocean. We are slowly learning that fishermen are one fleet. ■

adn.com
Anchorage Daily News

2 rare right whales tracked by satellite

RESEARCH: Scientists hope to learn where they feed in Bering Sea.

By DOUG O'HARRA
Anchorage Daily News

(Published: September 14, 2004)

Scientists have been tracking two North Pacific right whales across the southeastern Bering Sea by satellite for the past month, gathering unprecedented details about where some of the world's rarest cetaceans feed.

They hope to find where Alaska's most critically endangered whales spend the winter. Through Friday, one whale has already registered 31 locations on eight different days during a meandering journey toward deeper water.

In an amazing display of navigation -- if not a discerning palate -- the whale once returned to the same exact location after making a 100-mile round trip between Aug. 26 and Sept. 1.

Perhaps the whale, thought to be nearly full grown, had returned to an especially promising site for a second helping of tiny crustaceans called copepods, scientists said.

"It's not that it's such a surprising thing that whales are doing that, but it's just so much fun to see a right whale doing it," said biologist Paul Wade, one of the project's leaders at the National Marine Mammal Laboratory in Seattle. "It's very, very, very cool information."

Once thought to number 11,000 in the North Pacific, the docile, slow-swimming right whales were decimated by whalers because they were easy to harpoon. Only a handful were seen from 1900 to the 1990s; the whales were considered virtually extinct in Alaska.

But since 1996, a small number of right whales have been found foraging in the same area southwest of Bristol Bay each July and August. The first calf seen in half a century was reported there in 2002. Finding out more about these whales could help people figure out what can be done to help them rebound.

The right whale tagging took place during a 40-day voyage by a team of scientists also doing research into other whale species. Coordinated by Wade of the National Marine Fisheries Service and biologist Mads Peter Heide-Joergensen of the Greenland Institute of Natural Resources in Copenhagen, Denmark, the $70,000 project involved nine researchers aboard the boat Alaska Enterprise.

The team picked up the faint subsonic signal of right whale calls using a special underwater listening buoy and began traveling toward them. On Aug. 10, the team found the two whales about 57 miles away.

"Both animals looked really fat and healthy," Wade said.

With calm seas and clear skies, Wade and three other scientists motored alongside the massive creatures in a 22-foot inflatable boat. Using a 26-foot-long pole, one of the crew implanted a 4.5-inch-long transmitter into the blubber on each whale's back.

Since then, the tags have periodically broadcast radio signals that orbiting satellites use to

estimate the animals' location. While one whale's signal has not yet given clear locations because of a technical problem, the other whale has led scientists on a virtual tour.

Wade has been sharing the whale's locations with researchers aboard the National Oceanic and Atmospheric Administration ship McArthur II, now studying humpback whales in the Bering Sea. That team hopes to find the two tagged animals and see whether other right whales might be swimming nearby, said biologist Jay Barlow, in an e-mail about the project, on Monday.

"It will be tremendous if we can track these whales to their migratory destination," Wade added in a written statement. "We have very little idea where these whales go in the winter, other than somewhere south, and we don't know what route they take."

Daily News reporter Doug O'Harra can be reached at do'harra@adn.com.

Print Page | Close Window

North Pacific right whale satellite tagging project – Project summary.

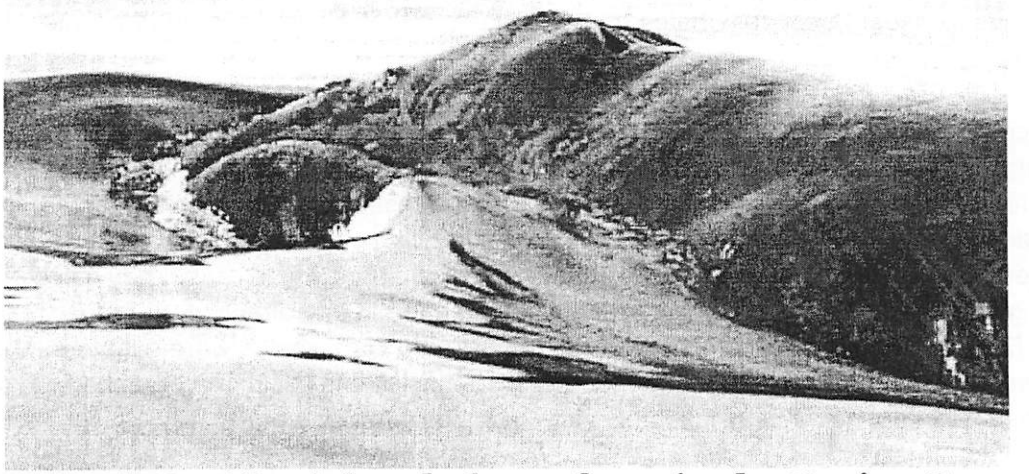
In August 2004, the Cetacean Assessment and Ecology Program (CAEP) at the National Marine Mammal Laboratory initiated a North Pacific right whale tagging project. This is a collaborative study with the whale tagging group at the Greenland Institute for Natural Resources (GINR) in Copenhagen, Denmark. The co-principal investigators of the study are Dr. Paul R. Wade (CAEP) and Dr. Mads Peter Heide-Joergensen (GINR).

There are three main questions that are being addressed by this study:

1. Where do North Pacific right whales go in the winter?
2. What migratory route do they take to get to their wintering grounds?
3. Do right whales found in the southeast Bering Sea in summer (in the "right whale box") also use other feeding areas in Alaska?

The project should also provide information about specific habitat use in the Bering Sea, with the potential for investigation into the oceanographic conditions of those areas.

The goal of the survey was to find north Pacific right whales and deploy satellite tags on them. Photo-identification data and biopsy samples were also collected. A charter vessel was used to conduct a 10 day survey in the southeast Bering Sea. Nine scientists participated in the survey, including a sighting team of six scientists using binoculars to visually scan for whales, two acoustic technicians using directional sonobuoys to listen for right whale calls, and a technician to deploy the satellite tags.



A north Pacific right whale surfaces in the Bering Sea on August 10, 2004. This is one of two whales on which satellite tags were deployed. (photo credit John Durban, NMML)

North Pacific right whale satellite tagging project – Project details.

The charter vessel *Alaska Enterprise* was used for the project. The right whale satellite tagging project was just one element of a 40-day multi-species cetacean survey called the Alaska Cetacean Ecosystem (ACE) survey. The ACE survey included 4 separate legs: (1) a survey focused on killer whales and humpback whales in the eastern Aleutian Islands; (2) a survey focused on killer whales in the central Aleutian Islands; (3) a multi-species cetacean survey from Dutch Harbor along the Bering Sea shelf break to the Pribilof Islands; and (4) a right whale survey in the southeast Bering Sea.

The killer whale studies are part of ongoing killer whale research conducted by CAEP in western Alaska (http://www.afsc.noaa.gov/Quarterly/ond2003/featurelead.htm). The humpback whale studies are one component of the international North Pacific-wide SPLASH humpback whale project (http://www.hihwnms.nos.noaa.gov/special_offerings/sp_off/splash/splash.html).

For the right whale survey, the *Alaska Enterprise* left Dutch Harbor, Alaska, on August 6 and conducted killer whale studies along the north side of Unimak Island on August 7. Three groups of mammal-eating killer whales ("transients") were photographed near a Steller sea lion colony on Sea Lion Rocks near Amak Island. That evening, the ship headed north for the "right whale box", and started the right whale survey on August 8.

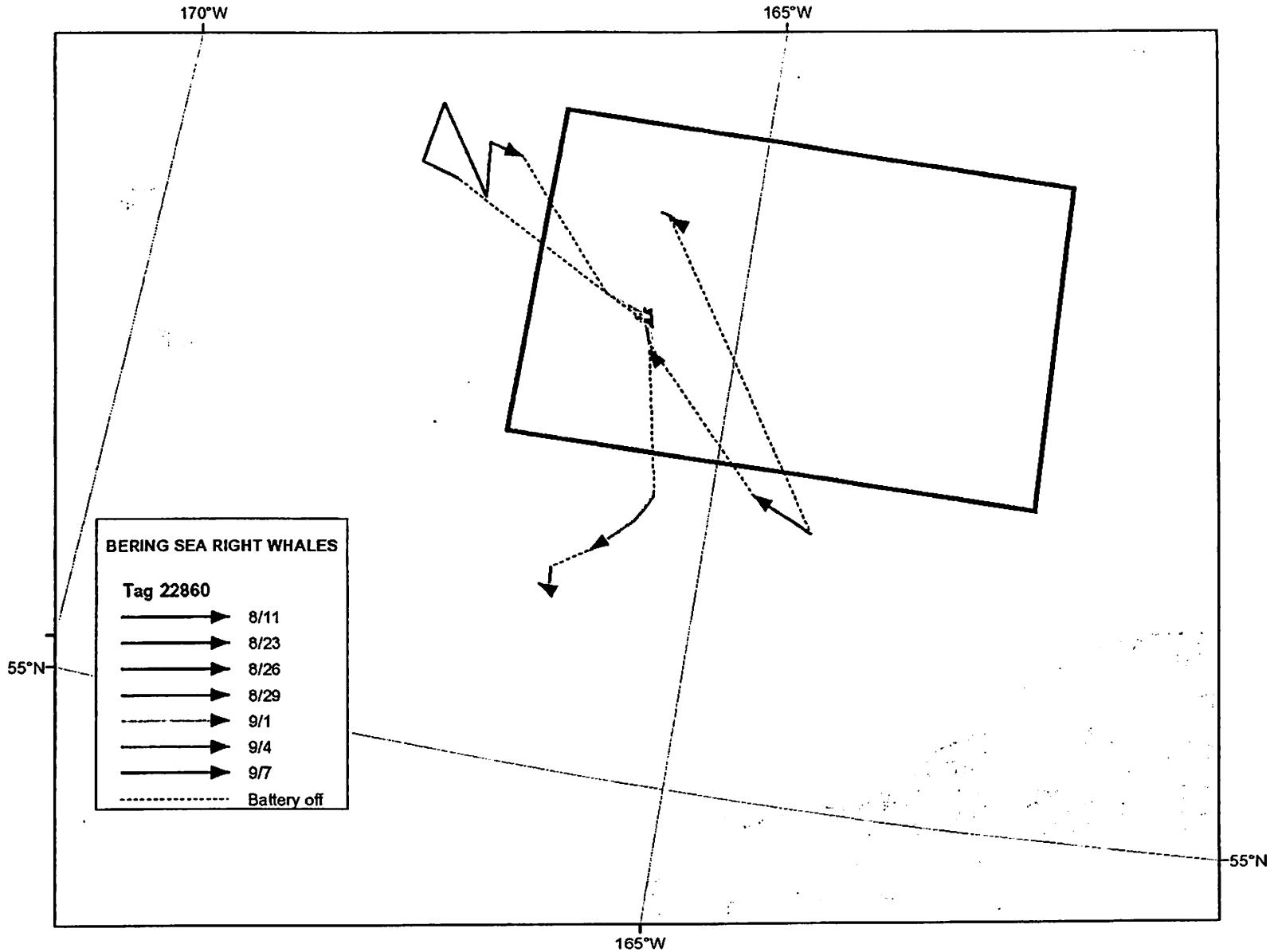
The survey sighting team consisted of six scientists: Dr. Paul R. Wade (Cruise Leader, Alaska Fisheries Science Center), Dr. John Durban (a National Research Council post-doctoral fellow at the Alaska Fisheries Science Center), Dr. Kim Parsons (a National Research Council post-doctoral fellow at the Northwest Fisheries Science Center), Robert L. Pitman (Southwest Fisheries Science Center), John Brandon (University of Washington), and Eric Ward (University of Washington). The sighting team used 25-power and 7-power binoculars to visually scan for whales from one half-hour after sunrise to approximately one half-hour before sunset.

The acoustic researchers included Dr. Allan Sauter and Lisa Munger (Scripps Institution of Oceanography). They deployed directional sonobuoys (underwater listening devices) to listen for right whale calls. When calls were heard, the researchers could calculate a bearing towards the calls to lead the ship to the location of the whales. On August 10, Sauter and Munger deployed a sonobuoy at noon, and heard distant right whale calls. They calculated a bearing (direction) towards the calls, and the ship headed in that direction. At around 7 pm, about 57 miles from where the calls were first heard, two right whales were seen near the horizon by Parsons. The ship approached the whales for some initial photographs, and then launched a 22-foot rigid-hulled inflatable skiff to deploy satellite tags.

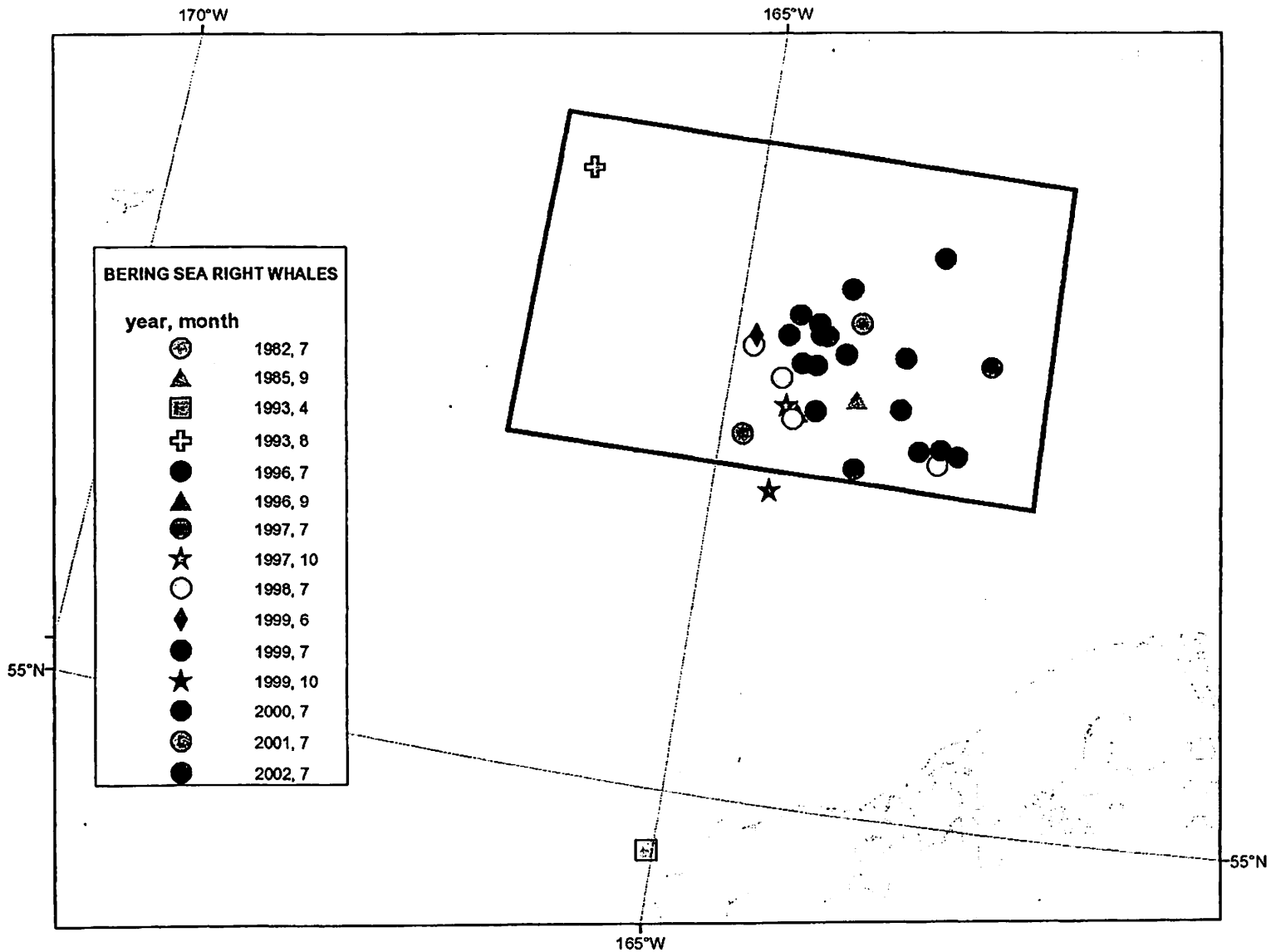
Anders Villum Jensen, who works with Heide-Joergensen (GINR), served as the satellite tagging technician. A tag was placed on the first whale around 8:30 p.m., and a tag was placed on the second whale around 9:30 p.m. Both whales were fairly large. The larger of

the two was likely an adult, and the second whale was slightly smaller and likely a small adult or sub-adult.

The survey continued on August 11, without additional right whales being found. High winds that started August 12 prevented further survey effort in the "right whale box," and the ship returned to Dutch Harbor on August 17.



Locations reported by a satellite tag deployed on a north Pacific right whale on 8/10/04 during the right whale leg of NMML's Alaska Cetacean Ecosytem Survey. The sighting locations are prelimary and include low-quality locations with unknown error rates. The tag is configured to transmit every 3rd day. The dotted lines connect locations that occur on sequential days, and do not necessarily represent the actual path of the whale. The black rectangle is the "right whale box", the area where nearly all right whale sightings in the Bering Sea have been the last 25 yea



Locations of right whales in the Bering Sea seen during the last 25 years. The majority of the sightings since 1996 have been from vessel or aerial-based NOAA surveys. The black rectangle is the "right whale box", the area where nearly all right whale sightings in the Bering Sea have been the last 25 years.

Last Updated 09/13/2004 13:12:01

DRAFT

North Pacific Fishery Management Council
Fur Seal Committee Meeting
September 29, 2004

This meeting will convene by teleconference. The call-in phone number is 907-271-2896

AGENDA

September 29, 2004 (9:00 am AK Time)

1. Opening remarks; objectives of meeting; approval of agenda (Benson)
2. Review of dEIS on renewing Pribilof Islands fur seal subsistence harvest regulations and the dEIS preferred alternative
3. Cumulative effects of commercial fisheries
   A. Direct
   B. Indirect
4. Report on 2004 fur seal surveys (Brix)
5. Fur Seal Conservation Plan status (Brix)
6. Closing remarks, action items (Benson)

Northern Fur Seal

Summary Prepared for North Pacific Fishery Management Council

Update Prepared by: Dr. Rolf Ream, National Marine Mammal Laboratory, September, 2004

The northern fur seal (*Callorhinus ursinus*) is a widely distributed member of the family Otariidae with a pelagic distribution across the North Pacific Ocean from the Sea of Okhotsk to the northern Bering Sea and as far south as 34° N (Kenyon and Wilke 1953; Gentry 1998). Breeding occurs on a limited number of islands within this range: Robben Island, the Kuril Islands (Lovushki and Srednev), and the Commander Islands (Bering and Medny) in Russia; Bogoslof Island and the Pribilof Islands (St. George and St. Paul) in Alaska; and San Miguel Island in California. Most of these islands contain several distinct breeding areas. Individuals of this long-lived species exhibit a predictable annual pattern of seasonal pelagic migration from the islands into the North Pacific in late fall, returning to breed and rear young in late spring and throughout the summer (Gentry 1998).

Northern fur seals have a highly polygynous mating system, and both sexes exhibit philopatry to islands, breeding areas on an island, and even to specific segments of breeding areas (Kenyon and Wilke 1953; Kenyon 1960; Griben 1979; Chelnokov 1982; Baker et al. 1995; Gentry 1998). However, as would be expected in a wide-ranging pelagic species, movement among islands does occur, as evidenced by the colonization and rapid growth on Bogoslof Island in 1980 (Loughlin and Miller 1989; Ream et al. 1999), and the colonization of San Miguel Island in 1965 (Peterson et al. 1968).

The northern fur seal has undergone three major reductions in abundance during the past two and a half centuries (Lander and Kajimura 1982; National Marine Fisheries Service 1993; Gentry 1998). The first population decline, during the late 1700s and early 1800s, resulted from vast unregulated commercial harvests at the breeding islands. The second decline occurred during the late 1800s into the early 1900s, and was attributed to inadequate management of the herd and extensive pelagic sealing (Lander 1980). The last major decline began after the initiation of an experimental harvest of female fur seals on the Pribilof Islands in 1956 (York and Hartley 1981). However this decline was more difficult to explain; the population size on the Pribilof Islands increased slightly after the cessation of the harvest, and then continued to decline from 1976 until the early 1980s (York 1987). It has been suggested that climate and ecosystem changes may have contributed to the declines (Gentry 1998). Northern fur seals in U.S. waters, excluding the San Miguel Island population, were listed as depleted under the Marine Mammal Protection Act in 1988. A Conservation Plan for the northern fur seal was written by the National Marine Fisheries Service in 1993 to delineate reasonable actions to protect the species, and is currently under revision.

After remaining stable throughout the 1980s, the fur seal population on the Pribilof Islands has again begun to show signs of a significant decline. Numbers of northern fur seal pups born on the Pribilof Islands were estimated during August 2004 using a mark-recapture method, shear-sampling, to monitor the northern fur seal population size and trends. An estimated 122,803 (SE = 1,290) pups were born on St. Paul Island and 16,876 (SE = 239) pups were born on St. George Island. The observed pup mortality rates of 3.27% on St. Paul Island and 2.46% on St. George Island were relatively low, and similar to estimates obtained in 2002. The 2004 pup production estimate for St. Paul Island is 15.7% less than the estimate in 2002 and 22.7% less than the estimate in 2000. The 2004 pup production estimate for St. George Island is 4.1% less than the estimate in 2002 and16.4% less than the estimate in 2000. Estimated pup production has declined at 6.4% per year (SE = 0.78%, P = 0.01) on St. Paul Island, and at 4.6% per year (SE = 0.45%, P = 0.01) on St. George Island, from the estimated pup production in 1998. Estimated pup production on the two islands, as a whole, has declined at 6.2% per year (SE = 0.58%, P = 0.01) since 1998. The total number of pups born in the Pribilof Islands in 2004 was estimated as being less than one third the numbers born during the 1950s. The 2004 pup production estimate on St. Paul Island is comparable with the level observed in 1918, while the St. George pup production estimate is below the level observed in 1916. During the time period of 1916 to 1918, the northern fur seal population was increasing at approximately 8% per year following the cessation of extensive pelagic sealing.

Adult male northern fur seals were counted on the Pribilof Islands during the period July 9 to 14, 2004. The counts of territorial males with females on St. George showed a slight increase in 2004 compared to 2003. However, the approximately 5% per year decline on St. Paul continues. Idle males on both islands declined in comparison to 2003 (a 33.6% decline on St. Paul and a 21.8% decline on St. George - possibly influenced by the warm weather experienced in 2004). Overall, the total numbers of adult males on the Pribilof Islands was 9,978, a decline of 23.8%. This is the lowest number since 1930 when there was a harvest of juvenile males of over 20,000 per year 3-5 years earlier.

Studies of foraging ecology and habitat use using satellite telemetry found that the average maximum distance of adult female foraging trips from their breeding sites on the Pribilof Islands was 260.8 ± 76.3 km (n=41) during 1995, and 229.0 ± 64.6 km (n=56) during 1996 (Robson et al. 2004). Additionally, geographic separation of foraging habitat was observed between animals from St. Paul and St. George Islands, and among breeding areas on St. Paul Island. Segregation of foraging habitat between juvenile male and adult female northern fur seals from St. Paul Island was assessed during the summer of 2000. Juvenile male foraging trips were greater in distance ($\bar{x}$ = 365 ± 31.6 km) and duration ($\bar{x}$ = 18.0 ± 1.6 days) than adult female fur seals ($\bar{x}$ = 208 ± 21.1 km; $\bar{x}$ = 6.9 ± 0.7 days).

Studies of diet, based on scats collected during August 1988 and 1990 on St. Paul Island (n=625) and St. George Island (n=250) and in 1988 on Medny Island (Russia; n=52), have revealed variation in fur seal diet among islands (Antonelis et al. 1997). Walleye pollock (*Theragra chalcogramma*), Gb (*Gonatopsis borealis/Berryteuthis*

magister) squid, and Gm (*Gonatus madokai/Gonatus middendorffi*) squid collectively exceeded 70% of the prey consumed for all islands and years. Walleye pollock was the most common prey item on St. Paul, Gb and Gm squid were most common on Medny, and high occurrences of both walleye pollock and squid (mostly Gb) were found in scats from St. George. Other primary prey species (≥ 10% frequency of occurrence) included Pacific sand lance (*Ammodytes hexapterus*), salmon (*Oncorhynchus* spp.), Atka mackerel (*Pleurogrammus monopterygius*), and Berry armhook squid (*Gonatus berryi*).

Data from pelagic collections of northern fur seals between1958 and 1974 in the Bering Sea and along the continental margins of the North Pacific Ocean provided extensive information regarding fur seal diet, age structure, survival, reproductive biology (rates, age at first reproduction), migratory pathways and winter foraging grounds. While the data obtained from these studies may not be consistent with current fur seal biology (because of differences associated with temporal variability, ocean conditions or population trends), they provide a significant amount of baseline information and comparative data. However, it is also unlikely that these types of collections (lethal) would be repeated in contemporary times, a fact that complicates comparative studies.

It is unclear why fur seal numbers have dropped and why they continue to decrease. It is possible that fur seal condition, survival, or reproductive rates may have been affected by factors such as climate change, interactions with commercial fisheries, or predation. Northern fur seal research priorities include population monitoring (abundance, distribution and trends), foraging ecology (habitat use, dive behavior, energetics, diet and nutrition), health, attendance patterns, seasonal movements, causes of mortality, and vital rates (fecundity and age/sex specific survival).

An intriguing aspect of the changing population levels is that whereas fur seal numbers on the Pribilof Islands have been falling, a relatively small population at Bogoslof Island (eastern Aleutian Islands) has been increasing in recent years. This situation has led to funding by the North Pacific Research Board of a joint project, between NMFS and UAF, which compares fundamental elements of fur seal biology (e.g., diet, foraging habitat, and attendance patterns) during the summer lactation period at Bogoslof Island and St. Paul Island. The study will assess the consequences of different foraging strategies on the fitness of individual adults and pups, and will inform us about the importance of habitat quality in the Bering Sea to fur seal population dynamics. A second element of the project involves the fact that adult females and juveniles spend considerably more time outside the Bering Sea each year than in it (between breeding seasons). Habitat quality in the Bering Sea may, therefore, be of less importance to individuals and populations than habitat quality in the North Pacific during winter. Thus, the project will involve longitudinal studies of individual fitness through complete annual cycles, which will further inform us about the importance of conditions in the Bering Sea compared to conditions in the North Pacific.

References

Antonelis, G.A., Sinclair, E.H., Ream, R.R., Robson, B.W. 1997. Inter-island variation in the diet of female northern fur seals (Callorhinus ursinus) in the Bering Sea. Journal of Zoology 242, 435-451.

Baker, J.D., Antonelis, G.A., Fowler, C.W., York, A.E. 1995. Natal site fidelity in northern fur seals, Callorhinus ursinus. Animal Behaviour 50, 237-247.

Chelnokov, F.G., 1982. Homing and distribution of fur seals in the harem territories of Southeast rookery, Medny Island, The study, preservation and rational exploitation of marine mammals. Reports from the Eighth All-Union Conference on the Study of Marine Mammals, In Russian. English translation available from NOAA, National Marine Mammal Laboratory, Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA 98115-0070., pp. 401-403.

Gentry, R.L. 1998. Behavior and ecology of the northern fur seal. Princeton, N.J., Princeton University Press.

Griben, M.R. 1979. A study of the intermixture of subadult male fur seals, Callorhinus ursinus (Linneaus, 1785), between the Pribilof Islands of St. George and St. Paul, Alaska. Seattle, University of Washington.

Kenyon, K.W. 1960. Territorial behavior and homing in the fur seal. Mammalia 24, 431-444.

Kenyon, K.W., Wilke, F. 1953. Migration of the northern fur seal, Callorhinus ursinus. Journal of Mammalogy 34, 86-98.

Lander, R.H. 1980. Summary of northern fur seal data and collection procedures. Seattle, U.S. Department of Commerce.

Lander, R.H., Kajimura, H. 1982. Status of the northern fur seal, Mammals of the Sea. FAO Fisheries Service No. 5., pp. 319-345.

Loughlin, T.R., Miller, R.V. 1989. Growth of the northern fur seal colony on Bogoslof Island, Alaska. Arctic 42, 368-372.

National Marine Fisheries Service, 1993. Final Conservation Plan for the Northern Fur Seal (Callorhinus ursinus).

Peterson, R.S., Le Boeuf, B.J., Delong, R.L. 1968. Fur seals from the Bering Sea breeding in California. Nature 219 (157), 899-901.

Ream, R.R., Baker, J.D., Towell, R.G. 1999. Bogoslof Island Studies, 1997. In: Sinclair, E. H., Robson, B. W. (Eds.), Fur Seal Investigations, 1997. NOAA Technical Memorandum, NMFS-AFSC-106. Seattle, U.S. Department of Commerce, pp. 81-91.

Robson, B.W., Goebel, M.E., Baker, J.D., Ream, R.R., Loughlin, T.R., Francis, R.C., Antonelis, G.A., Costa, D.P. 2004. Separation of foraging habitat among breeding sites of a colonial marine predator, the northern fur seal (Callorhinus ursinus). Canadian Journal of Zoology-Revue Canadienne De Zoologie 82 (1), 20-29.

York, A.E. 1987. Northern fur seal, Callorhinus ursinus, Eastern Pacific population (Pribilof Islands, Alaska, and San Miguel Island, California). In: Croxall, J. P., Gentry, R. L. (Eds.), Status, Biology, And Ecology of Fur Seals. Proceedings of an International Symposium and Workshop. NOAA Technical Report, NMFS 51. Seattle, U.S. Department of Commerce, pp. 9-21.

York, A.E., Hartley, J.R. 1981. Pup production following harvest of female northern fur seals. Canadian Journal of Fisheries and Aquatic Sciences 38 (1), 84-90.

National Marine Fisheries Service
Alaska Region
NEWS RELEASE

P.O. Box 21668, Juneau, Alaska 99802-1668

CONTACT:
Sheela McLean, (907) 586-7032

NMFS 04-AKR
August 17, 2004

Count of Adult Male Northern Fur Seals on Pribilof Islands Drops

National Oceanic and Atmospheric Administration (NOAA) scientists have filed their initial report on the count of adult male northern fur seals in the Pribilof Islands, and the initial count shows lower numbers overall.

"The studies to obtain a current northern fur seal pup estimate will continue through about August 27," said Dr. Tom Loughlin, the Alaska Ecosystem Program Leader for the National Marine Mammal Laboratory at NOAA's Alaska Fisheries Science Center. "It will take us a couple weeks after that to put together the numbers and derive an estimate for the number of pups born in 2004 on the Pribilofs ."

"Idle" males--males without harems--on both islands declined in comparison to last year. There was a 33.6% decline on St. Paul and a 21.8% decline on St. George. Loughlin pointed out that the count of idle males this year could be influenced by unusually warm weather that occurred during the time of the census. The idle males might be more likely to stay in the cool water, rather than haul out in the warm air and be counted, as has been observed in the past.

Over the past few decades scientists observing northern fur seals in the Pribilofs have expressed concern that one small rookery, the Little Polovina rookery s have been observed there in the last several years.

Scientists have not produced a current estimate for the total population of northern fur seals in the North Pacific. The estimated total population of northern fur seals for the Eastern Pacific in 2000 was about 888,120, compared to over 2 million between 1940 and 1959.

Loughlin has been involved in northern fur seal counts since 1981. The 2004 adult male northern fur seal count was overseen in the Pribilofs by Dr. Chuck Fowler of the National Marine Mammal Laboratory. He had help from an eight-person field crew of individuals who helped at various times: Erica Anderson, Adam Cotton, Mike Etnier, Clifford Kashevarof, Zena Merculief, Jeff Rodin, Sasha Romanenko, and Bill Wilson.

Adam Cotton, following established protocols, produced an estimated entanglement rate of 0.01% for adult female northern fur seals. This is about the same rate of entanglement for the last 13 years.

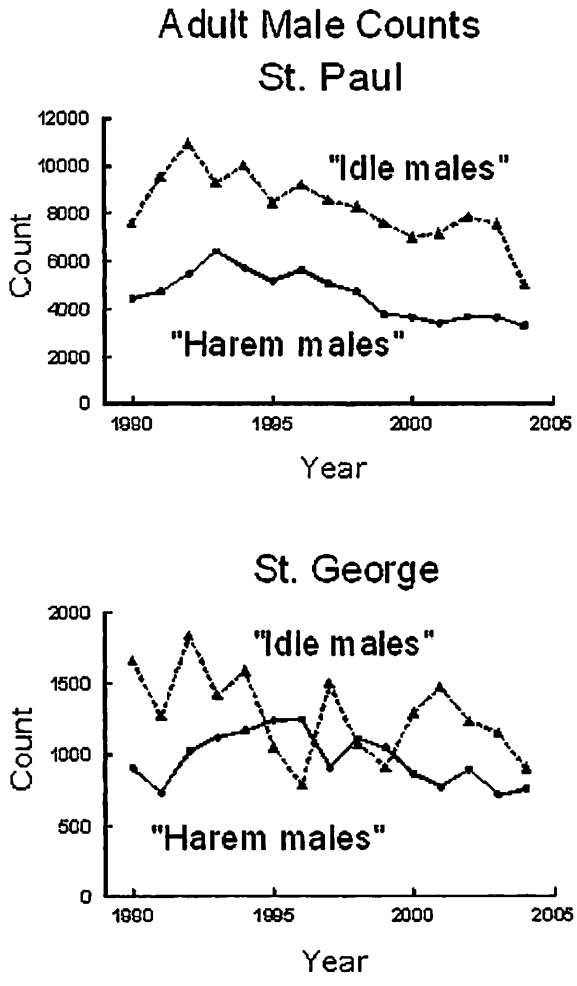


Figure 1. Temporal dynamics of the counts of adult male northern fur seals on St. Paul and St. George Islands, 1990-2004, showing territorial males with females (filled circles) and idle males (territorial and non-territorial combined, filled triangles).

NOAA's National Marine Fisheries Service (NOAA Fisheries) is dedicated to protecting and preserving our nation's living marine resources through scientific research, management, enforcement, and the conservation of marine mammals and other protected marine species and their habitat. To learn more about NOAA Fisheries in Alaska, please visit our website at www.fakr.noaa.gov

More News Releases

Alaska Fisheries
Science Center
National Marine Mammal Laboratory
7600 Sand Point
Way N.E., Bin
C15700
Seattle, Washington 98115-0070

(206) 526-4039 FAX: (206)526-6615

September 22, 2004 F/AKC3:RT

MEMORANDUM FOR: The Record

FROM: Rod Towell

SUBJECT: 2004 northern fur seal pup production on the Pribilof Islands, Alaska.

Numbers of northern fur seal, Callorhinus ursinus, pups were estimated using a mark-recapture method, shear-sampling, on the Pribilof Islands during August 2004, to monitor the northern fur seal population size and trends. We estimate 122,803 (SE = 1,290) pups were born on St. Paul Island and 16,876 (SE = 239) pups were born on St. George Island. The observed pup mortality rates of 3.27% on St. Paul Island and 2.46% on St. George Island were relatively low, and similar to estimates obtained in 2002. Due to logistical constraints, pup production estimates were not conducted on Sea Lion Rock, a small island approximately 500 m from St. Paul Island. The 2004 pup production estimate for St. Paul Island is 15.7% less than the estimate in 2002 and 22.7% less than the estimate in 2000. The 2004 pup production estimate for St. George Island is 4.1% less than the estimate in 2002 and16.4% less than the estimate in 2000. Estimated pup production has declined at 6.4% per year (SE = 0.78%, P = 0.01) on St. Paul Island, and at 4.6% per year (SE = 0.45%, P = 0.01) on St. George Island, from the estimated pup production in 1998. Estimated pup production on the two islands, as a whole, has declined at 6.2% per year (SE = 0.58%, P = 0.01) since 1998. The 2004 pup production estimate on St. Paul Island is comparable with the level observed in 1918, while the St. George pup production estimate is below the level observed in 1916. During the time period of 1916 to 1918, the northern fur seal population was increasing at approximately 8% per year following the cessation of extensive pelagic sealing.

Table 1: Numbers of northern fur seal, *Callorhinus ursinus*, pups born on St. Paul Island, Alaska in 2004. Estimates are shown on numbers alive at the time of shearing, counts of dead pups, estimates of pups born, standard error of estimate (SE), and estimates of pup mortality rate (%).

Rookery	Live	Dead	Born	SE	Mortality
Lukanin	2,993	102	3,095	176.0	3.30
Kitovi	4,800	109	4,909	48.5	2.22
Reef	15,262	456	15,718	492.5	2.90
Gorbatch	9,569	417	9,986	96.0	4.18
Ardiguen	1,158	38	1,196	104.0	3.18
Morjovi	8,781	217	8,998	177.0	2.41
Vostochni	18,872	618	19,490	436.5	3.17
Polovina	2,511	70	2,581	108.0	2.71
Little Polovina[1]	67	2	69	4.9	2.90
Polovina Cliffs	10,889	177	11,066	503.0	1.60
Tolstoi	13,146	639	13,785	560.5	4.64
Zapadni Reef	4,916	171	5,087	245.5	3.36
Little Zapadni	10,021	418	10,439	204.0	4.00
Zapadni	15,799	585	16,384	682.0	3.57
Total	**118,784**	**4,019**	**122,803**	**1,289.8**	**3.27**

[1] Live and dead pups for Little Polovina were estimated to reduce disturbance to this diminishing rookery.

Table 2.--Numbers of northern fur seal, *Callorhinus ursinus*, pups born on St. George Island, Alaska in 2004. Estimates are shown on numbers alive at the time of shearing, counts of dead pups, estimates of pups born, standard of error estimate (SE), and estimates of pup mortality rate (%).

Rookery	Live	Dead	Born	SE	Mortality
South	3,774	134	3,908	70.0	3.43
North	5,299	96	5,395	25.0	1.78
East Reef	915	20	935	55.0	2.14
East Cliffs	3,305	72	3,377	52.0	2.13
Staraya Artil	974	27	1,001	132.0	2.70
Zapadni	2,194	66	2,260	168.5	2.92
Total	16,461	415	16,876	238.9	2.46

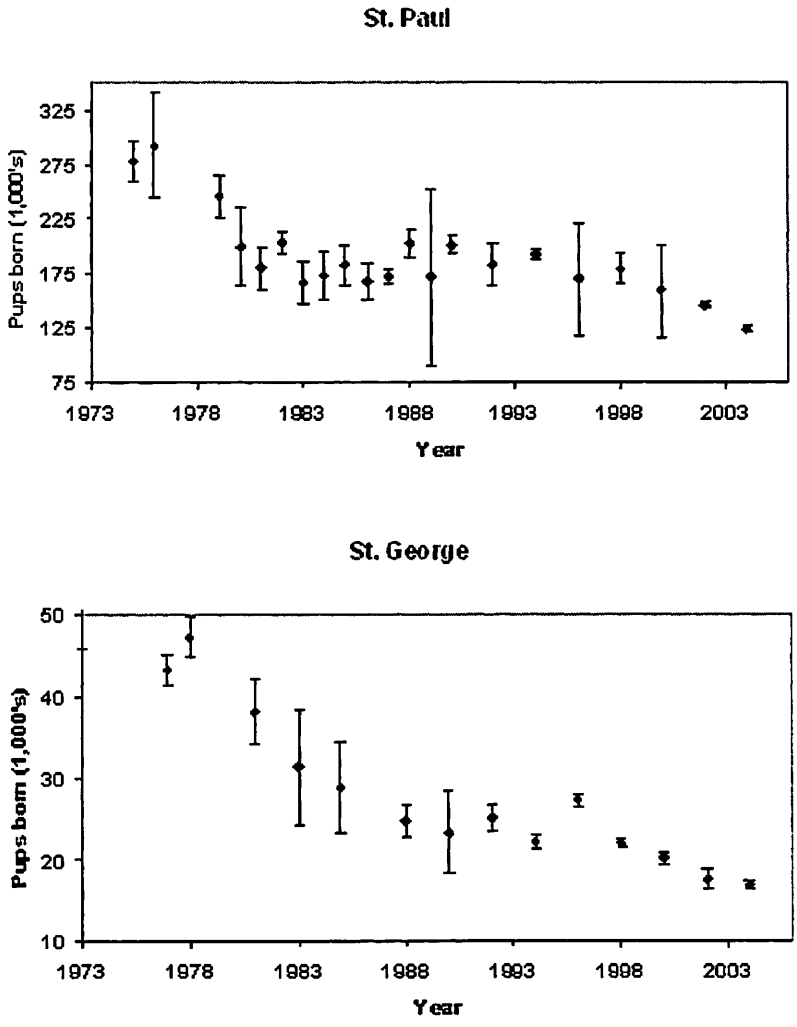


Figure 1. -- Northern fur seal pups born on Pribilof Islands, 1975-2004. Error bars are approximate 95% confidence intervals.

National Marine Fisheries Service
Alaska Region

NEWS RELEASE

Alaska Region, P.O. Box 21668, Juneau, Alaska 99802-1668

CONTACT: Sheela McLean
(907) 586-7032

Date: September 24, 2004

Scientists reveal mixed population trends for marine mammals

National Oceanic and Atmospheric Administration (NOAA) Fisheries researchers counting seals and sea lions in the Bering Sea and Aleutian Islands brought home mixed news this season: the northern fur seal decline continues in the Pribilof Islands, while Steller sea lion numbers have increased in western Alaska.

"Two counts in four years doesn't scientifically establish a clear population trend for endangered Steller sea lions in western Alaska," said Doug DeMaster, Director of the Alaska Fisheries Science Center, "but the numbers point towards stabilization or increase of that population."

"Northern fur seals are another story," said DeMaster. "We have seen a serious decline starting about 1998, and we don't understand the factors responsible." Northern fur seals are considered depleted under the Marine Mammal Protection Act.

Scientists have just finished their analysis of the 2004 count for northern fur seals in the Pribilof Islands and recorded that, once again, fewer pups have been born this year than during the previous biennial estimate, with a population decline rate of about 6% annually since 1998.

NOAA Fisheries scientists estimate that the western Steller sea lion population increased approximately 6% to 7% from 2002 to 2004. That is similar to the rate of increase observed between 2000 and 2002. Between 1991 and 2002, the western Steller sea lion population declined at about 4% per year on average.

The eastern stock of Steller sea lions (southeast Alaska to California) has increased at 2 to 3% per year overall from the early 1980s to 2002.

Causes for the recent population changes for northern fur seals (*Callorhinus ursinus*) and Steller sea lions (*Eumetopias jubatus*) are not known. The ebb and flow of available prey, perhaps influenced by large-scale fishing and natural ecosystem fluctuations is one possible factor. The complexity of ecosystem interactions and limitations of data and models make it difficult to determine how fishery removals may have influenced the populations. Other factors which may

have contributed to past and present declines of northern fur seals and Steller sea lions include parasites and disease, injuries, pollutants, general nutrition, and predation by killer whales.

On the web:
Steller sea lion information and graphics:
http://nmml.afsc.noaa.gov/AlaskaEcosystems/sslhome/survey2004.htm
Northern fur seal information with graphics:
http://nmml.afsc.noaa.gov/alaskaecosystems/nfshome/survey2004pribpups.htm

NOAA's National Marine Fisheries Service (NOAA Fisheries) is dedicated to protecting and preserving our nation's living marine resources through scientific research, management, enforcement, and the conservation of marine mammals and other protected marine species and their habitat. To learn more about NOAA Fisheries in Alaska, please visit our website at www.fakr.noaa.gov

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Alaska Fisheries Science Center
National Marine Mammal Laboratory
7600 Sand Point Way N.E.
Seattle, Washington 98115

(206) 526-4024 FAX: (206)526-6615

22September 2004 F/AKC3:lwf

MEMORANDUM FOR: Record

FROM: Lowell Fritz

SUBJECT: Western Steller Sea Lion Aerial Survey Results, June 2004

An aerial survey of the western stock of Steller sea lions in Alaska (from Cape St. Elias, 144°W to Attu Island, 172°E) was conducted by scientists from the Southwest Fisheries Science Center in June 2004. This was the first complete survey conducted using medium format, vertical photogrammetric techniques. In previous years, counts of adult and juvenile (non-pup) sea lions were made from 35 mm slides shot obliquely (from the side windows) of aircraft. Based on comparison surveys, counts made from medium format photographs are approximately 3-4% higher than those from 35 mm slides because of the resolution of the film and the orientation of the photograph.

NMFS monitors the population at a series of 'trend' sites that have been consistently surveyed since the mid-1980s. In 2004, there were a total of 28,730 non-pup Steller sea lions counted on the 262 sites surveyed in the range of the western stock. The 2002 counts were made from 35 mm slides, while those in 2004 were made from medium format photographs. Subtracting the 3-4% increase due to film format differences, NMFS estimates that the western Steller sea lion population increased approximately 6-7% from 2002 to 2004. This is similar to the rate of increase observed between 2000 and 2002 (Figure 1).

There were regional differences in the trends observed between 2002 and 2004. Trend site counts increased between 2002 and 2004 in the three Aleutian Islands sub-areas (Western, Central and Eastern) and in the western Gulf of Alaska, from the Shumagin Islands through Unimak Pass (Figures 1 and 2). However, in the eastern portion of the range of the western Steller sea lion population, trend site counts remained stable (near Prince William Sound in the eastern Gulf of Alaska) or decreased (around Kodiak Island in the central Gulf of Alaska).

A slightly different pattern of trends is revealed if sub-area counts since 1989 are examined. Steller sea lion non-pup counts in the center of the range of the western stock (the western Gulf of Alaska and Eastern Aleutian Islands from the Shumagin Islands through the Islands

of Four Mountains) remained relatively stable from 1989-2004, showing oscillations around a mean. To the west, sea lion numbers decreased through the mid-1990s in both the Central and Western Aleutian Islands. Trend site counts stabilized at the 1998 level in the Central Aleutians, but continued to decline in the Western Aleutians through 2002 followed by a small increase between 2002 and 2004. To the east, trend site counts decreased sharply in both the Central and Eastern Gulf of Alaska through 1998. Since then, counts increased in the Eastern Gulf of Alaska but have continued to decline, but at a slower rate, in the Central Gulf of Alaska. NMFS, along with its research partners in Alaska, Canada, and Russia is exploring several hypotheses to explain these trends, including climate or fisheries related changes in prey quality or quantity, and increases in the rate of predation by killer whales.

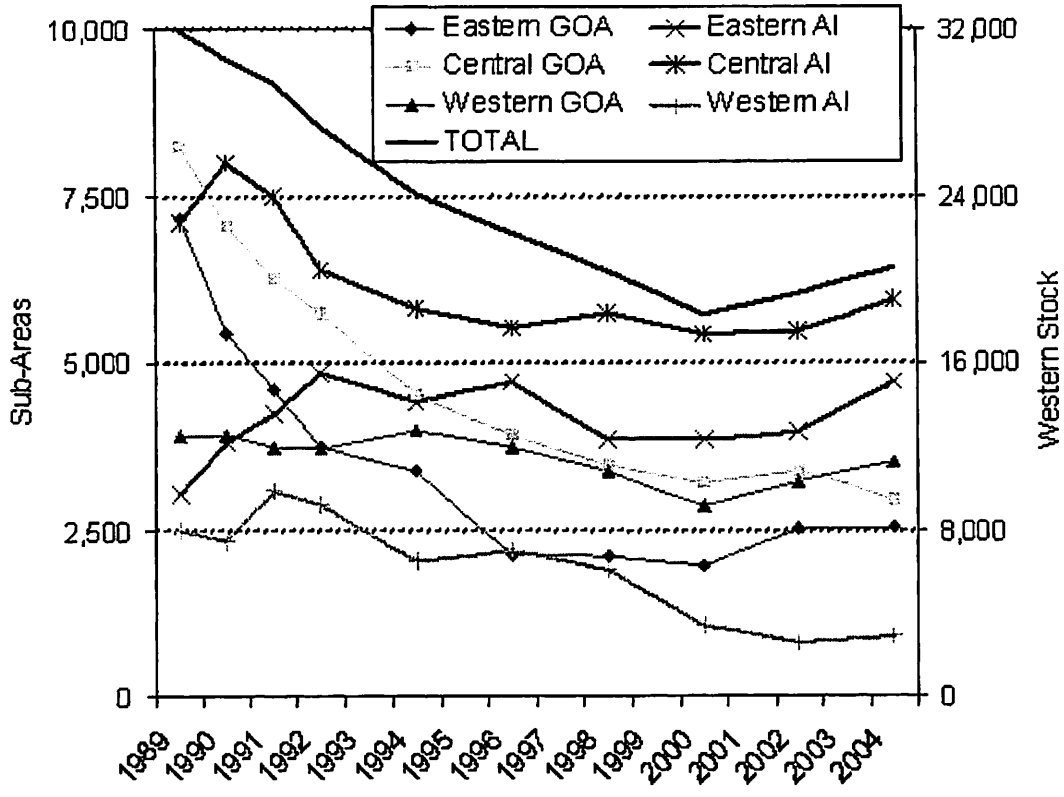


Figure 1. Counts of non-pup (adult and juvenile) Steller sea lions on rookery and haulout trend sites in the range of the western population from 1989-2004. Counts are aggregated by sub-area (left axis) in the Gulf of Alaska (GOA) and Aleutian Islands (AI) and for the entire western Alaskan population (TOTAL; right axis). Surveys in 1989-2002 used 35 mm oblique slides, while the 2004 survey used medium format vertical photographs. Counts in 2004

displayed above have been reduced 3.5% from the actual count to account for the format differences (see text).

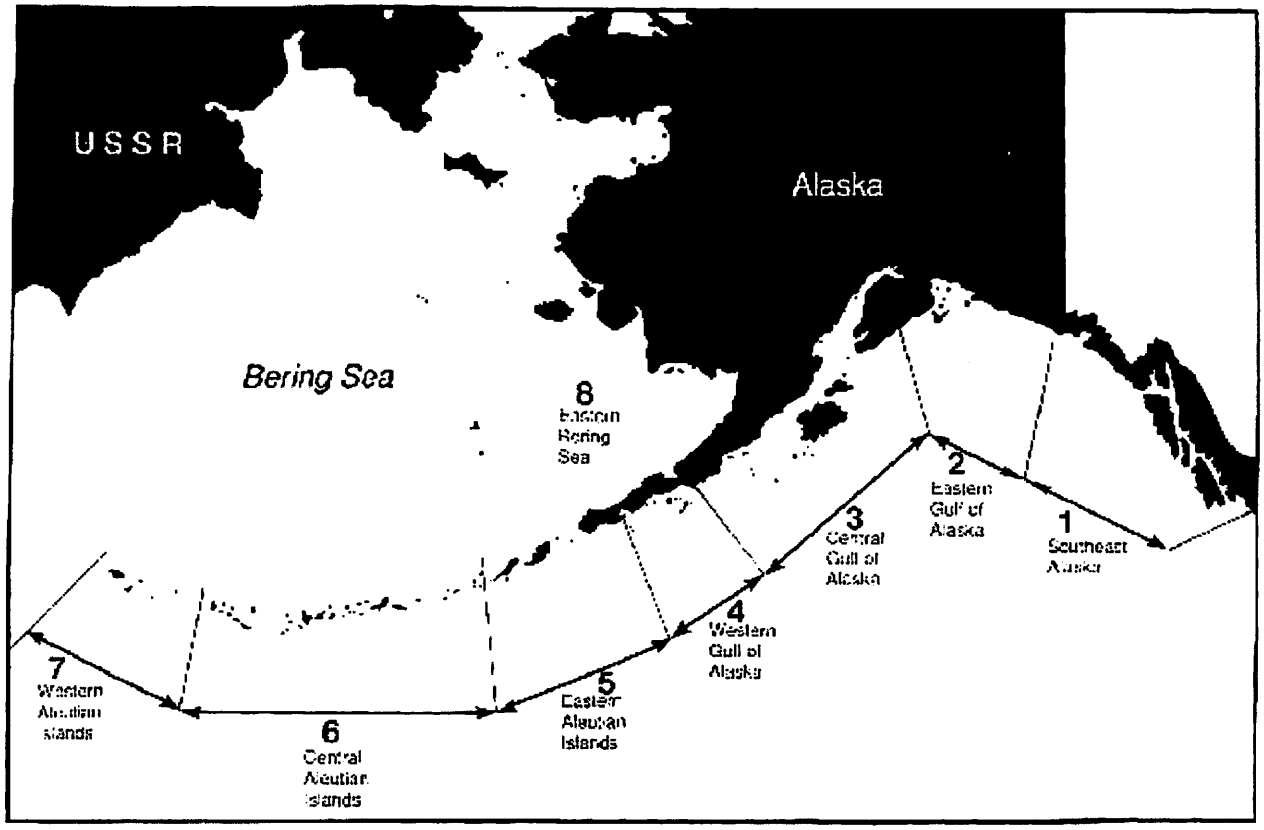


Figure 2. Map of Alaska showing areas within the range of the western Steller sea lion (subareas 2-7) surveyed in 2004.

Counts of adult and juvenile (non-pup) Steller sea lions observed at rookery and haulout trend sites in six subareas of Alaska during June and July aerial surveys from 1989 to 2004, including overall percentage changes between 2002 and 2004, 2000 and 2002, and 1991 and 2004, and estimated annual rates of change from 1991-2004. Counts in 1989-2002 were made visually or from 35 mm slides shot obliquely out the side windows of aircraft. Counts in 2004 were made from medium format photographs shot vertically over rookery and haulout sites. Comparison studies suggest that counts from medium format photographs are approximately 3-4% greater than from 35 mm photographs. Both the corrected (2004[1]) and uncorrected (2004[2]) subarea trend site counts in 2004 are listed. Corrected 2004 counts were used to compute percentage changes and annual rates of change.

	Gulf of Alaska			Aleutian Islands			Western
Year	Eastern	Central	Western	Eastern	Central	Western	Stock
1989	7,175	8,243	3,908	3,032	7,114	2,486	31,958
1990	5,444	7,050	3,915	3,801	7,988	2,327	30,525
1991	4,596	6,270	3,732	4,228	7,496	3,083	29,405
1992	3,738	5,739	3,716	4,839	6,398	2,869	27,299
1994	3,365	4,516	3,981	4,419	5,820	2,035	24,136
1996	2,132	3,913	3,739	4,715	5,524	2,187	22,210
1998	2,110	3,467	3,360	3,841	5,749	1,911	20,438
2000	1,975	3,180	2,840	3,840	5,419	1,071	18,325
2002	2,500	3,366	3,221	3,956	5,480	817	19,340
2004[1]	2,540	2,948	3,517	4,714	5,944	899	20,563
2004[2]	2,632	3,055	3,645	4,885	6,160	932	21,309
Percentage Changes							
2002-2004	1.6%	-12.4%	9.2%	19.2%	8.5%	10.1%	6.3%
2000-2002	26.6%	5.9%	13.4%	3.0%	1.1%	-23.7%	5.5%
1991-2004	-44.7%	-53.0%	-5.7%	11.5%	-20.7%	-70.8%	-30.1%
Annual Rates of Change 1991-2004							
Annual Change	-4.7%	-5.6%	-1.4%	-0.6%	-1.5%	-10.6%	-3.1%
Upper 95%	-0.2%	-3.7%	0.4%	1.4%	0.2%	-7.3%	-1.5%
Lower 95%	-9.2%	-7.5%	-3.2%	-2.5%	-3.2%	-13.8%	-4.8%
P[3]	**0.0446**	**0.0004**	0.1032	0.4993	**0.0752**	**0.0002**	**0.0037**

[1]2004 subarea and western stock counts made from medium format film; reduced by 3.5% to account for format differences. These data were used to calculate percentage changes and annual rates of change.

[2] 2004 subarea and western stock counts made from medium format film; uncorrected for format differences.

[3]Bold indicates P<0.10 (estimated annual rate of change significantly different from 0)

DRAFT TABLE OF CONTENTS
REVISED STELLER SEA LION RECOVERY PLAN
(REVISED – 3 September 2004)

VI. RECOVERY PLAN FOR THE EASTERN STOCK

A. Population Status and Trend
   1. Overview
   2. Southeast Alaska
   3. British Columbia
   4. Washington, Oregon, and California
   5. Eastern population overall

B. Factors Potentially Influencing the Population
   1. Background
   2. Predation
   3. Harvests and other killing by humans
   4. Entanglement in debris
   5. Parasitism and disease
   6. Toxic Substances
   7. Climate change
   8. Nutritional stress
      1. Natural or environmental change
      2. Anthropogenic (Fisheries)
   9. Disturbance
   10. Cumulative, synergistic, and ecosystem effects

C. Recovery Strategy

D. Recovery Plan
   1. Goal and Objectives
   2. Criteria for Evaluating Population Status
   3. Stepdown Outline
   4. Narrative
   5. Implementation Schedule
   6. Plan Implementation Monitoring

VII. LITERATURE CITED AND BIBLIOGRAPHY

VIII. APPENDICES
   A. Research Plan
   B. Links to websites with information on Steller sea lion biology and management

The Aleutians East Borough (AEB) is currently undertaking a study to assess the population trends and diet analysis of Steller sea lions in the Shumagin Islands.

One main objective of this project is to improve the accuracy and precision of the population indices through expanded aerial surveys. We have completed 3 of the 12 quarterly surveys of this project, in March, June and September 2004. Timing and methods of these surveys coincide with surveys by Kate Wynne in the Kodiak area (GAP). These quarterly surveys will allow us to document the seasonal movements and abundance fluctuations of the Stellers in the Shumagin Islands area. Repetitive aerial surveys, designed to complement the official survey of the National Marine Mammal Lab (NMML) were completed June 6- 15, 2004, bracketing the official survey on June 12, 2004. Although the study sampling design called for 8 repeated aerial surveys, (4 prior to the official NMML survey and 4 following the survey) due to weather conditions, only 2 complete surveys and four partial surveys were completed. Funds permitting, another repetitive survey will be added to the study, and will be attempted June 2006.

Our June 2004 counts document a mean of 2393 +/- 162 non-pup Stellers in the Shumagin area from Seal Cape to Kupreanof Pt. This is an increase from the NMML 2002 counts of 2056 in this same area. Figure 1 shows a comparison between the NMML 2002 and AEB 2004 counts. The NMML data for this comparison was taken from Sease and Gudmundson 2002. AEB data is shown in Table 1. The observed difference in counts is accounted for primarily by an increase of Stellers at the Chernabura rookery, which is consistent with reports from the NMML 2004 counts which also show an increase in Steller numbers in the Western Aleutians. Comparison with NMML 2004 counts will occur after NMFS publication of counts at specific sites.

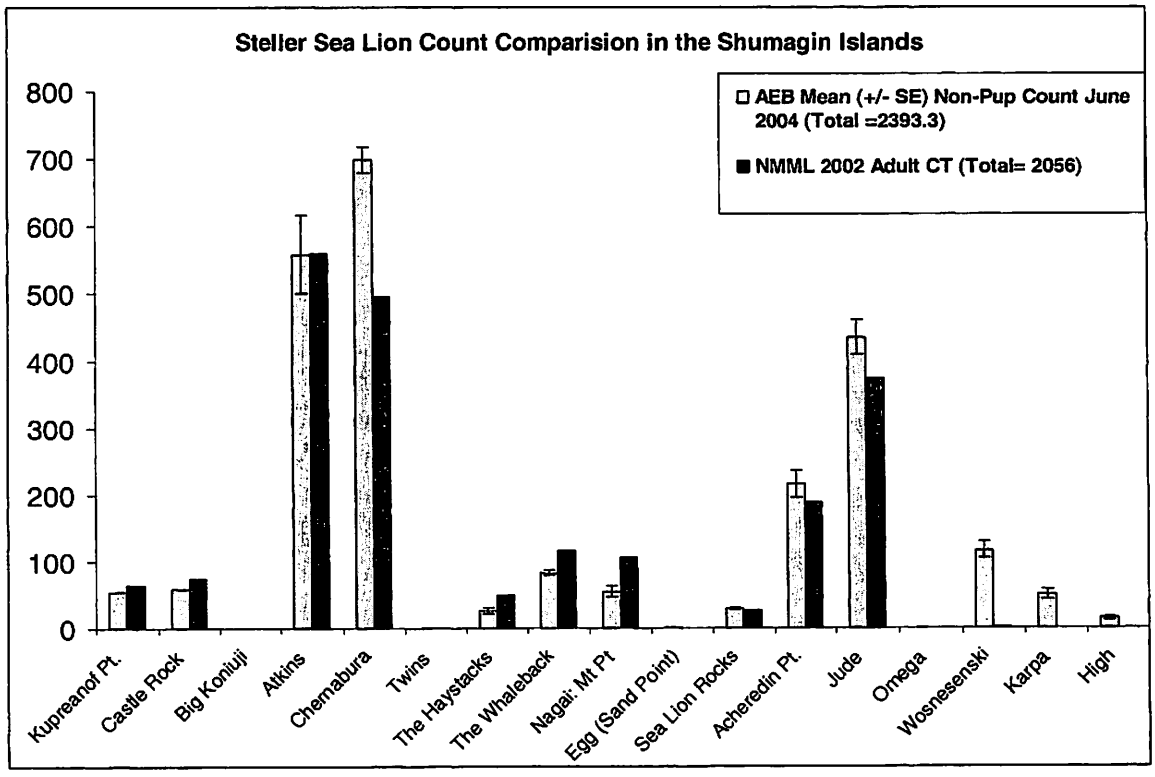


Table 1: Mean non-pup and pup counts standard errors of haulouts and rookeries surveyed in the Shumagin Islands by the Aleutians East Borough, June 2004. Karpa and High Island appear to be new sites (have not been previously documented during June surveys).

N	Shumagin Is Haulout Sites: June 2004	Mean Non-Pup count	NP SE	Mean Pup Count	Pup SE
6	Egg Is.	1.0		0.0	
6	Sea Lion Rocks	28.7	1.52	0.0	
5	Acheredin Pt.	215.8	20.41	0.0	
5	Jude Is.	434.8	25.58	51.8	24.98
5	Wosnesenski I.	116.2	12.41	0.0	
5	Whaleback	82.4	3.79	10.6	3.04
5	Haystacks	26.2	4.36	0.0	
5	Karpa	49.4	7.26	0.0	
4	Unga Cape	0.0		0.0	
4	Omega Is	0.0		0.0	
4	Chernabura Is	698.8	19.10	70.8	16.67
4	Kenoya Is	1.0	1.00	0.0	
3	Twins	0.0		0.0	
3	Mountain Pt	55.0	7.57	0.0	
3	Guillemot Is	0.0		0.0	
2	Castle Rock	58.5	0.50	0.0	
2	Atkins Is	558.5	57.50	59.5	26.50
2	Seal Cape (Mainland)	3.0	3.00	0.0	
2	Bird Is.	0.5	0.50	0.0	
2	Korovin Is.	1.5	1.50	0.0	
2	High Is	14.0	2.00	0.0	
1	Kupreanof Pt. (Mainland	54.0		0.0	

The second major objective of this study is to document the seasonal diets of Steller sea lions in the Shumagins. Although heavy seas in March 2004 prevented scat collection, successful collection of scats for diet analysis was accomplished in June and September 2004. Scats are currently being processed to be sent to Pacific Identification (Susan Crockford) for identification of fish remains.

List of Subjects in 44 CFR Part 67

Administrative practice and procedure, Flood insurance, Reporting and recordkeeping requirements.

Accordingly, 44 CFR part 67 is proposed to be amended as follows:

PART 67—[AMENDED]

1. The authority citation for part 67 continues to read as follows:

Authority: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376.

§ 67.4 [Amended]

2. The tables published under the authority of § 67.4 are proposed to be amended as follows:

Source of flooding	Location	#Depth in feet above ground. *Elevation in feet (NGVD) •Elevation in feet (NAVD)		Communities affected
		Existing	Modified	
NORTH CAROLINA Gaston County				
Catawba River	At the confluence with South Fork Catawba River.	None	•571	Gaston County (Unincorporated Areas), City of Mount Holly.
	At the downstream side of Mountain Island Dam.	None	•582	
Dutchmans Creek	At the confluence with the Catawba River	None	•580	Gaston County (Unincorporated Areas), City of Mount Holly.
	A point approximately 0.52 mile upstream of the confluence with the Catawba River.	None	•581	
Fites Creek	At the confluence with the Catawba River	None	•577	Gaston County (Unincorporated Areas), City of Mount Holly.
	A point approximately 35 feet downstream of Tuckageegee Road.	None	•578	
Kittys Branch	At the confluence with the Catawba River	None	•572	Gaston County (Unincorporated Areas).
	A point approximately 100 feet downstream of CSX Transportation.	None	•586	
Nancy Hanks Branch	At the confluence with the Catawba River	None	•573	Gaston County (Unincorporated Areas).
	A point approximately 120 feet upstream of CSX Transportation.	None	•573	
Stowe Branch	At the confluence with the Catawba River	None	•573	City of Belmont, Gaston County (Unincorporated Areas).
	A point approximately 210 feet upstream of CSX Transportation.	None	•573	

City of Belmont

Maps available for inspection at the Belmont City Hall, 115 North Main Street, Belmont, North Carolina.
Send comments to The Honorable Billy W. Joye, Jr., Mayor of the City of Belmont, P.O. Box 431, Belmont, North Carolina 28012.

Gaston County (Unincorporated Areas)

Maps available for inspection at the Gaston County Planning/Code Enforcement Office, 212 West Main Street, Gastonia, North Carolina.
Send comments to Mr. Jan Winters, Gaston County Manager, 212 West Main Street, P.O. Box 1578, Gastonia, North Carolina 28053–1578.

City of Mount Holly

Maps available for inspection at the Mount Holly City Hall, 131 South Main Street, Mount Holly, North Carolina.
Send comments to The Honorable Robert Black, Mayor of the City of Mount Holly, P.O. Box 406, Mount Holly, North Carolina 28120.

(Catalog of Federal Domestic Assistance No. 83.100, "Flood Insurance")

Dated: September 14, 2004.

David I. Maurstad,

Acting Director, Mitigation Division, Emergency Preparedness and Response Directorate.

[FR Doc. 04–21156 Filed 9–20–04; 8:45 am]

BILLING CODE 9110–12–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 040907255–4255–01; I.D. 082704E]

RIN 0648–AS41

Fisheries of the Exclusive Economic Zone Off Alaska; Revision of Steller Sea Lion Protection Measures for the Pollock and Pacific Cod Fisheries in the Gulf of Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS publishes a proposed rule that would adjust Steller sea lion protection measures for the pollock and Pacific cod fisheries in the Gulf of Alaska (GOA). The revisions would adjust Pacific cod and pollock fishing closure areas near four Steller sea lion haulouts and modify the seasonal management of pollock harvest in the GOA. The intent of the revisions is to maintain protection for Steller sea lions and their critical habitat while easing the economic burden on GOA fishing communities. This action is intended to

promote the goals and objectives of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP), and other applicable laws.

DATES: Written comments must be received by October 21, 2004.

ADDRESSES: Send comments to Sue Salveson, Assistant Regional Administrator, Sustainable Fisheries Division, Alaska Region, NMFS, Attn: Lori Durall. Comments may be submitted by:

- Mail to P.O. Box 21668, Juneau, AK 99802–1668;
- Hand Delivery to the Federal Building, 709 West 9th Street, Room 420A, Juneau, AK;
- FAX to 907–586–7557;
- E-mail to *SSL2004–0648–AS41@noaa.gov*. Include in the subject line of the e-mail comments the following document identifier: GOA SSL Proposed Rule. E-mail comments, with or without attachments, are limited to 5 megabytes;
- Webform at the Federal eRulemaking Portal: *www.regulations.gov*. Follow the instructions at that site for submitting comments.

Copies of the Environmental Assessment/Regulatory Impact Review (EA/RIR) prepared for the proposed rule and copies of the 1998 and 2001 Biological Opinions, and the June 19, 2003, supplement to the 2001 Biological Opinion, on the effects of the groundfish fisheries on Steller sea lions may be obtained from the same mailing address above or from the NMFS Alaska Region website at *www.fakr.noaa.gov*.

FOR FURTHER INFORMATION CONTACT: Melanie Brown, 907–586–7228 or *melanie.brown@noaa.gov*.

SUPPLEMENTARY INFORMATION: The groundfish fisheries in the Exclusive Economic Zone of the GOA are managed under the FMP. The North Pacific Fishery Management Council (Council) prepared the FMP under the authority of the Magnuson-Stevens Act, 16 U.S.C. 1801, *et seq*. Regulations implementing the FMP appear at 50 CFR part 679. General regulations governing U.S. fisheries also appear at 50 CFR part 600.

Background

The western distinct population segment (DPS) of Steller sea lions has been listed as endangered under the Endangered Species Act (ESA), and critical habitat has been designated for this DPS (50 CFR 226.202). Temporal and spatial harvest restrictions were established for the groundfish fisheries of Alaska (68 FR 204, January 2, 2003) to protect Steller sea lions from jeopardy of extinction and their critical habitat from adverse modification or destruction from the effects of these fisheries. Pollock and Pacific cod are important prey species for Steller sea lions, and these protection measures apply to the pollock and Pacific cod fisheries in the GOA.

In June 2004, the Council unanimously recommended revisions to the Steller sea lion protection measures in the GOA to alleviate some of the economic burden on coastal communities while maintaining protection for Steller sea lions and their critical habitat. These revisions would adjust pollock and Pacific cod fishing closures near four Steller sea lion haulouts and would revise seasonal management of pollock harvest. NMFS concluded in an ESA Section 7 informal consultation dated August 26, 2004, that fishing under the proposed revisions is not likely to adversely affect Steller sea lions beyond those effects already considered in the 2001 Biological Opinion (BiOp) on the Steller sea lion protection measures and its June 19, 2003 supplement (see **ADDRESSES**). Based on results of the informal consultation and the EA/RIR (see **ADDRESSES**), NMFS has determined that this action could provide some economic relief to participants in the pollock and Pacific cod fisheries without adversely affecting Steller sea lions and their critical habitat beyond those effects already analyzed in the 2001 BiOp and its supplement. Each proposed revision is described below.

Haulout Closure Revisions

The proposed action would revise Table 4 to 50 CFR part 679 to reduce the pollock fishing closure area around Puale Bay from 10 nautical miles (nm) to 3 nm from January 20 through May 31. Puale Bay is located in Shelikof Strait on the east side of Kodiak Island. The current 10 nm fishing closure would remain unchanged from August 25 through November 1. The number of Steller sea lions using the haulout at Puale Bay has declined greatly, ranging from 14,234 winter non-pups in 1977, to 40 non-pups in 1997. Since 1990, the usage of this site in the summer and winter has been approximately 100 animals.

The decline in the Steller sea lion population at Puale Bay haulout correlates with the decline of pollock spawning aggregations in Shelikof Strait. Incidental take of Steller sea lions in foreign fisheries targeting spawning aggregations of pollock was observed to be very high in the Shelikof Strait area. The recovery of Steller sea lions at this site and in Shelikof Strait may be linked to the overall biomass level of the spawning aggregations of pollock rather than to the availability of pollock in specific near shore areas (i.e., within the closure zone). Additional fishing for pollock closer to shore of the Puale Bay haulout is not likely to affect the overall spawning aggregations of pollock in the Shelikof Strait because the total allowable catch (TAC) for pollock in the area will remain unchanged. Assuming the recovery of Steller sea lions is linked in some way to the recovery of the spawning aggregations of pollock in the Shelikof Strait, allowing additional pollock fishing near Puale Bay likely would not substantially affect the recovery of the Steller sea lions in the Shelikof Strait. According to NMFS telemetry data, Steller sea lions on the east side of Kodiak Island appear to spend most of their time closer to shore, presumably foraging there. This action would maintain a 3 nm closure to pollock fishing around Puale Bay, providing protection to these nearshore foraging areas for Steller sea lions. By allowing fishing closer to shore, the safety for the pollock fishing fleet would be improved, and the efficiency of harvest may be improved if pollock spawning aggregations occur in the waters between 3 nm and 10 nm of Puale Bay.

To offset any potential effects on Steller sea lions by allowing pollock fishing within 3 nm to 10 nm of Puale Bay, the proposed action also would revise Table 4 to 50 CFR part 679 to expand the pollock fishing closure area around the Cape Douglas/Shaw Island haulout from 10 nm to 20 nm. Pollock spawning aggregations historically have not been observed in this area, but other types of prey species may be used in this area by Steller sea lions. By expanding the closure area, the potential interaction between the fishing fleet and Steller sea lions would be reduced. Cape Douglas is one of 19 haulout sites that have been identified in the 1998 BiOp (see **ADDRESSES**) as new sites that warranted protection. Added protection to this site may be more beneficial to Steller sea lions than the current closures around Puale Bay, where Steller sea lion recovery may be more dependent on the recovery of the pollock spawning aggregations in Shelikof Strait. This action also would provide some economic relief to pollock fishery participants by offsetting the opening of Puale Bay waters that historically have had more pollock harvests with the closure of Cape

Douglas waters that have had less pollock harvest.

The proposed action also would revise Table 5 to 50 CFR part 679 to reduce the Pacific cod pot gear fishery closure around Kak Island from 20 nm to 3 nm. Because of the overlap of the closure area with the 20 nm closure around Sutwik Island, only the west side of Kak Island would be open from 3 nm to 20 nm. This area periodically has been used by the Chignik area small vessel fleet to fish for Pacific cod with pot gear. Reducing the Pacific cod pot gear fishing closure area around Kak Island would not likely result in significantly increased fishing activities by the small boat fleet. Therefore, this proposed revision is not likely to adversely affect Steller sea lions and their critical habitat beyond those effects analyzed in the 2001 BiOp because of the small number of small vessels that are likely to participate in the Pacific cod pot gear fishery and the slow rate of removal of prey species by the Pacific cod pot gear fishery. This action would provide some economic relief and additional safety to participants in the Pacific cod pot gear fishery by allowing fishing in areas closer to shore.

Last, the proposed action would revise Table 5 to 50 CFR part 679 to eliminate the Pacific cod pot gear fishing closure around the Castle Rock haulout. This area has been used by the small vessel fleet to fish for Pacific cod with pot gear during seven of the past nine years in the State of Alaska Pacific cod fishery. Because of the small number of small vessels and the method of fishing, NMFS has determined that opening this area to pot gear fishing is not likely to adversely affect the western DPS of Steller sea lions or its critical habitat beyond those effects already analyzed in the 2001 BiOp and its supplement. Opening waters around Castle Rock to Pacific cod pot gear fishing would increase safety for the participants in the fishery and would provide some economic relief by allowing Pacific cod harvest in those waters.

Pollock Harvest Management Revisions

To provide efficient harvest of pollock, the proposed action would revise § 679.23(d)(2) to remove the stand down periods between the pollock A and B seasons and between the C and D seasons. Currently, pollock fishing must stop between February 25 and March 10 and between September 15 and October 1. These stand down periods require fishery participants to return to port and wait for the opening of the B season or the D season. By allowing continuous fishing between the A and B seasons and between the C and D seasons when TACs are available, the participants in the pollock fishery would receive some economic relief by not having to stop fishing activities between seasons.

In the past several years, the pollock fishery participants were not able to fully harvest the A season pollock TAC in area 620 before February 25 because the pollock spawning aggregations moved into the area at a later time. A large amount of the unharvested pollock TAC has been rolled over into subsequent seasons. To provide greater opportunity for harvest of the seasonal TAC apportionments in the A season, the length of the A and C seasons would be increased to include the time period that previously was the stand down period. The new A and C season dates would be: A season, January 20 through March 10; and C season, August 25 through October 1. Because the Steller sea lion protection measures requiring four equal seasonal apportionments of pollock harvest would remain unchanged, NMFS has determined that this proposed revision would have no adverse effect on Steller sea lions or their critical habitat.

The proposed action would revise § 679.20(a)(5)(iii)(B) to provide for the rollover of unharvested pollock seasonal TAC apportionment to a subsequent season based on the estimated biomass within a statistical area during a season. The Steller sea lion protection measures require pollock harvest to be seasonally apportioned and spatially apportioned based on the estimates of pollock biomass. The Council's GOA Groundfish Plan Team develops estimates of the amount of biomass in each statistical area by season for the annual harvest specifications. The seasonal apportionments for the Western and Central Regulatory Areas of the GOA are distributed among statistical areas 610, 620 and 630 based on the estimate of the amount of pollock biomass that occurs in each statistical area in a season. These seasonal apportionments are published in the annual harvest specifications (69 FR 9261, February 27, 2004) and are the basis for temporal and spatial management of pollock harvest in the Western and Central Regulatory Areas.

The protection measures allow limited amounts of unharvested pollock to be rolled over into subsequent seasons during a fishing year. The current regulations at 50 CFR 679.20(a)(iii)(B) state that "within any fishing year, under harvest or over harvest of a seasonal apportionment may be added to or subtracted from remaining seasonal apportionments in a manner to be determined by the Regional Administrator, provided that any revised seasonal apportionment does not exceed 30 percent of the annual TAC apportionment for a GOA regulatory area." This provision does not allow for consideration of the estimated distribution of biomass among statistical areas by season, as intended by the Steller sea lion protection measures, potentially resulting in pollock harvests that are not appropriate for the estimated amount of pollock biomass available.

The proposed action would change the rollover provision to allow rollover of a statistical area's unharvested pollock apportionment into the subsequent season. The rollover amount would be limited to 20 percent of the seasonal apportionment for the statistical area. Any unharvested pollock above the 20 percent limit could be further distributed to the other statistical areas, in proportion to the estimated biomass in the subsequent season in those statistical areas. Because the harvest of pollock is apportioned among four seasons, the 20 percent seasonal apportionment limit on the rollover would be equivalent annually to the 30 percent annual limit on rollover currently in the regulations. The 20 percent seasonal apportionment limit would provide for better control of harvest than the current regulations because the amount of rollover allowed is based on seasonal biomass estimates, better fulfilling the temporal and seasonal distribution of harvest intended by the Steller sea lion protection measures. The participants in the pollock fishery also would benefit from reapportionments among statistical areas of unharvested pollock that exceed the 20 percent limit. The industry's ability to fully harvest a seasonal apportionment has varied among the statistical areas with some area harvests being consistently below the seasonal apportionments. The reapportionments among statistical areas would reduce the potential for foregone harvest, allowing the pollock fishery in the Western and Central Regulatory Areas to fully harvest available TAC.

Classification

This proposed rule has been determined to be not significant for the purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities.

The proposed rule would amend existing Steller sea lion protection measures in 50 CFR part 679 for the GOA pollock trawl and Pacific cod pot gear fisheries. The action would modify some fishing closure boundaries to better reflect historic use patterns, reduce unanticipated and unnecessary potential burdens on the fishing industry, and maintain protection for the western DPS of Steller sea lions (i.e., avoid jeopardy of extinction for the western DPS of Steller sea lions and the destruction or adverse modification of its critical habitat). Any changes to the pollock or Pacific cod fisheries affected by this action must not reduce overall efficacy of the Steller sea lion protection measures.

The proposed action would open groundfish fishing areas around three GOA Steller sea lion haulouts and close an area around one GOA Steller sea lion haulout to pollock and Pacific cod fishing; change pollock season stand-down periods, and change procedures for the rollover of unharvested pollock seasonal apportionments.

Factual Basis for Certification

Description and estimate of the number of small entities to which the rule applies: Small entities will be directly regulated by this action. This includes all small fishing operations in the GOA Pacific cod pot gear and pollock trawl gear fisheries. NMFS has determined that there were 131 small entities participating in the GOA pot gear fishery and 110 small entities participating in the GOA pollock trawl gear fishery in 2002.

Estimate of economic impact on small entities, by entity size and industry: The proposed regulatory change has a potential to yield some small benefit, but with negligible cost to industry. The analysis contained in the RIR prepared for this action concludes that all action alternative options affecting the GOA pollock trawl fishery have the potential to result in positive net benefits. The potential effect of the pollock trawl closure area of Option 1 of Alternative 2 (Cape Douglas/Shaw Island) is offset by an opening in an area that appears to be of somewhat greater historic importance to the fleet (Puale Bay). The number of vessels participating in the Cape Douglas/Shaw Island fishery is confidential (i.e., four or fewer), while between nine and 17 vessels have participated in the fishery near Puale Bay from 2001 through 2003.

The elimination of pollock trawl stand-down periods in Option 4 of Alternative 2 may lead to greater operational efficiency, but will not materially alter the revenue earned. Similarly, the change in the rollover method proposed in Option 5 of Alternative 2 may make additional pollock harvest possible earlier in the year in some areas; however, it will not alter the total annual Western and Central GOA area apportionment of total allowable catch as set in the groundfish harvest specifications process, and thus, will not materially affect total revenue. Overall, these measures have the potential to be marginally beneficial to all operators in the GOA pollock trawl fishery, including 110 small entities.

The areas proposed to be opened to Pacific cod pot fishing in Option 2 of Alternative 2 (Kak Island area) provide some additional nearshore fishing area near the port of Chignik and may marginally reduce operational costs. This provision has some potential to improve safety as well. The area to be opened under Option 3 (Castle Rock) provides some potential additional fishing area with no apparent costs. All vessels participating in these fisheries are small entities, but the number of participants (i.e., four or fewer) is confidential. Overall, these measures have the potential to be beneficial, although to a very few small entities in the GOA Pacific cod pot gear fishery.

Criteria used to evaluate whether the rule would impose "significant economic impacts": The two criteria recommended to determine significant economic impact are disproportionality and profitability of the action. The proposed action would not place a substantial number of small entities at a disadvantage relative to large entities. This action would provide additional opportunity for harvest in areas that historically have been used by small entities, but this opportunity is not provided exclusively to small entities.

This rule does not significantly reduce the profit for small entities. The costs of harvest would potentially be reduced with the opening of the closure areas and with the removal of the stand down periods between harvest seasons. The proposed action provides additional opportunities, spatially and temporally, for pollock and Pacific cod harvest that may result in additional profit for fishery participants. The absence of cost data precludes quantitative estimation of these potential cost savings and profits, although they would be expected to be minor.

Criteria used to evaluate whether the rule would impose impacts on "a substantial number" of small entities: A very small number of small entities have harvested Pacific cod by pot gear in the area of Kak Island and Castle Rock haulouts (i.e., four or fewer vessels). NMFS is unable to report the actual number of vessels because of confidentiality restrictions. The harvest of pollock near Cape Douglas/Shaw Island haulout has also been by so few vessels that the harvest data are also confidential. The opening of Puale Bay is likely to provide additional fishing opportunity to fewer than 10 percent of the small entities participating in the pollock fishery. The removal of the mandatory stand down periods between seasons and revision of the method of rolling over unharvested pollock would, however, affect all small entities participating in the pollock fishery.

Description of, and an explanation of the basis for, assumptions used: Catch information used for the pollock and Pacific cod fisheries is based on catch reporting within a State statistical area (no finer resolution of catch location is available). The closures proposed encompass only a small portion of one or more State statistical areas. The reported catch within a State statistical area was, for lack of a better option, assumed to be evenly distributed so that the proportion of the closure area to the statistical area(s) would be in the same proportion as the estimated catch from the proposed closure area compared to the estimated catch for the entire statistical area. Because catch information is not collected to a finer scale than the statistical area, it is necessary to use this method to get an estimated portion of the amount of harvest that may be applied to a closure area.

The economic analysis contained in the RIR (see **ADDRESSES**) further describes the potential size, distribution, and magnitude of the economic impacts that this action may be expected to have on small entities. Based upon that analysis, it is NMFS' finding that although the proposed action may affect a substantial number of small entities, it likely does not have the potential to have a significant economic impact on the small entities participating in these fisheries.

The Regional Administrator, Alaska Region, determined that fishing activities conducted pursuant to this rule would not affect endangered and threatened species or critical habitat under the ESA.

List of Subjects in 50 CFR Part 679

Alaska, Fisheries, Recordkeeping and reporting requirements.

Dated: September 16, 2004.

William T. Hogarth

Assistant Administrator for Fisheries, National Marine Fisheries Service.

For reasons set out in the preamble, 50 CFR part 679 is proposed to be amended as follows:

PART 679—FISHERIES OF THE EXCLUSIVE ECONOMIC ZONE OFF ALASKA

1. The authority citation for part 679 continues to read as follows:

Authority: 16 U.S.C. 773 *et seq.*, 1801 *et seq.*, and 3631 *et seq.*; 16 U.S.C. 1540(f); Pub. L. 105–277, Title II of Division C; Pub. L. 106–31, Sec. 3027; and Pub. L.106–554, Sec. 209.

2. In § 679.20, paragraph (a)(5)(iii)(B) is revised to read as follows:

§ 679.20 General limitations.

* * * * *

(a) * * *

(5) * * *

(iii) * * *

(B) *GOA Western and Central Regulatory Areas seasonal apportionments.* Each apportionment established under paragraph (a)(5)(iii)(A) of this section will be divided into four seasonal apportionments corresponding to the four fishing seasons set out at § 679.23(d)(2) as follows: A Season, 25 percent; B Season, 25 percent; C Season, 25 percent; and D Season, 25 percent. Within any fishing year, underharvest or overharvest of a seasonal apportionment may be added to or subtracted from remaining seasonal apportionments in a manner to be determined by the Regional Administrator, provided that any revised seasonal apportionment does not exceed 20 percent of the seasonal TAC apportionment for the statistical area. The reapportionment of underharvest will be applied to the subsequent season within the same statistical area up to the 20 percent limit specified in this paragraph. Any underharvest remaining beyond the 20 percent limit may be further apportioned to the subsequent season in the other statistical areas, in proportion to estimated biomass and in an amount no more than 20 percent of the seasonal TAC apportionment for the statistical area.

* * * * *

3. In § 679.23, paragraphs (d)(2)(i) and (d)(2)(iii) are revised to read as follows:

§ 679.23 Seasons.

* * * * *

(d) * * *

(2) * * *

(i) *A season.* From 1200 hours, A.l.t., January 20 through 1200 hours, A.l.t., March 10;

* * * * *

(iii) *C season.* From 1200 hours, A.l.t., August 25 through 1200 hours, A.l.t., October 1; and

* * * * *

4. Tables 4 and 5 to part 679 are revised to read as follows:

Table 4 to 50 CFR Part 679 Steller Sea Lion Protection Areas Pollock Fisheries Restrictions

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear[2,5] (nm)
		Latitude	Longitude	Latitude	Longitude	
St. Lawrence I./S Punuk I.	Bering Sea	63 04.00 N	168 51.00 W			20
St. Lawrence I./SW Cape	Bering Sea	63 18.00 N	171 26.00 W			20
Hall I.	Bering Sea	60 37.00 N	173 00.00 W			20
St. Paul I./Sea Lion Rock	Bering Sea	57 06.00 N	170 17.50 W			3
St. Paul I./NE Pt.	Bering Sea	57 15.00 N	170 06.50 W			3
Walrus I. (Pribilofs)	Bering Sea	57 11.00 N	169 56.00 W			10
St. George I./Dalnoi Pt.	Bering Sea	56 36.00 N	169 46.00 W			3
St. George I./S Rookery	Bering Sea	56 33.50 N	169 40.00 W			3
Cape Newenham	Bering Sea	58 39.00 N	162 10.50 W			20
Round (Walrus Islands)	Bering Sea	58 36.00 N	159 58.00 W			20
Attu I./Cape Wrangell	Aleutian I.	52 54.60 N	172 27.90 E	52 55.40 N	172 27.20 E	20
Agattu I./Gillon Pt.	Aleutian I.	52 24.13 N	173 21.31 E			20
Attu I./Chirikof Pt.	Aleutian I.	52 49.75 N	173 26.00 E			20
Agattu I./Cape Sabak	Aleutian I.	52 22.50 N	173 43.30 E	52 21.80 N	173 41.40 E	20
Alaid I.	Aleutian I.	52 46.50 N	173 51.50 E	52 45.00 N	173 56.50 E	20
Shemya I.	Aleutian I.	52 44.00 N	174 08.70 E			20
Buldir I.	Aleutian I.	52 20.25 N	175 54.03 E	52 20.38 N	175 53.85 E	20
Kiska I./Cape St. Stephen	Aleutian I.	51 52.50 N	177 12.70 E	51 53.50 N	177 12.00 E	20
Kiska I./Sobaka & Vega	Aleutian I.	51 49.50 N	177 19.00 E	51 48.50 N	177 20.50 E	20
Kiska I./Lief Cove	Aleutian I.	51 57.16 N	177 20.41 E	51 57.24 N	177 20.53 E	20
Kiska I./Sirius Pt.	Aleutian I.	52 08.50 N	177 36.50 E			20
Tanadak I. (Kiska)	Aleutian I.	51 56.80 N	177 46.80 E			20

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear [2,8](nm)
		Latitude	Longitude	Latitude	Longitude	
Segula I.	Aleutian I.	51 59.90 N	178 05.80 E	52 03.06 N	178 08.80 E	20
Ayugadak Point	Aleutian I.	51 45.36 N	178 24.30 E			20
Rat I./Krysi Pt.	Aleutian I.	51 49.98 N	178 12.35 E			20
Little Sitkin I.	Aleutian I.	51 59.30 N	178 29.80 E			20
Amchitka I./Column Rocks	Aleutian I.	51 32.32 N	178 49.28 E			20
Amchitka I./East Cape	Aleutian I.	51 22.26 N	179 27.93 E	51 22.00 N	179 27.00 E	20
Amchitka I./Cape Ivakin	Aleutian I.	51 24.46 N	179 24.21 E			20
Semisopochnoi/Petrel Pt.	Aleutian I.	52 01.40 N	179 36.90 E	52 01.50 N	179 39.00 E	20
Semisopochnoi I./Pochnoi Pt.	Aleutian I.	51 57.30 N	179 46.00 E			20
Amatignak I. Nitrof Pt.	Aleutian I.	51 13.00 N	179 07.80 W			20
Unalga & Dinkum Rocks	Aleutian I.	51 33.67 N	179 04.25 W	51 35.09 N	179 03.66 W	20
Ulak I./Hasgox Pt.	Aleutian I.	51 18.90 N	178 58.90 W	51 18.70 N	178 59.60 W	20
Kavalga I.	Aleutian I.	51 34.50 N	178 51.73 W	51 34.50 N	178 49.50 W	20
Tag I.	Aleutian I.	51 33.50 N	178 34.50 W			20
Ugidak I.	Aleutian I.	51 34.95 N	178 30.45 W			20
Gramp Rock	Aleutian I.	51 28.87 N	178 20.58 W			20
Tanaga I./Bumpy Pt.	Aleutian I.	51 55.00 N	177 58.50 W	51 55.00 N	177 57.10 W	20
Bobrof I.	Aleutian I.	51 54.00 N	177 27.00 W			20
Kanaga I./Ship Rock	Aleutian I.	51 46.70 N	177 20.72 W			20
Kanaga I./North Cape	Aleutian I.	51 56.50 N	177 09.00 W			20
Adak I.	Aleutian I.	51 35.50 N	176 57.10 W	51 37.40 N	176 59.60 W	20
Little Tanaga Strait	Aleutian I.	51 49.09 N	176 13.90 W			20
Great Sitkin I.	Aleutian I.	52 06.00 N	176 10.50 W	52 06.60 N	176 07.00 W	20
Anagaksik I.	Aleutian I.	51 50.86 N	175 53.00 W			20
Kasatochi I.	Aleutian I.	52 11.11 N	175 31.00 W			20

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear [2,8](nm)
		Latitude	Longitude	Latitude	Longitude	
Atka I./North Cape	Aleutian I.	52 24.20 N	174 17.80 W			20
Amlia I./Sviech. Harbor[11]	Aleutian I.	52 01.80 N	173 23.90 W			20
Sagigik I.[11]	Aleutian I.	52 00.50 N	173 09.30 W			20
Amlia I./East[11]	Aleutian I.	52 05.70 N	172 59.00 W	52 05.75 N	172 57.50 W	20
Tanadak I. (Amlia[11])	Aleutian I.	52 04.20 N	172 57.60 W			20
Agligadak I.[11]	Aleutian I.	52 06.09 N	172 54.23 W			20
Seguam I./Saddleridge Pt.[11]	Aleutian I.	52 21.05 N	172 34.40 W	52 21.02 N	172 33.60 W	20
Seguam I./Finch Pt.	Aleutian I.	52 23.40 N	172 27.70 W	52 23.25 N	172 24.30 W	20
Seguam I./South Side	Aleutian I.	52 21.60 N	172 19.30 W	52 15.55 N	172 31.22 W	20
Amukta I. & Rocks	Aleutian I.	52 27.25 N	171 17.90 W			20
Chagulak I.	Aleutian I.	52 34.00 N	171 10.50 W			20
Yunaska I.	Aleutian I.	52 41.40 N	170 36.35 W			20
Uliaga[3]	Bering Sea	53 04.00 N	169 47.00 W	53 05.00 N	169 46.00 W	20,10
Chuginadak	Gulf of Alaska	52 46.70 N	169 41.90 W			20
Kagamil[3]	Bering Sea	53 02.10 N	169 41.00 W			20,10
Samalga	Gulf of Alaska	52 46.00 N	169 15.00 W			20
Adugak I.[3]	Bering Sea	52 54.70 N	169 10.50 W			10
Umnak I./Cape Aslik[3]	Bering Sea	53 25.00 N	168 24.50 W			BA
Ogchul I.	Gulf of Alaska	52 59.71 N	168 24.24 W			20
Bogoslof I./Fire I.[3]	Bering Sea	53 55.69 N	168 02.05 W			BA
Polivnoi Rock	Gulf of Alaska	53 15.96 N	167 57.99 W			20
Emerald I.	Gulf of Alaska	53 17.50 N	167 51.50 W			20
Unalaska/Cape Izigan	Gulf of Alaska	53 13.64 N	167 39.37 W			20
Unalaska/Bishop Pt.[9]	Bering Sea	53 58.40 N	166 57.50 W			10
Akutan I./Reef-lava[9]	Bering Sea	54 08.10 N	166 06.19 W	54 09.10 N	166 05.50 W	10

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear [2,8](nm)
		Latitude	Longitude	Latitude	Longitude	
Unalaska I./Cape Sedanka[6]	Gulf of Alaska	53 50.50 N	166 05.00 W			20
Old Man Rocks[6]	Gulf of Alaska	53 52.20 N	166 04.90 W			20
Akutan I./Cape Morgan[6]	Gulf of Alaska	54 03.39 N	165 59.65 W	54 03.70 N	166 03.68 W	20
Akun I./Billings Head[9]	Bering Sea	54 17.62 N	165 32.06 W	54 17.57 N	165 31.71 W	10
Rootok[6]	Gulf of Alaska	54 03.90 N	165 31.90 W	54 02.90 N	165 29.50 W	20
Tanginak I.[6]	Gulf of Alaska	54 12.00 N	165 19.40 W			20
Tigalda/Rocks NE[6]	Gulf of Alaska	54 09.60 N	164 59.00 W	54 09.12 N	164 57.18 W	20
Unimak/Cape Sarichef[9]	Bering Sea	54 34.30 N	164 56.80 W			10
Aiktak[6]	Gulf of Alaska	54 10.99 N	164 51.15 W			20
Ugamak I.[6]	Gulf of Alaska	54 13.50 N	164 47.50 W	54 12.80 N	164 47.50 W	20
Round (GOA)[6]	Gulf of Alaska	54 12.05 N	164 46.60 W			20
Sea Lion Rock (Amak)[9]	Bering Sea	55 27.82 N	163 12.10 W			10
Amak I. And rocks[9]	Bering Sea	55 24.20 N	163 09.60 W	55 26.15 N	163 08.50 W	10
Bird I.	Gulf of Alaska	54 40.00 N	163 17.2 W			10
Caton I.	Gulf of Alaska	54 22.70 N	162 21.30 W			3
South Rocks	Gulf of Alaska	54 18.14 N	162 41.3 W			10
Clubbing Rocks (S)	Gulf of Alaska	54 41.98 N	162 26.7 W			10
Clubbing Rocks (N)	Gulf of Alaska	54 42.75 N	162 26.7 W			10
Pinnacle Rock	Gulf of Alaska	54 46.06 N	161 45.85 W			3
Sushilnoi Rocks	Gulf of Alaska	54 49.30 N	161 42.73 W			10
Olga Rocks	Gulf of Alaska	55 00.45 N	161 29.81 W	54 59.09 N	161 30.89 W	10
Jude I.	Gulf of Alaska	55 15.75 N	161 06.27 W			20
Sea Lion Rocks (Shumagins)	Gulf of Alaska	55 04.70 N	160 31.04 W			3
Nagai I./Mountain Pt.	Gulf of Alaska	54 54.20 N	160 15.40 W	54 56.00 N	160 15.00 W	3
The Whaleback	Gulf of Alaska	55 16.82 N	160 05.04 W			3

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear [2,8](nm)
		Latitude	Longitude	Latitude	Longitude	
Chernabura I.	Gulf of Alaska	54 45.18 N	159 32.99 W	54 45.87 N	159 35.74 W	20
Castle Rock	Gulf of Alaska	55 16.47 N	159 29.77 W			3
Atkins I.	Gulf of Alaska	55 03.20 N	159 17.40 W			20
Spitz I.	Gulf of Alaska	55 46.60 N	158 53.90 W			3
Mitrofania	Gulf of Alaska	55 50.20 N	158 41.90 W			3
Kak	Gulf of Alaska	56 17.30 N	157 50.10 W			20
Lighthouse Rocks	Gulf of Alaska	55 46.79 N	157 24.89 W			20
Sutwik I.	Gulf of Alaska	56 31.05 N	157 20.47 W	56 32.00 N	157 21.00 W	20
Chowiet I.	Gulf of Alaska	56 00.54 N	156 41.42 W	55 00.30 N	156 41.60 W	20
Nagai Rocks	Gulf of Alaska	55 49.80 N	155 47.50 W			20
Chirikof I.	Gulf of Alaska	55 46.50 N	155 39.50 W	55 46.44 N	155 43.46 W	20
Puale Bay[12]	Gulf of Alaska	57 40.60 N	155 23.10 W			3,10
Kodiak/Cape Ikolik	Gulf of Alaska	57 17.20 N	154 47.50 W			3
Takli I.	Gulf of Alaska	58 01.75 N	154 31.25 W			10
Cape Kuliak	Gulf of Alaska	58 08.00 N	154 12.50 W			10
Cape Gull	Gulf of Alaska	58 11.50 N	154 09.60 W	58 12.50 N	154 10.50 W	10
Kodiak/Cape Ugat	Gulf of Alaska	57 52.41 N	153 50.97 W			10
Sitkinak/Cape Sitkinak	Gulf of Alaska	56 34.30 N	153 50.96 W			10
Shakun Rock	Gulf of Alaska	58 32.80 N	153 41.50 W			10
Twoheaded I.	Gulf of Alaska	56 54.50 N	153 32.75 W	56 53.90 N	153 33.74 W	10
Cape Douglas (Shaw I.)[12]	Gulf of Alaska	59 00.00 N	153 22.50 W			20,10
Kodiak/Cape Barnabas	Gulf of Alaska	57 10.20 N	152 53.05 W			3
Kodiak/Gull Point[4]	Gulf of Alaska	57 21.45 N	152 36.30 W			10, 3
Latax Rocks	Gulf of Alaska	58 40.10 N	152 31.30 W			10
Ushagat I./SW	Gulf of Alaska	58 54.75 N	152 22.20 W			10

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear[2,8] (nm)
		Latitude	Longitude	Latitude	Longitude	
Ugak I.[4]	Gulf of Alaska	57 23.60 N	152 17.50 W	57 21.90 N	152 17.40 W	10, 3
Sea Otter I.	Gulf of Alaska	58 31.15 N	152 13.30 W			10
Long I.	Gulf of Alaska	57 46.82 N	152 12.90 W			10
Sud I.	Gulf of Alaska	58 54.00 N	152 12.50 W			10
Kodiak/Cape Chiniak	Gulf of Alaska	57 37.90 N	152 08.25 W			10
Sugarloaf I.	Gulf of Alaska	58 53.25 N	152 02.40 W			20
Sea Lion Rocks (Marmot)	Gulf of Alaska	58 20.53 N	151 48.83 W			10
Marmot I.[5]	Gulf of Alaska	58 13.65 N	151 47.75 W	58 09.90 N	151 52.06 W	15, 20
Nagahut Rocks	Gulf of Alaska	59 06.00 N	151 46.30 W			10
Perl	Gulf of Alaska	59 05.75 N	151 39.75 W			10
Gore Point	Gulf of Alaska	59 12.00 N	150 58.00 W			10
Outer (Pye) I.	Gulf of Alaska	59 20.50 N	150 23.00 W	59 21.00 N	150 24.50 W	20
Steep Point	Gulf of Alaska	59 29.05 N	150 15.40 W			10
Seal Rocks (Kenai)	Gulf of Alaska	59 31.20 N	149 37.50 W			10
Chiswell Islands	Gulf of Alaska	59 36.00 N	149 34.00 W			10
Rugged Island	Gulf of Alaska	59 50.00 N	149 23.10 W	59 51.00 N	149 24.70 W	10
Point Elrington[7, 10]	Gulf of Alaska	59 56.00 N	148 15.20 W			20
Perry I.[7]	Gulf of Alaska	60 44.00 N	147 54.60 W			
The Needle[7]	Gulf of Alaska	60 06.64 N	147 36.17 W			
Point Eleanor[7]	Gulf of Alaska	60 35.00 N	147 34.00 W			
Wooded I. (Fish I.)	Gulf of Alaska	59 52.90 N	147 20.65 W			20
Glacier Island[7]	Gulf of Alaska	60 51.30 N	147 14.50 W			
Seal Rocks (Cordova)[10]	Gulf of Alaska	60 09.78 N	146 50.30 W			20
Cape Hinchinbrook[10]	Gulf of Alaska	60 14.00 N	146 38.50 W			20
Middleton I.	Gulf of Alaska	59 28.30 N	146 18.80 W			10

Column Number 1	2	3	4	5	6	7
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pollock No-fishing Zones for Trawl Gear [2,8] (nm)
		Latitude	Longitude	Latitude	Longitude	
Hook Point[10]	Gulf of Alaska	60 20.00 N	146 15.60 W			20
Cape St. Elias	Gulf of Alaska	59 47.50 N	144 36.20 W			20

[1] Where two sets of coordinates are given, the baseline extends in a clock-wise direction from the first set of geographic coordinates along the shoreline at mean lower-low water to the second set of coordinates. Where only one set of coordinates is listed, that location is the base point.

[2] Closures as stated in 50 CFR 679.22(a)(7)(iv), (a)(8)(ii) and (b)(2)(ii).

[3] This site lies within the Bogoslof area (BA). The BA consists of all waters of area 518 as described in Figure 1 of this part south of a straight line connecting 55°00' N/170°00' W, and 55°00' N/168°11'4.75" W. Closure to directed fishing for pollock around Uliaga and Kagamil is 20 nm for waters west of 170°W long. and 10 nm for waters east of 170°W long.

[4] The trawl closure between 0 nm to 10 nm is effective from January 20 through May 31. Trawl closure between 0 nm to 3 nm is effective from August 25 through November 1.

[5] Trawl closure between 0 nm to 15 nm is effective from January 20 through May 31. Trawl closure between 0 nm to 20 nm is effective from August 25 to November 1.

[6] Restriction area includes only waters of the Gulf of Alaska Area.

[7] Contact the Alaska Department of Fish and Game for fishery restrictions at these sites.

[8] No-fishing zones are the waters between 0 nm and the nm specified in column 7 around each site and within the BA.

[9] This site is located in the Bering Sea Pollock Restriction Area, closed to pollock trawling during the A season. This area consists of all waters of the Bering Sea subarea south of a line connecting the points 163° 0'00" W long./55°46'30" N lat., 165°08'00" W long./54°42'9" N lat., 165°40'00" long./54°26'30" N lat., 166°12'00" W long./54°18'40" N lat., and 167°0'00" W long./54°8'50" N lat.

[10] The 20 nm closure around this site is effective in federal waters outside of State of Alaska waters of Prince William Sound.

[11] Some or all of the restricted area is located in the Seguam Foraging area (SFA) which is closed to all gears types. The SFA is established as all waters within the area between 52° N lat. and 53° N lat. and between 173°30' W long. and 172°30' W long.

[12] The 3 nm trawl closure around Puale Bay and the 20 nm trawl closure around Cape Douglas/Shaw I. are effective January 20 through May 31. The 10 nm trawl closure around Puale Bay and the 10 nm trawl closure around Cape Douglas/Shaw I. are effective August 25 through November 1.

Table 5 to 50 CFR Part 679 Steller Sea Lion Protection Areas Pacific Cod Fisheries Restrictions

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
St. Lawrence I./S Punuk I.	BS	63 04.00 N	168 51.00 W			20	20	20
St. Lawrence I./SW Cape	BS	63 18.00 N	171 26.00 W			20	20	20
Hall I.	BS	60 37.00 N	173 00.00 W			20	20	20
St. Paul I./Sea Lion Rock	BS	57 06.00 N	170 17.50 W			3	3	3
St. Paul I./NE Pt.	BS	57 15.00 N	170 06.50 W			3	3	3
Walrus I. (Pribilofs)	BS	57 11.00 N	169 56.00 W			10	3	3
St George I./Dalnoi Pt.	BS	56 36.00 N	169 46.00 W			3	3	3
St. George I./S. Rookery	BS	56 33.50 N	169 40.00 W			3	3	3
Cape Newenham	BS	58 39.00 N	162 10.50 W			20	20	20
Round (Walrus Islands)	BS	58 36.00 N	159 58.00 W			20	20	20
Attu I./Cape Wrangell[11]	AI	52 54.60 N	172 27.90 E	52 55.40 N	172 27.20 E	20, 10	3	3
Agattu I./Gillon Pt.[11]	AI	52 24.13 N	173 21.31 E			20, 10	3	3
Attu I./Chirikof Pt.[11]	AI	52 49.75 N	173 26.00 E			20, 3		
Agattu I./Cape Sabak[11]	AI	52 22.50 N	173 43.30 E	52 21.80 N	173 41.40 E	20, 10	3	3
Alaid I.[11]	AI	52 46.50 N	173 51.50 E	52 45.00 N	173 56.50 E	20, 3		
Shemya I.[11]	AI	52 44.00 N	174 08.70 E			20, 3		
Buldir I.[11]	AI	52 20.25 N	175 54.03 E	52 20.38 N	175 53.85 E	20, 10	10	10
Kiska I./Cape St. Stephen[11]	AI	51 52.50 N	177 12.70 E	51 53.50 N	177 12.00 E	20, 10	3	3
Kiska I. Sobaka & Vega[11]	AI	51 49.50 N	177 19.00 E	51 48.50 N	177 20.50 E	20, 3		
Kiska I./Lief Cove[11]	AI	51 57.16 N	177 20.41 E	51 57.24 N	177 20.53 E	20, 10	3	3

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Kiska I./Sirius Pt.[11]	AI	52 08.50 N	177 36.50 E			20, 3		
Tanadak I. (Kiska)[11]	AI	51 56.80 N	177 46.80 E			20, 3		
Segula I.[11]	AI	51 59.90 N	178 05.80 E	52 03.06 N	178 08.80 E	20, 3		
Ayugadak Point[11]	AI	51 45.36 N	178 24.30 E			20, 10	3	3
Rat I./Krysi Pt.[11]	AI	51 49.98 N	178 12.35 E			20, 3		
Little Sitkin I.[11]	AI	51 59.30 N	178 29.80 E			20, 3		
Amchitka I./Column[11]	AI	51 32.32 N	178 49.28 E			20, 10	3	3
Amchitka I./East Cape[11]	AI	51 22.26 N	179 27.93 E	51 22.00 N	179 27.00 E	20,10	3	3
Amchitka I./Cape Ivakin[11]	AI	51 24.46 N	179 24.21 E			20, 3		
Semisopochnoi/Petrel Pt.[11]	AI	52 01.40 N	179 36.90 E	52 01.50 N	179 39.00 E	20, 10	3	3
Semisopochnoi I./Pochnoi Pt.[11]	AI	51 57.30 N	179 46.00 E			20, 10	3	3
Amatignak I./Nitrof Pt.[11]	AI	51 13.00 N	179 07.80 W			20, 3		
Unalga & Dinkum Rocks[11]	AI	51 33.67 N	179 04.25 W	51 35.09 N	179 03.66 W	20, 3		
Ulak I./Hasgox Pt.[11]	AI	51 18.90 N	178 58.90 W	51 18.70 N	178 59.60 W	20, 10	3	3
Kavalga I.[11]	AI	51 34.50 N	178 51.73 W	51 34.50 N	178 49.50 W	20, 3		
Tag I.[11]	AI	51 33.50 N	178 34.50 W			20, 10	3	3
Ugidak I.[11]	AI	51 34.95 N	178 30.45 W			20, 3		
Gramp Rock[11]	AI	51 28.87 N	178 20.58 W			20, 10	3	3
Tanaga I./Bumpy Pt.[11]	AI	51 55.00 N	177 58.50 W	51 55.00 N	177 57.10 W	20,3		
Bobrof I.	AI	51 54.00 N	177 27.00 W			3		
Kanaga I./Ship Rock	AI	51 46.70 N	177 20.72 W			3		
Kanaga I./North Cape	AI	51 56.50 N	177 09.00 W			3		

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Adak I.	AI	51 35.50 N	176 57.10 W	51 37.40 N	176 59.60 W	10	3	3
Little Tanaga Strait	AI	51 49.09 N	176 13.90 W			3		
Great Sitkin I.	AI	52 06.00 N	176 10.50 W	52 06.60 N	176 07.00 W	3		
Anagaksik I.	AI	51 50.86 N	175 53.00 W			3		
Kasatochi I.	AI	52 11.11 N	175 31.00 W			10	3	3
Atka I./N. Cape	AI	52 24.20 N	174 17.80 W			3		
Amlia I./Sviech. Harbor[4]	AI	52 01.80 N	173 23.90 W			3		
Sagigik I.[4]	AI	52 00.50 N	173 09.30 W			3		
Amlia I./East[4]	AI	52 05.70 N	172 59.00 W	52 05.75 N	172 57.50 W	3	20	20
Tanadak I. (Amlia)[4]	AI	52 04.20 N	172 57.60 W			3	20	20
Agligadak I.[4]	AI	52 06.09 N	172 54.23 W			20	20	20
Seguam I./Saddleridge Pt.[4]	AI	52 21.05 N	172 34.40 W	52 21.02 N	172 33.60 W	10	20	20
Seguam I./Finch Pt.	AI	52 23.40 N	172 27.70 W	52 23.25 N	172 24.30 W	3	20	20
Seguam I./South Side	AI	52 21.60 N	172 19.30 W	52 15.55 N	172 31.22 W	3	20	20
Amukta I. & Rocks	AI	52 27.25 N	171 17.90 W			3	20	20
Chagulak I.	AI	52 34.00 N	171 10.50 W			3	20	20
Yunaska I.	AI	52 41.40 N	170 36.35 W			10	20	20
Uliaga[5, 14]	BS	53 04.00 N	169 47.00 W	53 05.00 N	169 46.00 W	10	20	20
Chuginadak[14]	GOA	52 46.70 N	169 41.90 W			20	20,10	20
Kagamil[5, 14]	BS	53 02.10 N	169 41.00 W			10	20	20
Samalga	GOA	52 46.00 N	169 15.00 W			20	10	20
Adugak I.[5]	BS	52 54.70 N	169 10.50 W			10	BA	BA
Umnak I./Cape Aslik[5]	BS	53 25.00 N	168 24.50 W			BA	BA	BA

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Ogchul I.	GOA	52 59.71 N	168 24.24 W			20	10	20
Bogoslof I./Fire I.[5]	BS	53 55.69 N	168 02.05 W			BA	BA	BA
Polivnoi Rock[9]	GOA	53 15.96 N	167 57.99 W			20	10	20
Emerald I.[13, 9]	GOA	53 17.50 N	167 51.50 W			20	10	20
Unalaska/Cape Izigan[9]	GOA	53 13.64 N	167 39.37 W			20	10	20
Unalaska/Bishop Pt.[6, 13]	BS	53 58.40 N	166 57.50 W			10	10	3
Akutan I./Reef-lava[6]	BS	54 08.10 N	166 06.19 W	54 09.10 N	166 05.50 W	10	10	3
Unalaska I./Cape Sedanka[9]	GOA	53 50.50 N	166 05.00 W			20	10	20
Old Man Rocks[9]	GOA	53 52.20 N	166 04.90 W			20	10	20
Akutan I./Cape Morgan[9]	GOA	54 03.39 N	165 59.65 W	54 03.70 N	166 03.68 W	20	10	20
Akun I./Billings Head	BS	54 17.62 N	165 32.06 W	54 17.57 N	165 31.71 W	10	3	3
Rootok[9]	GOA	54 03.90 N	165 31.90 W	54 02.90 N	165 29.50 W	20	10	20
Tanginak I.[9]	GOA	54 12.00 N	165 19.40 W			20	10	20
Tigalda/Rocks NE[9]	GOA	54 09.60 N	164 59.00 W	54 09.12 N	164 57.18 W	20	10	20
Unimak/Cape Sarichef	BS	54 34.30 N	164 56.80 W			10	3	3
Aiktak[9]	GOA	54 10.99 N	164 51.15 W			20	10	20
Ugamak I.[9]	GOA	54 13.50 N	164 47.50 W	54 12.80 N	164 47.50 W	20	10	20
Round (GOA)[9]	GOA	54 12.05 N	164 46.60 W			20	10	20
Sea Lion Rock (Amak)	BS	55 27.82 N	163 12.10 W			10	7	7
Amak I. And rocks	BS	55 24.20 N	163 09.60 W	55 26.15 N	163 08.50 W	10	3	3
Bird I.	GOA	54 40.00 N	163 17.2 W			10		
Caton I.	GOA	54 22.70 N	162 21.30 W			3	3	
South Rocks	GOA	54 18.14 N	162 41.3 W			10		
Clubbing Rocks (S)	GOA	54 41.98 N	162 26.7 W			10	3	3

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Clubbing Rocks (N)	GOA	54 42.75 N	162 26.7 W			10	3	3
Pinnacle Rock	GOA	54 46.06 N	161 45.85 W			3	3	3
Sushilnoi Rocks	GOA	54 49.30 N	161 42.73 W			10		
Olga Rocks	GOA	55 00.45 N	161 29.81 W	54 59.09 N	161 30.89 W	10		
Jude I.	GOA	55 15.75 N	161 06.27 W			20		
Sea Lion Rocks (Shumagins)	GOA	55 04.70 N	160 31.04 W			3	3	3
Nagai I./Mountain Pt.	GOA	54 54.20 N	160 15.40 W	54.56.00 N	160.15.00 W	3	3	3
The Whaleback	GOA	55 16.82 N	160 05.04 W			3	3	3
Chernabura I.	GOA	54 45.18 N	159 32.99 W	54 45.87 N	159 35.74 W	20	3	3
Castle Rock	GOA	55 16.47 N	159 29.77 W			3	3	
Atkins I.	GOA	55 03.20 N	159 17.40 W			20	3	3
Spitz I.	GOA	55 46.60 N	158 53.90 W			3	3	3
Mitrofania	GOA	55 50.20 N	158 41.90 W			3	3	3
Kak	GOA	56 17.30 N	157 50.10 W			20	20	3
Lighthouse Rocks	GOA	55 46.79 N	157 24.89 W			20	20	20
Sutwik I.	GOA	56 31.05 N	157 20.47 W	56 32.00 N	157 21.00 W	20	20	20
Chowiet I.	GOA	56 00.54 N	156 41.42 W	56 00.30 N	156 41.60 W	20	20	20
Nagai Rocks	GOA	55 49.80 N	155 47.50 W			20	20	20
Chirikof I.	GOA	55 46.50 N	155 39.50 W	55 46.44 N	155 43.46 W	20	20	20
Puale Bay	GOA	57 40.60 N	155 23.10 W			10		
Kodiak/Cape Ikolik	GOA	57 17.20 N	154 47.50 W			3	3	3
Takli I.	GOA	58 01.75 N	154 31.25 W			10		
Cape Kuliak	GOA	58 08.00 N	154 12.50 W			10		

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Cape Gull	GOA	58 11.50 N	154 09.60 W	58 12.50 N	154 10.50 W	10		
Kodiak/Cape Ugat	GOA	57 52.41 N	153 50.97 W			10		
Sitkinak/Cape Sitkinak	GOA	56 34.30 N	153 50.96 W			10		
Shakun Rock	GOA	58 32.80 N	153 41.50 W			10		
Twoheaded I.	GOA	56 54.50 N	153 32.75 W	56 53.90 N	153 33.74 W	10		
Cape Douglas (Shaw I.)	GOA	59 00.00 N	153 22.50 W			10		
Kodiak/Cape Barnabas	GOA	57 10.20 N	152 53.05 W			3	3	
Kodiak/Gull Point[7]	GOA	57 21.45 N	152 36.30 W			10, 3		
Latax Rocks	GOA	58 40.10 N	152 31.30 W			10		
Ushagat I./SW	GOA	58 54.75	152 22.20 W			10		
Ugak I.[7]	GOA	57 23.60 N	152 17.50 W	57 21.90 N	152 17.40 W	10, 3		
Sea Otter I.	GOA	58 31.15 N	152 13.30 W			10		
Long I.	GOA	57 46.82 N	152 12.90 W			10		
Sud I.	GOA	58 54.00 N	152 12.50 W			10		
Kodiak/Cape Chiniak	GOA	57 37.90 N	152 08.25 W			10		
Sugarloaf I.	GOA	58 53.25 N	152 02.40 W			20	10	10
Sea Lion Rocks (Marmot)	GOA	58 20.53 N	151 48.83 W			10		
Marmot I.[8]	GOA	58 13.65 N	151 47.75 W	58 09.90 N	151 52.06 W	15, 20	10	10
Nagahut Rocks	GOA	59 06.00 N	151 46.30 W			10		
Perl	GOA	59 05.75 N	151 39.75 W			10		
Gore Point	GOA	59 12.00 N	150 58.00 W			10		
Outer (Pye) I.	GOA	59 20.50 N	150 23.00 W	59 21.00 N	150 24.50 W	20	10	10
Steep Point	GOA	59 29.05 N	150 15.40 W			10		
Seal Rocks (Kenai)	GOA	59 31.20 N	149 37.50 W			10		

Column Number 1	2	3	4	5	6	7	8	9
Site Name	Area or Subarea	Boundaries from		Boundaries to[1]		Pacific Cod No-fishing Zones for Trawl Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Hook-and-Line Gear[2,3] (nm)	Pacific Cod No-fishing Zone for Pot Gear[2,3] (nm)
		Latitude	Longitude	Latitude	Longitude			
Chiswell Islands	GOA	59 36.00 N	149 34.00 W			10		
Rugged Island	GOA	59 50.00 N	149 23.10 W			10		
Point Elrington[10, 12]	GOA	59 56.00 N	148 15.20 W			20		
Perry I.[10]	GOA	60 44.00 N	147 54.60 W					
The Needle[10]	GOA	60 06.64 N	147 36.17 W					
Point Eleanor[10]	GOA	60 35.00 N	147 34.00 W					
Wooded I. (Fish I.)	GOA	59 52.90 N	147 20.65 W			20	3	3
Glacier Island[10]	GOA	60 51.30 N	147 14.50 W					
Seal Rocks (Cordova)[12]	GOA	60 09.78 N	146 50.30 W			20	3	3
Cape Hinchinbrook[12]	GOA	60 14.00 N	146 38.50 W			20		
Middleton I.	GOA	59 28.30 N	146 18.80 W			10		
Hook Point[12]	GOA	60 20.00 N	146 15.60 W			20		
Cape St. Elias	GOA	59 47.50 N	144 36.20 W			20		

BS = Bering Sea, AI = Aleutian Islands, GOA = Gulf of Alaska

[1]Where two sets of coordinates are given, the baseline extends in a clock-wise direction from the first set of geographic coordinates along the shoreline at mean lower-low water to the second set of coordinates. Where only one set of coordinates is listed, that location is the base point.

[2] Closures as stated in 50 CFR 679.22(a)(7)(v), (a)(8)(iv) and (b)(2)(iii).

[3] No-fishing zones are the waters between 0 nm and the nm specified in columns 7, 8, and 9 around each site and within the Bogoslof area (BA) and the Seguam Foraging Area (SFA).

[4] Some or all of the restricted area is located in the SFA which is closed to all gears types. The SFA is established as all waters within the area between 52° N lat. and 53° N lat. and between 173°30' W long. and 172°30' W long. Amlia I./East, and Tanadak I. (Amlia) haulouts 20 nm hook-and-line and pot closures apply only to waters located east of 173° W longitude.

[5]This site lies within the BA which is closed to all gear types. The BA consists of all waters of area 518 as described in Figure 1 of this part south of a straight line connecting 55°00'N/170°00'W, and 55°00' N/168°11'4.75" W.

[6]Hook-and-line no-fishing zones apply only to vessels greater than or equal to 60 feet LOA in waters east of 167° W long. For Bishop Point the 10 nm closure west of 167° W. long. applies to all hook and line and jig vessels.
[7]The trawl closure between 0 nm to 10 nm is effective from January 20 through June 10. Trawl closure between 0 nm to 3 nm is effective from September 1 through November 1.
[8] The trawl closure between 0 nm to 15 nm is effective from January 20 through June 10. Trawl closure between 0 nm to 20 nm is effective from September 1 through November 1.
[9]Restriction area includes only waters of the Gulf of Alaska Area.
[10]Contact the Alaska Department of Fish and Game for fishery restrictions at these sites.
[11]Directed fishing for Pacific cod using trawl gear is prohibited in the harvest limit area (HLA) as defined at § 679.2 until the HLA Atka mackerel directed fishery in the A or B seasons is completed. The 20 nm closure around Gramp Rock and Tanaga I./Bumpy Pt. applies only to waters west of 178°W long. and only during the HLA directed fishery. After closure of the Atka mackerel HLA directed fishery, directed fishing for Pacific cod using trawl gear is prohibited in the HLA between 0 nm to 10 nm of rookeries and between 0 nm to 3 nm of haulouts. Directed fishing for Pacific cod using trawl gear is prohibited between 0-3 nm of Tanaga I./Bumpy Pt.
[12] The 20 nm closure around this site is effective only in waters outside of the State of Alaska waters of Prince William Sound.
[13] See 50 CFR 679.22(a)(7)(i)(C) for exemptions for catcher vessels less than 60 feet (18.3 m) LOA using jig or hook-and-line gear between Bishop Point and Emerald Island closure areas.
[14]Trawl closure around this site is limited to waters east of 170°0'00" W long. Closure to hook-and-line fishing around Chuginadak is 20 nm for waters west of 170°W long. and 10 nm for waters east of 170°W long.

[FR Doc. 04-21217 Filed 9-20-04; 8:45 am]

BILLING CODE 3510-22-S

Alaska Sea Grant IN THE NEWS

Health of world's sea lions the focus of Wakefield Symposium

22nd Lowell Wakefield Fisheries Symposium
September 30–October 3, 2004
Anchorage, Alaska USA

Date: 9/14/2004
Contact: Sherri Pristash, conferences coordinator, Alaska Sea Grant College Program, UAF/SFOS
907-474-6707, fnsap@uaf.edu

NR: SG-2004/NR218

Related Web sites
Sea Lions of the World

Anchorage, Alaska—More than 100 scientists who study the world's sea lions, including dozens who study the decline of Alaska's Steller sea lions, will gather in Anchorage, Alaska, from September 30 to October 3, 2004, for the 22nd Lowell Wakefield Fisheries Symposium.

Sea Lions of the World: Conservation and Research in the 21st Century, is the theme of the international science conference, coordinated by the Alaska Sea Grant College Program at the University of Alaska Fairbanks and a host of Alaska state and federal agencies.

Researchers from Argentina, Australia, Canada, Chile, Ecuador, England, Germany, Japan, Mexico, New Zealand, Peru, Russia, Uruguay, and the United States will deliver presentations on topics including life history, physiological ecology, foraging ecology, population ecology, population dynamics, and conservation and management.

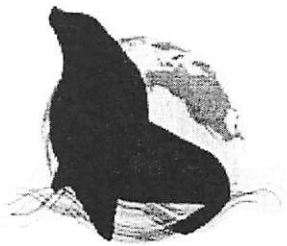
The Lowell Wakefield Fisheries Symposium has been held annually since 1982. The series is named in honor of Lowell Wakefield, a long-time Alaska fisherman, who is credited with modernizing Alaska's red king crab fishing industry.

Changes in the abundance of sea lions is a growing concern to fisheries and conservation groups, either because fisheries are feared to threaten sea lions, or because sea lions are feared to threaten fisheries. The issues are common to all five of the world's sea lion species.

This symposium will bring the world community of sea lion researchers together to share their experiences and knowledge. Interspecies comparisons can shed light on why some populations might decline while others increase. Insights can also be gained on whether trends in the abundance of sea lions are related to fishing activities through food dependencies or more directly through control or conservation measures.

A better understanding of the biology of sea lions is urgently needed. This symposium will significantly contribute to understanding why sea lion populations fluctuate, including populations of Alaska's Steller sea lions.

Alaska Sea Grant



Sea Lions of the World: Conservation and Research in the 21st Century

22nd Lowell Wakefield Fisheries Symposium

Anchorage, Alaska, USA
September 30–October 3, 2004

Contact: Sherri Pristash, fyconf@uaf.edu

Program

Last updated 24-Sep-2004.
Schedule subject to change.

** indicates presenter or contact person if not first author*

Thursday, 30 September

Registration and Continental Breakfast
7:30 – 8:30 a.m.

Welcome and Introduction
8:45 a.m.
• Brian Allee, Director, Alaska Sea Grant Program, University of Alaska Fairbanks

Plenary Speaker
9:15 a.m.

Status of Steller Sea Lions in Alaska
• Tom Loughlin, NOAA Fisheries (retired)

Session I—Life History

9:45 a.m. - 12:15 p.m.

Chair: Andrew Trites, University of British Columbia

Attendance Patterns of Juvenile Steller Sea Lions *(Eumetopias jubatus)* in the Gulf of Alaska and Aleutian Islands Derived from Satellite Dive Recorders (SDRs)
• Katherine A. Call[1], Brian S. Fadely[1], and Angie Greig[2], [1]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [2]NOAA Fisheries, Resource Ecology Fishery Management, Alaska Fisheries Science Center, Seattle, WA

Migration and Movements of Adult Male California Sea Lions
• Patrick J. Gearin, Sharon R. Melin, Robert L. DeLong, and Merrill E. Gosho, NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

The Effects of Prey Availability on Maternal Attendance and Pup Mortality of South American Sea Lions *(Otaria flavescens)* in Peru
• Karim H. Soto and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Break
10:30 - 11:00 a.m.

Plasticity in Gestation Length in Response to Environmental Conditions in Australian Sea Lions *Neophoca cinerea:* New Hypotheses to an Enigmatic Life History
• Simon D. Goldsworthy[1], Peter Shaughnessy[2], and Rebecca McIntosh[3], [1]La Trobe University, Zoology Department, Sea Mammal Ecology Group, Victoria, Australia; [2]CSIRO Sustainable Ecosystems, Canberra, ACT, Australia; [3] South Australia Research and Development Institute (SARDI), Aquatic Sciences, Henley Beach, South Australia, Australia

How Long Do Steller Sea Lions Drink Milk?
• Evgeny G. Mamaev[1] and Vladimir N. Burkanov[2,3], [1]Vyatka Agricultural Academy, Kirov, Russia; [2]Natural Resources Consultants, Inc., Seattle, WA; [3]Russian Academy of Sciences, Kamchatka Branch of the Pacific Institute of Geography, Petropavlovsk-Kamchatskiy, Russia

Australian Sea Lion Pup Production, Mortality and Survival Rates, and the Age Structure of Breeding Females at Seal Bay Conservation Park, Kangaroo Island, South Australia
• Rebecca MacIntosh[1], Simon Goldsworthy[1], and Peter Shaughnessy[2], [1]La Trobe University, Sea Mammal Ecology Group, Zoology Department, Victoria, Australia; [2]CSIRO, Sustainable Ecosystems, Canberra, ACT, Australia

Objective Classification of Trips-to-Sea Made by Juvenile Steller Sea Lions *(Eumetopias jubatus)* in Alaska

• Michael J. Rehberg[1,2] and Jennifer M. Burns[1], [1]University of Alaska Anchorage, Department of Biological Sciences, Anchorage, AK; [2]Alaska Department of Fish and Game, Anchorage, AK

Session I Discussion

Lunch

12:15 – 1:30 p.m.

Session II—Physiological Ecology

1:30 – 4:30 p.m.

Chair: Michael Castellini, University of Alaska Fairbanks, Institute of Marine Science

An Investigation of the Role of Hookworm Enteritis in New Zealand Sea Lion Pup Mortality

• Aurelie Castinel[1], Padraig Duignan[1,2], N. Gibbs[1], and B.L. Chilvers[3], [1]Massey University, IVABS, New Zealand Wildlife Health Centre, Palmerstown North, New Zealand; [2]Department of Conservation, Wellington, New Zealand; [3]Canterbury University, School of Biological Sciences, Canterbury, New Zealand

Hookworms Arrest California Sea Lion Population Growth

• Robert L. DeLong[1], Terry R. Spraker[2], Eugene T. Lyons[3], Sharon R. Melin[4], and Jeffrey L. Laake[4], [1]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [2]Colorado State University, College of Veterinary Medicine, Department of Pathology, Fort Collins, CO; [3]University of Kentucky, Department of Veterinary Science, Gluck Equine Research Center, Lexington, KY; [4]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Foraging in a Nutrient-Limited Environment: Development of Diving in the Threatened Australian Sea Lion

• Shannon L. Fowler and Daniel P. Costa, University of California Santa Cruz, Center for Ocean Health, Long Marine Laboratory, Santa Cruz, CA

Organochlorine Contaminants in Steller Sea Lions *(Eumetopias jubatus)* of the Northwestern Pacific

• Hiroshi Hoshino[1], Shouichi Fujita[2], Yoko Goto[3], Takeomi Isono[4], Tsuyoshi Ishinazaka[5], Vladimir N. Burkanov[6,7], and Yasunori Sakurai[1], [1]Hokkaido University, Graduate School of Fisheries Sciences, Division of Marine Environment and Resources, Hakodate, Hokkaido, Japan; [2]Hokkaido University, Graduate School of Veterinary Medicine, Laboratory of Toxicology, Sapporo, Hokkaido, Japan; [3]Hokkaido Kushiro Fisheries Experimental Station, Kushiro, Hokkaido, Japan; [4]Econixe Co., Ltd., Sapporo, Hokkaido, Japan; [5]Nihon University, College of Bioresource Sciences, Laboratory of Theriogenology, Fujisawa, Kanagawa, Japan; [6]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [7]Natural Resources Consultants, Inc., Seattle, WA

Regional Variation of Juvenile Steller Sea Lion *(Eumetopias jubatus)* Growth Rates in Alaska

• B.S. Fadely[1], T.S. Gelatt[2], L.D. Rea[2], J.C. King[2], and T.R. Loughlin[1], [1]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [2]Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK

Bioenergetic Demands of Sea Lions: Do Otariids Differ from Other Marine Mammals?

• Terrie M. Williams[1], M. Rutishauser[1], B. Long[1], G. Gafney[1], T. Fink[1], H. Mostman[1], and Dennis Christen[2], [1]University of California Santa Cruz, Department of Ecology and Evolutionary Biology, Long Marine Laboratory, Center for Ocean Health, Santa Cruz, CA ; [2]Alaska SeaLife Center, Seward, AK

Break

3:00 - 3:30 p.m.

Hookworms in Steller Sea Lions *(Eumetopias jubatus)* in Alaska

• Kathy A. Burek[1], Kimberlee B. Beckmen[2], Tom Gelatt[3], Frank Morado[4], and Steve Nadler[5], [1]Alaska Veterinary Pathology Services, Eagle River, AK; [2]Alaska Department of Fish and Game, Division of Wildlife Conservation, Fairbanks, AK; [3]Alaska Department of Fish and Game, Division of Wildlife Conservation, Marine Mammals Section, Anchorage, AK ; [4]NOAA Fisheries, Alaska Fisheries Science Center, Resource Assessment & Conservation Engineering Division, Fisheries Resources Pathobiology, Seattle, WA ; [5]University of California Davis, Department of Nematology, Davis, CA

A Decade of Adult Steller Physiology in the Field: Where Are We Now?

• Michael Castellini, University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Institute of Marine Science, Fairbanks, AK

Indices of Reproductive Effort and Nutritional Health in Lactating Steller Sea Lions and Pups in Areas of Declining and Stable Population

• R.W. Davis[1], A.A. Brandon[2], D. Calkins[3], and T.R Loughlin[4], [1]Texas A&M University, Department of Marine Biology, Galveston, TX; [2]Newtonville, MA; [3]Alaska SeaLife Center, Seward, AK; [4]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Session II Discussion

Break

4:30 - 5:00 p.m.

Poster Session and Reception

5:00 p.m.

Hors d'oeuvres and no-host bar

Session I Posters (Life History)

Bull Territoriality in Steller Sea Lions

• E.G. Mamaev, Vyatka State Agricultural Academy, Kirov, Russia

Male Harassment of Breeding Female New Zealand Sea Lions *(Phocarctos*

***hookeri):* A Significant Source of Adult Mortality**

• B.L. Chilvers[1], B.C. Roberston[1], I.S. Wilkinson[2], P.J. Duignan[3], and N.J. Gemmell[1], [1]Canterbury University, School of Biological Science, Christchurch, New Zealand; [2]Department of Conservation, Science and Research, Wellington, New Zealand; [3]Massey University, IVAB, Palmerston North, New Zealand.

Unusual Mortality of Female Steller Sea Lions

• Vladimir N. Burkanov[1], Thomas R. Loughlin[2], and Donald G. Calkins[3], [1]Natural Resources Consultants, Inc., Seattle, WA; [2]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [3]Alaska SeaLife Center, Seward, AK

Steller Sea Lion Movements Based on Brand-Resighting Observations in Southeast Alaska: An Alternative to Satellite Telemetry

• Lauri A. Jemison, Thomas S. Gelatt, Ken W. Pitcher, and Kimberly L. Raum-Suryan, Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK

Differences in Breeding between Traditional and New Occupied Areas in South American Sea Lions *(Otaria flavescens)* at Punta León, Northern Patagonia

• Guillermo Svendsen, Enrique Crespo, and Silvana Dans, Centro Nacional Patagónico CONICET, and Universidad Nacional de la Patagonia San Juan Bosco, Puerto Madryn, Chubut, Argentina

A Field-Based Method for Estimating Age in Free-Ranging Juvenile Steller Sea Lions *(Eumetopias jubatus)*

• James C. King, Thomas S. Gelatt, and Kenneth W. Pitcher, Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK

Session II Posters (Physiological Ecology)

Effects of Water Temperature on Swimming Metabolic Rates and Foraging Efficiency in Sea Lions

• David Thompson, Jason Matthiopoulos, and Ian L. Boyd, University of St Andrews, NERC Sea Mammal Research Unit, Fife, UK

Vitamin Supplementation Maintains Plasma 8-isoprostane Levels in Captive Steller Sea Lions

• Chun Hu[1,2], Lisa Mazzaro[3], David A. Rosen[2], Andrew W. Trites[2], and David D. Kitts[1], [1]University of British Columbia, Food, Nutrition and Health, Vancouver, BC, Canada; [2]University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada; [3]Mystic Aquarium, Mystic, CT

Potential Iron Deficiency Induced by Pollock Diet in Captive Steller Sea Lions *(Eumetopias jubatus)*

• Saeko Kumagai, David A.S. Rosen, and Andrew Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Plasma Lipid Composition in California Sea Lion *(Zalophus c. californianus)* Pups of the Gulf of California: Are There Differences?

• M.I. Castro-González[1], D. Aurioles-Gamboa[2], B.S. Montaño[1], O.N. López[1], and R.F. Pérez-Gil[1], [1]Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Dirección de Nutrición, D.F, Mexico; [2]Centro Interdisciplinario de Ciencias Marinas, La Paz, BCS, Mexico

Sleep in Young Steller Sea Lions and Northern Fur Seals: A Comparative Study

• O.I. Lyamin, University of California Los Angeles and VA Greater Los Angeles Healthcare System, Sepulveda Division, Department of Psychiatry, North Hills, CA

Use of Carbon and Nitrogen Stable Isotope Ratios in Vibrissae to Detect Weaning in Alaska Steller Sea Lions *(Eumetopias jubatus)*

• Vicki K. Stegall[1], Sean D. Farley[1], Lorrie D. Rea[1], Kenneth W. Pitcher[1], Robert O. Rye[2], Cynthia L. Kester[2], and Carleton R. Bern[2], [1]Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK; [2]United States Geological Survey, Denver Federal Center, Stable Isotope Laboratory, Denver, CO

Medical Findings in a South American Sea Lion *(Otaria flavescens)* Newborn Pup

• Carlos F. Yaipen-Llanos, Gabriel A. Garaycochea, and Michelle Cáceres-Jerí, Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

First Case of Neoplasm in South American Sea Lion *(Otaria flavescens)* from Peru: Lymphoma and Papilloma

• Carlos Yaipen-Llanos , Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

Presence of the Hookworm *(Uncinaria hamiltoni)* in South American Sea Lions *(Otaria flavescens)* along the Coast of Patagonia: Preliminary Surveys

• Bárbara Berón Vera[1], Enrique Alberto Crespo[1], Guillermo Svendsen[1], Nestor García1[1], Alejandro Buren[1], and Juan Antonio Raga[2], [1]Centro Nacional Patagónico CONICET, and Universidad Nacional de la Patagonia San Juan Bosco, Puerto Madryn, Chubut, Argentina; [2]Universitat de Valencia, Institut Cavanilles de Biodiversitat, Valencia, España

Resting Metabolic Rate in Free-Ranging Juvenile Steller Sea Lions *(Eumetopias jubatus)*: Life on the Edge

• Lisa A. Hoopes[1], Lorrie D. Rea[2], and Graham A.J. Worthy[3], [1]Texas A&M University, Department of Wildlife and Fisheries Sciences, College Station, TX ; [2]Alaska Department of Fish and Game, Division of Wildlife Conservation, Marine Mammal Section, Anchorage, AK ; [3]University of Central Florida, Department of Biology, Orlando, FL

Examination of Blood and Muscle Development in the Steller Sea Lion *(Eumetopias jubatus)*: Implications for Diving and Foraging Ability

• Julie P. Richmond[1], Jennifer M. Burns[1], and Lorrie D. Rea[2], [1]University of Alaska Anchorage, Department of Biological Sciences, Anchorage, AK ; [2]Alaska Department of Fish and Game, Anchorage, AK

Total Oxygen Stores in California Sea Lion Pups: Implications for the Development of Diving Behavior

• Carey E. Kuhn[1], David Aurioles-Gamboa[2], and Daniel P. Costa[1], [1]University of California Santa Cruz, Santa Cruz, CA; [2]CICIMAR-IPN, Baja California Sur, Mexico

Sodium Chromate Toxicity and Uptake in Steller Sea Lion Cells

• Caroline E.C. Goertz[1], Sandra S. Wise[1], J. Lawrence Dunn[3], Frances M.D. Gulland[4], Andrew Morin[1], Nishad Jayasundara[1], Mary Bozza[2], Shannon Atkinson[2], and John Pierce Wise Sr.[1], [1]University of Southern Maine, Center for Integrated and Applied Environmental Toxicology, Portland, ME; [2]Alaska SeaLife Center, Seward, AK; [3]Mystic Aquarium, Mystic, CT; [4]The Marine Mammal Center, Marin Headlands, Sausalito, CA

Survey of Steller Sea Lion Corticosteroid Concentrations in Scat
• Kendall Mashburn and Shannon Atkinson, Alaska SeaLife Center, Seward, AK

Distribution and Dynamics of Total Mercury, Cadmium, Zinc, and Copper in Southern Sea Lions *(Otaria flavescens)* from Argentina
• Marcela Gerpe[1,2], Diego Rodríguez[1,2], Jorge Moreno[1], Ricardo Bastida[1,2], and Julia Aizpún[1], [1]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Mar del Plata, Buenos Aires, Argentina; [2]Universidad Nacional de Mar del Plata, Departamento de Ciencias Marinas, Facultad de Ciencias Exactas y Naturales, Mar del Plata, Buenos Aires, Argentina

Chemical Contamination Levels in Steller Sea Lion Pups from Southwest Alaska and the Russian Far East
• Matt Myers[1,2] and Shannon Atkinson[1,2], [1]Alaska SeaLife Center, Seward, AK; [2]University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Fairbanks, AK

Physiology of Homeostasis in Sea Lions: The Link between Hormones and Metabolism
• S. Atkinson[1], T.M. Williams[3], K. Mashburn[1,2], D. Greig[3], and D. Christen[1], [1]Alaska SeaLife Center, Seward, AK; [2]University of California Santa Cruz, Santa Cruz, CA; [3]San Jose State University, San Jose, CA

Noninvasive Monitoring of Stress Hormone Levels of a Female Steller Sea Lion *(Eumetopias jubatus)* Pup Undergoing Rehabilitation
• Lisa Petrauskas[1,2], Pamela Tuomi[2], and Shannon Atkinson*[1,2], [1]University of Alaska Fairbanks, Institute of Marine Science, Fairbanks, AK; [2]AlaskaSealife Center, Seward, AK

Juvenile Steller Sea Lion *(Eumetopias jubatus)* Dive Patterns during Long and Short Trips to Sea
• Jennifer M. Burns, Michael J. Rehberg, and Julie P. Richmond, University of Alaska Anchorage, Department of Biological Sciences, Anchorage, AK

Are All Sea Lions Created Equal? Comparison of Oxygen Storage Capacity of Adult Female California Sea Lions in California and Mexico
• Michael J. Weise and Daniel P. Costa, University of California Santa Cruz, Department of Ecology and Evolutionary Biology, Center for Ocean Health, Santa Cruz, CA

Friday, 1 October

Registration and Continental Breakfast
8:00 - 8:30 a.m.

Plenary Speaker
8:30 a.m.
Comparison of Rising California Sea Lion Populations vs. Steller Sea Lion Declines
• Kathy Ono, University of New England, Biddeford, ME

Session III—Foraging Ecology

9:00 a.m. - 2:15 p.m.

Chair: Tom Gellatt, NOAA Fisheries, Alaska Fisheries Science Center

Is Reproductive Success of New Zealand Sea Lions Limited by the Quality of their Milk?

• Frederico Riet Sapriza[1], Padraig J. Duignan[1], D.D. Mackenzie[2], Alastair MacGibbon[3], I.S. Wilkinson[4], N. Lopez Villalobos[1], and B. Louise Chilvers[5], [1]Massey University, IVABS, Palmerston North, Manawatu, New Zealand; [2]Massey University, Department of Animal Science, Palmerston North, New Zealand; [3]Fonterra Research Centre, Palmerston North, New Zealand ; [4]Department of Conservation, Science and Research Unit, Wellington,New Zealand ; [5]University of Canterbury, School of Biological Sciences, Christchurch, New Zealand

Predictability of Prey Available to Free-Ranging Steller Sea Lions at Varying Spatial Scales

• Michael F. Sigler[1], Scott M. Gende[2], and David J. Csepp[1], [1]NOAA Fisheries, Alaska Fisheries Science Center, Juneau, AK; [2]National Park Service, Glacier Bay Field Station, Juneau, AK

Feeding Behavior of *Otaria flavescens* in Response to the Operation of the Industrial Fishing Fleet of *Trachurus symmetricus* off Central Chile

• Luis A. Huckstadt[1], M.C. Krautz[2], C. Rojas[3], and T. Antezana[1], [1]Universidad de Concepcion, Laboratorio de Ecologia Pelagica, Concepcion, Chile; [2]Universidad de Concepcion, Laboratorio de Pesquera y Ecologia Larval, Concepcion, Chile; [3]Concepcion, Chile

A Global Comparative Analysis of Sea Lion Diets

• Andrew W. Trites and Karim H. Soto, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Break

10:00 - 10:30 a.m.

Foraging Energetics of Lactating Sea lions: Response to Environmental Fluctuation

• Daniel P. Costa, University of California, Department of Ecology and Evolutionary Biology, Santa Cruz, CA

Foraging Ranges of Female New Zealand Sea Lions *(Phocarctos hookeri)*: Fisheries Interactions and Management Considerations

• B.L. Chilvers[1], I.S. Wilkinson[2], and P.J. Duignan[3], [1]Canterbury University, School of Biological Science, Christchurch, New Zealand; [2]Department of Conservation, Science and Research, Wellington, New Zealand.; [3]Massey University, IVAB, Palmerston North, New Zealand.

Potential Effects of Short-Term Prey Changes on Sea Lion Physiology

• David A.S. Rosen, Dominic J. Tollit, Arliss J. Winship, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit,

Vancouver, BC, Canada

Isotopic Differences between *Zalophus* in the Gulf of California and Galapagos Islands: Track Diet and Location

• David Aurioles-Gamboa[1], Paul C. Koch[2], Burney J. Le Boeuf[3], Heidi Porras-Peters[1], Sergio Aguiñiga-Garcia[4], and Sandie Salazar-Pico[4], [1]Centro Interdisciplinario de Ciencias Marinas IPN, La Paz, BCS, Mexico, UC-Mexus Program, University of California—CONACyT; [2]University of California Santa Cruz, Department of Earth and Marine Sciences, Santa Cruz, CA; [3]University of California Santa Cruz, Department of Biology and Institute for Marine Sciences, Santa Cruz, CA; [4]Fundación Charles Darwin, Galápagos, Ecuador

Sea Lions in Drag, Fur Seals Incognito: What Can We Learn from the Otariid Deviants?

• J.P.Y. Arnould[1], D.P. Costa[2], C. Kuhn[2], and J. Gibbens[3], [1]Deakin University, School of Biological and Chemical Sciences, Burwood, Australia; [2]University of California, Department of Ecology and Evolutionary Biology, Santa Cruz, CA; [3]University of Melbourne, Department of Zoology, Victoria, Australia

Prey Contributions to Energetic Content of Steller Sea Lion Diets

• J.J. Vollenweider, Jamie N. Womble, Ron Heintz, and Mike Sigler, NOAA Fisheries, Auke Bay Laboratory, Juneau, AK

Lunch

12:00 - 1:15 p.m.

Movement and Dive Behavior of Foraging Juvenile Steller Sea Lions *(Eumetopias jubatus)* Associated with Pelagic Eddies

• J.T. Sterling, B.S. Fadely, and T.R. Loughlin, NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Bridging the Gap—Linking Real-Time Foraging Movements of Sea Lions to Prey Availability

• Mary-Anne Lea[1], Ben Wilson[1], Andrew Trites[1], Michael Sigler[2], and David Csepp[2], University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Behaviour@Sea Project, Vancouver, BC, Canada; [2]NOAA Fisheries, Auke Bay Laboratory, Auke Bay, AK

Food Consumption of Sea Lions: Data Gaps and Direction for Future Research

• Arliss J. Winship, Andrea M.J. Hunter, David A.S. Rosen, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Session III Discussion

Session IV—Population Ecology

2:15 - 4:45 p.m.

Chair: Kate Wynne, University of Alaska Fairbanks, Marine Advisory Program

The Method of Multiple (Spatial) Hypotheses and the Decline of Steller Sea Lions in Western Alaska

• Nicholas Wolf[1,2], Jason Melbourne[2], and Marc Mangel[2], [1]Marine Resources Assessment Group Americas, Inc., Tampa, FL; [2]University of California, Santa Cruz, CA

An Evaluation of Hot-Iron Branding as a Permanent Marking Method in the New Zealand Sea Lion, *Phocarctos hookeri*

• I.S. Wilkinson[1], P.J. Duignan*[2], C.J.A. Bradshaw[3], S.J. Childerhouse[1], and B.L. Chilvers[4], [1]Department of Conservation, Science and Research Unit, Wellington, New Zealand; [2]New Zealand Wildlife Health Centre, IVABS, Palmerston North, New Zealand; [3]University of Tasmania, School of Zoology, Antarctic Wildlife Research Unit, Hobart, Tasmania, Australia; [4]University of Canterbury, School of Biological Sciences, Christchurch, New Zealand

Break

2:45 - 3:15 p.m.

Using *Leptospira interrogans* Sensu Lato in Pups of the Sea Lion *(Zalophus c. californianus)* as a Tool to Determine Interactions among Populations

• Cecilia Pedernera[1], David Aurioles Gamboa[2], Jorge Torres Barranca[3], Owaldo Martínez[4], Dulce M. Brousset[1], and Alberto Parás[4], [1]UNAM, Facultad de Medicina Veterinaria y Zootecnia, Ciudad Universitaria, Delegación Coyoacán, Mexico; [2]Centro Interdisciplinario de Ciencias Marinas, I.P.N., La Paz, Mexico; [3]UAM-Xochimilco Laboratorio de Leptospira, México D.F., Mexico; [4]Africam Safari, Valsequillo, Puebla, Mexico

Are California Sea Lions in the Gulf of California, Mexico, Increasing in Abundance?

• Diana Szteren[1], David Aurioles-Gamboa[1], and Leah R. Gerber[2], [1]CICIMAR-IPN, La Paz, Baja California Sur, Mexico; [2]Arizona State University, Department of Biology, Tempe, AZ

Population Biology and Status of Steller and California Sea Lions *(Eumetopias jubatus* and *Zalophus californianus)* in Canadian Waters

• Peter F. Olesiuk, Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, BC, Canada

Population Ecology of Resident South American Sea Lions *(Otaria flavescens)* along the Central Peruvian Coast

• Carlos Yaipen-Llanos, Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

***Klebsiella pneumoniae* Epidemics in New Zealand Sea Lions: A Natural Phenomenon or an Adverse Human Impact?**

• P.J. Duignan[1], A. Castinel[1], A. Grinberg[1], and I.S. Wilkinson[2], [1]Massey University, IVABS, New Zealand Wildlife Health Centre, Palmerston North, New Zealand; [2]Department of Conservation, Science and Research, Wellington, New Zealand

Session IV Discussion

Break

4:45 - 5:15 p.m.

Poster Session and Social

5:15 p.m.

Session III Posters (Foraging Ecology)

Estimation of Otolith Recovery in Feces through Captive Feeding Trials in Southern Sea Lions *(Otaria flavescens)*
• Diego Rodríguez, Laura Rivero, and Ricardo Bastida, Universidad Nacional de Mar del Plata, CONICET, and Departamento de Ciencias Marinas, Mar del Plata, Argentina

Seasonal Foraging Behavior of Lactating California Sea Lions
• Sharon R. Melin and Robert L. DeLong, NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Diving Physiology of Steller Sea Lions: Insights from Trained Animals in the Open Ocean
• Gordon D. Hastie, David A.S. Rosen, Graham E. Wallace, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Shouldn't We Ask Where? Stable Isotopic Evidence of Geographical Variations in Steller Sea Lion *(Eumetopias jubatus)* Diets
• Pieter A.P. deHart[1] and Matthew J. Wooller[1,2], [1]University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Institute of Marine Science, Fairbanks, AK; [2]University of Alaska Fairbanks, Alaska Stable Isotope Facility, Water and Environmental Research Center, Fairbanks, AK

Diving Behavior of Male South American Sea Lions *(Otaria flavescens)*
• Gabriele Müller and Rory Wilson, Leibniz-Institut für Meereswissenschaften, Marine Zoologie, Kiel, Germany

Movements of a Juvenile Southern Sea Lion in La Plata River Estuary (Argentina-Uruguay)
• Diego Rodríguez[1], Ricardo Bastida[1], Donald G. Calkins[2], and Randall W. Davis[3], [1]Universidad Nacional de Mar del Plata, CONICET, and Departamento de Ciencias Marinas, Facultad de Ciencias Exactas y Naturales, Mar del Plata, Argentina; [2]Alaska SeaLife Center, Seward, AK; [3]Texas A&M University, Department of Marine Biology, Galveston, Texas

Importance of Seasonally Available Prey for Steller Sea Lions *(Eumetopias jubatus)* at Benjamin Island, Southeastern Alaska
• Jamie N. Womble and Michael F. Sigler, NOAA Fisheries, Auke Bay Laboratory, Juneau, AK

Using Feeding Trials and Computer Simulations to Reconstruct Sea Lion Diet from Scat
• Ruth Joy[1], Dominic J. Tollit[1], Jeffrey L. Laake[2], and Andrew W. Trites[1], [1]University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada; [2]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Assessing Overlap between Steller Sea Lion Diets and Fish Distributions in

the North Pacific
• Emma L. Bredesen, Andrea P. Coombs*, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Seasonal Availability of Nearshore Prey to Steller Sea Lions near Two Haul-outs in Southeastern Alaska
• John F. Thedinga, Scott W. Johnson, and David J. Csepp, NOAA Fisheries, Auke Bay Laboratory, Juneau, AK

Steller Sea Lion *(Eumetopias jubatus)* Feeding Habits in the Russian Far East
• Jason N. Waite[1] and Vladimir N. Burkanov[2], [1]Alaska SeaLife Center, Seward, AK; [2]Natural Resources Consultants, Inc., Seattle, WA

Using Fatty Acids to Investigate Dietary Changes in Young Steller Sea Lions *(Eumetopias jubatus)* in Alaska
• Carrie A. Beck[1], Lorrie D. Rea[2], Sara J. Iverson[3], John Kennish[1], Kenneth W. Pitcher[2], and Dom J. Tollit[4], [1]University of Alaska Anchorage, Anchorage, AK; [2]Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK; [3]Dalhousie University, Biology Department, Halifax, Nova Scotia, Canada; [4]University of British Columbia, Department of Zoology, Vancouver, BC, Canada

Following in the Wake of Sea Lions: Fine-Scale Boat-Based Tracking of Juvenile Steller Sea Lions Reveals Distinct Habitat Preferences for Shorelines
• Ben Wilson, Mary-Anne Lea*, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Behaviour@Sea Project, Vancouver, BC, Canada

Comparisons of Blubber Fatty Acids between Sexes of Adult Steller Sea Lions
• Laura K. Hoberecht[1], Glenn R. VanBlaricom[1], and Bryan J. Prazen[2], [1]University of Washington, School of Aquatic and Fishery Sciences, Washington Cooperative Fish and Wildlife Research Unit, Seattle, WA ; [2]University of Washington, Department of Chemistry, Center for Process Analytical Chemistry, Seattle, WA

Variation in the Quality of Steller Sea Lion Prey from the Aleutian Islands and Southeastern Alaska
• L. Schaufler[1], E. Logerwell[2], and J. Vollenweider[1], [1]NOAA Fisheries, Alaska Fisheries Science Center, Auke Bay Laboratory, Juneau, AK; [2]NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

Spatially Explicit Foraging Ecology of Juvenile Steller Sea Lions *(Eumetopias jubatus)*
• M.E. Lander[1], T.R. Loughlin[2], G.R. VanBlaricom[1], and M.L. Logsdon[3], [1]University of Washington, School of Aquatic and Fishery Sciences, Washington Cooperative Fish and Wildlife Research Unit, Seattle, WA; [2]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [3]University of Washington, School of Oceanography, Seattle, WA

Ontogeny of Foraging Behaviors of the Immature California Sea Lion *(Zalophus californianus)*
• Anthony J. Orr[1,2], Robert L. DeLong[1], Glenn R. VanBlaricom[2], and Miles L. Logsdon[3], [1]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [2]University of Washington, School of Aquatic and Fishery Sciences, Washington Cooperative Fish and Wildlife Research Unit, Seattle, WA; [3]University of Washington, School of Oceanography, College of Ocean and Fishery Sciences, Seattle, WA

Techniques for Capture and Handling of Steller and California Sea Lions

• Steven Jeffries[1], Peter Olesiuk[2], Pat Gearin[3], Dyanna Lambourn[1], and Andrew Trites[4], [1] Washington Department of Fish and Wildlife, Marine Mammal Investigations, Tacoma, WA; [2]Fisheries and Oceans Canada, Pacific Biological Station, Nanaimo, BC, Canada; [3]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA; [4]University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Are Steller Sea Lions Prey-Limited? Ask Their Neighbors!

• Kate M. Wynne[1], Robert J. Foy[2], Brian Knoth[2], and C. Loren Buck[2], [1]University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Alaska Sea Grant Marine Advisory Program, Kodiak, AK; [2]University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Fishery Industrial Technology Center, Kodiak, AK

Estimating Ecological Niche Overlap between Steller Sea Lions and Commercial Trawl Fisheries in Alaska

• Edward J. Gregr and Andrew W. Trites*, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Persistence of Prey "Hot Spots" for Steller Sea Lions in Southeast Alaska

• Scott Gende[1] and Mike Sigler[2], [1]National Park Service, Glacier Bay Field Station, Juneau, AK; [2]NOAA Fisheries, Alaska Fisheries Science Center, Juneau, AK

A Model of Diving Behavior Applied to Steller Sea Lion Foraging

• Carlos Alvarez-Flores[1] and Sarah Hinckley[2], [1]Joint Institute for the Study of the Atmosphere and the Ocean, Seattle, WA; [2]NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

Estimating Diet Composition in Sea Lions: What Technique to Choose?

• Dom Tollit, Susan Heaslip, Ruth Joy, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Individually Based Modeling of Steller Sea Lion Foraging Behavior

• Sarah Hinckley[1], Carlos Alvarez-Flores[2], John Horne[3], Julian Burgos[3], and Martin Dorn[1], [1]NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA; [2]University of Washington, Joint Institute for the Study of the Atmosphere and the Ocean, Seattle, WA; [3]University of Washington, School of Aquatic and Fishery Sciences, Seattle, WA

Effects of Increased Swimming Costs on Foraging Efficiency of Captive Steller Sea Lions

• Leslie A. Cornick[1], Markus Horning[2], Susan Inglis[3], and Kate Willis[2], [1]Alaska Pacific University, Anchorage, AK; [2]Texas A&M University, Laboratory for Applied Biotelemetry and Biotechnology, Galveston, TX; [3]University of Alaska Fairbanks, Institute of Marine Science, Fairbanks, AK

Session IV Posters (Population Ecology)

Implications of the Prince William Sound Herring Population Crash: Did It Impact Steller Sea Lions?

• Gary L. Thomas[1] and Richard E. Thorne[2], [1]Rosenstiel School of Marine and Atmospheric Sciences, Miami, FL; [2]Prince William Sound Science Center, Cordova, AK

Status of the Western Steller Sea Lion *(Eumetopias jubatus)* Population in 2004

• Lowell Fritz[1], Charles Stinchcomb[2], Thomas Loughlin[1], and Wayne Perryman[2], [1]NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA; [2]NOAA Fisheries,

Southwest Fisheries Science Center, La Jolla, CA

Diurnal and Seasonal Activity Patterns of Oregon's Steller Sea Lions
• Jennifer Katalinich, Oregon State University, College of Oceanic and Atmospheric Sciences, Corvallis, OR

Trends in Pup Abundance of Australian Sea Lions *Neophoca cinerea* in South Australia
• Peter Shaughnessy[1], Rebecca McIntosh*[2], and Simon Goldsworthy[2], [1]CSIRO Sustainable Ecosystems, Canberra, ACT, Australia; [2]La Trobe University, Zoology Department, Sea Mammal Ecology Group, Victoria, Australia

Human Interaction Impact on South American Sea Lions Recorded in Strandings along Central Peruvian Coast
• Michelle Cáceres-Jerí, Carlos F. Yaipén-Llanos*, and Gabriel A. Garaycochea, Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

Changes in Abundance and Sightings of Marked Steller Sea Lion in Hokkaido
• Takeomi Isono[1], Hiroshi Hoshino[2], Takuma Takayama[2], Tsuyoshi Ishinazaka[3], Vladimir Burkanov[4], and Yasunori Sakurai[2], [1]Econixe Co., Ltd., Hokkaido, Japan; [2]Hokkaido University, Division of Marine Environment and Resources, Graduate School of Fisheries Sciences, Hakodate, Hokkaido, Japan; [3]Nihon University, College of Bioresource Sciences, Laboratory of Theriogenology, Kanagawa, Japan; [4]Natural Resources Consultants, Inc., Seattle, WA

Wintering of Steller Sea Lion *(Eumetopias jubatus)* along the Northern Coast of the Sea of Japan
• Hiroshi Hoshino[1], Takeomi Isono[2], Takuma Takayama[1], Tsuyoshi Ishinazaka[3], Akihiko Wada[4], and Yasunori Sakurai[1], [1]Hokkaido University, Graduate School of Fisheries Sciences, Division of Marine Environment and Resources, Hakodate, Hokkaido, Japan; [2]Econixe Co., Ltd., Sapporo, Hokkaido, Japan; [3]Nihon University, College of Bioresource Sciences, Laboratory of Theriogenology, Fujisawa, Kanagawa, Japan; [4]Hokkaido Wakkanai Fisheries Experimental Station, Wakkanai, Hokkaido, Japan

Saturday, 2 October

Registration and Continental Breakfast
8:00 - 8:30 a.m.

Plenary Speaker
8:30 a.m.
Conservation Management Issues and Status of Australian and New Zealand Sea Lions
• Richard Campbell, Department of Fisheries, West Australian Marine Research Laboratories

Session V—Population Dynamics
9:00 - 11:15 a.m.

Chair: Lowell Fritz, NOAA Fisheries, Alaska Fisheries Science Center

Estimation of Weaning Status of Juvenile Steller Sea Lions Using Mark-Resight Models

• Kenneth W. Pitcher[1], Grey W. Pendleton[2], and Thomas S. Gelatt[1], [1]Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK; [2]Alaska Department of Fish and Game, Division of Wildlife Conservation, Douglas, AK

Age- and Sex-Specific Survivorship of California Sea Lions

• J. Laake, R. Delong, and S. Melin, NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Correlations between the Steller Sea Lion Decline and the Bering Sea/Gulf of Alaska Commercial Fishery

• Daniel R. Hennen, Montana State University, Bozeman, MT

Can Experimental Manipulation Be Used to Determine the Cause of the Decline of the Western Stock of Steller Sea Lions *(Eumetopias jubatus)*?

• André E. Punt and Gavin Fay*, University of Washington, School of Aquatic and Fishery Sciences, Seattle, WA

Break

10:00 - 10:30 a.m.

Historic Changes in Distribution and Abundance of Steller Sea Lions in the Western Pacific, 1700s–2002

• Vladimir Burkanov[1,2] and Thomas R. Loughlin[3], [1]Natural Resources Consultants, Inc., Seattle, WA; [2]Russian Academy of Sciences, Kamchatka Branch of the Pacific Institute of Geography, Petropavlovsk-Kamchatskiy, Russia; [3]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

The Size and Status of the Population of Southern Sea Lions in the Falkland Islands

• David Thompson[1], Callan D. Duck[1], Ian Strange[2], and Michael Riddy[3], [1]University of St Andrews, NERC Sea Mammal Research Unit, Fife, UK; [2]New Island Conservation Trust, New Island, Falkland Islands; [3]Dorset Wildlife Trust, Brooklands Farm, Dorchester, UK

Session V Discussion

Session VI—Conservation and Management

11:15 a.m. - 4:15 p.m.

Chair: Doug DeMaster, NOAA Fisheries, Alaska Fisheries Science Center

A Synthesis of Australian Sea Lion Research and the Development of Effective Conservation: Where to from Here?

• Richard Campbell[1] and Nicholas Gales[2], [1]Department of Fisheries, West Australian Marine Research Laboratories, North Beach, Australia; [2]Australian Antarctic Division, Kingston, Tasmania, Australia

An Integrated Bayesian Model for Exploring the Interaction between Hooker's Sea Lions *(Phocarctos hookeri)* and the New Zealand Squid Fishery

• Paul A. Breen and Susan W. Kim, National Institute of Water and Atmospheric Research (NIWA), Wellington, New Zealand

Are Trawl Exclusion Zones Effective at Mitigating Competition between Commercial Fisheries and Steller Sea Lions?

• Elizabeth A. Logerwell and Susanne F. McDermott, NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

Lunch

12:00 - 1:15 p.m.

A Critical Review of the Regime Shift–"Junk Food" Hypothesis for the Decline of the Western Stock of Steller Sea Lions

• Lowell Fritz and Sarah Hinckley, NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

How Uncertainties about Competition between Steller Sea Lions and U.S. Groundfish Fisheries off Alaska Have Been Addressed in Fisheries Regulations

• Shane Capron[1] and Lowell Fritz[2], [1]NOAA Fisheries, Alaska Region, Office of Protected Resources, Anchorage, AK; [2]NOAA Fisheries, National Marine Mammal Laboratory, Seattle, WA

Conservation and Status of Sea Lions in Ecuador and the Galapagos Islands

• Juan Jose Alava, University of South Carolina, School of the Environment, Columbia, SC

A Health Assessment Approach to Steller Sea Lion Research in Alaska

• Kimberlee B. Beckmen[1], Kathy A. Burek[2], Lorrie D. Rea[3], and Thomas S. Gelatt[3], [1]Alaska Department of Fish and Game, Division of Wildlife Conservation, Fairbanks, AK; [2]Alaska Veterinary Pathology Services, Eagle River, AK; [3]Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage AK

Pinniped Policy: Dealing with Scientific Uncertainty

• Shilpa Rajkumar and Sali J. Bache, University of Wollongong, Centre for Maritime Policy, New South Wales, Australia

A Long-Term Program on South American Sea Lions of Argentina

• H.L. Cappozzo, Estación Hidrobiológica de Puerto Quequén, Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN-CONICET), Buenos Aires, Argentina; presented by Diego Rodríguez*, CONICET, Mar del Plata, Argentina

Break

2:45 - 3:15 p.m.

Is Human Disturbance Affecting Steller Sea Lions?
• Laura Kucey and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

Uncertain Management or Management of Uncertainty: Steller Sea Lion—A Case Study
• Robert J. Small[1] and Douglas P. DeMaster[2], [1]Alaska Department of Fish and Game, Juneau, AK; [2]NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

Integrating Behavior and Demography in Pinniped Conservation: California Sea Lions *(Zalophus californianus)* in the Gulf of California
• Leah R. Gerber[1], Claudia Hernández Camacho[1,2], Manuela Gonzalez Suarez[1], Mariana Issa[2], Lauren Horwitz[1], and David Aurioles[2], [1]Arizona State University, School of Life Sciences, Tempe, AZ; [2]Centro Interdisciplinario de Ciencias Marinas, Departamento de Pesquerías y Biología Marina, La Paz, Baja California Sur, Mexico

Session VI Discussion

Symposium Wrap-Up
4:15 – 4:45 p.m.

Break
4:45 – 5:15 p.m.

Poster Session and Social
5:15 p.m.

Session V Posters (Population Dynamics)

The Decline of Steller Sea Lions and the Ecosystem of the Gulf of Alaska
• Sylvie Guénette, Sheila J.J. Heymans, Villy Christensen, and Andrew W. Trites, University of British Columbia, Fisheries Centre, Marine Mammal Research Unit, Vancouver, BC, Canada

A Bayesian Stochastic Metapopulation Model for Steller Sea Lions *(Eumetopias jubatus)*: Evaluating Changes in Model Fits with Different Assumptions about the Causes for Population Decline
• Gavin Fay and André E. Punt, University of Washington, School of Aquatic and Fishery Sciences, Seattle, WA

Composition and Long-Term Numerical Fluctuations in a Southern Sea Lion Colony at Mar del Plata Harbor (Argentina)
• Diego Rodríguez[1], Marcela Natal[2], and Ricardo Bastida[1], [1]Universidad Nacional de Mar del Plata, CONICET, and Departamento de Ciencias Marinas, Facultad de Ciencias Exactas y Naturales, Mar del Plata, Argentina; [2]Universidad Nacional de Mar del Plata, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Mar del Plata, Argentina

Survival Rates of Steller Sea Lions in Southcentral and Southeastern Alaska
• Grey W. Pendleton[1], Kenneth W. Pitcher[2], Lowell W. Fritz[3], and Thomas S. Gelatt[2], [1]Alaska Department of Fish and Game, Wildlife Conservation, Douglas, AK; [2]Alaska Department of Fish and Game, Wildlife Conservation, Anchorage, AK; [3]NOAA

Fisheries, National Marine Mammal Laboratory, Seattle, WA

Survival of Steller Sea Lion Pups from Branding to Three Months after Branding at Lowrie Island, Alaska
• Kelly Hastings and Tom Gelatt, Alaska Department of Fish and Game, Division of Wildlife Conservation, Anchorage, AK

Survival Estimates for California Sea Lions *(Zalophus californianus californianus)* in the Gulf of California, Mexico
• Claudia J. Hernández Camacho[1], David Aurioles Gamboa[1], Jaume Forcada[2], and Donald A. Croll[3], [1]Centro Interdisciplinario de Ciencias Marinas-IPN, Departamento de Pesquerías y Biología Marina, La Paz, Mexico; [2]NERC, Biological Sciences Division, British Antarctic Survey, Cambridge, UK; [3]University of California Santa Cruz, Center for Ocean Health, Santa Cruz, CA

Session VI Posters (Conservation and Management)

Steller Sea Lion *(Eumetopias jubatus)* and California Sea Lion *(Zalophus californianus)* Interactions with Vessels in Pacific Rim National Park Reserve: Implications for Marine Mammal Viewing Management
• Wendy Szaniszlo, University of Victoria, Department of Geography, Pacific Rim National Park Reserve, Ucluelet, BC, Canada

Steller Sea Lion Protection Measures in the Alaska Groundfish Fisheries: Spatial and Temporal Harvest Control
• Melanie N. Brown[1], Brandee L. Gerke[2], and William J. Wilson[3], [1]NOAA Fisheries, Sustainable Fisheries Division, Alaska Region, Juneau, AK; [2]NOAA Fisheries, Protected Resources Division, Alaska Region, Juneau, AK; [3]North Pacific Fishery Management Council, Anchorage, AK

Acoustic Characteristics and Morphological Observation of Roar Sound of Steller Sea Lion *(Eumetopias jubatus)* Migrating to the West Coast of Hokkaido, Northern Japan
• Kohji Iida, Tae-Geon Park, Tohru Mukai, and Shoji Kotani, Hokkaido University, Graduate School of Fisheries Sciences, Hakodate, Hokkaido, Japan

Relationship between Roar Sound and Behavior of Steller Sea Lion *(Eumetopias jubatus)* Migrating to the West Coast of Hokkaido, Northern Japan
• Tae-Geon Park, Kohji Iida, Tohru Mukai, and Shoji Kotani, Hokkaido University, Graduate School of Fisheries Sciences, Hakodate, Hokkaido, Japan

Fishery Effects: Testing the Local Depletion Hypothesis
• M. Elizabeth Conners, Elizabeth A. Logerwell*, and Peter Munro, NOAA Fisheries, Alaska Fisheries Science Center, Seattle, WA

Movements and Diving Behavior of Juvenile Steller Sea Lions *(Eumetopias jubatus)* during the Winter and Spring in Southcentral Alaska
• H.B. Briggs[1], D. Calkins[2], and R.W. Davis[1], [1]Texas A&M University, Department of Marine Biology, Galveston, TX; [2]Alaska SeaLife Center, Seward, AK

Entanglements of North American Sea Lions in Marine Debris: Do We Know Enough?
• Kimberly L. Raum-Suryan[1], Frances Gulland[2], Thomas S. Gelatt[1], and Lauri Jemison[1], [1]Alaska Department of Fish and Game, Division of Wildlife Conservation,

Anchorage, AK; [2]The Marine Mammal Center, Marin Headlands, Sausalito, CA;

Effect of Marking Operations on Pup Survival at Medny Island (Russia), 1991–2001

• Vladimir N. Burkanov[1,2] and Evgeny G. Mamaev[3], [1]Natural Resources Consultants, Inc., Seattle, WA; [2]Russian Academy of Sciences, Kamchatka Branch of the Pacific Institute of Geography, Petropavlovsk-Kamchatskiy, Russia; [3]Vyatka State Agricultural Academy, Kirov, Russia

Method for Field Identification of South American Sea Lions: Operational Tool for Research and Management

• Gabriel A. Garaycochea, Carlos F. Yaipén-Llanos*, and Michelle Cáceres-Jerí, Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

Can a New Marine Mammal Law Be Developed in Peru? An Analysis of Environment Legal Order

• Mariana Alegre-Escorza and Carlos F. Yaipen-Llanos*, Organization for Research and Conservation of Animals: Marine Mammals (ORCCAMM), Lima, Peru

Effects of Tourism on Australian Sea Lions *(Neophoca cinerea)* at Seal Bay Conservation Park, South Australia

• Terijo Arianna[1], David Croft[1], Peter Banks[1], and Graeme Moss[2], [1]University of New South Wales, School of Biological, Earth, and Environmental Sciences, Sydney, Australia; [2]National Parks and Wildlife South Australia, Kingscote, South Australia, Australia

The Impact of International Law on the Conservation and Management of Pinnipeds

• Shilpa Rajkumar and Sali J. Bache, University of Wollongong, Centre for Maritime Policy, New South Wales, Australia

TASSC: Sea Lion Comanagement in Alaska

• Lianna Jack[1], Donna Willoya[1], Dolly Garza[2], and Margaret Roberts[1], [1]The Alaska Sea Otter and Steller Sea Lion Commission (TASSC), Anchorage, AK; [2]Marine Advisory Program, University of Alaska Fairbanks, Ketchikan, AK

Future Directions: Seal Bay Conservation Park, Kangaroo Island, South Australia

• Jacqueline Wright, Department for Environment and Heritage, Seal Bay Conservation Park, Kingscote, South Australia, Australia

The Effects of Movement Rates on Viability Predictions: California Sea Lions *(Zalophus californianus californianus)* as a Case Study

• Manuela Gonzalez-Suarez[1], Kevin E. McCluney[1], Jennifer C. Rupnow[1], Leah R. Gerber[1], and David Aurioles[2], [1]Arizona State University, School of Life Sciences, Tempe, AZ ; [2]Centro Interdisciplinario de Ciencias Marinas, Departamento de Pesquerias y Biologia Marina, La Paz, Mexico

Organochlorine Levels in Steller Sea Lion Prey from the Aleutian Islands and Southeastern Alaska

• Ron Heintz[1], Margaret M. Krahn[2], G.M. Ylitalo[2], and Frank Morado[3], [1]NOAA Fisheries, Auke Bay Laboratory, Juneau, AK; [2]NOAA Fisheries, Northwest Fisheries Science Center, Montlake Laboratory, Seattle, WA; [3]NOAA Fisheries, Alaska Fisheries Science Center, RACE Division, Seattle, WA

Potential Interactions between State-Managed Fisheries and Steller Sea Lions *(Eumetopias jubatus)*
• Nathan J. Soboleff and Gordon H. Kruse, University of Alaska Fairbanks, School of Fisheries and Ocean Sciences, Juneau Center, Juneau, AK

Southern Sea Lions and Artisanal Fisheries in Uruguay: Comparing the Conflicts through Three Years
• Diana Szteren[1, 2], Cecilia Lezama1[1], [1]Universidad de la República, Sección Zoología Vertebrados, Facultad de Ciencias, Montevideo, Uruguay; [2]CICIMAR-IPN, Baja California Sur, Mexico

Avoidance Behavior of Steller Sea Lion *(Eumetopias jubatus)* to Artificial Sound Stimuli
• Kohji Iida, Tae-Geon Park, Tohru Mukai, and Shoji Kotani, Hokkaido University, Graduate School of Fisheries Sciences, Hakodate, Hokkaido, Japan

Sunday, 3 October

Continental Breakfast
8:00 – 9:00 a.m.

Roundtable Discussions

Sign up at the registration desk by Saturday, 2 October, for the discussion groups you wish to attend.

Anchorage Room	***Juneau Room***	***Haines Room***
9:00 – 10:30 a.m.		
Topic: **Learning from Our Data Gaps: Population Research and Monitoring Priorities** Session leaders: Bob Small and Kate Wynne	Topic: **Physiology and Metabolism** Session leader: Kendall Mashburn	Topic: **Telemetry Techniques and Analysis in Sea Lion Research: What Is the State of the Art?** Session leaders: Mary-Anne Lea and Mike Rehberg
10:30 – 10:45 a.m. break		
10:45 a.m. – 12:15 p.m.		
Topic: **Quantifying Predation on Sea Lions: Identifying Key Parameters and Data Needs** Session leaders: Ben Wilson and Arliss Winship	Topic: *Open session*	Topic: **Telemetry Attachment Techniques: What Works and What Doesn't?** Session leaders: Mary-Anne Lea and Mike Rehberg
12:15 – 1:30 p.m. lunch		

1:30 - 3:00 p.m.		
Topic: **Dietary Analysis of Sea Lions: How Should It Be Done?** Session leader: Andrew Trites	Topic: **Foraging Studies** Session leader: *TBA*	Topic: *Open session*

Monday, 4 October

Optional field trip to Seward, Alaska

7:45 a.m. - 9:30 p.m.

On Monday, October 4, 2004, we will be traveling via motorcoach to Seward, Alaska. Included in the field trip will be a scenic ride along Turnagain Arm onto the Kenai Peninsula, a behind-the-scenes tour of the Alaska SeaLife Center, a catered lunch, free time to explore the coastal town, and a stop at Alyeska Ski Resort for dinner (dinner not included in field trip price) on our return trip to Anchorage. The cost of the field trip is $60. A few seats are still available. If you are interested in joining us, please see Sherri Pristash or Adie Callahan at the registration desk.

Alaska SeaLife Center

Schedule

7:45 a.m.	meet in hotel lobby
8:00 a.m.	depart from Marriott Downtown Hotel
11:00 a.m.	arrive in Seward
12:00 p.m.	lunch (provided) and tour of the Alaska SeaLife Center
4:00 p.m.	depart Seward
6:00 p.m.	arrive at Alyeska Ski Resort, dinner is on your own
8:00 p.m.	depart Alyeska Ski Resort
9:00 p.m.	drop off at Anchorage International Airport
9:45 p.m.	return to Marriott Downtown Hotel

Those of you already signed up, please pay your fees at the symposium registration desk by Saturday, October 2. Thank you!

Roundtable Discussion Descriptions

Telemetry Techniques and Analyses in Sea Lion Research: What Is the State of the Art?
Session leaders: Mary-Anne Lea & Mike Rehberg
Email: lea@zoology.ubc.ca and michael_rehberg@fishgame.state.ak.us

There are numerous telemetry-based studies under way of the various sea lions of the world. The purpose of this brief meeting is to bring together workers currently using—or otherwise interested in—field-deployed telemetry devices to study sea lion behavior. Although there will be no formal presentations, participants are encouraged to share their study questions, to describe the type of behavior-recording technologies and analytical techniques they are using to address questions, and to highlight the particular strengths and weakness of the techniques being used. A summary table containing this information, along with contact information for each participant, will be published in the conference proceedings and distributed by email.

Telemetry Attachment Techniques: What Works and What Doesn't?
Session leaders: Mary-Anne Lea & Mike Rehberg
Email: lea@zoology.ubc.ca and michael_rehberg@fishgame.state.ak.us

Many pinniped scientists around the world now have considerable expertise in deploying telemetry devices on otariids. This workshop is a chance for those involved in sea lion telemetry studies (past, present, or future) to share details on the successes and failures of various device attachment techniques and tag placements. Although there will be no formal presentations, workshop participants might like to bring data on the types of epoxy used, effects of tag placement, and the success of various antenna types. PowerPoint photographs of various attachment techniques and their outcomes would also help facilitate discussion. A summary table detailing the types of attachments and tag placements employed for the various species and their success will be compiled for the proceedings and emailed to workshop participants.

Sea Lions registration information | Alaska Sea Grant Conferences
Alaska Sea Grant Homepage

Fishery Classification Criteria

The fishery classification criteria consist of a two-tiered, stock-specific approach that first addresses the total impact of all fisheries on each marine mammal stock, and then addresses the impact of individual fisheries on each stock. This approach is based on consideration of the rate, in numbers of animals per year, of incidental mortalities and serious injuries of marine mammals due to commercial fishing operations relative to the potential biological removal (PBR) level for each marine mammal stock. The MMPA (16 U.S.C. 1362 (20)) defines the PBR level as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. This definition can also be found in the implementing regulations for section 118 at 50 CFR 229.2.

Tier 1: If the total annual mortality and serious injury of a marine mammal stock, across all fisheries, is less than or equal to 10 percent of the PBR level of the stock, all fisheries interacting with the stock would be placed in Category III. Otherwise, these fisheries are subject to the next tier (Tier 2) of analysis to determine their classification.

Tier 2, Category I: Annual mortality and serious injury of a stock in a given fishery is greater than or equal to 50 percent of the PBR level.

Tier 2, Category II: Annual mortality and serious injury of a stock in a given fishery is greater than 1 percent and less than 50 percent of the PBR level.

Tier 2, Category III: Annual mortality and serious injury of a stock in a given fishery is less than or equal to 1 percent of the PBR level.

While Tier 1 considers the cumulative fishery mortality and serious injury for a particular stock, Tier 2 considers fishery-specific mortality and serious injury for a particular stock. Additional details regarding how the categories were determined are provided in the preamble to the final rule implementing section 118 of the MMPA (60 FR 45086, August 30, 1995).

Since fisheries are categorized on a per-stock basis, a fishery may qualify as one Category for one marine mammal stock and another Category for a different marine mammal stock. A fishery is typically categorized on the LOF at its highest level of classification (*e.g.*, a fishery qualifying for Category III for one marine mammal stock and for Category II for another marine mammal stock will be listed under Category II).

Other Criteria That May Be Considered

In the absence of reliable information indicating the frequency of incidental mortality and serious injury of marine mammals by a commercial fishery NMFS will determine whether the incidental serious injury or mortality qualifies for Category II by evaluating other factors such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, qualitative data from logbooks or fisher reports, stranding data, and the species and distribution of marine mammals in the area, or at the discretion of the Assistant Administrator for Fisheries (50 CFR 229.2).

[Excerpt from FR Vol 69, No 71, p. 19366.]

AGENDA B-7(l)
OCTOBER 2004

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

September 24, 2004

RECEIVED
SEP 28 2004
N.P.F.M.C.

Stephanie Madsen
Chair
North Pacific Fishery Management Council
605 W. 4th Ave, Suite 306
Anchorage, AK 99501

Dear Ms. Madsen:

The National Marine Fisheries Service (NOAA Fisheries) provides you with the following update on inquiries into Endangered Species Act (ESA) consultations under section 7 and the designation of critical habitat for Steller sea lions. At this time NMFS does not have immediate plans to reinitiate consultation on the 2000 Biological Opinion for the Fishery Management Plans or the 2001 project level Biological Opinion on the pollock, Pacific cod, and Atka mackerel fisheries. The Region will re-evaluate the need for reinitiation of consultation upon completion of the Steller sea lion recovery plan, which we anticipate in 2005. We also anticipate that much of the research funded over the last 3-5 years will begin to be published in earnest over the next 1-2 years. This large body of new information will also be evaluated with respect to the need for reinitiation of formal consultation of the 2000 Biological Opinion.

For similar reasons, NOAA Fisheries does not expect to revisit Steller sea lion critical habitat designations at this time. The Steller sea lion recovery team will be providing guidance on the potential threat that fisheries may pose to the recovery of Steller sea lions, and will also provide insight into the types of habitat especially important to foraging Steller sea lions. With these descriptions and revised recovery criteria in the plan, we expect to review all of our recovery efforts in order to facilitate the recovery of this endangered species. At that time we will evaluate whether revision of the critical habitat designation for Steller sea lions is necessary in order to promote their recovery.

Thank you for your continued interest in Steller sea lion conservation and management.

Sincerely,

Arnold J. Berg

For James W. Balsiger
Administrator, Alaska Region

DRAFT

North Pacific Fishery Management Council
Steller Sea Lion Mitigation Committee
September 8-9, 2004 Meeting

Minutes

The Steller Sea Lion Mitigation Committee (SSLMC) convened September 8-9, 2004 at the Alaska Fisheries Science Center in Seattle. Chairman Larry Cotter reviewed the agenda (attached) and the minutes from the last SSLMC meeting (available on the NPFMC website). Cotter noted that in the minutes of the last SSLMC meeting, reference was made to a letter that would be sent to NMFS regarding SSLMC concerns over their July 16, 2004 "initial determination" letter; Cotter stated that the SSLMC letter to NMFS was not sent, as it was judged inappropriate to correspond between this Committee and NMFS; such correspondence should occur between the Council and NMFS. Furthermore, the issues raised are now tempered by other events and are not as relevant at this time. The Committee members agreed.

Members attending this meeting were: Chairman Larry Cotter and members Julie Bonney, Shane Capron, Tony DeGange, Doug DeMaster, John Gauvin, Sue Hills (via teleconference), Terry Leitzell, Chuck McCallum, Bob Small, and Beth Stewart. Bill Wilson attended as NPFMC staff. Sandra Moller, Craig Cross, and Dave Fraser attended to present a revised Aleut Corporation proposal. NMFS staff attending included Melanie Brown, John Bengtson, Lowell Fritz, Tom Gelatt, Sharon Melin, and several other NMML and AFSC staff. Several members of the public attended.

Update from Steller Sea Lion Recovery Team

Bob Small gave a report on the status of preparation of a draft Recovery Plan for the eastern and western Distinct Population Segments of Steller sea lion (eSSL and wSSL) (outline of the Plan is attached). The Recovery Team has met periodically since early 2002, and Small reported that during the upcoming meeting in Homer on September 14-16, 2004, the Team would be assembling a first draft of the narrative of the Recovery Plan. Small further noted that he hoped the Recovery Team would have a first draft of the entire Recovery Plan available for internal NMFS review at the end of 2004 or very early in 2005.

The Recovery Plan will include recommendations from the Recovery Team on measures that may be taken to speed the wSSL and eSSL to recovery. The Plan will include the Team's recommended recovery criteria, both qualitative and quantitative, which NMFS may use to define when to delist the eSSL or wSSL. Small noted that when the Plan is completed by the Team, the Plan is submitted to NMFS who may choose to implement the Plan, modify it, or reject it.

The schedule for completing the Recovery Plan is: to have a completed narrative by mid November 2004, a Recovery Plan implementation schedule drafted by the end of 2004,

and an entire draft Plan available by early 2005, at which time the Recovery Team would seek an external peer review prior to finalizing the Plan. During discussion, Small reported that the Team cannot eliminate nutritional stress as a possible factor contributing to the decline in the wSSL.

Shane Capron noted that the Recovery Plan is considered an important milepost which will help to focus the agency's plans and schedule for re-initiating consultation on the interactions between the Alaskan groundfish fishery and the western DPS of Steller sea lions. More scientific work has been done on the wSSL, but some results are coming in slower that hoped. This information will be important in evaluating when to review the BiOp. Doug DeMaster added that there are a large number of peer-reviewed publications on Steller sea lions soon to be available that supplement the available information on the decline in wSSLs which, as a body, will provide new data that may affect how NMFS views how the recovery of eSSLs and wSSLs might be facilitated.

Discussion of Re-Designation of wSSL Critical Habitat

Cotter asked about the process for re-designation of wSSL critical habitat (CH) – i.e. what is involved in revisiting the elements of CH? Bob Small reported that the SSL Recovery Plan will make comments on important features of CH, in light of new data available since CH was designated about a decade ago. Small also reported that genetic studies conducted on the wSSL DPS show some population differentiation in the westernmost region of the wSSL distribution; however, Small reported that the Recovery Team is not recommending any change in the stock structure at this time until results of these genetic studies are published in the peer-reviewed literature. Capron noted that NMFS will not revisit the elements, definition, or extent of CH in Alaska until the Recovery Plan has been received.

Discussion of the Formal Consultation Process

Capron outlined how informal and formal consultation processes differ. To date, the SSLMC has been involved in informal consultations on changing SSL protection measures in the Aleutian Islands as it has discussed the Aleut Corporation proposal, but that formal consultation would now be required if the proposal is moved forward. Under formal consultation, the entire wSSL DPS would be re-evaluated throughout its range in light of the proposed change in protection measures, and all current groundfish fishery regulatory measures in place to protect the wSSL DPS also would be reviewed. Capron noted that the review likely would be fairly narrowly focused on the proposed regulatory change (in this case the changes proposed by the Aleut Enterprise Corporation or AEC), but that those proposed changes would be reviewed in light of all current measures in place to protect the wSSL. The objective of this review would be to determine if the proposed change, when considered together with all the existing protection measures in place, would cause jeopardy to the wSSL or adversely modify its critical habitat. The agency would be required to be certain that, based on available information, the "jeopardy bar" would not be exceeded if a new regulatory measure were in place.

Considerable discussion of this issue continued through the remainder of this SSLMC meeting. Some members of the Committee were concerned that by opening the current suite of protection measures to reconsideration, the agency could conceivably decide to change any of the existing measures that it judges are inadequate in protecting wSSLs, and that even more stringent measures could be implemented in the resulting new Biological Opinion. Others felt that the formal consultation would be more narrowly focused on the proposal at hand, and would not deviate far from the measures proposed by the AEC. Capron suggested that legal input would be required from NOAA General Counsel to clarify the extent to which formal consultation on the AEC proposal could result in larger changes in the current set of SSL protection measures in the range of the wSSL DPS.

The SSLMC has previously questioned what criteria NMFS uses to require formal consultation versus informal consultation. Capron provided to the SSLMC an excerpt from the agency's ESA Section 7 consultation handbook that outlines how a decision is made to require formal consultation (attached). Capron pointed out that the "trigger" for requiring a formal consultation is the agency's determination that the proposed action "is likely to adversely affect" the wSSL DPS. Involved in that decision is consideration of beneficial, insignificant, and discountable effects; the definition of these terms includes language that would require NMFS to make a determination of "likely to adversely affect" the wSSL if any "take" could occur. Under the AEC proposal, where a portion of CH would be opened, a "take" could occur. Capron noted that the trigger to require formal consultation is light.

The SSLMC determined that perhaps mitigative measures might be offered in the AEC proposal that could allow the discussions to continue informally, and agreed to re-review the AEC proposal (see below).

Aleut Enterprise Corporation Proposal Re-review

Sandra Moller with the Aleut Enterprise Corporation (AEC) presented a revised proposal for changing wSSL protection measures as they relate to the AI pollock fishery in two areas near Adak. The elements of this proposal, as modified by the AEC, are outlined in a letter from Moller to Chairman Cotter dated September 1 (attached). Moller's PowerPoint presentation also is attached. Dave Fraser and Craig Cross assisted in the AEC presentation. The objective of the AEC proposal is to provide pollock fishing areas close to shore and to Adak so that small trawl vessels might operate more safely. Moller pointed out that these proposed areas would require opening some areas of wSSL CH. These areas are where pollock CPUEs have been high in past directed fisheries, and are close to Adak or to areas where small vessels can find protection from bad weather, and thus would be safer for small vessels to fish in the future AI pollock fishery. Moller reported that the AEC has modified their proposal since it was first provided to the SSLMS for consideration during its July 19-20 meeting. The original AEC proposal would close to P. cod trawling the area around Atka North Cape from 3 to 20 nm; the revised AEC proposal now offers a smaller P. cod trawl closed area, from 3 to 10 nm.

The current proposal retains the originally-proposed opening of CH in the Kanaga Sound area ("the box").

Moller also proposed that the AEC could mitigate the major concerns expressed by NMFS in their July 16 letter (letter is attached). [AEC's concerns over the NMFS July 16 letter were sent to the Council on September 2, but were not specifically discussed; that letter also is attached.] Moller outlined the AEC's suggested mitigation in four areas: potential spatial compression of harvest, temporal compression of harvest, local depletion of the wSSL prey field, and disproportionate harvest rate. Specifics of these proposed mitigation measures are continued in the attached PowerPoint slide presentation. Moller stated that the AEC would like to move forward with this proposal so that these measures could be implemented for the 2006 fishing season.

[During the discussions of the AEC proposal, the SSLMC received a report on a winter 2002 pollock survey in the Bering Sea conducted by Japanese researchers. The Committee was particularly interested in the echo integration midwater trawl surveys in the Aleutian Islands, particularly the data from the AEC proposal area. This report is attached.]

Capron noted that, while the AEC's revised proposal has some good ideas to mitigate the concerns expressed in the agency's July 16 letter, the fact remains that the under this proposal the pollock fishery would be changed to allow fishing in CH, within the 3 to 10 nm zone around several haulouts. Even with the changes proposed by the AEC, this would not likely change the agency's concerns over potential adverse impacts and likely would not change the agency's previous determination of "likely to adversely affect" and thus the revised proposal would probably require review in a formal consultation process.

The SSLMC discussed the revised proposal and the elements that would trigger the need for formal consultation. The Committee also discussed what options might be available to the AEC as appropriate trade-offs for the proposed new open areas in "the box" and around Atka North Cape. Discussion also included the "likely to adversely affect" trigger for formal consultation; the Committee also discussed that, under formal consultation, the jeopardy bar would be the primary consideration if the AEC proposal were to be continued under formal consultation. While there are some good ideas in the AEC proposal, the SSLMC is constrained by the Council's mandate to not enter into formal consultation. The SSLMC concluded that it is at a stalemate and must report to the Council that no further progress can be made unless the Council relaxes its mandate of no formal consultation.

The Committee discussed the pros and cons of a formal consultation process, including the fear that changes in fishing regulations might be recommended in other regions within the distribution of the wSSL DPS with the potential adverse impacts further regulatory change might have to the Atka mackerel, P. cod, and pollock fisheries. What would happen if NMFS determined that to avoid jeopardy and adverse modification, more onerous changes would be required for these fisheries? Or could the formal

consultation be limited to a narrowly-focused review of only the proposed changes in the Adak area?

The Committee was divided in its opinion of whether to recommend that the Council allow continued work on the AEC proposal. The Committee drafted a statement that conveys the concerns discussed above (see attached). Although SSLMC member Terry Leitzell did not support this statement, the remainder of the members of the Committee present at this meeting did support this statement. The statement notes that "The SSL MC believes that development of an AI pollock fishery in CH for the wSSL cannot occur without a formal consultation. For the SSL MC to work on the proposal, the Council would have to change the Committee's Terms of Reference. The SSL MC recognizes that there are concerns regarding the consequences of formal consultation. Therefore, the Council should request guidance from NOAA General Counsel concerning potential legal risks of this strategy." The Committee's statement continues with a suggested timeline and suggested elements of continued work on the AEC proposal should the Council wish to proceed.

VMS Issues

At its June 2004 meeting, the Council asked the SSLMC to review concerns that have been expressed by fishermen regarding the requirement to use VMS equipment when operating Federally-licensed fishing vessels or fishing for species other than Atka mackerel, P. cod, or pollock. The SSLMC initiated this discussion at its last meeting, and requested data from NMFS that would scope the problem. NMFS made available to the Committee some data on numbers of VMS-related violations (see attached e-mail from Jeff Passer dated August 6), an Overview of the Federal Fishery Permit (FFP) Program (also attached), and the numbers of Federally permitted vessels with endorsements requiring use of VMS by fishery and vessel length category (see attached data from Jessie Gharrett). The Committee also reviewed the Federal regulations language on VMS requirements (attached excerpt from the Federal Register) and a statement from industry outlining the concerns over the current VMS regulations prepared by Beth Stewart (also attached).

The SSLMC discussed the above data and reviewed the issue and some potential measures that might be taken to alleviate some of industry's concerns. Industry's principal concern is the requirement that Federally-licensed and endorsed vessels must operate VMS equipment when not involved in the three fisheries that must comply with SSL closed area restrictions. The SSLMC believes that VMS was intended to be a tool to more closely monitor vessel activity near SSL critical habitat and not as a tool to monitor vessels engaged in other fishing activities. The SSLMC believes that, if NMFS and the Council wish to expand the use of VMS for purposes other than compliance with SSL protection measures, the Council should debate this issue directly and then take appropriate action.

Development of a Trade-off Tool for Evaluating Future Proposals – BUMP II

DeMaster summarized the history of development of a revised trade-off tool, including a description of how it might be used and a summary of the SSC's reaction to the tool from their June 2004 meeting. The tool has been termed "BUMP II" by the SSLMC. A description of how the tool might be constructed is provided in the attached; also attached are the minutes from the SSC's June 2004 meeting where the SSC provided its comments on the trade-off tool.

Doug DeMaster outlined for the Committee some of the reasons for having a tool that can be used to evaluate future proposals for changes in wSSL protection measures. This tool could be used to screen proposals and to weigh the benefits and losses to wSSLs. DeMaster cautioned that this tool would not be the only way proposals would be evaluated but would be just one of several considerations the SSLMC would give to proposals. DeMaster believes that a tool may become very useful should NMFS proceed with a new consultation on the Alaskan groundfish fisheries.

The concept behind BUMP II is to have a simple, transparent way to compare proposals and to help develop an administrative record for decisions the Council will ultimately make on these proposals. The SSLMC endorses the concept of a tool, but recommended that there be more discussion of the assumptions that are made when using the tool and applying its rating criteria. John Gauvin expressed concern over the apparent arbitrary rating assignments to the different gear group fisheries given the lack of scientific evidence for different effects on wSSLs. The Committee recommended additional work on the rating criteria for various gear types and how (or whether) two (or more) different gear type fisheries can be compared to each other or weighted relative to a specific proposal. DeMaster cautioned that some kind of fishing gear scoring scheme will be needed to evaluate relative impacts in zones around wSSL rookeries and haulouts.

Sue Hills also cautioned that the SSC has been concerned over assumed linkages between fish removal rates and wSSLs at specific sites, but that this linkage may not be available in current research data; these kinds of assumptions in BUMP II should be clearly stated. Hills recommended that BUMP II be viewed as a negotiating tool, and a spatial trade-off tool, recognizing that it won't be used to evaluate all the possible factors that may affect wSSLs. Hills felt that being clear about the assumptions underlying the tool at the outset will likely garner more support from the SSC.

The Committee also discussed whether individual SSL rookery trend data or broader subregional (groups of rookeries and haulouts) trend data should be used. DeMaster suggested looking at trends by subarea, not by individual rookery. Julie Bonney suggested that the Committee also consider how the use of BUMP II might be affected by the Council's fishery rationalization goals.

Cotter recommended that a SSLMC subcommittee, to be appointed by Cotter, continue developing BUMP II, taking into account the discussions and recommendations from the

SSLMC and particularly the input provided from the SSC at its June 2004 meeting. The subcommittee would include AFSC scientists and representatives from various gear groups.

New Proposals

Paul MacGregor and Glenn Reed reported that the BSAI pollock industry sector wishes to have the "A" season start date moved back so it would begin earlier than January 20. Pollock roe quality is peaking earlier, and the pollock fleet would like access to higher quality fish by starting the "A" season earlier. There may be wSSL issues associated with an earlier start date, and MacGregor recognized that the SSLMC may be involved in this issue if the Council moves the proposal forward. The pollock industry plans to make this request of the Council at its October 2004 meeting.

MacGregor also reported to the SSLMC that he has some ideas on how the AI pollock allocation to the Aleut Corporation could be "funded" in a manner different from the Council's June decision. Currently the AI fishery would be funded from the EBS Pollock TAC. MacGregor plans to bring to the Council some ideas for alternative funding mechanisms.

In light of the above new proposals, Julie Bonney raised the issue of how proposals are to be brought to the Council. Other industry sectors may have ideas or requests. The SSLMC noted that these issues can be brought to the Council at any time, but the Council makes the decision on whether to involve the SSLMC. Currently the SSLMC has no further charge other than the Aleut Corporation proposal.

North Pacific Fishery Management Council
Fur Seal Committee
September 29, 2004 Meeting

Minutes

The Fur Seal Committee convened by teleconference on September 29, 2004. Chairman Dave Benson reviewed the agenda (attached) and asked Bill Wilson to recap what the Council's charge is to this Committee. The original charge was given at the Council's June 2003 meeting. The intent was for this Committee to be a liaison to NMFS during development of the dEIS to renew the regulations governing the subsistence harvest of fur seals on the Pribilof Islands. Of interest to the Council at that time was the NMFS finding in the 2001 Steller sea lion protection measures EIS that commercial fishing may have a conditionally significant adverse impact on fur seals. NMFS must consider this finding as a potential cumulative effect of renewing the harvest regulations, and thus a full EIS must be prepared. Kaja Brix noted that the agency did prepare an EA, but could not reach a Finding Of No Significant Impact, and this led to the requirement for development of a full EIS. NMFS decided to prepare a separate EIS in order to expedite the process for renewing the harvest regulations. A second or "follow-up" EIS would be prepared, focusing on the broader issues of fur seal management, including fishery interactions, among other concerns. The current dEIS, then, does not provide analyses or new data on fishery interactions; that will be contained in the follow-up EIS. Thus the task before the Fur Seal Committee is to review the current dEIS and provide comments to the Council.

The entire Fur Seal Committee attended the teleconference meeting: Chairman Dave Benson and Committee members Larry Cotter, Aquilina Lestenkof, Paul MacGregor, Anthony Merculief, Steve Minor, and Evie Whitten. Bill Wilson attended as NPFMC staff. Also on the conference call were Rolph Ream, Kaja Brix, and Brad Smith of NMFS and Phil Zavadil of the Tribal Government of St. Paul.

The following issues were discussed by the Committee.

1. Draft EIS on Renewing Subsistence Harvest Regulations

Wilson reviewed the four alternatives provided in the dEIS. NMFS ' preferred alternative is Alternative 1, to continue with the status quo, which would authorize a harvest of 2500 fur seals (up to 2000 from St. Paul Island and up to 500 from St. George Island).

Benson remarked that the dEIS includes a finding of a conditionally significant adverse impact from commercial fisheries, essentially the same finding as in the 2001 Steller sea lion EIS. But no new data or information are provided nor any new analyses. Brix acknowledged this, noting that this finding is considered in the context of an indirect cumulative effects analysis. In the follow-up EIS, commercial fishery interaction with fur seals will be analyzed more thoroughly and new data will be included.

The Committee discussed various issues associated with the preferred alternative. The recommended harvest size of 2500 fur seals was determined from past experience and to accommodate possible future needs. While the recent harvest levels have not approached the 2500 animal limit, the preferred alternative responds to the objectives of Pribilof Island residents to provide flexibility in future years in case economic change or other factors influence future hunts. Aquilina Lestenkof noted that harvest levels have been low recently due to the overlap of the harvest with the commercial halibut fishing season, difficulty in finding harvestable fur seals, and some reduced demand for fur seals by local residents.

Evie Whitten questioned why the Council might be concerned over a subsistence harvest issue? Wilson recapped the history of the Council's involvement (summarized above). Given the scope of the current dEIS, the Council may have little interest, but likely will wish to be more involved in the development of the follow-up EIS which will include a more thorough analysis of fishery interactions with fur seals.

Brix explained the purpose of the follow-up EIS. It will focus on the broader issues of fur seal management on the Pribilof Islands and NMFS' role in that process. The EIS will include consideration of all factors that might affect fur seal management, including environmental change, commercial fisheries, and other factors. A co management agreement between NMFS and the Tribal Governments is in place now, but that co management will be the focus of the follow-up EIS. NMFS is considering changing the way management occurs, and may propose suspending some regulations and allow those determinations to be made under the umbrella of a new co management agreement.

Lestenkof felt that the Fur Seal Committee should retain a focus on the fishery interaction issues and not the details of the subsistence harvest and other activities on the islands. Larry Cotter voiced some agreement, but to the extent that future fur seal management does not involve possible change in commercial fishing regulations, which would definitely interest the Council.

The Fur Seal Committee agreed in their support for the preferred alternative.

2. Cumulative Effects of Fisheries

This agenda item focused on the concerns over the statement in this dEIS that commercial fisheries may have a conditionally significant adverse impact on fur seals. The Committee discussed the fact that this current dEIS provides no new information or analyses that would substantiate this finding. Rather, the dEIS relies on the Steller sea lion analysis, but that was completed in 2001 and was based on data only up to the late 1990s. Brix noted that NMFS had no reason not to accept this finding for now, acknowledging that analyses of new data will be provided in the follow-up EIS. Brix also stated that NMFS is interested in hearing about new information that can be included in the follow-up EIS and encouraged the Council to participate in the preparation of the follow-up EIS.

Brix reported that the focus of the follow-up EIS is management on the Pribilof Islands with respect to fur seals; this includes the fur seal subsistence harvest and other factors. To better grasp what regulations are in place and subject to review in the follow-up EIS, Brix referred the Committee to NMFS regulations located at 50 CFR 216 (f) and (g); these are the regulations that govern fur seal management on the Pribilof Islands. This regulatory framework is the main subject of the follow-up EIS.

Paul MacGregor stated that there are many new data sets on fur seal counts and trends, the status of groundfish stocks, fishery performance, and environmental conditions that will have a bearing on a new fishery effects analysis. MacGregor asked for clarification that the follow-up EIS will be the place for analyses of these new data and that the public will have the full opportunity to make these kinds of comments on these issues at that time. Brix responded that the agency wants to hear about all relevant information, and yes, the opportunity to comment is still available.

The Committee feels that the public wants the opportunity to comment on data gaps and research needs, and these kinds of comments would be appropriate for the follow-up EIS. MacGregor also noted that the nature of the Bering Sea fishery has changed; industry operates differently in the Bering Sea now with the AFA in place; analyses and findings based on 1990s data may not have relevance today. Industry will want the opportunity to make these kinds of comments as they may relate to conclusions that might be reached about fishery effects on fur seals. Brix assured the Committee that the agency is providing that opportunity and that these issues will be addressed in the follow-up EIS, and that sufficient time for conducting these analyses will be provided to the agency analysts and writers.

The Committee desires to not delay the process of completing the current dEIS. Since the Committee supports the preferred alternative, and NMFS is providing opportunity to address fishery and fur seal interaction issues in the follow-up EIS, the Committee concluded that there is no need to ask that additional analyses be included in this dEIS.

Brix asked the Committee what kind of future Council involvement in the preparation of the follow-up EIS will be appropriate. NMFS would welcome input on how the EIS addresses fishery interactions with fur seals and to aid the agency as it steps through the various issues affecting fur seals in the North Pacific. The Committee discussed whether the Council might prefer a monitoring role or a more participatory role. Some Committee members felt that monitoring might be more appropriate as opposed to getting involved in the analyses, since the follow-up EIS will not be proposing changes to commercial fishing regulations. Brix noted that NMFS' intent is to not pursue new fishing regulations; rather, the focus will be on future management of fur seals and NMFS' role in future co management of this resource. Brix also suggested that the Council may wish to interact with NMFS in such a manner to be assured that the analyses involving groundfish fisheries are comprehensive, accurate, and up-to-date.

Benson noted that this is a decision for the Council to make. The Council will be given an update on fur seal issues, including the activities of the Fur Seal Committee, and it will be up to the Council to determine its future involvement with the follow-up EIS.

The schedule for completion of the follow-up EIS has not been finalized. Brix reported that a NMFS staff person is assigned and this will be that person's priority. NMFS needs to map out all the elements of the EIS, and hasn't set a firm schedule yet.

Lestenkof remarked that maybe a more appropriate way for Council involvement could be as a participant in the Pribilof Island Collaborative process. Or perhaps another forum might be more appropriate. MacGregor noted that the follow-up EIS will likely contain extensive analysis of potential impacts of fisheries on fur seals. The document may be a state-of-the-art document that summarizes fishery interactions. This will be of considerable interest to the Council. Cotter noted that perhaps the Council may wish to delay getting closely involved until the time that changes in fishing regulations may be proposed, but to take a more distant monitoring role for now.

Benson summarized the discussions by stating that the future role of the Fur Seal Committee during preparation of the follow-up EIS is uncertain. The Committee has few comments on the current dEIS other than supporting the agency's preferred alternative. Some Committee members believe it may not be necessary for this Committee to be closely involved in the development of the follow-up EIS, while others have expressed some reasons to be closely involved. This will be reported to the Council for discussion and action.

The Committee also notes that there is a significant need for expanded fur seal research. The NMFS budget is very inadequate, and fur seal research has been essentially completely cut. The current dEIS should include this observation.

3. 2004 Fur Seal Surveys

Rolph Ream with the National Marine Mammal Laboratory (NMML) updated the Committee on the 2004 fur seal surveys. NMML conducted adult male counts and pup counts; male counts were done in July and pup counts were in August. The male counts included both territorial bulls (guarding harems) and idle bulls. Numbers of territorial males on St. George Island increased slightly from last year, but declined on St. Paul Island. The overall male counts for 2004 show a 24% decline from 2003. Some of the decline may be due to the warm July weather conditions, which may have caused some animals (such as idle males) to remain in the water where they were not counted.

The 2004 pup production numbers were down 14.5% from 2002. Over the period 1998 to 2004, pup abundance decreased 30.6% or about 6.2% per year. Pup production on both islands combined was about 140,000 animals in 2004. NMML is unsure why this decline continues; many factors may be involved. Females may be aborting at higher rates, more pups may be lost at sea, pregnancy rates may be down, or other factors.

4. Fur Seal Conservation Plan Status

Brix reported that an initial version of a Fur Seal Conservation Plan was drafted by the Tribal Governments of St. Paul and St. George. NMFS is in the process of reviewing and expanding the document, and plans to have a draft Plan available prior to the next Pribilof Islands Collaborative meeting in January 2005. Brix noted that the preparation of this Plan is separate from the process of developing the follow-up EIS, but they are related. Public comments on or information highlighted in the Plan might lead to new issues being considered in the follow-up EIS. The draft Plan will be available to the Council in early 2005 and the Council may wish to comment.

Benson gave some closing remarks, and stated that after a quick Committee review of this meeting's minutes, the minutes will be given to the Council for further action. Benson also noted that, if the Council plans to comment on the dEIS, the deadline for commenting is October 19.

North Pacific Fishery Management Council
Fur Seal Committee Meeting
September 29, 2004

This meeting will convene by teleconference. The call-in phone number is 907-271-2896.

AGENDA

September 29, 2004 (9:00 am AK Time)

1. Opening remarks; objectives of meeting; approval of agenda (Benson)
2. Review of dEIS on renewing Pribilof Islands fur seal subsistence harvest regulations and the dEIS preferred alternative
3. Cumulative effects of commercial fisheries
   A. Direct
   B. Indirect
4. Report on 2004 fur seal surveys (Brix)
5. Fur Seal Conservation Plan status (Brix)
6. Closing remarks, action items (Benson)

Public Testimony Sign Up Sheet
Agenda Item B - Items

	NAME (PLEASE PRINT)	AFFILIATION
1	Beth Stewart	AEB - SSL report & VMS 6
2	Sandra Moller	Alent Enterprise Corp. 3
3	Terry Leitzell	Icicle Seafoods 3
4	BRENT PAINE	UCB 6
5	THORN SMITH	NPCA/MCA 6
6	PAUL MACGREGOR	APA 2-6
7	Dennis Parker	Arctic Storm 3
8	~~Julie Bonney~~	~~AEB~~ 36
9	Ken Tippett	Ak. Boat Co 3
10	CLEM TILLION	Alent Co-p. 3
11	~~Frank~~ Kelty	City of Unalaska 6
12	Kevin Kennedy	TOX Corp. 3
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person " to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

HO/Bill Wilson
11:30 AM 10-6-04

North Pacific Fishery Management Council
Steller Sea Lion Mitigation Committee Meeting
Alaska Fisheries Science Center, Seattle
September 8-10, 2004

AGENDA B-7(m)
SUPPLEMENTAL
OCTOBER 2004

Location: Building 4, NMML Conference Room (#2039) Sept. 8,
Traynor Seminar Room (#2076) Sept. 9 & 10

DRAFT AGENDA

September 8 – 8:30 AM to 5:00 PM

1. Introductions, Approve Agenda, Opening Remarks (Cotter)
2. Receive Report from SSL Recovery Team on Preparation of Preliminary Draft Recovery Plan
3. Continue Informal Discussions of Proposals to Change wSSL Protection Measures in the Aleutian Islands
4. Receive Reports on VMS Requirements in Alaskan Groundfish Fisheries (NMFS and AEB). Discuss and Formulate Report for Council's Enforcement Committee

September 9 – 8:30 AM to 5:00 PM

5. Work Session to Develop New Trade-off Tool: BUMP II

September 10 – 8:30 AM to 5:00 PM

6. Continue Work. Other Business as Necessary
7. Action Items, Closing Remarks (Cotter)
8. Next Meeting Location, Time, Arrangements

DRAFT TABLE OF CONTENTS
REVISED STELLER SEA LION RECOVERY PLAN
(REVISED – 3 September 2004)

VI. RECOVERY PLAN FOR THE EASTERN STOCK

A. Population Status and Trend
   1. Overview
   2. Southeast Alaska
   3. British Columbia
   4. Washington, Oregon, and California
   5. Eastern population overall

B. Factors Potentially Influencing the Population
   1. Background
   2. Predation
   3. Harvests and other killing by humans
   4. Entanglement in debris
   5. Parasitism and disease
   6. Toxic Substances
   7. Climate change
   8. Nutritional stress
      1. Natural or environmental change
      2. Anthropogenic (Fisheries)
   9. Disturbance
   10. Cumulative, synergistic, and ecosystem effects

C. Recovery Strategy

D. Recovery Plan
   1. Goal and Objectives
   2. Criteria for Evaluating Population Status
   3. Stepdown Outline
   4. Narrative
   5. Implementation Schedule
   6. Plan Implementation Monitoring

VII. LITERATURE CITED AND BIBLIOGRAPHY

VIII. APPENDICES
   A. Research Plan
   B. Links to websites with information on Steller sea lion biology and management

3.5 CONCURRENCE/NONCONCURRENCE LETTERS

Following review of the biological assessment or other pertinent information, another informal effort may be appropriate to try to eliminate any residual adverse effects. If that effort results in elimination of potential impacts, the Services will concur in writing that the action, as revised and newly described, is not likely to adversely affect listed species or designated critical habitat. Since concurrence depends upon implementation of the modifications, the concurrence letter must clearly state any modifications agreed to during informal consultation. If agreement cannot be reached, the agency is advised to initiate formal consultation.

Although not required, an action agency may request written concurrence from the Services that the proposed action will have no effect on listed species or critical habitat. This concurrence is useful for the administrative record. When the biological assessment or other information indicates that the action has no likelihood of adverse effect (including evaluation of effects that may be beneficial, insignificant, or discountable), the Services provide a letter of concurrence, which completes informal consultation. The analysis, based on review of all potential effects, direct and indirect, is documented in the concurrence letter. If the nature of the effects cannot be determined, benefit of the doubt is given to the species. Do not concur in this instance. After evaluating the potential for effect, one of the following determinations is made:

Listed species/designated critical habitat

- **No effect** - the appropriate conclusion when the action agency determines its proposed action will not affect listed species or critical habitat (see Exhibit 3-3).

- **Is not likely to adversely affect** - the appropriate conclusion when effects on listed species are expected to be discountable, or insignificant, or completely beneficial. **Beneficial effects** are contemporaneous positive effects without any adverse effects to the species. **Insignificant effects** relate to the size of the impact and should never reach the scale where take occurs. **Discountable effects** are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur (see Exhibits 3-4 and 3-5).

- **Nonconcurrence** - if the Services do not agree with the action agency's determination of effects or if there is not enough information to adequately determine the nature of the effects, a letter of nonconcurrence is provided to the action agency (see Exhibit 3-6).

- **Is likely to adversely affect** - the appropriate conclusion if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant, or beneficial (see definition of "is not likely to adversely affect"). In the event the overall effect of the proposed action is beneficial to the listed species, but also is likely to cause some adverse effects, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires formal section 7 consultation.

Proposed species/proposed critical habitat

A fourth finding is possible for proposed species or proposed critical habitat:

- **Is likely to jeopardize proposed species/adversely modify proposed critical habitat** - the appropriate conclusion when the action agency or the Services identify situations in which the proposed action is likely to jeopardize the continued existence of the proposed species or adversely modify the proposed critical habitat. If this conclusion is reached, conference is required.

September 1, 2004

Larry Cotter
Chair, SSLMC
North Pacific Fishery Management Council
605 W 4th Ave Suite 306
Anchorage, Alaska 99501

Re: Aleutian Island Pollock Fishery Proposal

Dear Larry,

At its July 19th meeting the SSLMC asked the Aleut Corporation to review the NMFS analysis document and address the concerns outlined therein, and bring to the next SSLMC meeting their response and any alternatives the Aleut Corporation wishes the SSLMC to consider. This letter outlines our current proposal.

We wish to re-submit the previous proposal without major changes to the boundaries identified in the original proposal. However, we have developed a number of mitigating elements in response to identified agency concerns, some combination of which can be integrated with the original proposal. In response to some agency concerns we have identified areas where we believe further analysis should reduce the level of concern expressed in the agency's preliminary review of the original proposal.

Geographic Boundaries

The one significant modification of the geographic boundaries excludes the southern portion of the 20 mile circle around Atka North Cape, to the south of latitude 52 degrees 13 minutes on the west side of Atka Island and to the south of latitude 52 degrees 21 minutes on the east side of Atka Island.

We also wish to clarify a discrepancy between the graphic for the original proposal and the text. There is a portion of the Ship Rock 20 miles circle south of the 'box' in Kanaga Sound and on the south side of the Kanaga/Tanaga islands that is not overlapped by Tanaga Bumpy/Point or Adak/Lake Point 20 mile buffers. The graphic for the original proposal shows that this area is to remain close to pollock fishing, which accurately reflects the intent of the proposal for that area.

Trade Offs

The Aleut Corporation has no allocation of any species other than pollock. 100% of AI CH is closed to directed pollock fishing, thus the Aleut Corporation has nothing to offer in "trade".

The original proposal contained an element which would increase the cod buffer around Atka North Cape from 3 to 10 miles. That element remains a part of this proposal.

Trade Off Analysis

The evaluation of the Aleutian Island Pollock Proposal needs to be placed in context.

According to table 9.1 of the 2000 BiOP, the total AI CH is 100,100 sq km.

Open Areas as % of Total AI CH:

-the Kanaga Sound "box" is approximately 0.4% of the AI CH (@ 420 sq km)
-the area north of the "box" is an additional 1.6% of the AI CH (@ 1640 sq km)
-the area around Atka North Cape is approximately 2.8% of the AI CH (@ 2775 sq km)

-the sum of the areas proposed to be open represent approximately 4.8% of the AI CH, out of a total of 100,100 sq. km of CH.

When defining the appropriate fraction of CH site for TOT analysis the agency made "eyeball" adjustment for the Adak/Lake Point rookery and the Tanaga/Bumpy Point haulout. The preliminary analysis substantially miss-estimated those fractions. Additionally, it failed to make adjustments to the three haulouts in Kanaga Sound.

None of the proposed open areas are "rookery CH" with the exception of the portion of the Adak/Lake Point rookery that falls on the north side of Kanaga Is. The segment of the Adak/Lake Point rookery buffer in the Kanaga Sound open area is approximately 0.1% (110 sq km) the total AI CH. However, there is not a 20 mile straight line that reaches the area because it would be necessary to swim up and around the north end of Kanaga Is. It is a minimum of 25 miles as the sea lion swims to reach the portion of rookery CH in Kanaga Sound, so the fraction could be argued to be 'zero'. In any case the 110 sq km segment of the Adak/Lake Point rookery buffer to be opened under the proposal is closer to 3.5% than the 10% eyeball estimate used in the TOT.

Similarly, the portion of the Tanaga/Bumpy Pt. 20 mile buffer opened by the box is closer to 5% than to the 20% used in the TOT.

'Eyeballing' it the open portions of the Bobrof, Ship Rock, and Kanaga 20 mile buffers, they are all closer to 25% than the 100% assumed in the TOT.

Mitigation of Effects on Critical Habitat

In its section 7.3 of the NMFS July 16th preliminary analysis, the agency identified a variety of concerns about the effects on critical habitat. We believe that there are a variety of mitigation components which could be incorporated, individually or in some combination to address those concerns. In some instances we believe a more in depth analysis would dispel some of the concerns. This section of our proposal identifies those mitigation elements and areas for additional analysis.

A-1 Agency Concern:
"The net result will be substantially more pollock (up to 19,000 mt) taken from critical habitat during the winter."

A-2 Mitigation:
An element could be incorporated to place a seasonal limit the amount taken in each of the open areas to X% of the TAC.

B-1 Agency Concern:
"Given the roe value in A season pollock, the fishery will probably try to use substantial effort to catch the pollock in a relatively short time-period."

B-2 Mitigation:
An element could be incorporated to limit the amount take within the CH open areas on a weekly basis to X tons.

C-1 Agency Concern:
"Due to a lack of data on the distribution of pollock biomass, movements, and spawning aggregations in the AI it is difficult to predict local effects of the pollock fishery on the prey field ...Removal of 19,000 mt...in this small area on a limited biomass ... would likely diminish the value of the prey field for Steller sea lions."

C-2 Mitigation:
Effort in the fishery could be spatially dispersed by capping the harvest in any of the 3 AI districts (541, 542, & 543) at no more than 20% of the ABC or 50% of the TAC.

C-3 Supplemental Analysis:
Qualitative analysis needs to be incorporated about based on readily available quantitative data regarding the depth of fishing for pollock in the proposed areas (which directly reflects the vertical distribution of the winter pollock aggregations). This should be contrasted with our knowledge of the foraging dive patterns of SSL and the winter scat collections to qualitatively evaluate the likelihood of competitive overlap for pollock. Histograms of pollock haul depths will be prepared from AI pollock observer data for presentation to the SSLMC.

D-1 Agency Concern:
"We would expect that the harvest rates on the pollock biomass in these two areas would be relatively high..."

D-2 Mitigation:
An element could be incorporated to cooperative research to conduct hydro-acoustic surveys before, during and after the fishing season. The data from the surveys could be utilized either in near real time, or on a one year lag basis, to set harvest limits as a fraction of the survey biomass based on a cooperative agreement between the Aleut Corporation or its agency and the NMFS. The cooperative research project could be part of a broader scientific effort to collect improved genetic data on pollock stock structure.

E-1 Agency Concern:
"There is little information available on the foraging requirements of Steller sea lions... The ratio in the Aleutian Islands was only 11 times the amount consumed annually by Steller sea lions which is relatively low and represents a similar fraction to the amount taken by fisheries..."

E-2 Mitigation:
Under amendment 82 as passed by the Council, the TAC is limited to 19,000 mt, a level that is less than half the current ABC.

E-3 Supplemental Analysis:
An examination of the bathymetry in the AI covered by the summer trawl survey shows that the portion of bathymetry under 100 meters is much more "near shore" in the AI is within 10 miles of land than in the BS or even the GOA. This is also true of the bathymetry between 100-200 meters and between 200-300 meters. (see Appendix Fig. B1-4 of NOAA Tech. Mem. NMFS/AFSC-143 for depiction of AI bathymetry)

Given the hierarchy of telemetry 'hits' within 0-3, 3-10, 10-20 and >20 miles from land, the comparison of the ratio of biomass available to biomass consumed should consider how that biomass is distributed relative to land.

It is likely that the AI biomass within 10 miles of land is much more comparable to the BS biomass when viewed in this way. When examined based on the area between 0-3 miles from land, the forage ratio in the AI may well be superior to the BS for SSL prey species, with the exception of pollock. Survey data such as the 2002 AI NOAA Tech. Mem. NMFS/AFSC-143 provides data on the Kg/ha of biomass of various prey species, this could be contrasted with similar data from the EBS.

Graphics:

Attached to this letter are a series of figures showing:

1- an overview of total AI CH closed area and observed pollock hauls,
2- the area within 100 miles of Adak with CH closure constraints and pollock haul data,
3- the Atka to Kanaga area with proposed open areas bordered in green,
4- the Atka open area proposal with the modification excluding the southern area (bordered in green) and showing the expanded cod closed area (bordered in yellow)
5- the Kanaga Sound open area proposal
6- a close up of the Kanaga Sound Box, with the Adak rookery segment bordered in yellow

Conclusion:

We ask the SSLMC and NMFS to reconsider the original Aleutian Island Pollock Fishery Proposal, as modified with the boundary changes and some combination of the mitigation measures identified in this letter.

We will be submitting a separate letter responding to the NMFS informal opinion presented at the July meeting.

Thank you.

Sincerely,

Sandra Moller_____ Dave Jensen_____

Cc: Chris Oliver
Bill Wilson
Kaja Brix
Doug Demaster

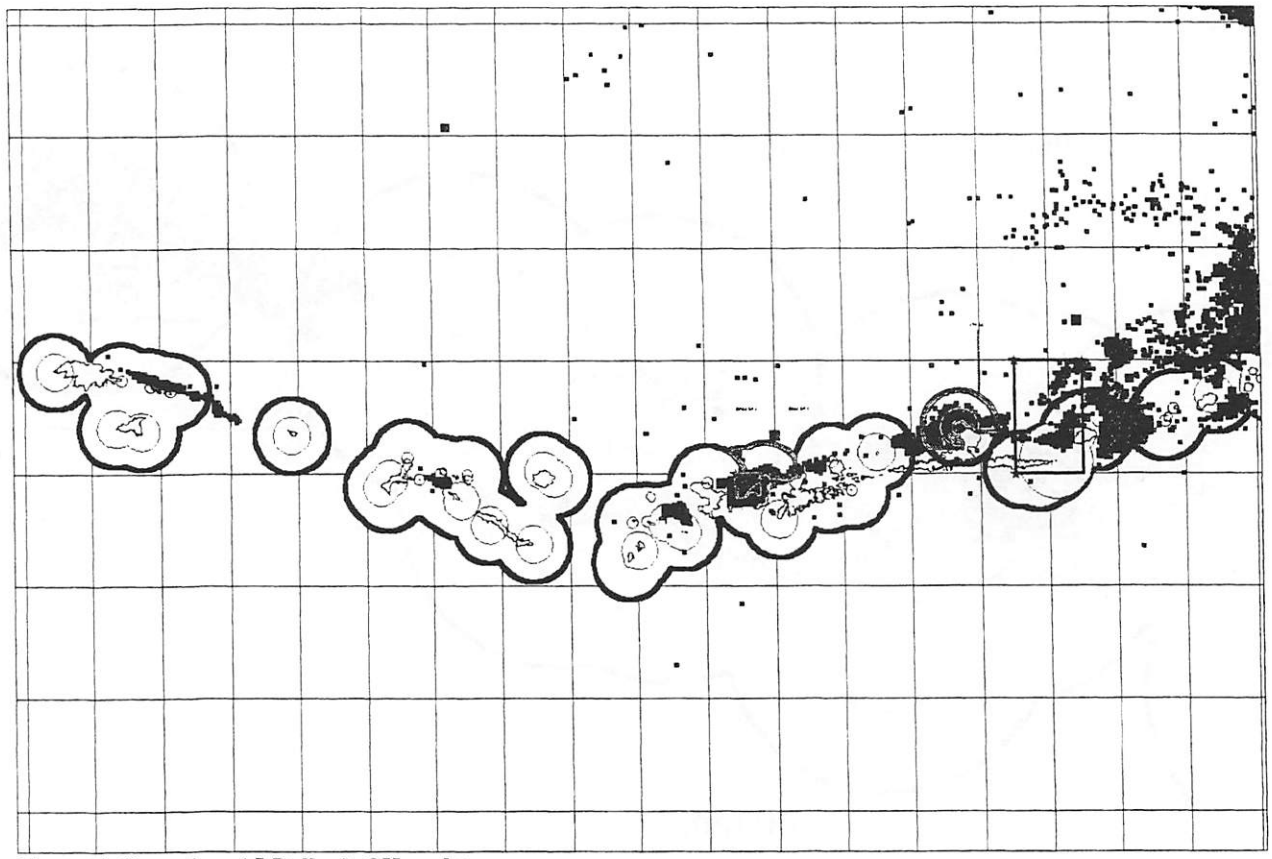


Figure 1 Overview AI Pollock CH and tows

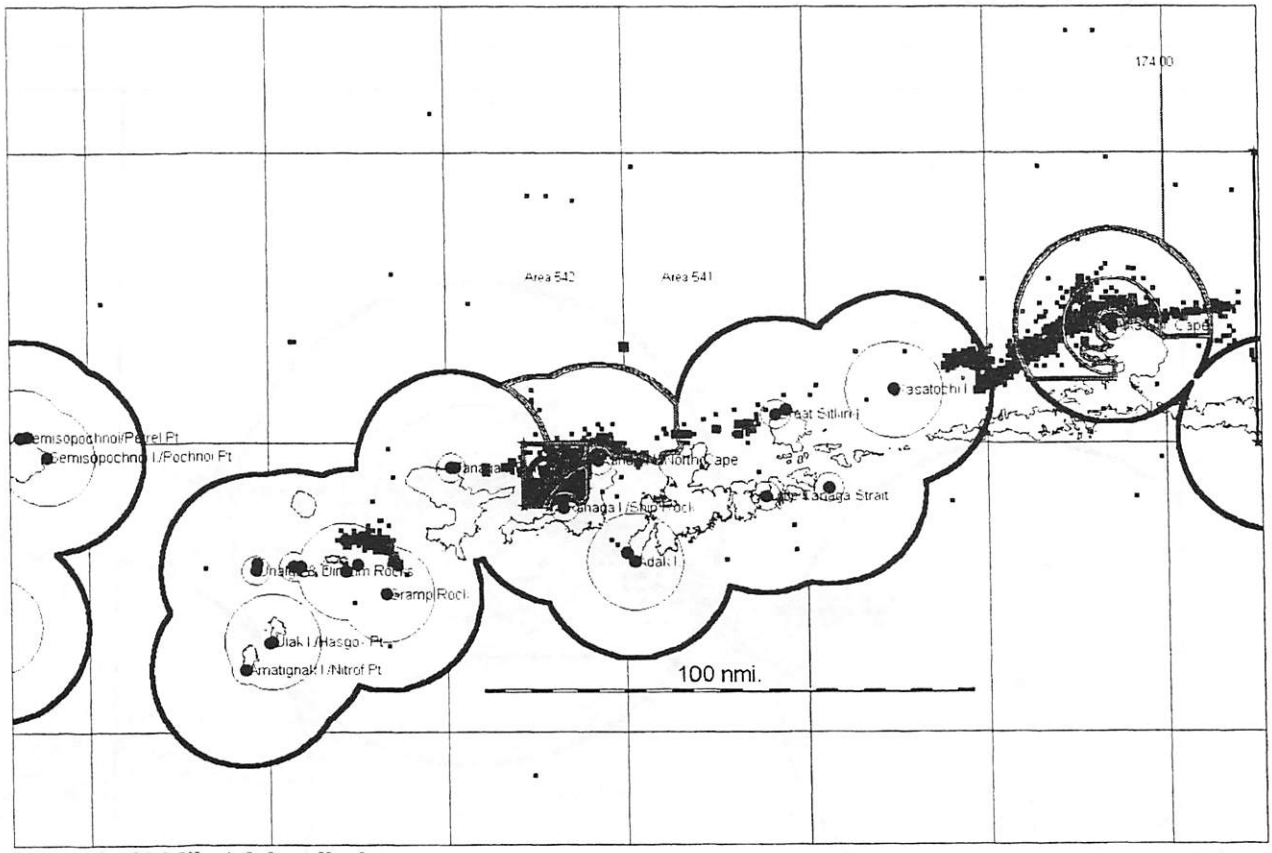


Figure 2 100 Mile Adak pollock areas

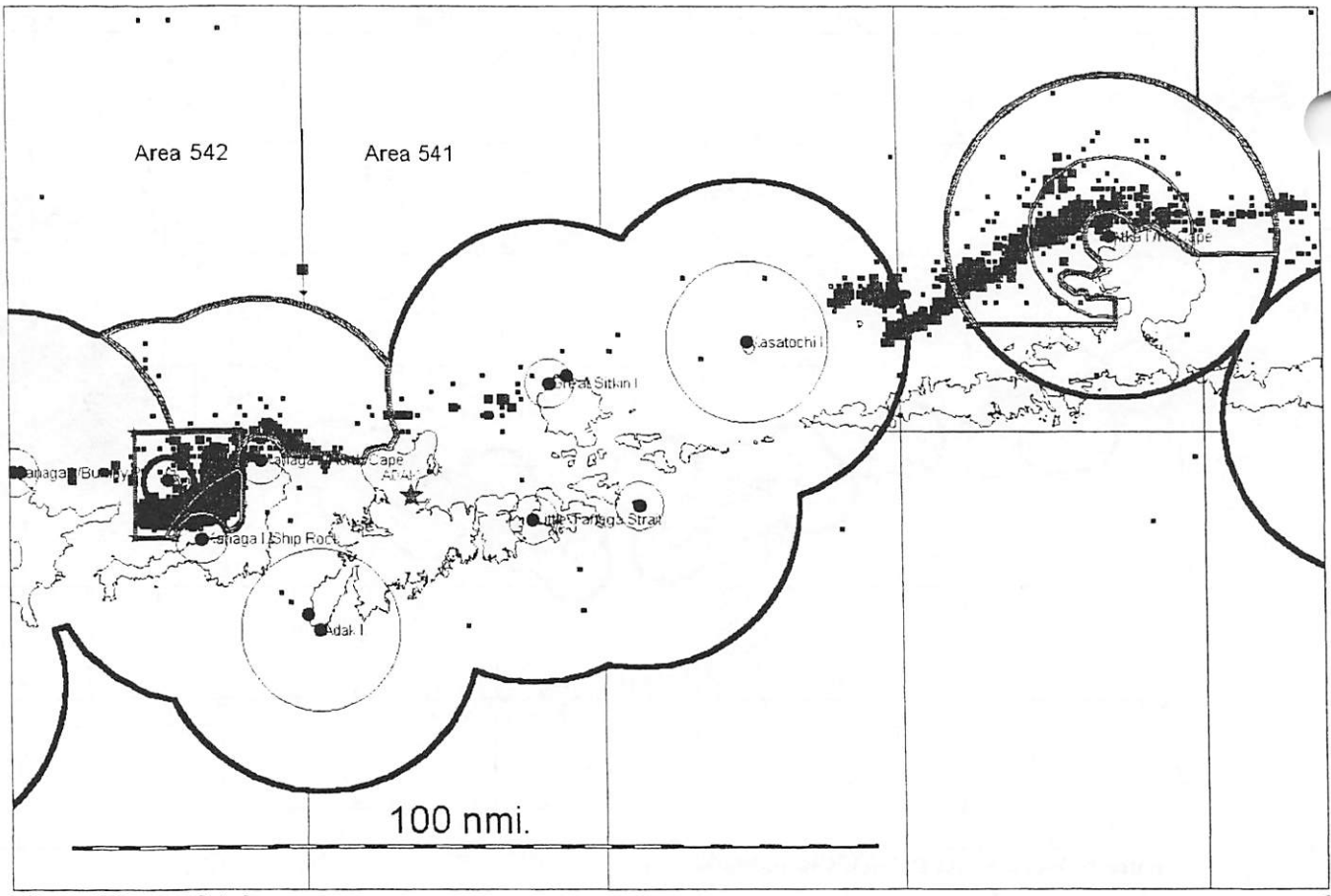


Figure 3 Box and Atka

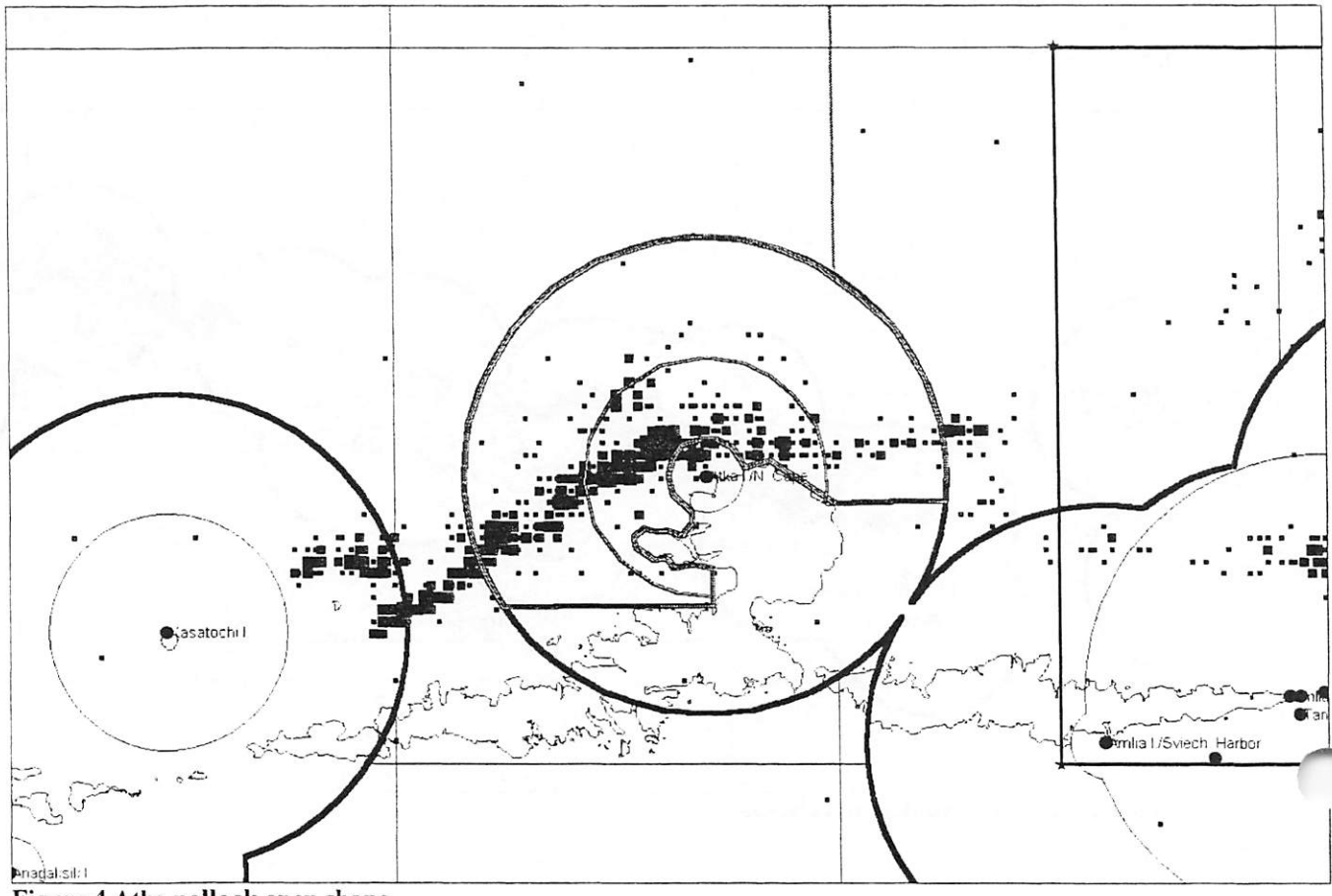


Figure 4 Atka pollock open shape

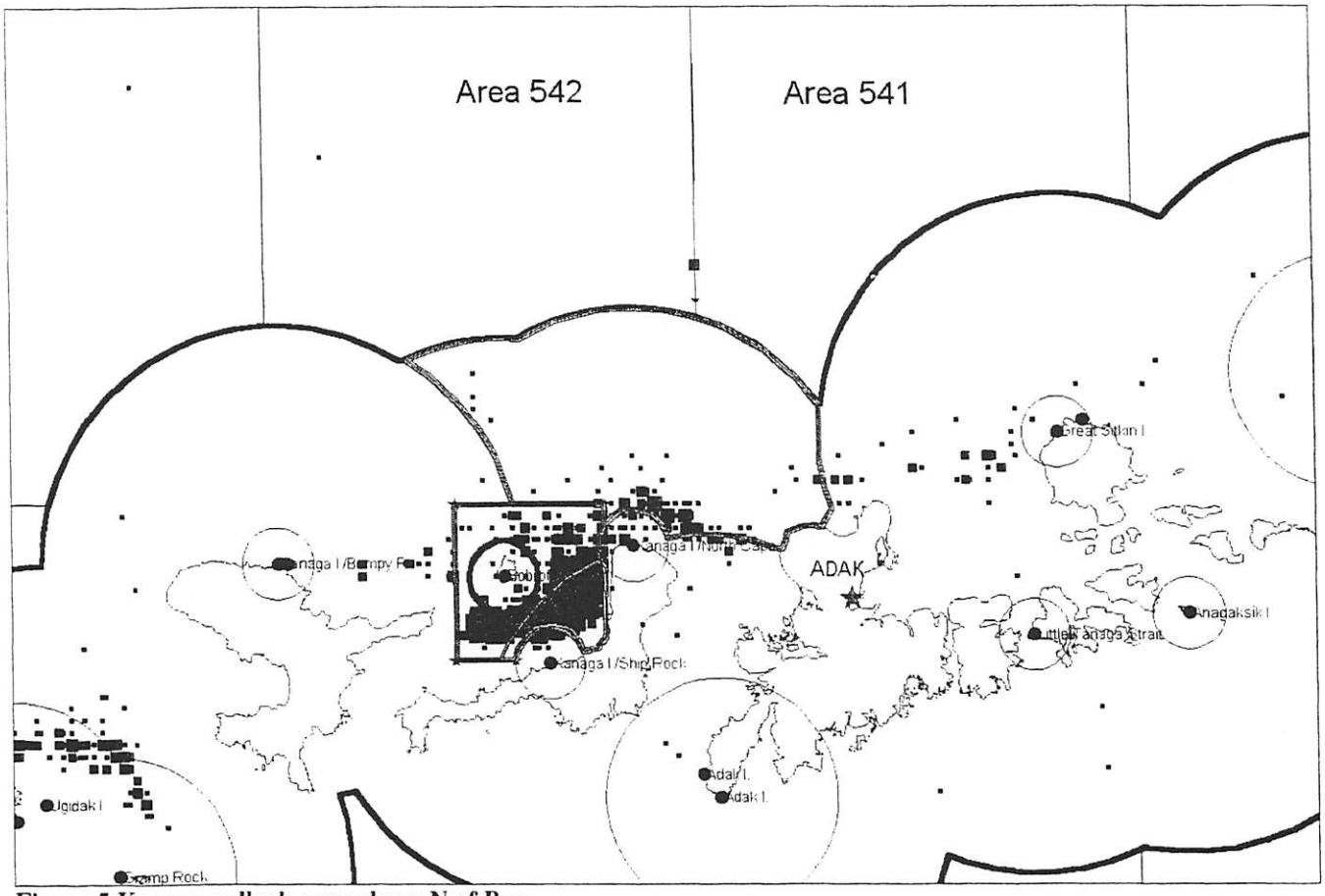


Figure 5 Kanaga pollock open shape N of Box

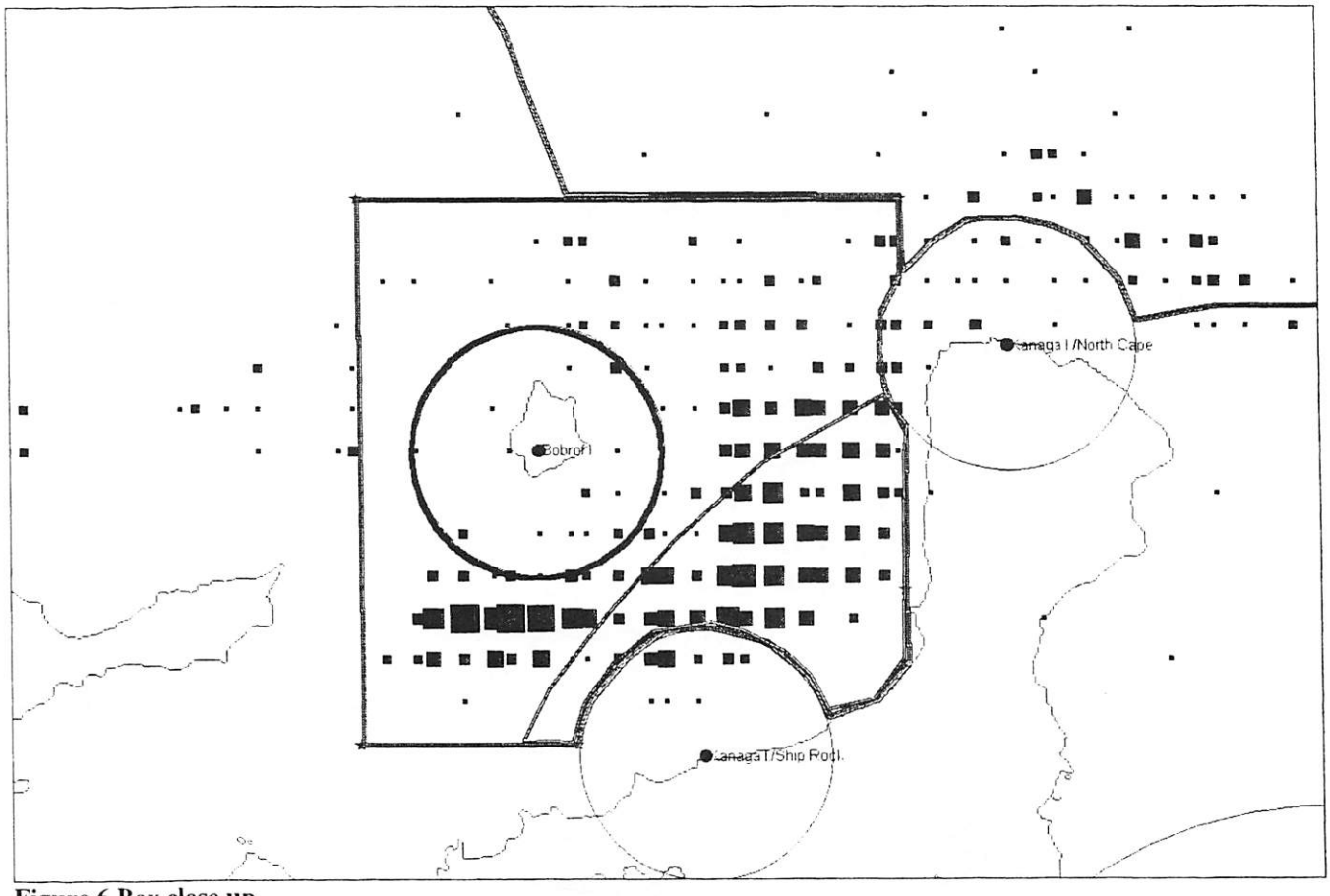


Figure 6 Box close up

September 2nd, 2004

Chris Oliver
Executive Director
North Pacific Fishery Management Council
605 W 4th Ave Suite 306
Anchorage, Alaska 99501

Re: NMFS Informal Opinion on AI Pollock Proposal to SSLMC

Dear Chris,

On July 19 2004 NMFS presented the SSLMC an initial determination that the April 12, 2004 proposal by the Aleut Corporation, Aleut Enterprise Corporation and Icicle Seafoods, Inc. to open areas of critical habitat for the western distinct population segment (DPS) of Steller sea lions within the Aleutian Islands Area (AI) to fishing for pollock would require formal consultation.

We believe the document supporting NMFS initial determination is seriously flawed in several respects. As a result we also believe the conclusion that formal consultation would be necessary to determine if the adverse effects to the western DPS of Steller sea lions or its critical habitat would result in jeopardy or adverse modification is premature.

There are a number of statements within the initial determination that are not born out by appropriate documentation. In order to insure that we can present the best possible proposal we would hope that statements like these would not appear in the next assessment.

> Section 3: October 19, 2001 Biological Opinion (BiOp) and June, 2003 ...
> "The Supplement showed that some conservation components to the action worked quite well while others did not perform up to expectations (see Supplement, Table IV-1). Because fisheries are dynamic, biomass amounts change, fish move around (unlike trees), and the fleet is constantly adapting to changes in both the physical and economic environment, some of this is expected. Overall, the action was conservative enough to avoid jeopardy, while some elements certainly could be improved upon as described in the Supplement. However, changes were not required to avoid jeopardy or adverse modification which was the standard of review under a section 7 consultation."

We are concerned about this statement because the neither the Supplement nor the original BiOp clearly outlined "expectations." This type of characterization does nothing to assist the public in understanding which measures will be acceptable and which will not.

In any case, the proposal has been redrafted by the current participants. We are offering the following comments on the original initial determination in the hope that a more comprehensive review of the new proposal will find that this proposal is unlikely to result in jeopardy or adverse modification. Our comments focus on five areas: 1) Pollock Closure=Experiment, 2) Counts, 3) Diet, Scat, and Pollock distribution, 4) Trade Off Tool, and 5) Mitigation.

Pollock Closure = Experiment?

Perhaps the most distressing comments in the initial determination were those that referred to the Aleutian Islands pollock closure as some kind of ad hoc experiment.

Section 5, page 10:
"The Aleutian Islands pollock closure provides a unique situation to observe possible changes in predator prey relationships, changes in sea lion demographics, and possible changes in the pollock stock itself.

This statement is puzzling since NMFS told the council that the Aleutian Island pollock closure was not, in itself, a sea lion measure. No experimental design was developed to examine the effects of this closure. Further, with no data on scat pollock FO west of the Delaroffs, what is the baseline for measurements of "predator prey relationships"? With SSL "demographics" or at least population levels (we have little or no data on vital rates for the population as a whole in the last couple decades, let alone area specific vital rates or demographics) going in different directions in the SSL Western AI versus the SSL Central AI, what is the baseline for tying it to pollock biomass changes between areas or distinguishing it from incidental take in Russian herring fisheries?

With the information we have on "changes in the pollock stock" there are difficulties detecting a relationship with fishing, let alone measuring secondary relationships with SSL demographics or predator prey relationships.

Another more disturbing example of a comment without basis is found in this statement:

Section 5, page 10:
"One question that we might ask is whether the recent increase in pollock biomass in the Aleutian Islands might be due to the lack of a commercial fishery for pollock in the last 5 years? This is an issue that could be further explored."

Further exploration of this issue would require a clear hypothesis to be tested, an examination of the power of detection, and meaningful controls and well defined variables. It seems unlikely that these conditions will be met in the near future. However, the suggestion that the Aleutian Island pollock closure has increased pollock stocks is ill considered.

Pollock survey biomass has gone up in the AI since 1997 as it has in the BS. The Bering Sea had normal pollock fishing every year. The Aleutian Islands had normal pollock fishing in 1997 and 1998, and no fishery in 1999, 2000, 2001, and the 6 months of 2002 prior to the most recent survey included in the analysis. Since pollock survey biomass went up in both areas, does NMFS' ad hoc experiment to date tell us that fishing causes biomass increase?

Can this ad hoc experiment yield more definitive results if one examines the area east and west of 174 separately using the data in table 7? From 1991 to 1994 biomass went down in the western portion though there was little pollock fishing west of 174 during that time. However, between 1997 and 2000 when pollock fishing did occur west of 174, pollock biomass increased. It also increased between 2000 and 2002 when no pollock fishing was occurring, but for recruitment to have contributed to so dramatic of a biomass increase, the pollock probably needed to have been born prior to 2000. So, does the experiment tell us that fishing causes biomass increase or that not fishing causes biomass increase. Or is there any power to detect a cause and effect for either of these hypotheses?

Section 5 page 10:
"The opening of a fishery inside critical habitat might have implications to the upward trend in biomass, especially given the stock dynamics of pollock in the Aleutian Islands."

If this statement were made by an interest group it would have no weight given the evidence on hand. Unfortunately, since the statement appears in a NMFS document it appears to have some validity. If there is evidence to support this speculation, we haven't run across it yet.

The nature of the pollock fishery in the Aleutian Islands region has varied considerably since 1977 due to changes in the fleet makeup and in regulations. During the late 1970s through the 1980s the fishing fleet was primarily foreign. In 1989, the domestic fleet began operating in earnest and has continued in the Aleutian Islands region until 1999...

Each of these points only underscores the impossibility of using this closure as some kind of ad hoc experiment. NMFS has repeatedly made it very clear that the AI pollock closure wasn't a SSL measure. The 1999 closure was a pollock stock issue based on a perception of declining pollock stocks in the AI at that time.

For the agency to now claim that the existing closures must remain in place because they are providing some kind of experimental data is unacceptable. There is too much documentation on this issue for the agency to make such assertions.

Counts

In several comments it appears that the agency has confused fishery management areas with SSL management areas. This confusion is not uncommon, and it can lead to the kind of muddled analysis that is present in the current initial determination. It would be helpful to make it clear that for purposes of SSL terminology, the AI Pollock Proposal applies to the "Central" Aleutian SSL management region – and that the "Eastern" SSL management region equates to the WGOA and the Unimak Pass area from a fisheries management perspective, not the AI fisheries management area.

For example:

> Section 4.1, page 3
> "Pup counts are mixed in the central Aleutian Islands area (Table 2). Pup counts on rookeries at Kasatochi, Adak, and Gramp Islands were either stable or increasing between 1998-2002, while pup counts at Ulak and Tag Islands were decreasing. Overall, the central Aleutian Island pup counts decreased by 9.1% from 1998-2002. Pup counts in the western Aleutian Islands decreased by 39.2% from 1998-2002 (Sease and Gudmundson, 2002; their Table 8).

It is worth noting, the April 2004 Aleutian Island pollock proposal didn't extend as far west as the "Western Aleutian" region as the term is used for SSL management purposes. Nor did it extend as far west as the Ulak and Tag Island sites. It would be helpful in future assessments if NMFS would match up the proposal area to the data reporting areas they are citing.

In some cases, the data cited actually supports a different conclusion from what is implied. For example, in reference to the Sease and Gundmundson the counts of juveniles and adults, a careful reading of the data in the tables demonstrate that we have a strong increasing trend at Kasatochi, and a stable and somewhat increasing trend at Adak continuing in 2004, which is the area that was included in the first proposal.

Diet, Scat and Pollock Distribution

Similar confusion exists in the agency's discussion of scat data found in Table 5 on page 7. This is another instance where it is important to remember the distinction between SSL management area terminology and fisheries management area terminology.

Section 4.2 page 9
"In summary, pollock is an important prey item for Steller sea lions in the Aleutian Islands, especially in the eastern portion of the area and in other locations where pollock may be available in relatively small aggregations."

Again, the Eastern AI for SSL management purposes is the southeastern BS and WGOA, NOT the fisheries management area 541 which encompasses the AI Pollock Proposal.

In the discussion of unpublished literature on page 8 there are a number of inferences that require additional context:

"Table 6 describes the prey items found in scats at Adak, Amlia, and Kasatochi in 1999 and 2000. At Adak, Atka mackerel was again the number one prey item found in 81% of the scats, with salmon second at 65%, and pollock third at 24%.
For Amlia, Atka mackerel was again most frequently found in 93% of the scats, sand lance second at 52%, and pollock and Pacific cod tied for third at 34%
At Kasatochi, the diet was somewhat different dominated more by Pacific cod (40%), salmon (25%), and Atka mackerel (20%) while pollock was found in 5% of the scats.
In these samples pollock was much more important in the diet than the average values reported above and likely represent the local availability of prey as well as the variability in sampling times."

It evaluating these scat data it should be noted that:
- the 25% FO at Adak occurred in summer and on the Pacific side of the AI chain (while the area opened by the proposal is on the Bering Sea side of the chain.)
- the 34% FO at Amilia occurred in summer and on the Pacific side of the AI chain (while the area opened by the proposal is on the Bering Sea side of the chain.)
- that the Kasatochi sample is from a collection taken at the height of the roe season (March 12th).

The initial determination included a speculative conclusion that actually that was somewhat counter to the data presented regarding scat composition. The differences from the "values reported above" (in table 5 pages 7-8) appear to be seasonal differences reflective of winter sampling (low FO's) versus summer sampling (moderate FO's).

Tying scat FO's to "local" availability of prey is highly speculative. If this were the case in the example of the March 12, 1999 Kasatochi sample, it would be hard to explain why salmon should have an FO higher than mackerel and close to the FO of cod at a time the cod fishery is occurring 10 miles away to the west with high cod CPUE's, significant mackerel bycatch, and almost zero salmon bycatch. Likewise, it would be hard to explain why 'smoothtongue" FOs are double the pollock FOs when 10 miles to the east is the area the AI Pollock Proposal seeks to open based on high pollock CPUEs.

What this and previous analyses have ignored is that the examination of potential overlap between commercial trawling and sea lion foraging requires more than simply horizontal overlap on a plane. In order for competitive overlap to occur it also needs to occur simultaneously in depth as well.

Section 4.2, page 9
"The variability of pollock in the diet of sea lions is likely to be linked to the availability of the prey and may have a similar pattern as the fishery over the last decade."

This is a bold venture into dataless speculation. An alternative speculation is that the "pattern" of the fishery over the last decade was determined based on the timing of the end of the A season and the differential timing of spawning aggregations on an east/west gradient.

For what its worth, here is a little data on pollock distribution from the summer pollock surveys for 1997 and 2002:

1997 Area 541 CPUE kg/nm2 = 2,577
1997 Area 542 CPUE kg/nm2 = 6,663
1997 Area 543 CPUE kg/nm2 = 3,936
2002 Area 541 CPUE kg/ha = 21.68
2002 Area 542 CPUE kg/ha = 65.41
2002 Area 543 CPUE kg/ha = 8.19

The significance of this data is open to debate since we have no diet information for area 543. Nor do we have survey data for pollock distribution in the AI during the winter season. However, it does suggest that the ratio between the availability of pollock in 541 and 542 (542 being more than double 541) was similar between the years 1997 and 2002. The statement in the informal opinion suggests there should be a similar ratio on pollock FO between areas, but no data is presented which supports that hypothesis.

> "It is also worth noting that sea lions in the western Aleutian Islands have been declining at the highest rate and yet they have the least amount of pollock in their diet (2000 BiOp, their Table 4.5b)."

Actually, there are no scat FO's presented for the SSL "Western" AI (SSL region 7) or the western portion the SSL "Central" AI (SSL region 6) west of the Delaroff Islands. Therefore it is baseless speculation to associate the high rate of decline with unknown amount of pollock. However, in the area around Adak the most obvious correlation that could be drawn is that there is a relatively stable or increasing population of SSL and a very low rate of pollock FO in the scat during the winter, and a modest FO (as high as 3rd in some samples) during the summer.

> Section 4.2, page 10
> "Also from the 2001 BiOp, we know that the ratio of prey biomass available to the biomass consumed by sea lions is the lowest in the Aleutian Islands, and may be lower than what is optimal for their survival (Supplement, their Table III-8)."

However, an examination of the bathymetry covered by the summer trawl survey in the AI would show the survey area is near shore. A far higher percentage of the surveyed area in the AI is within 10 miles of land than in the BS or even the GOA. (see Appendix Fig. B1-4 of NOAA Tech. Mem. NMFS/AFSC-143)

Given the hierarchy of telemetry 'hits' within 0-3, 3-10, 10-20 and >20 miles from land, any comparison of the ratio of biomass available to biomass consumed should consider how that biomass is distributed relative to land. It is likely that the AI biomass within 10 miles of land is much more comparable to the BS biomass when viewed in this way. When examined based on 0-3 from land, the forage ratio in the AI may well be superior to the BS.

> Section 5, page 10
> "In 1998 the fishery shifted farther west and the majority (66%) of catch was removed from around Buldir Pass in INPFC area 543...In Figure 4 the two general areas that the proposal would open are circled, which coincides with the two areas of relatively high fishing through the 1990s."

If there is a concern about the substantially lower pollock biomass in 543 (relative to 541 and 542), and a concern about the high rate of SSL decline in the SSL "Western" AI (as contrasted with the relatively stable SSL population around Adak), it might be argued that forcing pollock fishing effort into 543 would be less favourable to SSL than allowing a portion of that effort in small fractions of the CH as proposed.

The Trade Off Tool

The use of the TOT is premature given the comments made by the SSC, and we do not agree with the conclusions reached during this exercise.

> Section 6, page 15:
> "In general, the SSLMC has attempted to propose actions that result in no net loss in protection for Steller sea lions (i.e., no net increase in adverse impacts)...NOAA Fisheries presented a draft of the TOT to the Council's SSC and received a generally positive response with additional comments on improvements (see SSC minutes from June 2004)."

The SSC minutes do state that the "new no net loss analytical tool...adds to the confusion about the types of information and procedures to be used by NFMS and the Council...(and that) clarity and consistency are needed." In spite of the SSC's admonitions the initial determination employs a tool that is clearly "not ready for prime time" in a manner that is confusing. As the paper itself states:

> Section 6, page 15:
> "This tool, by it self, cannot be used to determine whether an action would result in jeopardy or adverse modification of critical habitat as it does not take into account all of the factors which may affect Steller sea lions (e.g., harvest amounts, vessel sizes, historic trend rates of sea lions, rookery or haulout differences, biomass availability, etc). Therefore, NMFS proposes that the use of this tool be limited in scope to balancing proposals based on closure area, and that other factors which cannot be incorporated in the TOT be considered in a qualitative manner. Those other factors are likely to be unique for each situation such that a recipe for analysis is impractical at this time.
> Factors not considered in this simple analysis are: magnitude of the catch, effects of disturbance due to number of days fished, size of vessels, catch rates, etc. For this analysis, these other factors will be considered in a qualitative manner in section 7 below. The SSC recommended that some of these factors be included in the model, however, the complexity of adding these additional components is not necessary at this point nor useful in determining whether the action will result in more or less protection for Steller sea lions and their critical habitat."

Yet these are precisely the factors that should be considered...

> Section 6, page 16:
> "The TOT (see Table 9) illustrates the 6 sites which result in less closure area for the Aleutian Islands pollock fishery with an increase in closure area at one site for the Pacific cod fishery."

While a total of 6 haulouts or rookeries are reference points for defining CH, it should be noted that 5 of these overlap substantially and that there are only 2 specific areas that are proposed to be opened.

> Section 6, page 16:
> "The net result is a substantial reduction in the area closed when compared to the 2001 conservation measures (2001 BiOp),..."

This is an unsubstantiated assertion. No where in the paper is there an indication of the total square miles of CH to be opened under the proposal, nor is that amount contrasted to the total square miles of CH now closed or which would remain closed under the proposal. While "substantial" is a somewhat subjective concept, does the difference between 100 and 95 seem substantial? With some basic GIS analysis, the proportions of CH impacted by the proposal (which are about 5% of the AI CH), and the proportions of the 0-3, 3-10, 10-20 zones of CH impacted, could be determined and should be utilized in this sort of analysis.

"If closures for other fisheries are contemplated by the SSLMC as mitigation options, the SSLMC should consider whether these trade offs are equal based on historic catch amounts, prey requirements by sea lions, or any other relevant factor."

These are factors which go beyond those considered in the TOT but which should be used to evaluate the pollock proposal whether or not "real estate" trade offs are included.

Finally, the agency asserts that:

Table 9. "Relative effects of the proposed action on the Steller sea lion conservation measures using the Trade Off Tool (TOT). ...This analysis also uses an adjustment factor for two sites which have a very small fraction of the 10-20 nm zone open to fishing (rough estimates were made of the open area, more detailed calculations could be made with GIS but aren't necessary)."

In fact, GIS apparently is necessary. Though the table does include an "area open adjustment" for Tanaga/Bumpy and Adak/Lake Point, it fails to recognize that much of the area for the 20 mile CH circles around Bobrof, Kanaga/Ship Rock, and Kanaga/North Cape all overlap with the 20 mile circles around other CH reference points (as well as with each other) and thus would remain closed under the proposal.

"The TOT (see Table 5) describes the opening of critical habitat areas to fishing for pollock and a closure area for Pacific cod fishing. Overall, the proposed action would open **substantial** areas to fishing for pollock with very little in the way of offsetting measures."

The small fraction of CH (roughly 5%) to be opened under this proposal hardly seems to meet the definition of "substantial".

Areas for Mitigation

Having focused on what we saw as the shortcomings in the initial determination, we would like to say that there were some helpful comments that have influenced our redraft of the proposal.

The agency expressed the following concerns:

In Section 7.3: "Effects on critical habitat"
"The net result will be substantially more pollock (up to 19,000 mt) taken from critical habitat during the winter."

This is a legitimate concern. However, there is an opportunity to mitigate this by modifying the proposal. An element could be incorporated to limit the amount taken in each of the open areas to X% of the TAC.

"Given the roe value in A season pollock, the fishery will probably try to use substantial effort to catch the pollock in a relatively short time-period."

This is another legitimate concern. However there is an opportunity to mitigate this concern by modifying the proposal. An element could be incorporated to limit the amount take on a weekly basis to X tons.

"Our knowledge of the pollock stock is described in section 5 above. Due to a lack of data on the distribution of pollock biomass, movements, and spawning aggregations in the AI it is difficult to predict local effects of the pollock fishery on the prey field. The data on Aleutian Islands pollock is much less than that for EBS pollock. It appears that sea lions consume pollock in the affected area as a portion of a diverse diet often dominated by Atka mackerel (Table 4). Removal of

> 19,000 mt (roughly 40% of the ABC), in this small area on a limited biomass that is probably more localized than areas further to the east (e.g., EBS), would likely diminish the value of the prey field for Steller sea lions."

This is where some qualitative analysis needs to be incorporated. However, there is readily available quantitative observer data regarding the depth of fishing for pollock in the proposed areas (which directly reflects the vertical distribution of the winter pollock aggregations). This should be contrasted with our knowledge of the foraging dive patterns of SSL and the winter scat collections to qualitatively evaluate the likelihood of competitive overlap.

> "We would expect that the harvest rates on the pollock biomass in these two areas would be relatively high (compared to the annual expected harvest rate as determined in the stock assessment). Some of these calculations were made in the Supplement (their Table III-7), but not for pollock in the AI because that fishery was closed in critical habitat. Those calculations could be done, but the utility of doing those in this situation (i.e., data poor) is unclear."

This may be a legitimate concern. However, there is an opportunity to mitigate this by modifying the proposal. An element could be incorporated to conduct real time hydro-acoustic surveys and set CH harvest limits as a fraction of the survey biomass.

Conclusion

In conclusion, we turn to the agency's conclusion:

> "Our initial determination is that the proposed action, if implemented, is likely to adversely affect the western DPS of Steller sea lion..."
> "The SSLMC might consider other options to avoid adverse impacts to Steller sea lions, yet it is difficult to consider a scenario in which formal consultation would not be necessary for the development of a pollock fishery within critical habitat in the AI..."
> "The TOT could be used to increase the offsetting measures and reach a zero point, however, the utility of those closures with regard to the qualitative factors described above (and by the SSC) would then need to be considered (e.g., harvest amounts, biomass of prey, disturbance, etc.)"

It was difficult to tie the conclusion to the data cited, and to the proposal as it had been submitted. However, a modified proposal has been forwarded to the Council's sea lion committee using offsetting mitigation other than "real estate" tradeoffs. We sincerely hope that the next initial determination will focus on the specifics of the proposal and that the examples given fit the proposal. We support the need to look in more depth at the qualitative factors in the manner discussed by the SSC. We look forward to continuing to work with both the agency and the committee to develop a workable fishery for the community of Adak.

Thank you
Sincerely

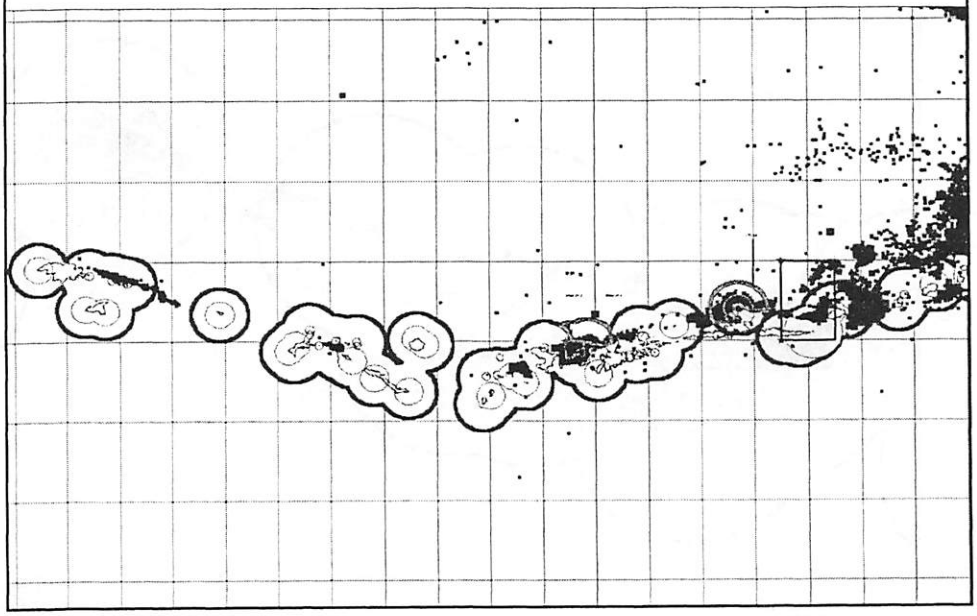
Sandra Moller
Aleut Enterprise Corporation.

Aleutian Island Pollock Fishery Proposal

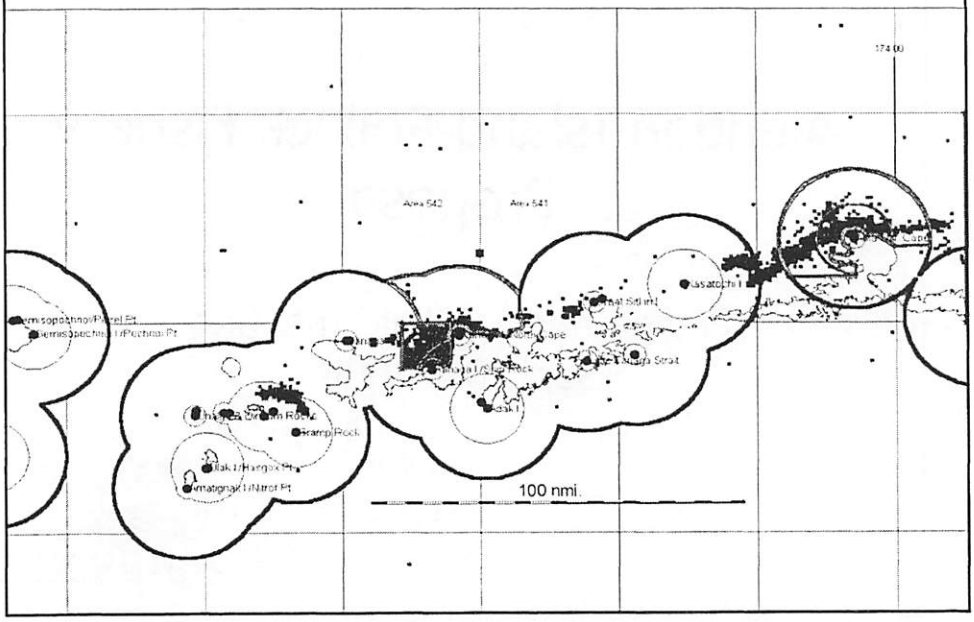
Presented to SSLMC meeting
Sept. 8th, 2004

ALEUT
ENTERPRISE CORPORATION

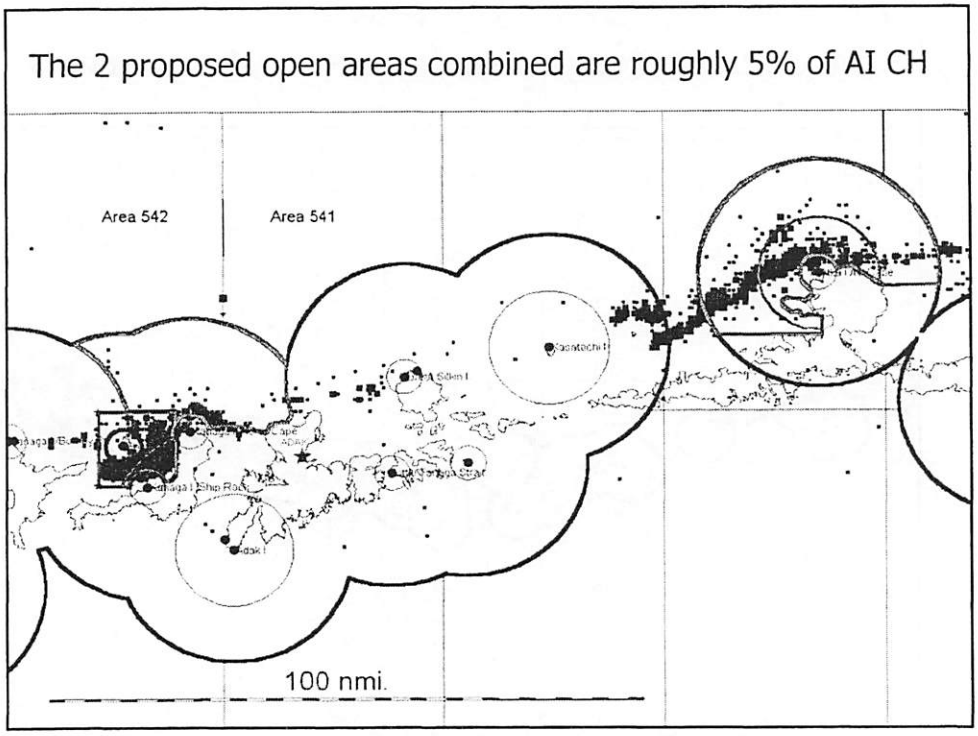
AI CH 20 Mile Pollock Closures and Pollock Haul Locations

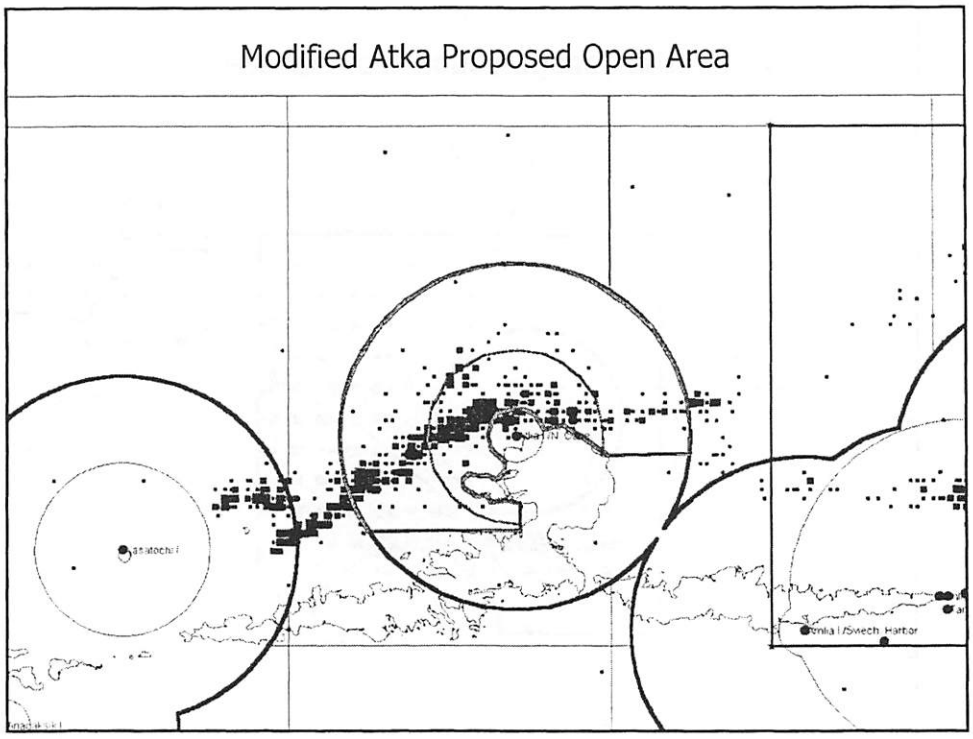


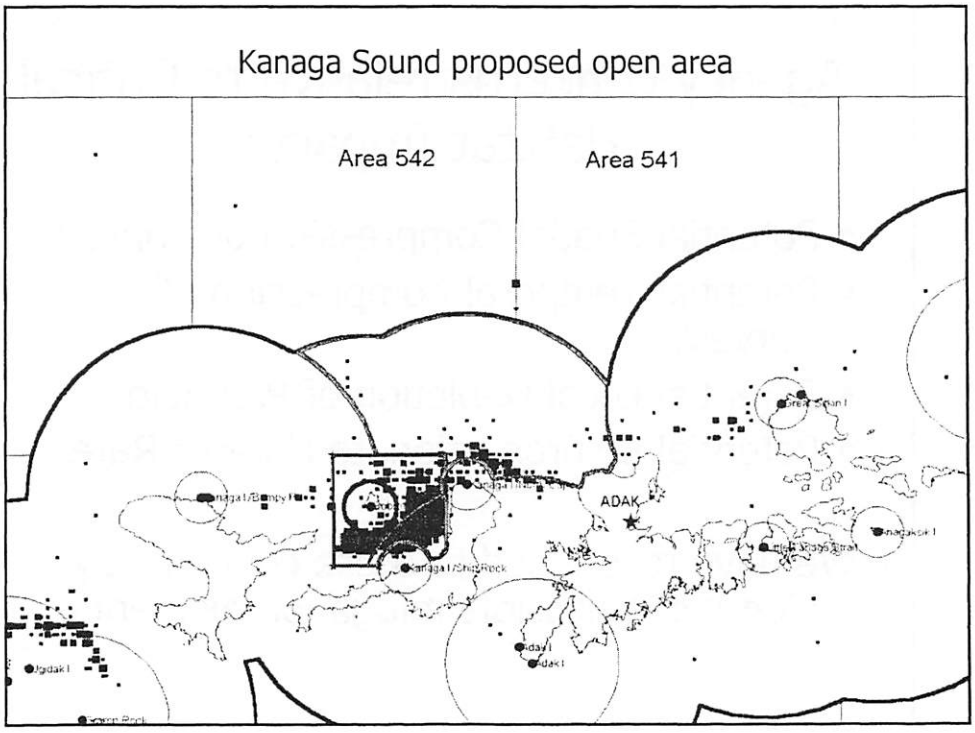
Proposed Open Areas within 100 Miles of Adak



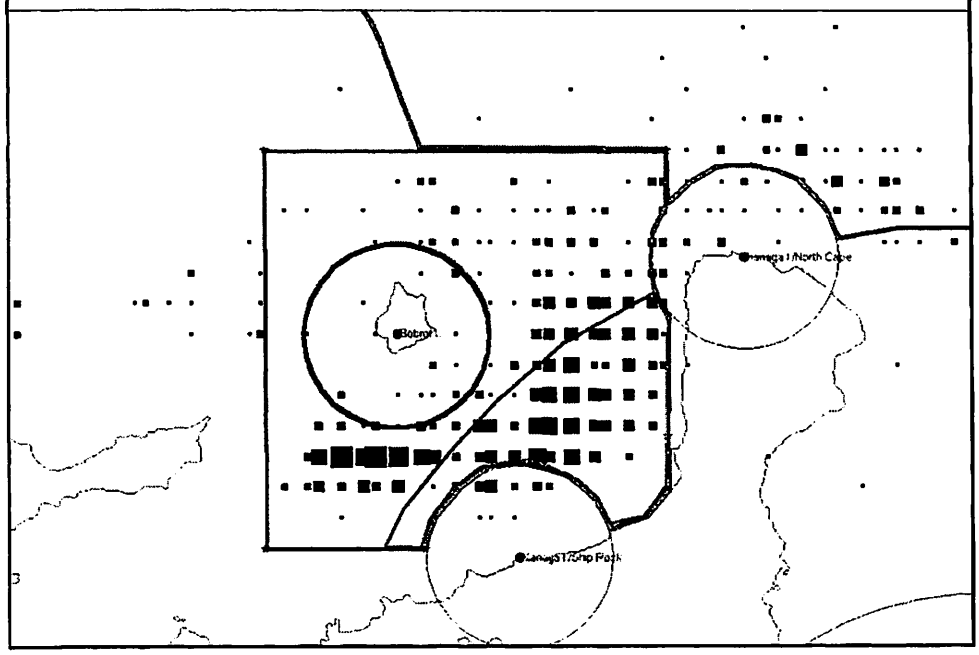
The 2 proposed open areas combined are roughly 5% of AI CH




Modified Atka Proposed Open Area


Kanaga Sound proposed open area
Area 542
Area 541
ADAK

The Kanaga Sound "Box" Close-up



Agency concerns relative to Critical Habitat Impacts

- Potential Spatial Compression of Harvest
- Potential Temporal Compression of Harvest
- Potential Local Depletion of Preyfield
- Potential Disproportionate Harvest Rate

We have responded to these concerns by identifying possible mitigation elements.

Potential Spatial Compression of Harvest

- "The net result will be substantially more pollock (up to 19,000 mt) taken from critical habitat during the winter."

Mitigation:

- An element could be incorporated to place a seasonal limit the amount taken in each of the open areas to X% of the TAC.

Potential Temporal Compression of Harvest

- "Given the roe value in A season pollock, the fishery will probably try to use substantial effort to catch the pollock in a relatively short time-period."

Mitigation:

- An element could be incorporated to limit the amount take within the CH open areas on a weekly basis to X tons.

Potential Local Depletion of Preyfield

- "Due to a lack of data on the distribution of pollock biomass, movements, and spawning aggregations in the AI it is difficult to predict local effects of the pollock fishery on the prey field ...Removal of 19,000 mt...in this small area on a limited biomass ... would likely diminish the value of the prey field for Steller sea lions."

Mitigation:

- Effort in the fishery could be spatially dispersed by capping the harvest in any of the 3 AI districts (541, 542, & 543) at no more than 20% of the ABC or 50% of the TAC.

Potential Disproportionate Harvest Rate

- "We would expect that the harvest rates on the pollock biomass in these two areas would be relatively high..."

Mitigation:

- An element could be incorporated for cooperative research to conduct hydro-acoustic surveys before, during and after the fishing season. The data from the surveys could be utilized either in near real time, or on a one year lag basis, to set harvest limits as a fraction of the survey biomass based on a cooperative agreement between the Aleut Enterprise Corporation and NMFS.

Other Agency Concerns

- Ending the "Experiment"
- Low Forage Ratio in the AI
- Competitive Overlap

The Experiment?

- Was there a clear hypothesis to be tested?
- Was there an examination of the power of detection?
- Were there meaningful controls?
- Were the variables identified and well defined?
- Was the purpose of the closure to create an experiment?

Low AI forage ratio?

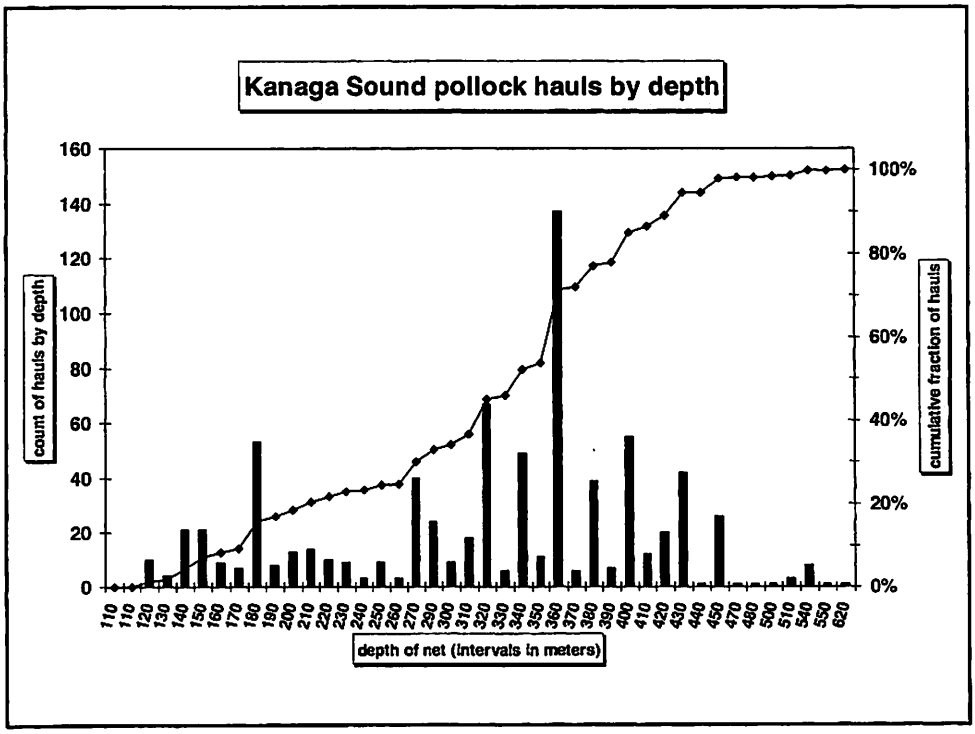
- The analysis compared the forage ratio for the entire AI area to the entire EBS area.
- It did not compare the biomass per square km in the likely sea lion foraging areas.
- The kg/km of SSL groundfish prey species in the 0-3 or 3-10 shelf area of the AI is much closer to 1:1 than 446:11.

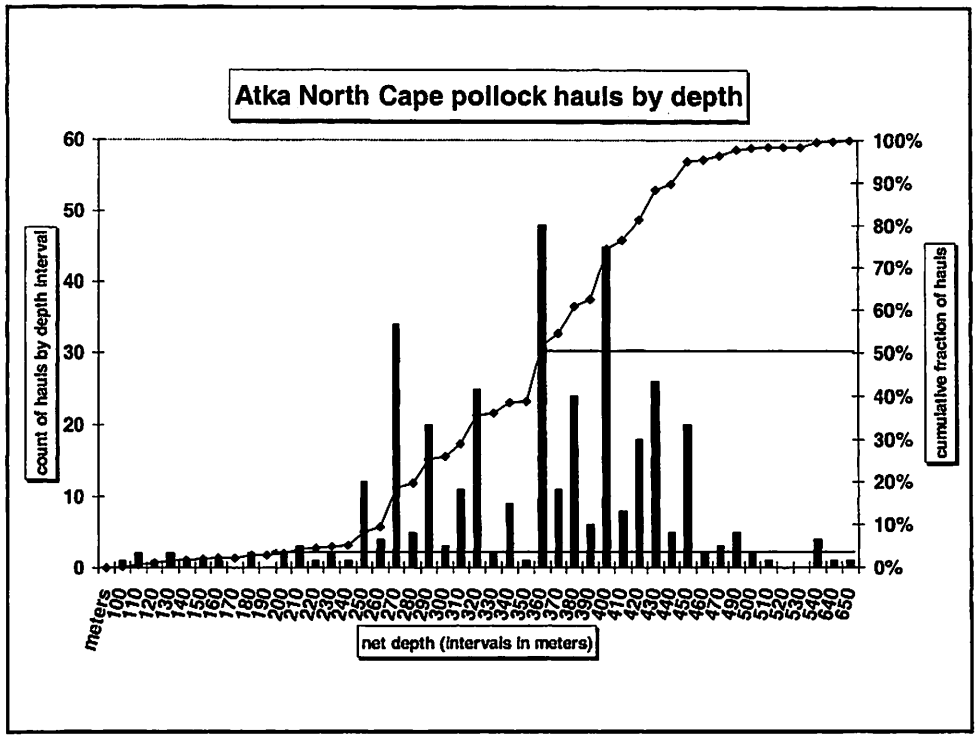
Competitive Overlap?

- Does the scat data suggest pollock are an important diet item for AI SSL?
  - The pollock FO is very low in the area of effected by the proposal.
  - The FO for several species that are much rarer in the trawl surveys have a much higher FO than pollock in the scat.

Competitive Overlap?

- Even if pollock is a prey species, is there spatial overlap?
  - On a horizontal plane, the answer is probably yes.
  - Based on bathymetry, dive profiles and fishing depth, there is minimal overlap in vertical distribution of the fishery compared with SSL foraging.





New Proposal Elements

- Geographic Area – Modified Atka Area
- Trade offs - Maintained Atka Cod Closure
- Mitigation - Responded to Agency Concerns
- Analysis - Identified reasons to reach different conclusions than the preliminary informal opinion.

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

July 16, 2004

Chris Oliver
Executive Director
North Pacific Fishery Management Council
605 W 4th Ave Suite 306
Anchorage, Alaska 99501

Dear Chris,

We are responding to the April 12, 2004 proposal by the Aleut Corporation, Aleut Enterprise Corporation and Icicle Seafoods, Inc, and the Steller Sea Lion Mitigation Committee, to open areas of critical habitat for the western distinct population segment (DPS) of Steller sea lions within the Aleutian Islands Area (AI) to fishing for pollock.

Our initial determination is that the proposed action, if implemented, is likely to adversely affect the western DPS of Steller sea lions. Without additional closure areas to offset the increased fishing inside critical habitat, formal consultation would be necessary to determine if the adverse effects to the western DPS of Steller sea lions or its critical habitat would result in jeopardy or adverse modification.

The attachment provides further background on the protection of Steller sea lions off Alaska, the history of consultation under the Endangered Species Act (ESA), the likely effects of the proposed action on Steller sea lions, and a proposed approach for further consultation under the ESA.

Sincerely,

James W. Balsiger
For Administrator, Alaska Region

Attachment

Attachment

NMFS initial determination on a proposal that would allow an Aleutian Islands pollock fishery within Steller sea lion critical habitat- proposed by the North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee.

1 Description of the Proposed Action

Proposed new open areas to fishing (see Figure 1)

Kanaga Sound. Reduce pollock closures in Kanaga Sound to open an area for midwater trawling by vessels under 125' LOA. The new open area would include an area within a box with the following coordinates:

West of 177' 13"
East of 177' 34"
North of 51' 47"
South of 52' 00"

The 20-mile closures at three haulouts would be reduced to three miles—Kanaga/North Cape, Kanaga/Ship Rock, and Bobrof Island. The 20-mile pollock closure from the haulout at Tanaga/Bumpy Point would remain at 20 miles except within the box. The 20-mile pollock closure at the rookery at Adak/Lake Point-Cape Yakak would remain at 20 miles except within the box (in that section of the arc where it intersects the Kanaga/North Cape and Kanaga/Ship Rock three-mile circles). Fishing would also be open in the proposed open areas outside of the box.

Atka/North Cape. Reduce the pollock closure at the Atka/North Cape haulout from 20 nm to 3 nm.

Proposed new closed areas to fishing

Expand the trawl Pacific cod closure at Atka/North Cape from 3 nm to 10 nm.

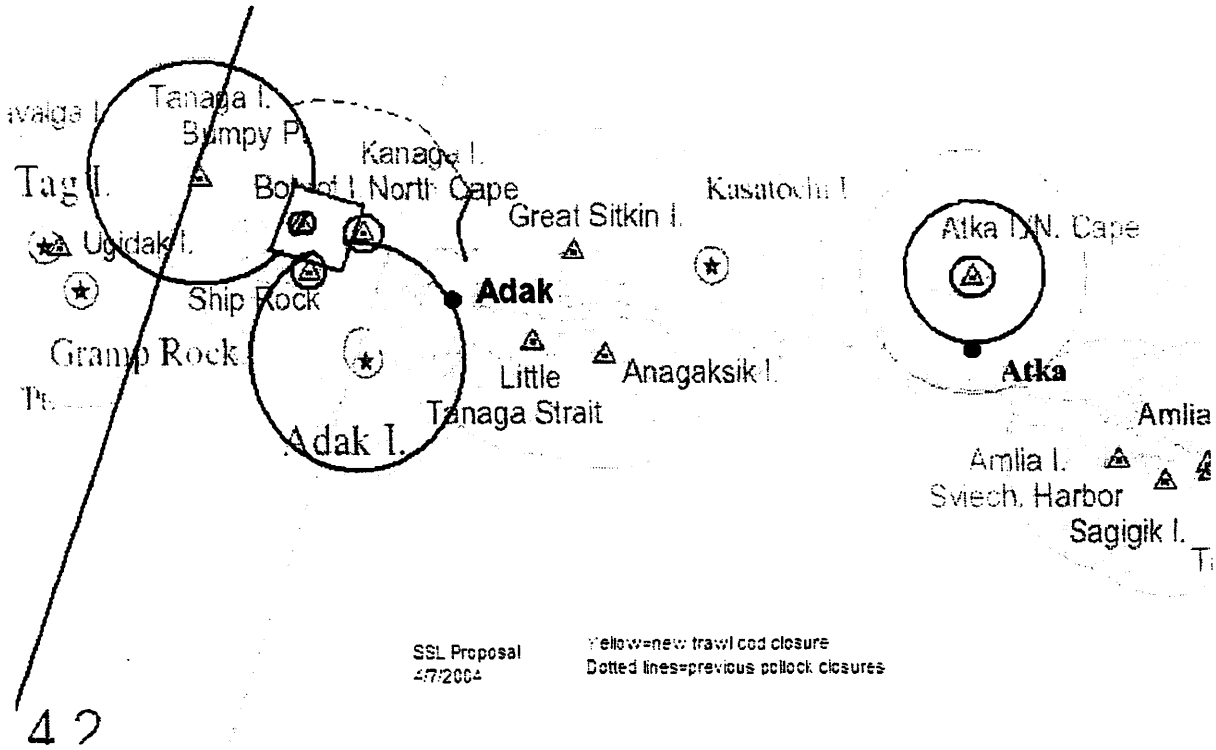


Figure 1. Description of the proposed open and closed areas within the Aleutian Islands (from the April 12, 2004 proposal by the Aleut Corporation, Aleut Enterprise Corporation and Icicle Seafoods, Inc, and the Steller Sea Lion Mitigation Committee, to open areas of Steller sea lion critical habitat within the Aleutian Islands Areas to fishing for pollock).

2 Current and Expected Regulatory Conditions

Under current conditions (50 CFR part 679) a pollock fishery is allowed outside of Steller sea lion critical habitat (50 CFR part 226.202), apportioned between two seasons (½0 to 6/10, and 6/10 to 11/1), with 40% of the Total Allowable Catch (TAC) available in the first season and 60% available in the second season. The fishery remains closed from November 1 through January 20 each year. Since 1999, the fishery has been placed on bycatch only status with a limited amount of pollock TAC available for incidental catch needs in other fisheries.

The North Pacific Fisheries Management Council (NPFMC) recently considered an amendment to the Fishery Management Plan (FMP) for the BSAI (Amendment 82) which will allocate TAC to a specific user group. Additionally, various alternatives would change the harvest rules such that catch amounts would be directly linked to the ABC, and that the annual allocation would not exceed 19,000 mt (if ABC is greater than 19,000 mt). This action, if implemented by NOAA Fisheries would result in a fishery outside of critical habitat in 2005, primarily in the A season, and at a magnitude of the lesser of 40% of the ABC or 19,000 mt. In other words, if the ABC is greater than 47,500 mt, the A season apportionment will be 19,000 mt and there will not be a B season fishery. However, if the ABC is less than 47,500 mt, the A season allocation will be less than 19,000 mt (e.g., 40% of ABC) and the B season fishery will be 19,000 mt minus the A season apportionment. Therefore, unless the ABC is less than 23,750 mt, more harvest will occur during the A season than during the B season (due to the annual cap at 19,000 mt for the harvest amount).

3 October 19, 2001 Biological Opinion (BiOp) and June, 2003 Supplement on the authorization of pollock, Pacific cod, and Atka mackerel fisheries in the BSAI under the FMP for Groundfish of the BSAI, and in the GOA under the FMP for Groundfish of the GOA

The 2001 BiOp (and its supplement) was focused at the project level on the pollock, Pacific cod, and Atka mackerel fisheries. Consultation was initiated based on the Council recommending an alternative suite of management measures intending to be substituted for the measures contained within the Reasonable and Prudent Alternative (RPA) of the 2000 BiOp (FMP level consultation). The proposed conservation measures were determined to avoid jeopardy and adverse modification of critical habitat for both the western and eastern distinct population segments of Steller sea lion. Therefore, the new measures recommended by the Council and adopted by NOAA Fisheries, although not specifically required by an RPA, are in effect necessary as they replaced the specific measures in the RPA from the 2000 BiOp.

Greenpeace, American Oceans Campaign, and the Sierra Club challenged the 2001 BiOp. On December 18, 2002, U.S. District Court for the Western District of Washington Judge Zilly granted motion for summary judgement on Greenpeace, American Oceans Campaign, and Sierra Club v. NMFS et al., No. C98-492Z. The opinion was remanded to NOAA Fisheries for further consideration of issues as required by the Court. On June 19, 2003 NOAA Fisheries prepared a supplement to the 2001 BiOp (Supplement) which further evaluated the fisheries and their interactions with Steller sea lions and affirmed the determination that the pollock, Pacific cod, and Atka mackerel fisheries did not jeopardize the species or adversely modify their critical habitat. The Supplement evaluated fisher catch data from both before and after implementation of the conservation measures, which provided a unique perspective for a consultation. The Supplement showed that some conservation components to the action worked quite well while others did not perform up to expectations (see Supplement, Table IV-1). Because fisheries are dynamic, biomass amounts change, fish move around (unlike trees), and the fleet is constantly adapting to changes in both the physical and economic environment, some of this is expected. Overall, the action was conservative enough to avoid jeopardy, while some elements certainly could be improved upon as described in the Supplement. However, changes were not required to avoid jeopardy or adverse modification which was the standard of review under a section 7 consultation.

4 Status of Steller sea lions in the Aleutian Islands

4.1 Counts and trends in the Aleutian Islands Area

The latest information on the status of the species can be found in the Supplement at Tables I-1 and I-2. The most recent non-pup count in 2002 yielded 26,602 animals in the western DPS in Alaska (at 259 sites). A detailed description of these counts can be found in Sease and Gudmundson (2002). The latest range wide survey occurred this summer (2004) with initial results expected in October.

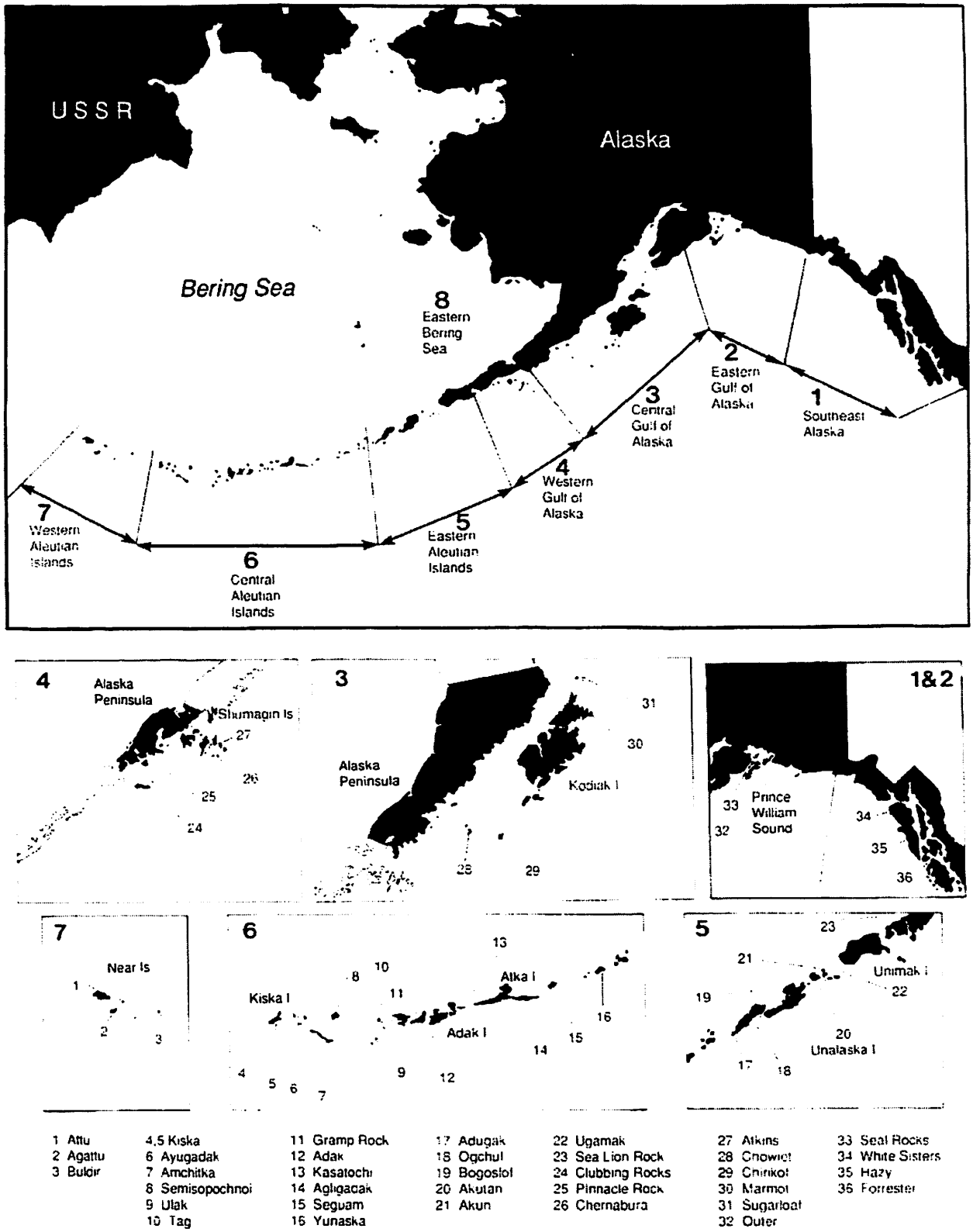
The western Aleutian Islands sub-population continues to be the area of most concern for NOAA Fisheries (Figure 2). Non-pup counts have declined from 4,920 in 1991, to just 1,199 animals in 2002 (Table 1). Although all other sub-populations in the western DPS increased from the 2000 to the 2002 count, the western Aleutian Islands area group decreased by 27.3% in just two years (Table 1). In the central Aleutian Islands, the sub-population has decreased by 21.5% since 1991, with a small increase from 2000-2002 of 35 animals. The central population appears to be somewhat stable from 1996 through today at around 7,000 non-pups. The cause of the steep decline during the past decade in the Aleutian Islands subarea, especially the west, is unknown. However, there is some speculation that animals in the

far western Aleutian Islands may be ranging into Russian territory and are being taken in herring fisheries. Some branded animals from the U.S. part of the population have been observed to be taken in those fisheries.

Although this summary of population trend is important, and describes how the larger population is changing over time, investigation of what is happening at specific sites has value in understanding some of the more dynamic changes that occur within these regional areas. The proposal provides some background on the changes at specific sites. For example, 8 of 10 rookeries in the western DPS which saw non-pup declines by more than 5% were located west of Adak. In the western region, pup counts were down by 39% from 1998-2002 and is the only region where non-pup numbers continue to decrease, indicating a continued decline that may reach as far as Adak (Sease and Gudmundson 2002). We could also look into the winter distribution of sea lions (Sease and York 2003), which in general shows more movement than the summer distributions and less fidelity to rookery sites.

Pup counts are mixed in the central Aleutian Islands area (Table 2). Pup counts on rookeries at Kasatochi, Adak, and Gramp Islands were either stable or increasing between 1998-2002, while pup counts at Ulak and Tag Islands were decreasing. Overall, the central Aleutian Island pup counts decreased by 9.1% from 1998-2002. Pup counts in the western Aleutian Islands decreased by 39.2% from 1998-2002 (Sease and Gudmundson, 2002; their Table 8).

Figure 2. Description of Steller sea lion regions in Alaska as described in Sease and Gudmundson (2002).



1 Attu
2 Agattu
3 Buldir
4,5 Kiska
6 Ayugadak
7 Amchitka
8 Semisopochnoi
9 Ulak
10 Tag
11 Gramp Rock
12 Adak
13 Kasatochi
14 Agligadak
15 Segugm
16 Yunaska
17 Adugak
18 Ogchul
19 Bogoslof
20 Akutan
21 Akun
22 Ugamak
23 Sea Lion Rock
24 Clubbing Rocks
25 Pinnacle Rock
26 Chernabura
27 Atkins
28 Chowiet
29 Chirikof
30 Marmot
31 Sugarloaf
32 Outer
33 Seal Rocks
34 White Sisters
35 Hazy
36 Forrester

Table 1. Counts of adult and juvenile (non-pup) Steller sea lions observed at **all surveyed rookery and haul-out sites** for seven subareas of Alaska during June and July aerial surveys from 1991 to 2002, including overall percent change from 1991, 1998, and 2000 to 2002 and estimated annual rates of change from 1991 to 2002 (reprinted from Sease and Gudmundson, 2002).

Year	Gulf of Alaska			Aleutian Islands			Kenai to Kiska (n=220)	Western stock (n=259)
	Eastern (n=27)	Central (n=52)	Western (n=35)	Eastern (n=55)	**Central (n=78)**	Western (n=12)		
1991	4,812	7,872	5,338	5,285	**8,959**	4,920	27,454	37,186
1992	4,386	7,462	5,495	5,711	**8,302**	4,531	26,970	35,887
1994	3,989	6,788	5,717	5,875	**7,617**	3,367	25,997	33,353
1996	2,585	5,744	5,722	5,967	**7,170**	3,407	24,603	30,595
1998	2,230[1]	5,022	5,850	5,837	**7,671**	2,865	24,380	29,475[1]
2000	2,353	4,817	4,568	4,996	**7,000**	1,650	21,381	25,384
2002	3,182	4,805	5,023	5,358	**7,035**	1,199	22,221	26,602
Percent change								
2000-2002	+ 35.2	< 1	+ 10.0	+ 7.2	**< 1**	- 27.3	+ 3.92	+ 4.80
1998-2002	+ 42.7	- 4.3	- 14.1	- 8.2	**- 8.3**	- 58.2	- 8.86	- 9.75
1991-2002	- 33.9	- 39.0	- 5.9	+ 1.4	**- 21.5**	- 75.6	- 19.06	- 28.46
Estimated annual rates of change: 1991 to 2002								
Annual change	-5.7	-5.0	-1.1	-0.5	-1.9	-12.2	-2.2	-3.4
Upper 95 % C.I.	+0.1	-3.6	+1.1	--[2]	-0.7	-8.1	-1.4	-2.4
Lower 95 % C.I.	-11.5	-6.4	-3.2	--[2]	-3.2	-16.2	-3.0	-4.4
P	0.054	< 0.001	0.263	0.489	0.012	< 0.001	< 0.001	< 0.001

[1] 1999 counts substituted for sites in the eastern Gulf of Alaska not surveyed in 1998.
[2] No 95% C.I. reported for P= 0.489.

Table 2. Counts of Steller sea lion pups at western population rookeries in the central region near Adak (excerpted from Sease and Gudmundson, 2002). Counts in 2004 are preliminary, the Adak (Lake Pt.) count was incomplete with a minimum estimate of 400 pups (NMML). Gramp, Tag, and Ulak were not sampled in 2004.

Rookery	1990	1994	1998	2002	2004
Ulak (Hasgox Pt.)	790	638	521	331	
Tag	357	234	238	153	
Gramp	448	425	456	444	
Adak (Lake Pt.)		327	340	363	295[1]
Kasatochi	178	215	247	302	354

1 The Adak count did not cover all known pupping areas at the site and is likely to be a low estimate.

4.2 Prey identification using scat collections

Our knowledge of Steller sea lion prey use is largely through the collection and analysis of scat samples (Sinclair and Zeppelin 2002). In Section B.1 of the proposal, the frequency of occurrence (FO) of pollock in scat samples is discussed in relation to other prey items. This discussion needs some clarification due to various errors in some of the documents being cited and in some incorrect citations being used. For a description of Aleutian Island areas related to sea lions see Sease and Gudmundson (2002), their Figure 1 reprinted here as Figure 2 (e.g., central Aleutian Islands, eastern Aleutian Islands areas). For a description of areas described in relation to foraging characteristics see Sinclair and Zeppelin (2002), their Figure 5.

First, the citation (in the proposal) for scat information in the 2001 BiOp should read Table 3.4 (see Table 3 below). That table cites Sinclair and Zeppelin (submitted) and the dates 1991-2000 for the data collection. However, those dates were incorrect, it should read 1990-1998, the white paper that it cites is based on those dates. The final Sinclair and Zeppelin paper (2002) published in the Journal of Mammalogy includes a FO of 2.7% for pollock in the winter in area 4 (e.g., central and western Aleutian Islands). In the 2000 BiOp (the proposal cites the 2001 BiOp incorrectly) table 4.5a reports for the same time period 1990-98, a FO of 1.6% just for the central Aleutians in winter which is a subset of the Area 4 (cited in later BiOps and in Sinclair and Zeppelin 2002; see Table 4 below).

Table 3. Percent frequency of occurrence of prey items in scat recovered from Steller sea lion scat collected in winter (December - April, 1990-1998; Sinclair and Zeppelin 2002).

Prey Species	Range (n=3762)	Region 3	Region 4
Pollock	63.2	59.1	2.7
Atka mackerel	16.1	24.7	64.9
Pacific cod	27.7	19.6	16.9

Table 4. Percent frequency of occurrence of prey items in scat recovered from Steller sea lion scat collected in winter (December - April, 1990-1998; NOAA Fisheries unpublished data). Reprinted from the 2000 BiOp (their Table 4.4a).

Prey Species	Range (n=1685)	EAI	CAI
Pollock	62.4	62.7	1.6
Atka mackerel	16.5	21.7	68.9
Pacific cod	27.2	21.4	17.2

With those clarifications in mind, the results indicate that the average FO of pollock in the diet of central Aleutian Islands area sea lions from 1990-1998 was low, and that Atka mackerel appears to have been the primary food source for sea lions (i.e., found in 64.9% of scats). Sinclair and Zeppelin (2002) point out that although some of the food items had a low FO when averaged across all samples, some had higher occurrences when looked at during specific seasons or at specific sites (see Sinclair and Zeppelin 2002, their Appendix 1). Specifically, areas within the eastern Aleutian Islands area seem to be more dependent upon pollock (e.g., FO of 67.2% from December - April; 2000 BiOp Table 4.4a). In Table 5, the FO is provided for various cites near Adak in the central Aleutian Islands (Sinclair and Zeppelin 2002; their Appendix 1). Pollock ranked among the top three prey species at both Kasatochi Island (summer) and at Ulak Island (summer), both of which are rookeries.

Table 5. Percent frequency of occurrence of prey items in scat recovered from Steller sea lion scat at various sites near Adak Island (Sinclair and Zeppelin 2002). Samples were collected during the summer except for one set of samples collected at Ulak during the winter (as marked).

Site	No. of scats	First	Second	Third
Kasatochi	153	Atka 76	Sal 48	Pol 38
Adak - Lake Pt.	86	Atka 98	Sal 23	Ceph 19
Gramp Rock	59	Atka 98	Ceph 32	Sal 24
Tag	99	Atka 99	Ceph 20	P. cod 5
Ulak	105	Atka 100	Ceph 41	Pol 10
Ulak (winter)	31	Atka 71	Greenling 29	Ceph 23

Beyond the published literature, some data are available on scats collected since 1998 in the central Aleutian Islands area near Adak. Table 6 describes the prey items found in scats at Adak, Amlia, and Kasatochi in 1999 and 2000. At Adak, Atka mackerel was again the number one prey item found in 81% of the scats, with salmon second at 65%, and pollock third at 24%. For Amlia, Atka mackerel was again most frequently found in 93% of the scats, sand lance second at 52%, and pollock and Pacific cod tied for third at 34%. At Kasatochi, the diet was somewhat different dominated more by Pacific cod (40%), salmon (25%), and Atka mackerel (20%) while pollock was found in 5% of the scats. In these samples

pollock was much more important in the diet than the average values reported above and likely represent the local availability of prey as well as the variability in sampling times. Other samples from Tag, Gramp, Adak, and Amlia taken in 2002 are being analyzed now and may be available later this summer if further consultation is necessary.

Table 6. Recent scat samples collected in the Adak/Atka region of the Aleutian Islands subarea (NMML unpublished data). Results are reported as the percent frequency of occurrence and all prey items found in over 5% of the samples are shown.

Site	Adak - Lake Point
Collection Date	06/27/99
Number of Scats	39
ATKA MACKEREL	**81**
SALMON	**65**
POLLOCK	**24**
CEPHALOPOD	16
ROCKFISH SP	11

Site	Amlia - Sviech. Harbor
Collection Date	09/06/00
Number of Scats	30
ATKA MACKEREL	**93**
SAND LANCE	**52**
POLLOCK	**34**
PACIFIC COD	**34**
IRISH LORD SP	21
GADID(NH)	17
SALMON	17
DOGTH.LAMPFISH	14
SAND FISH	14
POLYCAETE UNID	10
CEPHALOPOD	7

Site	Kasatochi - N. Point
Collection Date	03/12/99
Number of Scats	20
PACIFIC COD	**40**
SALMON	**25**
ATKA MACKEREL	**20**
CEPHALOPOD	**20**
SNAILFISH SP	20
UNIDENT FISH	20
IRISH LORD SP	15
SKATE	15
ROCK GREENLING	10
SMOOTHTONGUE	10
POLLOCK	*5*
ROCKFISH SP	5

In summary, pollock is an important prey item for Steller sea lions in the Aleutian Islands, especially in the eastern portion of the area and in other locations where pollock may be available in relatively small aggregations. The variability of pollock in the diet of sea lions is likely to be linked to the availability of the prey and may have a similar pattern as the fishery over the last decade. For example, many fishing locations (including those proposed in this action) are known to intermittently contain fishable densities of pollock. If you averaged fishery catch data out over Alaska State statistical areas across the Aleutian

Islands you would probably get a very small catch rate, however, from Figure 2 we know that in local areas the catch amounts can be substantial. Our ability to collect scat samples in the Aleutian Islands, especially in winter, has been limited due to the difficulty in conducting research there.

It is also worth noting that sea lions in the western Aleutian Islands have been declining at the highest rate and yet they have the least amount of pollock in their diet (2000 BiOp, their Table 4.5b). Also from the 2001 BiOp, we know that the ratio of prey biomass available to the biomass consumed by sea lions is the lowest in the Aleutian Islands, and may be lower than what is optimal for their survival (Supplement, their Table III-8).

5 Status of prey for Steller sea lions in the Aleutian Islands

The latest information on Aleutian Islands pollock stock status can be found in the 2003 stock assessment (Barbeaux et al. 2003) and in the March 2004 draft EA for Amendment 82 for the BSAI (EA).

The time series of pollock biomass in the Aleutian Islands is provided in Figure 3. In the late 1990's the biomass was in decline, then after 1999 it began increasing. A similar, but more dramatic pattern is seen in the survey biomass results (Table 7), with an increase from 128,060 mt of pollock from 2000 to 356,617 mt in 2002. Issues of stock structure are thoroughly described in the EA, with two major points: (1) generally, the near shore biomass of pollock (critical habitat) is a different stock than the offshore biomass of pollock found off the continental shelf break, and (2) the stock assessment authors did not consider biomass east of 174° W because it is likely that biomass is part of the Bogoslof population or is linked to it in some way that is not well understood.

One question that we might ask is whether the recent increase in pollock biomass in the Aleutian Islands might be due to the lack of a commercial fishery for pollock in the last 5 years? This is an issue that could be further explored. The opening of a fishery inside critical habitat might have implications to the upward trend in biomass, especially given the stock dynamics of pollock in the Aleutian Islands. The Aleutian Islands pollock closure provides a unique situation to observe possible changes in predator prey relationships, changes in sea lion demographics, and possible changes in the pollock stock itself.

The nature of the pollock fishery in the Aleutian Islands region has varied considerably since 1977 due to changes in the fleet makeup and in regulations. During the late 1970s through the 1980s the fishing fleet was primarily foreign. In 1989, the domestic fleet began operating in earnest and has continued in the Aleutian Islands region until 1999 when the Council recommended closing this region for directed pollock fishing due to concerns for Steller sea lion recovery.

From 1987 through 1994 between 80% and 100% of the annual catch was taken from the NRA area east of 174°W. The highest annual catch in the Aleutian Islands area was in 1991 with 98,000 tons, 99% of which was removed from the NRA area east of 174°W, mostly from Amukta Pass. Catch at age data reveal that for 1983 through 1994 the Aleutian Islands catch was largely composed of the 1978 year class (Barbeaux et al., 2003). In 1995 the fishery shifted west and from 1995-1997 the majority (80%-100%) of the annual catch was removed from the NRA area west of 174°W. Most of the annual catch from 1995-1997 was removed from the shelf area north of Adak, Kanaga, and Tanaga Islands in INPFC area 542. In 1998 the fishery shifted farther west and the majority (66%) of catch was removed from around Buldir Pass in INPFC area 543. Since 1998 all pollock catch in the Aleutian Islands area has been as bycatch (~1,000 tons annually), primarily in the Pacific cod and Atka mackerel fisheries. Observed pollock catch has been relatively uniformly distributed within the NRA.

Through the 1990s, in the area west of 174°W the fishery was concentrated largely in two areas; northwest of Adak Island and northwest of Atka Island (see Figures 4 and 5). In Figure 4 the two general areas that the proposal would open are circled, which coincides with the two areas of relatively high fishing through the 1990s. Catch amounts in the Aleutian Islands area and Bering Sea are described in Table 8.

Figure 3. Time series of pollock biomass in the NRA region west of 174° W from Model A10 with approximate 95% confidence intervals (from Amendment 82 EA, their Figure 3.2-3).

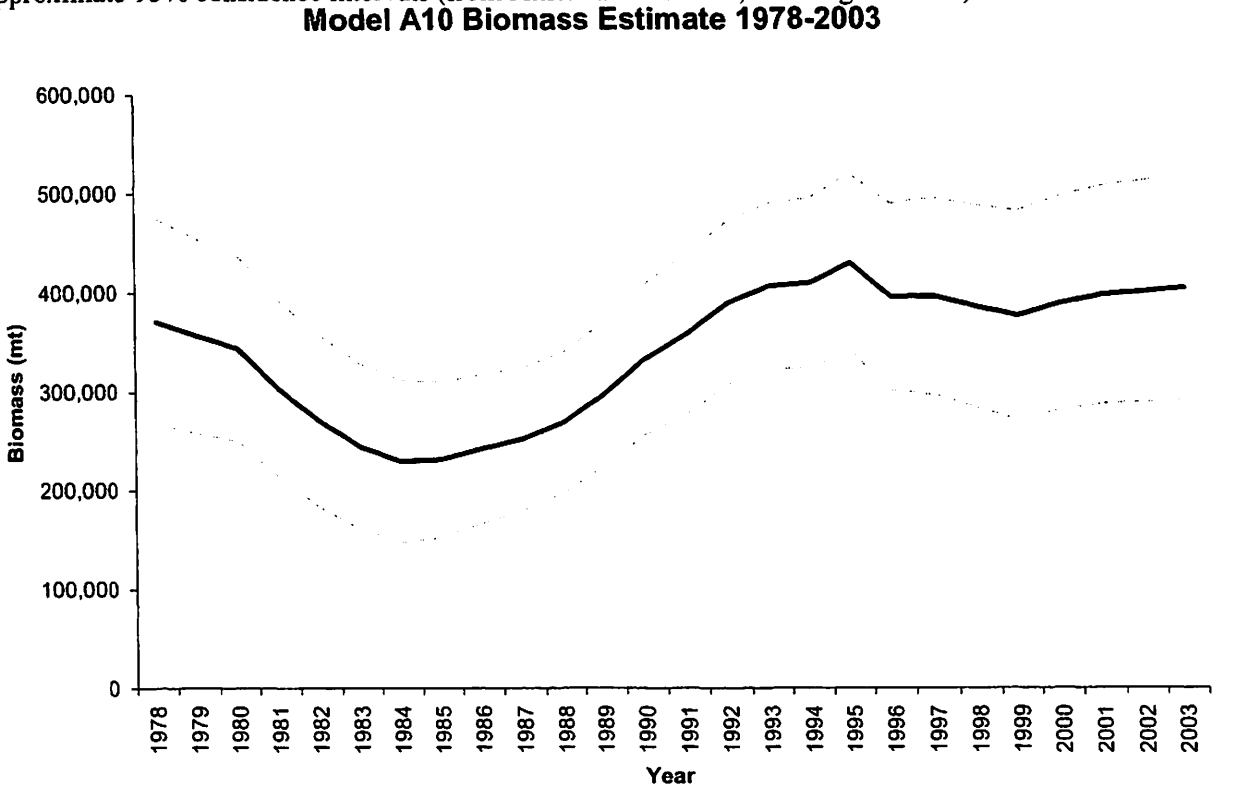


Table 7. Pollock biomass estimates from the Aleutian Islands Groundfish Survey, 1980-2002 (from Amendment 82 EA, their Table 3.2-4).

	Aleutian Islands Region			
	NRA West (174W-170E)	NRA East (170W-174W)	Unalaska-Umnak area (~165W-170W)	Combined
1980	243,695		56,732	300,427
1983	495,775		282,648	778,423
1986	439,461		102,379	541,840
1991	83,337	53,865	51,644	188,846
1994	47,623	29,879	39,696	117,199
1997	57,577	39,935	65,400	158,912
2000	76,613	28,985	22,462	128,060
2002	121,915	53,368	181,334	356,617

Figure 4. Cumulative observed domestic pollock catch in the Aleutian Islands Area from 1989 through 2002 (from March 2004 draft EA on Aleutian Islands pollock fishery changes, their figure 3.2-2). The two red circles show the historic fishery areas that would be open under the proposal. The dark black line represents 174 West, with the area east of that recommended to be closed by the stock assessment authors for pollock.

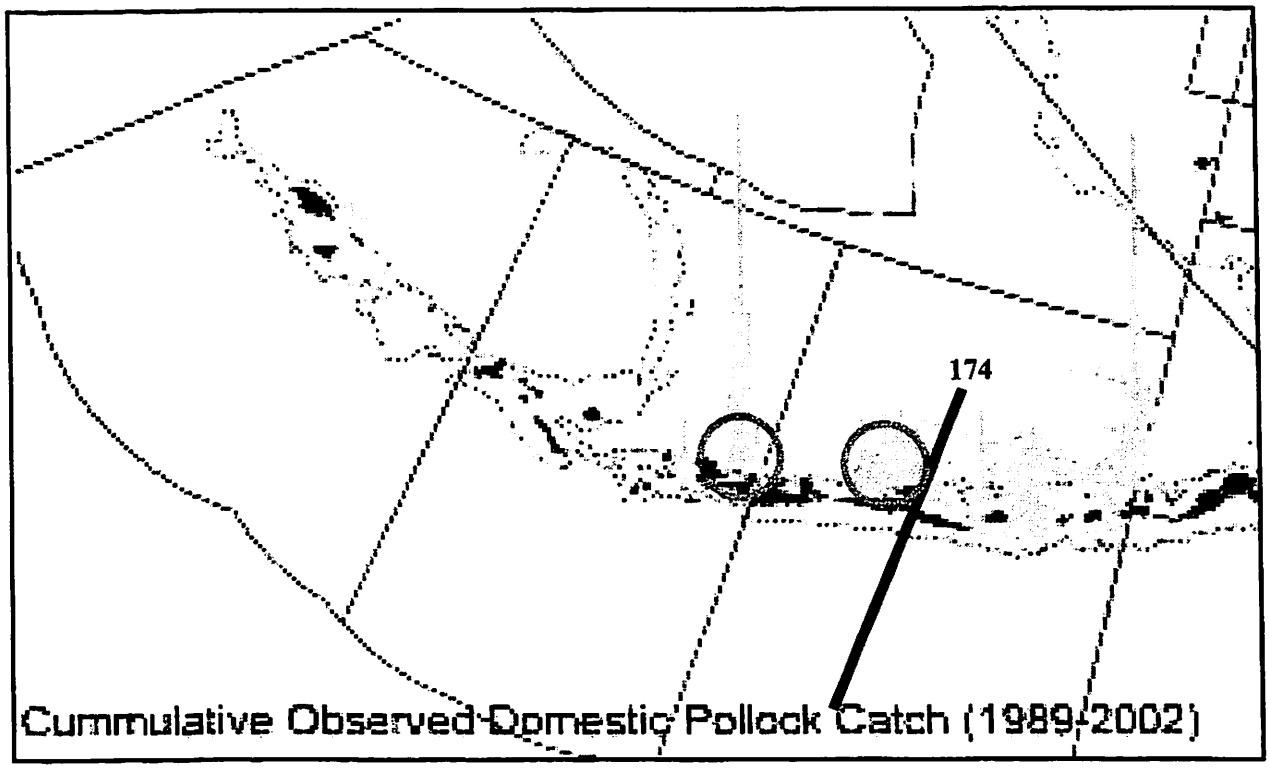


Figure 5. Locations of observed pollock catches near Adak, 1989-2003

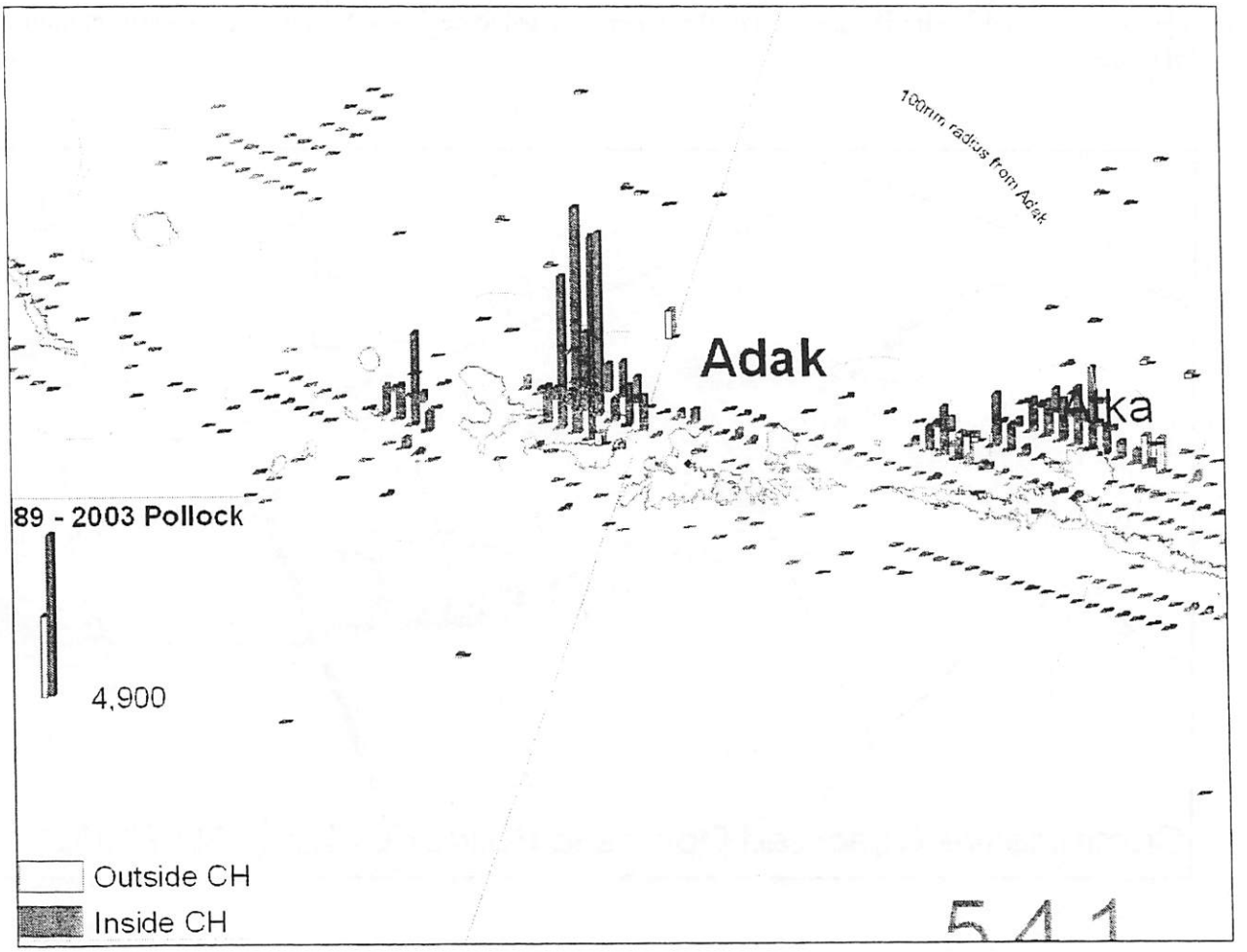


Table 8. OFL, ABC, TAC and harvest in the AI and BS. Values are metric tons of pollock

Year	Bering Sea						Aleutian islands					
	OFL	ABC	TAC	Target catch	Incidental catch	Total catch	OFL	ABC	TAC	Target catch	Incidental catch	Total catch
1989		1,340,000	1,340,000			992,113			2,932			5,842
1990		1,450,000	1,280,000			1,315,491			100,000			75,642
1991		1,676,000	1,300,000	1,473,040	57,550	1,530,590		101,460	85,000	97,334	1,165	98,499
1992	1,770,000	1,490,000	1,300,000	1,344,836	45,737	1,390,573	62,400	51,600	51,600	50,953	1,390	12,475
1993	1,340,000	1,340,000	1,300,000	1,252,532	68,332	1,320,864	62,600	51,600	51,600	55,672	1,460	57,132
1994	1,590,000	1,330,000	1,330,000	1,238,798	82,487	1,321,285	60,400	56,600	56,600	57,780	879	58,659
1995	1,500,000	1,250,000	1,250,000	1,198,806	65,773	1,264,579	60,400	56,600	56,600	64,216	709	64,925
1996	1,460,000	1,190,000	1,190,000	1,133,345	58,596	1,191,941	47,000	35,600	35,600	28,413	648	29,061
1997	1,980,000	1,130,000	1,130,000	1,050,548	70,375	1,120,923	38,000	28,000	28,000	25,327	613	25,940
1998	2,060,000	1,110,000	1,110,000	1,068,446	33,719	1,102,165	31,700	23,800	23,800	23,159	679	23,838
1999	1,720,000	992,000	992,000	948,700	41,008	989,708	31,700	23,800	2,000	--	1,010	1,010
2000	1,680,000	1,139,000	1,139,000	1,091,735	41,001	1,132,736	31,700	23,800	2,000	--	1,244	1,244
2001	3,536,000	1,842,000	1,400,000	1,349,575	37,877	1,387,452	31,700	23,800	2,000	--	824	824
2002	3,530,000	2,110,000	1,485,000	1,439,857	41,958	1,481,815	31,700	23,800	1,000	--	1,177	1,177
2003	3,530,000	2,330,000	1,491,760	1,454,424	35,499	1,489,923	52,600	39,400	1,000	--	1,653	1,653
2004	2,740,000	2,560,000	1,492,000			0	52,600	39,400	1,000	--		0

1. 1993 to 2004 catch includes Community Development Quota.
2. 1991 to 2002 catch is from the blend database, 2003 catch is from the catch accounting system.
3. 1980 to 1990 catch is from weekly production reports.
4. Harvest Specifications include overfishing levels from 1992 to 2004.

6 Changes to the action considered in the 2001 Biological Opinion and its Supplement

In general, the SSLMC has attempted to propose actions that result in no net loss in protection for Steller sea lions (i.e., no net increase in adverse impacts). During the development of the 2001 conservation measures the SSLMC used a tool referred to as the Bump Analysis to determine how much area could be open, or needed to be closed, in order to meet a specified protection goal. Although this method was effective during the negotiation process there were too many subjective components of the tool to use it further. NOAA Fisheries has developed a much simpler approach based on relative impacts from opening or closing various areas to fisheries for Pacific cod, Atka mackerel, and pollock, termed the Trade Off Tool (TOT). NOAA Fisheries presented a draft of the TOT to the Council's SSC and received a generally positive response with additional comments on improvements (see SSC minutes from June 2004).

TOT is used primarily to scale the relative effects of opening areas of critical habitat to fishing in specific zones off shore from a haulout or rookery site, weighted by the number of sea lions present. For this proposed action, NOAA Fisheries is attempting to employ this simple tool as a rough estimate of whether the action is likely to result in more or less protection for Steller sea lions. This tool, by it self, cannot be used to determine whether an action would result in jeopardy or adverse modification of critical habitat as it does not take into account all of the factors which may affect Steller sea lions (e.g., harvest amounts, vessel sizes, historic trend rates of sea lions, rookery or haulout differences, biomass availability, etc). Therefore, NMFS proposes that the use of this tool be limited in scope to balancing proposals based on closure area, and that other factors which cannot be incorporated in the TOT be considered in a qualitative manner. Those other factors are likely to be unique for each situation such that a recipe for analysis is impractical at this time.

The TOT concept is as follows:

1. Consider the most recent sea lion survey data (i.e., non-pup count data) from haulouts and rookeries.

2. Determine for each rookery or haulout whether animals are present or absent in the breeding season and whether they are present or absent outside the breeding season.

3. Identify classes of fisheries (e.g., trawling, long-line, and pot) along with the distribution of these fisheries relative to critical habitat (e.g., 0-3 nm, 3-10 nm, and 10-20 nm) and season that have approximately equivalent removal rates on a daily basis of pollock, Pacific cod or Atka mackerel, and assign relative weights based on average prey removal rates. The scale for these weights will be arbitrary, but should reflect relative differences in the ability of a particular fishery to catch prey species of importance to Steller sea lions in a given region of critical habitat. Where the distribution of a given fishery can not be predicted with certainty, it will be assumed that the fishery will fish as shoreward as possible in a given management regime.

4. Multiply the number of sea lions potentially impacted in a given season by the relative weight assigned to a class of fishery in a given area and season. Changes that worsen protection are assigned a negative value, while changes that increase protection are assigned a positive value.

5. Evaluate the overall impact of a particular alternative management strategy as the sum of all the relative scores for each proposed change. A score that is negative would be evaluated as worsening the overall protection measures for Steller sea lions relative to the status quo. A score that is positive would be evaluated as improving protection measures.

Factors not considered in this simple analysis are: magnitude of the catch, effects of disturbance due to number of days fished, size of vessels, catch rates, etc. For this analysis, these other factors will be considered in a qualitative manner in section 7 below. The SSC recommended that some of these factors be included in the model, however, the complexity of adding these additional components is not necessary at this point nor useful in determining whether the action will result in more or less protection for Steller sea lions and their critical habitat.

The TOT (see Table 9) illustrates the 6 sites which result in less closure area for the Aleutian Islands pollock fishery with an increase in closure area at one site for the Pacific cod fishery. The net result is a substantial reduction in the area closed when compared to the 2001 conservation measures (2001 BiOp), however, the effects on Steller sea lions will be determined separately in a qualitative analysis below. To reach the no net loss goal, numerous sites would need to be closed to trawling in order to make up for the loss. For pollock in the Aleutian Islands area this is not possible because all critical habitat sites are currently closed to 20 nm. Mitigation options include additional closures for Pacific cod or Atka mackerel, or closures in other areas. If closures for other fisheries are contemplated by the SSLMC as mitigation options, the SSLMC should consider whether these trade offs are equal based on historic catch amounts, prey requirements by sea lions, or any other relevant factor.

Table 9. Relative effects of the proposed action on the Steller sea lion conservation measures using the Trade Off Tool (TOT). Steller sea lion counts represent the average of all counts from 1990-2002 during the specified season (NMML count database). The relative fishing impacts described in the key is a quantitative description of the qualitative criteria used in the 2001 BiOp. The points for each class of effect are related to the likelihood that the gear type may result in depletions in the prey field for sea lions and the location of the effect within critical habitat. A negative effect is equal to a net adverse impact for Steller sea lions. The objective is to reach no net impact to Steller sea lions (or no change to the conservation measures) which would require a score of zero or a positive value indicating more protection. Opening areas closer to shore, in areas where more sea lions are found results in greater impacts than openings further from shore or near sites with less sea lions. This analysis also uses an adjustment factor for two sites which have a very small fraction of the 10-20 nm zone open to fishing (rough estimates were made of the open area, more detailed calculations could be made with GIS but aren't necessary).

Site #	*Fishery*	*# of animals May - Sept*	*# of animals Oct. - April*	*Fishing Impact Oct. - April*	*Area Open Adjustment*	Points
Kanaga/North Cape	Trawl pollock 3-20 nm	30	109	-H,-I		-1635
Kanaga/Ship Rock	Trawl pollock 3-20 nm	155	132	-H,-I		-1980
Bobrof Island	Trawl pollock 3-20 nm	48	133	-H,-I		-1995
Tanaga/Bumpy	Trawl pollock 10-20 nm	21	49	-H	.2	-49
Adak/Lake Point	Trawl pollock 10-20 nm	606	338	-H	.1	-169
Atka/North Cape	Trawl pollock 3-20 nm	119	193	-H,-I		-2895
Atka/North Cape	Trawl P. cod 3-10 nm	119	193	+I		1930
						-6793

Key to relative fishing impact points		
Points	**Class**	**Description**
0	A	no effect
0.25	B	pot 10-20 nm in CH
0.5	C	pot 3-10 nm in CH
1	D	pot 0-3 nm in CH
1.25	E	long line 10-20 nm in CH
2.5	F	long line 3-10 nm in CH
5	G	long line 0-3 nm in CH
5	H	trawl 10-20 nm in CH
10	I	trawl 3-10 nm in CH
20	J	trawl 0-3 nm in CH

7 Description of likely effects

Evaluation of the proposed action requires that we consider the changes in reference to the western DPS of Steller sea lion, and the consultation history described in section 3. Therefore, an adverse impact under the ESA would represent a significant impact to the Steller sea lion population (western DPS) which was not previously considered (e.g., 2001 BiOp and its Supplement). In that opinion, all Steller sea lion critical habitat sites within the Aleutian Islands Subarea were closed to pollock fishing while areas outside of critical habitat were open with a seasonal dispersion of 40% in the winter and 60% of the TAC available in the fall. Amendment 82 would make minor changes to the apportionment (if implemented; see section 2). The anticipated impacts are described below:

1. Loss of protected area

The TOT (see Table 5) describes the opening of critical habitat areas to fishing for pollock and a closure area for Pacific cod fishing. Overall, the proposed action would open substantial areas to fishing for pollock with very little in the way of offsetting measures. The result is that the fishery would be concentrated in these open areas based on the new harvest rules (if implemented) under Amendment 82. Under this scenario, the fishery would be capped at 19,000 mt or 40% of the ABC (whichever is lesser) and would occur during the winter time period. Under this proposed action, that fishery would likely occur in the areas proposed to be open (based on historical catch locations, Figures 3 and 4). Historic fishing locations and catch effort shows that the two areas proposed to be opened represent hot spots for pollock fishing in the area near Adak Island (Fritz et al., 1998; their Figure 3.a). The closure of the AI area to pollock represented a substantial off-setting measure during the 2001 conservation measures which provided additional benefits so that other areas could be opened within critical habitat. The opening of these areas for pollock fishing represents a substantial deviation from the conservation measures considered in the 2001 BiOp.

2. Loss of large-scale closure area

In the 2000 BiOp, large open and closed fishing areas were required as part of the Reasonable and Prudent Alternative as an adaptive management strategy to test whether fishery closures are effective in reducing impacts from fisheries. Although that adaptive management strategy was largely abandoned during the development of the 2001 conservation measures, one large closure area remained as a substantial closure zone: the Aleutian Islands pollock fishery. The NRC in their 2003 report recommend the use of an adaptive management program using open and closed areas; they found that adaptive management may be the best choice for finding new information about the role of commercial fisheries in the decline and lack of recovery of the western DPS of Steller sea lion. With information just becoming available on the effects of the closure on the biomass of pollock inside critical habitat in the AI and the diet of Steller sea lions in the area, the loss of this large scale closed area would be a substantial change to the 2001 conservation measures.

3. Effects on critical habitat

As described by the TOT, new areas would be opened inside critical habitat for fishing for pollock, while only one area would be closed to Pacific cod fishing. The net result will be substantially more pollock (up to 19,000 mt) taken from critical habitat during the winter. Under the 2001 BiOp and Supplement, no fishing for pollock was authorized in critical habitat in the Aleutian Islands area. Additionally, the offsetting measure for Pacific cod in the TOT does not

take into account that the closure would likely represent little in the way of forgone catch for Pacific cod in this area. The effects to the prey field might be substantial, no analysis currently exists which describes the possible effects on the pollock stock of taking 40% of the ABC (or 19,000 mt whichever is less) from these two new open areas in the Aleutian Islands. We might expect a total of perhaps 10-12 vessels fishing for pollock in 2005. In the future, the number will probably increase as the small vessels take more of the allocation. In 2005, we might expect 1-2 AFA catcher-processors, 3-4 AFA catcher vessels, and 4-8 small vessels. In the future, the fishery expects to be able to process all of the pollock on shore in Adak. That may result in fleet with no catcher-processors, 4-8 AFA catcher vessels and 6 to 10 small vessels (Leitzel email regarding expected fishing effort).

In the near term, the fleet is planning only for an A Season pollock fishery. In the longer term, they expect to fish for pollock in the B Season as well, which is supported by the Council's recent motion on Aleutian Islands pollock. Given the roe value in A season pollock, the fishery will probably try to use substantial effort to catch the pollock in a relatively short time-period. The B season fishery is more likely to develop as pollock processing becomes available at Adak.

Our knowledge of the pollock stock is described in section 5 above. Due to a lack of data on the distribution of pollock biomass, movements, and spawning aggregations in the AI it is difficult to predict local effects of the pollock fishery on the prey field. The data on Aleutian Islands pollock is much less than that for EBS pollock. It appears that sea lions consume pollock in the affected area as a portion of a diverse diet often dominated by Atka mackerel (Table 4). Removal of 19,000 mt (roughly 40% of the ABC), in this small area on a limited biomass that is probably more localized than areas further to the east (e.g., EBS), would likely diminish the value of the prey field for Steller sea lions. We would expect that the harvest rates on the pollock biomass in these two areas would be relatively high (compared to the annual expected harvest rate as determined in the stock assessment). Some of these calculations were made in the Supplement (their Table III-7), but not for pollock in the AI because that fishery was closed in critical habitat. Those calculations could be done, but the utility of doing those in this situation (i.e., data poor) is unclear.

There is little information available on the foraging requirements of Steller sea lions. However, the best available information on prey availability at a relatively broad scale is the analysis that was presented in the 2001 BiOp in Section 5.3.3. In that analysis, NOAA Fisheries investigated the amount of biomass available by area in the EBS, AI, and GOA and the amount of prey the local populations of Steller sea lions may require. A number of assumptions were made in the analysis and the reader should review Section 5.3.3. of the 2001 BiOp for the details of that exercise.

The forage ratio for the Eastern Bering Sea (Table E-3, also see Table III-8 in the Supplement) is much higher than the ratio for a "healthy" stock of Steller sea lions foraging on a theoretical, unfished groundfish population (446 compared to 46 for the "healthy" case). The forage ratios for the GOA and AI are substantially lower than the EBS and are also below the "healthy" range. The ratio in the Aleutian Islands was only 11 times the amount consumed annually by Steller sea lions which is relatively low and represents a similar fraction to the amount taken by fisheries (e.g., Atka mackerel). Interpretation of these ratios is not straightforward, as Steller sea lions forage on species other than pollock, Pacific cod, and Atka mackerel in these areas. This information indicates that fisheries effects are more likely in the AI and the GOA than in the

EBS. Therefore, depletion of prey in critical habitat in the Aleutian Islands may be more adverse than in other areas and closure areas might be more important.

4. Population effects on Steller sea lions

About 953 Steller sea lions (minimum based on counts, see Table 5) that are known to use habitat in the areas proposed to be open might be displaced from preferred foraging habitat due to disturbance and removal of prey resources in the winter and about 979 in summer. The status of the population was discussed in section 3.1 above. In the western DPS, the only area which continues to show substantial declines is in the western Aleutian Islands. Looking within the Aleutian Islands area, the western region has shown consistent sharp declines throughout the 1990's while the central region (where the fishery openings are proposed) has shown a decline of about 21.5% since 1991 with some signs of leveling off in the past 6-8 years. Given the central region count of 7,035 in 2002, the possible effect on about 950 Steller sea lions is 13.5% of that region's population, or 3.6% of the entire western DPS (within the United States territory). The central Aleutian Island pup counts decreased by 9.1% from 1998-2002 while pup counts in the western Aleutian Islands decreased by 39.2% from 1998-2002 (Sease and Gudmundson, 2002).

8 Conclusion

Our initial determination is that the proposed action, if implemented, is likely to adversely affect the western DPS of Steller sea lion. Without additional closure areas to offset the increased fishing inside critical habitat, formal consultation would be necessary to determine if the adverse effects to the western DPS of Steller sea lion or its critical habitat would result in jeopardy or adverse modification. Additional considerations for adverse effects include the loss of the only major continuous closure area for any fishery and the potential to learn about the interactions between a relatively undisturbed prey field and foraging Steller sea lions.

The SSLMC might consider other options to avoid adverse impacts to Steller sea lions, yet it is difficult to consider a scenario in which formal consultation would not be necessary for the development of a pollock fishery within critical habitat in the AI. Three major properties make this area unique when compared to the GOA or EBS; 1) the Aleutian Islands pollock closure represents the only large scale closure of critical habitat and is a unique opportunity to look at the effects of fishery closures on a regional Steller sea lion population, 2) the Aleutian Islands sub-area of Steller sea lions may by especially affected by fisheries due to low biomass availability in relation to consumption, and 3) the Steller sea lion population continues to decline at substantial rates within the Aleutian Islands. Trade offs for the proposed pollock openings are not possible in the pollock fishery because critical habitat is currently completely closed, therefore either the Pacific cod or Atka mackerel fisheries would need to be closed to attempt to make up for the decrease in protection (assuming a zero adverse affect approach to the proposal using the TOT). Mitigation options for the proposed openings in the Aleutian Islands could be considered in other areas as was done during the development of the 2001 conservation measures, yet the overall population level effect of closing areas in the GOA or EBS (for example) while opening areas in the Aleutian Islands is unclear. The TOT could be used to increase the offsetting measures and reach a zero point, however, the utility of those closures with regard to the qualitative factors described above (and by the SSC) would then need to be considered (e.g., harvest amounts, biomass of prey, disturbance, etc.).

Literature Cited

Barbeaux, S., J. Ianelli, and E. Brown. 2003. "Aleutian Islands Walleye pollock." Stock Assessment and Fishery Evaluation Report for the Groundfish Resources of the Bering Sea and Aleutian Islands, North Pacific Fishery Management Council, 605 W. 4th Avenue, Suite 306, Anchorage, Alaska 99501-2252.

Fritz, L.W., A. Greig, and R.F. Reuter. 1998. Catch-per-unit-effort, length, and depth distributions of major groundfish and bycatch species in the Bering Sea, Aleutian Islands, and Gulf of Alaska regions based on groundfish fishery observer data. Dep. of Commer., NOAA Tech. Memo. NOAA Fisheries-AFSC-88

NMFS. 2000. "Endangered Species Act - Section 7 Consultation Biological Opinion and Incidental Take Statement. Activities Considered: Authorization of Bering Sea/Aleutian Islands groundfish fisheries based on the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish and Authorization of the Gulf of Alaska groundfish fisheries based on the Fishery Management Plan for Groundfish of the Gulf of Alaska.", U.S. Department of Commerce, NOAA, National Marine Fisheries Service, AK Region, P.O. Box 21668, Juneau, AK 99802. pp. 352 + appendices, tables, & figures.

NMFS. 2001. Section 7 consultation on the authorization of the Bering Sea/Aleutian Islands groundfish fisheries based on the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish as modified by amendments 61 and 70; authorization of Gulf of Alaska groundfish fisheries based on the Fishery Management Plan for Groundfish of the Gulf of Alaska as modified by amendments 61 and 70; and parallel fisheries for pollock, Pacific cod, and Atka mackerel, as authorized by the State of Alaska within 3 nm of shore. Office of Protected Resources, NOAA Fisheries. Oct. 19, 2001.

NMFS. 2003. Supplement to the Section 7 consultation on the authorization of the Bering Sea/Aleutian Islands groundfish fisheries based on the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish as modified by amendments 61 and 70; authorization of Gulf of Alaska groundfish fisheries based on the Fishery Management Plan for Groundfish of the Gulf of Alaska as modified by amendments 61 and 70; and parallel fisheries for pollock, Pacific cod, and Atka mackerel, as authorized by the State of Alaska within 3 nm of shore. Office of Protected Resources, NOAA Fisheries. June 19, 2003.

Sease, J.L and C.J. Gudmondson. 2002. Aerial and land-based surveys of Steller sea lions (Eumetopias jubatus) from the western stock in Alaska, June and July 2001 and 2002. Dep. of Commer., NOAA Tech. Memo. NOAA Fisheries-AFSC-131

Sease, J.L, and A.E. York. 2003. Seasonal distribution of Steller's sea lions at rookeries and haul-out sites in Alaska. Marine Mammal Science 19(4):745-763.

Sinclair, E.H. and T.K. Zeppelin. 2002. Seasonal and spatial differences in diet in the western stock of Steller sea lions (Eumetopias jubatus). Journal of Mammalogy 83(4):973-990

Document for 2002 STC meeting
Central BS Pollock Convention, September 2002

Cruise results of the winter 2002 Bering Sea pollock survey (*Kaiyo Maru*)

Akira Nishimura[*1], Takashi Yanagimoto[*1], and Yoshimi Takao[*2]
[*1]Hokkaido National Fisheries Research Institute
[*2]National Research Institute of Fisheries Engineering
Fisheries Research Agency

1. Cruise description and objectives

Hokkaido National Fisheries Research Institute (HNF) and National Research Institute of Fisheries Engineering (NRIFE), Fisheries Research Agency, conducted an echo integration mid-water trawl survey of walleye pollock (*Theragra chalcogramma*) in the Aleutian Basin aboard the R/V *Kaiyo Maru* of the Fisheries Agency of Japan. In this survey area, Alaska Fisheries Science Center (AFSC) had conducted pollock Echo Integration Mid-Water Trawl (EIMWT) survey by R/V *Miller Freeman* annually since 1989, and also Japan Fisheries Agency had conducted triennial survey since 1980s. In winter 2002, *Miller Freeman* conducted a survey in the Specific Area (Bogoslof area) that is defined in the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea. With considering the importance of the comprehensive research activities discussed and authorized at the Convention meeting, *Kaiyo Maru* went to the neighbor areas in the south Aleutian Basin, north of the Aleutian Chains, and collected fish distribution and its biological data. These two research cruise took an important part of the comprehensive research activities. The 2002 *Kaiyo Maru* survey was a cooperative work between HNF/NRIFE, AFSC, and TINRO-Centre.

The primary objectives of the survey were:
1) To determine the geographical distributions of walleye pollock in the southern Aleutian Basin.
2) To collect echo integration data to determine the biomass of walleye pollock in the area.
3) To collect biological information on walleye pollock in the basin area.
4) To collect information on the oceanographic and biological environments during the winter in the area.

2. Survey area and cruise itinerary

The research area was the southern part of the Aleutian Basin (**Fig. 1**). During February 9-12, we conducted EIMWT survey in the Specific Area (Bogoslof area: east of 170W) that is defined by the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea. This survey covered a part of the area historically surveyed by the *Miller Freeman*. And during February 21 to March 5, we conducted EIMWT survey in the neighbor area to the Specific Area, west of 170W. All these survey areas were included in the U.S. EEZ. For the accurate assessment, the Kaiyo Maru was allowed to survey inside 3-mile of coast of Aleutian Islands. Acoustic system calibration was carried out in the Captain's Bay of Unalaska Island. And inter-ship calibration with US *Miller Freeman* was carried out in the adjacent area to the Islands of Four Mountains.

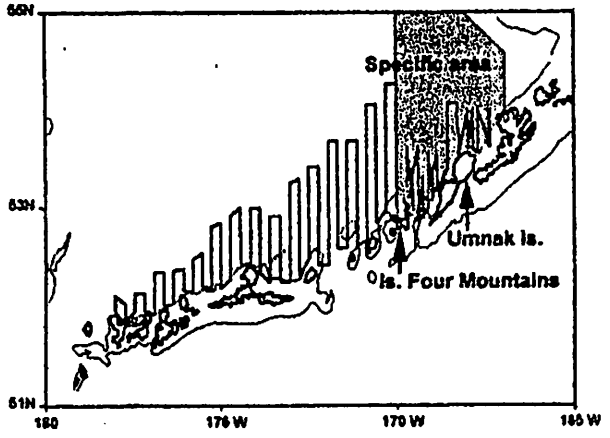


Fig. 1. Transect lines of the winter 2002 *Kaiyo Maru* survey.

3. Research vessel

Ship name: *Kaiyo Maru* (Fisheries Agency of Japan, Tokyo)
Type: Stern trawler
Length: 93.01 meters
Tonnage: 2,630 tons
Radio call sign: JNZL

4. Crew and researchers on board

1) Crew: Captain Yoshihiro KIKUCHI and 43 crew

2) Japanese Researchers

Preliminary survey

Researcher

Akira NISHIMURA, HNF
Takashi YANAGIMOTO, HNF
Yoshimi TAKAO, NRIFE
Kazutoshi WATANABE, NRIFE
Atushi NANAMI, NRIFE

Assistant researcher

Hiroki YASUMA, University of Tokyo

Main survey

Japanese researchers

Akira NISHIMURA, HNF (Chief scientist)
Takashi YANAGIMOTO, HNF
Yoshimi TAKAO, NRIFE

Foreign researcher

Alexander V. NIKOLAEV, TINRO-centre

Assistant researchers

Hiroki YASUMA, University of Tokyo
Seiji KATAKURA, Hokkaido University
Nobuo KOJIMA, Hokkaido University
Koutarou ONO, Hokkaido University

5. Vessel itinerary

Preliminary survey (in the adjacent waters of Tokyo)

Dec. 7, 2001	leave Tokyo
Dec. 8-10	Acoustic system calibration and noise measurements
Dec. 11	arrive Tokyo

Main survey (in the Bering Sea)

Feb. 2, 2002	leave Tokyo
Feb. 9-12	(U. S. date) EIMWT survey east of 170W (Leg 1)
Feb. 13-14	System calibration in the Captain's Bay
Feb. 15	arrive Dutch Harbor
Feb. 18	leave Dutch Harbor
Feb. 19-20	Intership calibration with the *Miller Freeman*
Feb. 21-Mar. 5	EIMWT west of 170W (Leg 2)
Mar. 14	(Japanese date) arrive Kushiro
Mar. 17	leave Kushiro
Mar. 20	arrive Tokyo; end of cruise

6. Methods

A standard sphere calibration of the acoustic systems was conducted at Manazuru Bay in the preliminary survey and at Captains Bay in the survey.

The EIMWT survey was conducted 24 hours per day in the both Leg. Acoustic data were collected continuously along a transect with a KFC3000 echo integration system (*Kaijo*). The *Kaijo* 38-kHz transducer was mounted on the hull. Ship speed and integration distance were usually kept between 8-10 knots and 1 nmi, respectively through the survey. However, under noisy conditions (e.g., during bad weather), the ship speed was decreased to 4-6 knots. Transect spacing was designed to be 10 nmi, and it was reduced to 5 nmi where fish aggregations were observed in Leg 1. Southern transect endpoints were at approximately 100-m bottom depth. The northern extent of the 10 nmi-spaced transects was approximately 60-80 nm distance from the southern end point east of 173° W. The transect distance was decreased to 20-40 nm at west of 173° W.

Biological sampling was conducted using a mid-water trawl net to identify the echo sign and to obtain biological data of the organisms. When significant echo sign appeared, the vessel returned to the area at typical signs, and a mid-water trawl was conducted. Hauling duration was kept to a minimum for obtaining adequate biological samples. Catch from the trawl was weighed and counted after sorting by species. A subsample of up to 300-500 pollock was selected randomly for length frequency analysis. An additional sample of 40 males and 40 females was collected, and length, maturity, and gonad weight were recorded. Maturity stages were classified according to U.S. manual. At the same time, parasites were observed, otoliths were dissected out, and a tissue sample was collected for genetic analysis.

Pollock abundance estimates were derived from the results of both acoustic and trawl data. Echo integration data were grouped into 2 areas for Leg 1 data and 4 areas for Leg 2 data as distinguished by echo sign characteristics, geographic location, length composition in the hauls, and transect spacing.

CTD cast was carried out at each trawl station. At the same time, plankton sampling was conducted by using a NORPAC net. At selected stations, an XCTD cast collected water temperature and salinity profiles.

7. Results

1) Sphere calibration and Inter-Ship calibration

Sphere calibration was conducted in the pre-survey in Manazuru Bay on December 7-9. A tungsten carbide sphere (38.1 mm) was used for the 38-kHz calibration.

Table 1. Information and the catch composition of Mid-water trawl sampling.

Trawl st	T0201	T0202	T0203	T0204	T0205	T0206	T0207	T0208	T0209	T0210
Date	8-Feb	9-Feb	12-Feb	21-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	1-Mar
Latitude	53-16.96	53-14.68	53-37.59	53-08.59	52-36.67	53-29.25	52-41.36	52-37.53	52-28.04	52-09.64
Longitude	169-41.84	169-17.93	167-37.63	169-27.84	171-05.44	171-39.05	171-57.57	173-20.63	174-25.54	175-39.70
Bottom depth (m)	733	1257	690	>1000	518	2198	675	652	1005	867
Net depth (m)	340	399	410	480	380	310	450	527	527	470
Duration (min)	28	35	8	34	27	30	50	41	15	31
Cover net	Close	Open	Open	Open	Close	Close	Close	Close	Open	Open
Catch composition	Catch composition in weight (kg)									
Scientific name	T0201	T0202	T0203	T0204	T0205	T0206	T0207	T0208	T0209	T0210
Theragra chalcogramma	11.4	1387.0	2029.5	3539.3	35.6		19.0		1.9	18.4
Stenobrachius leucopsarus					474.1	15.5	24.2	7.5	284.9	152.4
Coryphaenoides pectoralis					89.9		701.4	2.0		2.1
Lampanyctus jordani									20.1	80.3
Myctophidae	11.98	86.22	+	+		0.13	0.16	0.00	0.00	0.43
Leuroglossus schmidti					25.0		0.7	1.5	33.6	1.5
Dhiapus theta						0.1	0.0		15.1	31.2
Oncorhynchus tschawytsha	2.0	5.2	4.3	5.8			1.7	1.0	2.0	
Oncorhynchus keta										2.2
Aptocyclus ventricosus							3.0	1.1		
Suids	0.3	10.8	0.1	+	+	1.2	0.4	4.7	31.1	6.6
Other fishes	0.01	3.58	0.24	0.00	0.05	0.74	0.19	0.70	1.24	2.95

In the Bering Sea, sphere calibrations were conducted in the Captains Bay on February 14-18. Sphere integration results are shown in Takao *et al* (2002; STC submitted Doc.). Slightly lower TR factor (transmitting and receiving coefficient) was observed. Low water temperature was thought to be the major factor of the lower TR factor values. During the main survey period, the water temperature was almost constant about 3°C, and the accuracy of our system was maintained.

2) Catch composition and pollock distribution

Pollock were observed along the Aleutian Islands in the survey area. In the offshore area, only scattered or few echo signs of pollock were observed. Typical echo signs of lanternfish were observed throughout the offshore area in the 280-400 mm depth layer. Trawl sampling was conducted to confirm the lanternfish distribution at St. T0206, and T0208 (**Table 1**). Northern lampfish, *Stenobrachius leucopsarus*, was the dominant species and were followed by *Lampanycthus jordani* and *Dhiapus theta* in these stations. Pollock were observed in extremely dense aggregations from Umnak Island to the Islands of Four Mountains (IFM) in Leg 1 (**Fig. 2**). The highest concentrations were observed in the area northeast of the IFM. The vertical distribution of pollock echo sign ranged between 400 m and 600 m below the surface. In Leg 1, 3 trawl hauls were conducted. These trawl hauls were conducted to collect biological data of

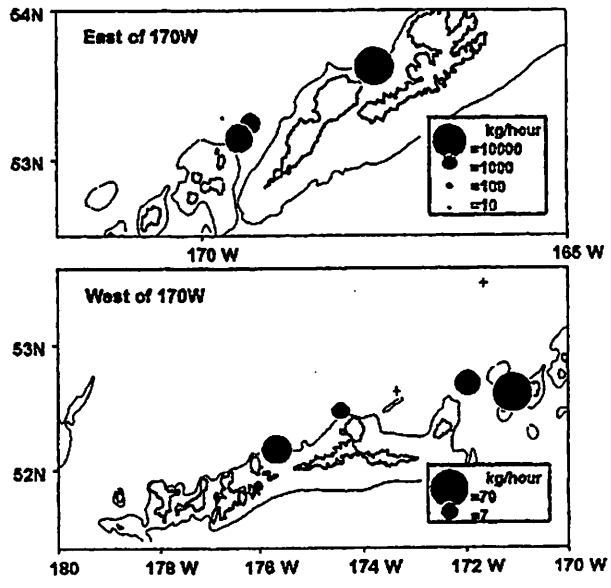


Fig. 2. Catch (kg/hour) of adult walleye pollock by mid-water trawl net in the *Kaiyo Maru* 2002 survey.

pollock from aggregations observed by acoustic instruments. The dominant catches were walleye pollock, and the catch from T0202 and T0203 was larger than 1,000 kg (**Table 1**). In these trawl hauls, the net monitoring system did not work well, and the depth information was not obtained during each hauling

(n=100).

Island of Four Mountain area:

$W=8.180\times10^{-7} \times L^{3.352}$ for male (r=0.840),

$W=8.328\times10^{-6} \times L^{2.992}$ for female (r=0.923), and

$W=2.344\times10^{-6} \times L^{3.188}$ for combined (r=0.898).

Umnak Island area:

$W=5.321\times10^{-6} \times L^{3.054}$ for male (r=0.963)

$W=6.051\times10^{-7} \times L^{3.414}$ for female (r=0.942), and

$W=2.286\times10^{-6} \times L^{3.194}$ for combined (r=0.950).

4) Sex ratio and maturity

Data from 3 (except T0201) trawl hauls in the Specific Area showed that female percentages varied from 34-73%. At T0204, where the biggest catch was obtained in the IFM area, the female percentage was 56%. In Leg 2, the female percentage was almost 50%, though the catches was too small to discuss about the biological characteristics of the stock.

Maturity differed between sexes. Maturities for males were about 40% pre-spawning1 (stage4), and the remains were pre-spawning2 (stage5). As time elapsed, the percentage of pre-spawning1 stage in the IFM area (T0202 & T0204) decreased to 20%.

Among the female pollock, 10% were in a pre-spawning2 stage, and the remaining 90% were in a pre-spawning1 stage in both IFM and UI area (**Table 3**). A few spawning females (stage6) were observed in the sample collected from the IFM area in the early February.

Table 3. Maturity stage and GSI of female walleye pollock collected during 2002 Kaiyo Maru winter survey.

St.	202	203	204	205, 207 &210
Area	IFM	UI	IFM	Aleutians
Date	9-Feb	12-Feb	21-Feb	23-Feb - 1-Mar
Maturity stage				
1	0	0	0	0
2	0	0	2	0
3	4	0	0	4
4	84	90	88	96
5	10	10	10	0
6	2	0	0	0
GSI				
Average	13.2	13.8	14.5	10.3
ST. Dev	2.9	2.6	3.1	2.9

During this survey, GSI of male and female pollock from the IFM area showed slight increasing between February 9 and 21, and gonad maturation is thought to be in an advanced stage to the spawning. Judging from ovary observation, it seemed to take a little more week for the beginning of the spawning period. On the other hand, GSI of female pollock collected from the Aleutians (west of 170°W) showed lower value than that from the IFM and UI area. Although our sample size in not sufficient, this observation might suggest that the spawning in the Aleutian area takes place in later period than the specific area.

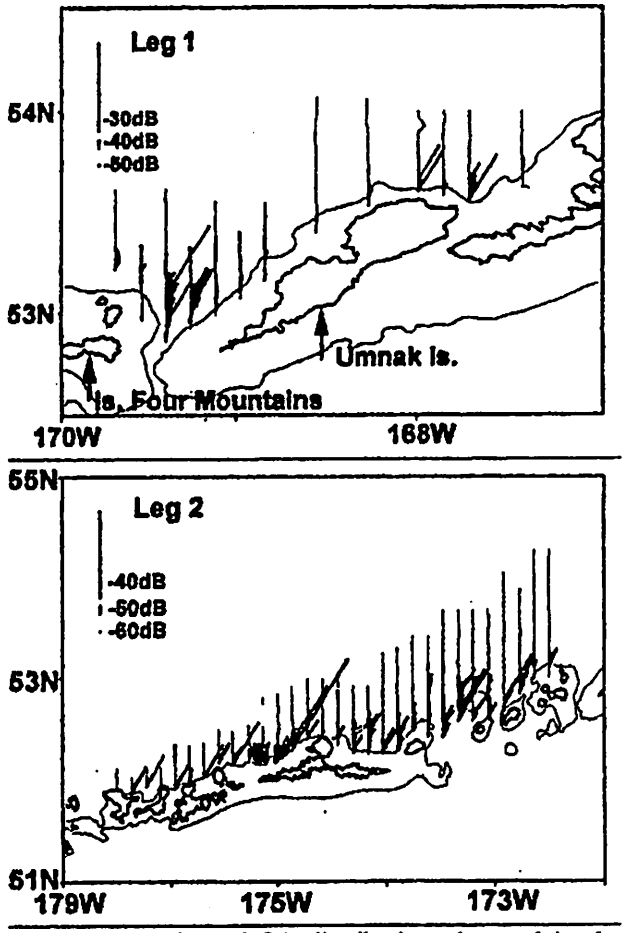


Fig. 4. Horizontal SA distribution observed in the winter of 2002 by the *Kaiyo Maru*.

5) SA distribution and biomass estimates

Horizontal SA distribution is shown in **Fig. 4**. Dense fish aggregation was found in the area from UI to the IFM. The survey area in the Leg 1 was divided into 2 blocks to estimate the biomass (**Fig. 5**): IFM area (Leg1-1), and UI area (Leg1-2). The estimated biomass of each area was approximately 140,000 t and 40,000 t, respectively (**Table 4**). Though our survey area is limited, our estimates showed about 180,000 t of spawning pollock biomass in the specific area.

The survey area in the Leg2 was divided into 4 blocks with considering transect length. Most of the

operation. After net come up, we could get the depth information from attached depth sensor, and T0201 did not reached to the depth layer that the pollock aggregation was observed by acoustic system. So, the trawl results from T0201 showed small catch than we expected.
In Leg 2, 1 trawl haul was conducted in the Specific Area and the other 6 trawl hauls were conducted west of the Specific Area. Trawl hauls at T0206 and T0208 were conducted at the offshore area in the basin, and the dominant catch species was lanternfish. In the other stations along the Aleutian Islands, the fish echo sign was observed around the steep slope area, near the bottom. In this situation, we could not collect these fish by using our big mouse mid-water trawl net system. In these stations, our pollock catches were less than 100 kg.

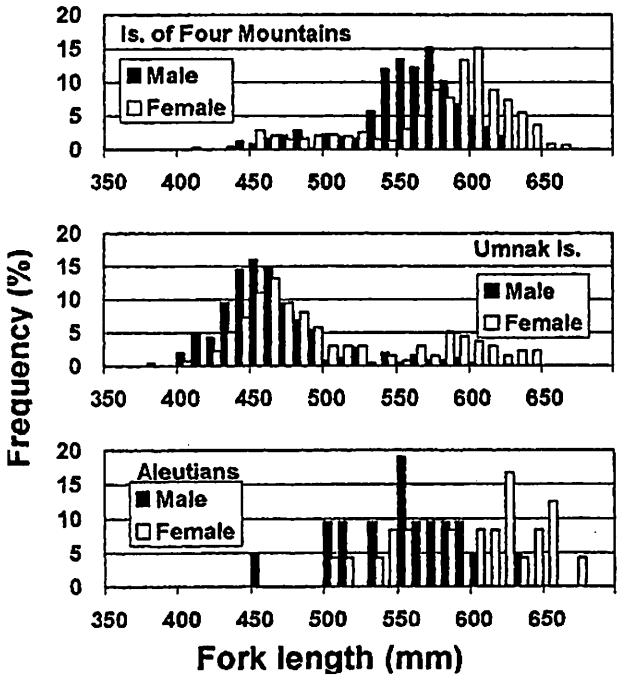


Fig. 3. Length frequency distribution of adult walleye pollock collected by mid-water trawl net in the *Kaiyo Maru* 2002 survey.

3) Length and weight of pelagic pollock

Biological data were grouped into two areas for Leg 1 data with considering difference in the length composition. Pollock from the IFM area showed length ranging 415-625 mm for male, and 435-665 mm for female (Fig. 3). Modal lengths of trawl hauls from IFM were observed 555-575 mm for male fish and 590-600 mm for female fish. No big difference was observed in the size range between T0202 and T0204. Average lengths at this area were 558.6 mm and 580.3 mm, for male and female respectively. Combined average length was 569.4 mm (Table 2).

Table 2. Average of the length and weight of walleye pollock collected by mid-water trawl net in the *Kaiyo Maru* 2002 survey.

		Average FL (mm)	Average Wt (g)
Is. of four mountains	Male	558.6	1321.2
	Female	580.3	1546.5
	Combined	569.4	1426.6
Umnak Island	Male	466.1	750.7
	Female	505.6	1029.5
	Combined	485.8	870.4
Aleutians	Combined	587.9	1648.6

Pollock from the Umnak Island (UI) area showed length ranging 385-600 mm for male, and 405-645 mm for female (Fig. 3). Modal lengths were observed 455 mm for male fish and 460 mm for female fish. Pollock from the UI showed smaller length than fish from IFM. The two components of small and large pollock are seemed to be coexisting in the specific area, and the boundary might exist between UI and IFM area. Presence of the pollock <500 mm suggests that a younger year class may have recruited to the spawning population in this area. Because of limiting ship time, we could not go east of 169°E.

Six trawl hauls were made from the area east of 167°W in our Leg 2. Pollock catches were only 60 individuals from these 6 trawl sampling. Because of limited number of the pollock catches, we combined all of these fish data to get the information from Aleutians. The major part of the fish was larger than 500 mm, and those fish appeared to be older fish. The average length was 588 mm.

The average weight at each area is shown in Table 2. An average weight of pollock from the IFM was 1.321 kg for males and 1.547 kg for females. The average length and weight showed continuous increasing from our previous *Kaiyo Maru* survey results. It indicated that the recruitment of young fish did not take place in this area. On the other hand, in the UI area, the average weights of pollock was 0.751 kg for male and 1.030 kg for female fish, and these estimates are smaller than our previous survey results. Newly recruitment took place in this area.

The length-weight relationships were obtained for IFM and UI. The following equations were calculated from length-weight data of male and female fish from each Leg by Geometric Mean Regression analyses

pollock echo sign was distributed along the slope of the Aleutian Islands, and in this analysis we did not separate these fish to the Basin and Islands component. Our estimates in the Leg 2 were, 60,000 t, 20,000t, 25,000t, and 18,000t from eastern to western block. Total biomass estimate from the whole survey area in Leg 2 was 123,000 tons. Most of the fish were distributed in the slope area of the Aleutian Islands, and the biomass of the pelagic pollock was very small in this area. Due to the difficulty for operating our big-size mid-water trawl net on the steep slope area, our catches in this area is not sufficient. For the accurate species identification and accurate biomass estimation, more biological sampling is required.

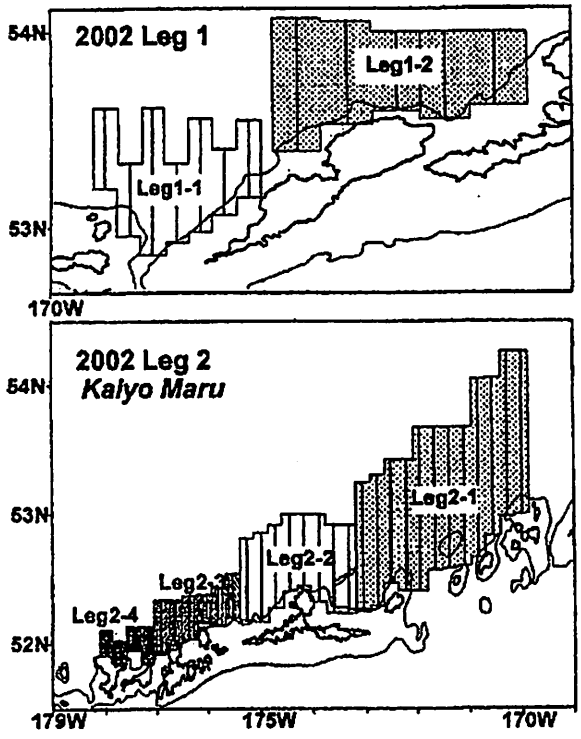


Fig. 5. Transect lines of the winter 2002 Kaiyo Maru survey. Biomass estimations were conducted by each sub-area.

6) Other sampling activity

Otoliths were collected from about 500 pollock during each leg for age determination. Aging and growth analyses will be conducted by the Japanese Institute, and shipped to the Alaska Fisheries Science Center. Oceanographic data were also collected. These samples and data were transferred to HNF and will be used for future study. Information about parasites was obtained and stomach contents, ovary, and genetic samples were collected for the future study.

	Leg1-1	Leg1-2	Leg2-1	Leg2-2	Leg2-3	Leg2-4
Spacing (nmi)	5	10	10	10	10	10
Transect length (km	356	268	1507	563	218	76
Area (km^2)	3300	4964	27902	10433	4045	1413
DOC *1	6.2	3.8	9.02	5.52	3.43	2.03
Average TS (dB)	-30.9	-32.3	-30.6	-30.6	-30.6	-30.6
*2						
Population (10^6)	99	45	37	12	6	2
Biomass (10^3ton)	142	39	61	19	10	3
Density (ton/km^2)	42.91	7.94	2.18	1.82	2.46	1.79
CV(%)	0.36	0.47	0.31	0.33	0.21	0.76
*3						
Estimation error (%	13.49	14.53	10.55	12.27	9.67	28.32

Table. 4 Results of the biomass estimation from 2002 winter Kaiyo Maru survey.
*1 Degree of coverage
*2 Cluster sampling theory
*3 1D transective theory

Acknowledgements

In order to get accurate biomass estimates in the CBS specific area, the *Kaiyo Maru* was allowed to conduct a trawl survey inside the 3-mile territorial waters of the U.S. We appreciate all the people who worked to make this arrangement possible. We thank Dr. A. V. NIKOLAEV for kind collaborations during survey cruise. We also thank the captain, crew and onboard scientists of the *Miller Freeman* for fruitful cooperation during inter-ship calibration. We also thank the captain and crew of the *Kaiyo Maru*.

Final

9 Sept 2004:

Proposal: The SSL MC believes that development of an AI pollock fishery in CH for the wSSL cannot occur without a formal consultation. For the SSL MC to work on the proposal, the Council would have to change the Committee's Terms of Reference. The SSL MC recognizes that there are concerns regarding the consequences of formal consultation. Therefore, the Council should request guidance from NOAA General Counsel concerning potential legal risks of this strategy.

If it is the Council's desire to change the SSL MC's Terms of Reference, the Committee suggests the following possible process:

1) SSL MC reports back to the Council at the Dec or Feb Council meeting with its recommendations,
2) in the interim the SSL MC will work with NMFS PR and SF staff to craft a proposal that is acceptable and is unlikely to result in jeopardy or adverse modification of CH (pending formal consultation),
3) as part of the above process the SSL MC would agree to maintain a narrow focus in developing a pollock fishery within 100 nm of Adak that would only consider changes to pollock fishing in the AI,
4) once the SSL MC reports to the Council, the Council could decide to reject the proposal, modify it, or move it forward as a proposed action,
5) following initial review of the proposal and if the Council decides to move the proposal forward, NMFS would initiate a formal consultation,
6) following the conclusion of the formal consultation and accompanying decisions, the Council would take final action.

Subject: Enf VMS stats
Date: Fri, 06 Aug 2004 10:09:54 -0800
From: "Jeff Passer" <Jeff.Passer@noaa.gov>
To: Bill Wilson <Bill.Wilson@noaa.gov>

Bill,

Below are some enforcement statistics related to VMS. These stats are by year. In our case tracking system, we have a field in our database for "Source Code". The "source" tells us how we found about the potential violation. For example, a Source Code of "19" tells me that one of our guys found the violation, a Source Code of "26" is from an Observer, and a Source Code of "5" are for those violations found using VMS. This is important to know because we did not have a Source Code for VMS until 2002. Until January 2002, VMS use was limited to the Atka mackerel fishery and used voluntary on some vessels fishing around the CVOA. So, I've broken down this report into two sections.

I. # Violations found using VMS: (These are fishing in closed areas, transitting no-transit areas)
2001 - ?
2002 - 10
2003 - 47
2004 - 9 (as of 8/5/04)

II. Violations for failure to comply with VMS regulations
2001 - 0
2002 - 5
2003 - 82
2004 - 10 (as of 8/5/04)

Without actually reading each case, I can not tell you which fisheries the violations came from, or the area, vessel size, or gear group. I hope this information will suffice. Let me know if I need to clarify any of this information.
Jeff

Overview of the Federal Fishery Permit (FFP) Program
With Respect to VMS Requirements
for Steller Sea Lion Protection Measures

Federal Fishery Permits (FFP) are issued by the Restricted Access Management (RAM) Program and carry with them requirements for vessel observer coverage; reporting obligations (logbooks and daily or weekly reports); and VMS. This permit requirement is in addition to any other Federal or State permit requirements; for example, a (Federal) license limitation program (LLP) permit to fish for groundfish.

The regulatory citation for the FFP permit requirement is 50 CFR '679.4(b).

(b) Federal Fisheries permit

(1) Groundfish
No vessel of the Unites States may be used to fish for groundfish in the BSAI or GOA unless the owner first obtains a Federal Fisheries permit for the vessel, issued under this part. A Federal Fisheries permit issued without charge.

(2) Non-groundfish
A vessel of the United States that fishes in the GOA or BSAI for any non-groundfish species, including but not limited to halibut, crab, salmon, scallops, and herring, and that is required to retain any bycatch of groundfish under this part must obtain a Federal fisheries permit under this part.

In general:
An FFP is issued on request and is valid for up to three years (we renew all extant permits on a three year cycle). RAM requires a written application that may be submitted to us by mail, fax, etc. However, the original permit must be on board the vessel. RAM mails permits first class unless the requestor provides a postage-paid express mail envelope or makes other arrangements, such as pickup by a courier. Instructions caution applicants that RAM requires 7-10 days to process an application; however, depending on workload it typically takes us just a day or two during the working week to get these out in the mail. We do not issue permits on weekends. Information about this permit, including applications, instructions, and lists of active permits (updated daily), can be found on the internet at: www.fakr.noaa.gov/ram/default.htm. RAM distributes gear-specific logbooks annually to all vessel owners required to maintain them, according to the current permit endorsements as of the date of logbook mailing (in early December.

Applicants self-select endorsements for:
Area (GOA, BSAI);
Vessel operation type (catcher, catcher/processor vessel, mothership, tender, or, support);
Gear type (trawl, hook-and-line, pots, jig, troll);
GOA Inshore Processing Endorsement (for C/Ps under 125' LOA that wish to process inshore pollock or Pacific cod);

Species-Gear Endorsements that require VMS (combinations for Pacific cod, pollock, BSAI Atka Mackerel with trawl, hook-and-line, pot gear);
Atka Mackerel in the Aleutian Islands (AI) Harvest Limitation Areas (HLA) (542, 543, both).

Permit surrender: FFPs may be surrendered at any time, but an FFP is not surrendered until RAM receives the original back. As the original FFP must be on board, the vessel may not fish once the permit is mailed to us. An applicant does not have to indicate a reason for surrendering an FFP. Typically, a permit is surrendered when the owner wants to get out from under reporting or observer requirements/costs; or, if they feel like telling us, when the vessel is sold. Note that we do not track vessel ownership per se; so in the latter case most owners just let the FFP lapse (or we find out about a vessel sale when the new owner applies for an FFP permit, or in a LLP permit transfer, etc.) An applicant can apply to receive another permit at any time thereafter by completing another Application.

Permit Amendment: An FFP may be amended at any time, by submission of an Application and indicating that an amendment rather than a new permit is requested. In this case, the original FFP is NOT required back and the permit holder's vessel may continue to fish. However, a permit holder has to be careful about timing... the amended permit comes into effect when RAM processes the request; and again, the original FFP has to be on board. Again, an applicant does not have to indicate a reason for amending an FFP. A permit amendment is the more typical vehicle for avoiding VMS requirements/costs between fishing periods for one of the endorsements that requires use of VMS.

Atka Mackerel HLA Fisheries: In portions of the Aleutian Islands subarea (AI) known as harvest limitation areas (HLAs) NMFS distributes effort spatially as well as seasonally. For each of two seasons (A and B) interested participants may elect the HLA areas in which they wish to participate and NMFS assigns vessels to these HLAs by random drawing. At present, a vessel owner must select HLAs for each A season; but need not change their elections mid year if they wish to participate in the same manner in the B season.

9/1/2004
NMFS/AKR/RAM/Martin, Gharrett

Counts of Vessels With Active Federal Fishery Permits and VMS Endorsements by Area (GOA vs BSAI), Vessel Length Overall (LOA), Category and VMS Endorsement
data are not additive across GOA and BSAI

	Length Overall (feet)		
VMS Endorsement - Has GOA	**0 - 60**	**61 - 125**	**> 125**
Amck_Hook_and_Line	6	1	2
Amck_Pot	2	0	0
Amck_Trawl	2	11	16
PCod_Hook_and_Line	214	47	37
PCod_Pot	105	69	35
PCod_Trawl	42	115	56
Plck_Hook_and_Line	23	5	20
Plck_Pot	9	9	17
Plck_Trawl	29	104	43

	Length Overall (feet)		
VMS Endorsement - Has BSAI	**0 - 60**	**61 - 125**	**> 125**
Amck_Hook_and_Line	3	1	2
Amck_Pot	2	0	0
Amck_Trawl	2	9	16
PCod_Hook_and_Line	57	38	45
PCod_Pot	52	80	44
PCod_Trawl	26	101	62
Plck_Hook_and_Line	9	6	20
Plck_Pot	7	8	17
Plck_Trawl	19	90	51

	Length Overall (feet)		
VMS Endorsement - Has GOA and/or BSAI	**0 - 60**	**61 - 125**	**> 125**
Amck_Hook_and_Line	6	1	2
Amck_Pot	2	0	0
Amck_Trawl	2	11	16
PCod_Hook_and_Line	219	47	45
PCod_Pot	109	88	44
PCod_Trawl	43	125	62
Plck_Hook_and_Line	23	6	20
Plck_Pot	9	9	17
Plck_Trawl	29	113	51

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[Docket No. 020718172–2303–02; I.D. 051402C]

RIN 0648–AQ08

Fisheries of the Exclusive Economic Zone Off Alaska; Steller Sea Lion Protection Measures for the Groundfish Fisheries Off Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues a final rule to implement Steller sea lion protection measures to avoid the likelihood that the groundfish fisheries off Alaska will jeopardize the continued existence of the western distinct population segment (DPS) of Steller sea lions or adversely modify its critical habitat. These management measures will disperse fishing effort over time and area to provide protection from potential competition for important Steller sea lion prey species in waters adjacent to rookeries and important haulouts. The intended effect of this final rule is to protect the endangered western DPS of Steller sea lions, as required under the Endangered Species Act (ESA), and to conserve and manage the groundfish resources in the Bering Sea/Aleutian Islands management area (BSAI) and the Gulf of Alaska (GOA) in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

DATES: Effective January 1, 2003.

ADDRESSES: Copies of the environmental assessment/regulatory impact review/final regulatory flexibility analysis (EA/RIR/FRFA) for the regulatory amendment to permit an investigation of the effect of commercial fishing on Walleye pollock distribution and abundance in localized areas off the east side of Kodiak Island; the supplemental environmental impact statement on Steller Sea Lion protection measures in the Federal groundfish fisheries off Alaska (SEIS), including the 2001 biological opinion (2001 BiOp) and regulatory impact review; the November 30, 2000, biological opinion (FMP BiOp); the final regulatory flexibility analysis; and the 2002 Stock Assessment and Fisheries Evaluation report for the BSAI Groundfish Fisheries may be obtained from the National Marine Fisheries Service, Alaska Region, P.O. Box 21668, Juneau, AK 99802–1668. The SEIS is also available on the NMFS Alaska Region home page at http://www.fakr.noaa.gov. Send comments on collection-of-information requirements to NMFS, Alaska Region, and to the Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget (OMB), Washington, DC 20503 (Attn: NOAA Desk Officer).

FOR FURTHER INFORMATION CONTACT: Melanie Brown, Sustainable Fisheries Division, Alaska Region, 907–586–7228 or email at melanie.brown@noaa.gov.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fisheries in the exclusive economic zone off Alaska under the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area and the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMPs). The North Pacific Fishery Management Council (Council) prepared the FMPs under the authority of the Magnuson-Stevens Act, 16 U.S.C. 1801, *et seq.* Regulations governing U.S. fisheries and implementing the FMPs appear at 50 CFR parts 600 and 679. NMFS also has management responsibility for certain threatened and endangered species, including Steller sea lions, under the ESA of 1973, 16 U.S.C. 1531, *et seq.*, and the authority to promulgate regulations to enforce provisions of the ESA to protect such species.

Background

On November 30, 2000, NMFS issued a biological opinion on the FMPs, which determined that the pollock, Pacific cod, and Atka mackerel fisheries were likely to jeopardize the continued existence of the western DPS of Steller sea lions and to adversely modify its critical habitat. It contained a reasonable and prudent alternative (RPA) that included large fishery closure areas, harvest limits, and seasonal distribution of harvest for the pollock, Pacific cod, and Atka mackerel fisheries. Before the RPA could be implemented, the President signed Public Law 106–554 on December 21, 2000, which contained a 1–year timetable to phase in the RPA. This year provided the Council with time to develop alternative protection measures that would avoid jeopardy and adverse modification of critical habitat for Steller sea lions.

The Council appointed an RPA Committee consisting of a variety of members including commercial fishery interests, the environmental community, the Alaska Department of Fish and Game (ADF&G), and NMFS. The RPA Committee, which met numerous times throughout 2001 to evaluate the best scientific and commercial data available developed, with the assistance of NMFS expertise, recommendations for Steller sea lion protection measures for the pollock, Pacific cod, and Atka mackerel fisheries. More details on the protection measures development process and the status of Steller sea lions are contained in the preamble to the proposed rule published September 4, 2002 (67 FR 56692).

In a section 7 consultation under the ESA, NMFS issued a 2001 BiOp, which determined that the groundfish fisheries managed under the protection measures in this final rule are unlikely to jeopardize the continued existence of the western DPS of Steller sea lions or adversely modify its critical habitat. Following this determination, the Council adopted and forwarded to NMFS the protection measures contained in this final rule, which are necessary to comply with section 7(a)(2) of the ESA. These measures were implemented in 2002 by emergency interim rule (67 FR 956, January 8, 2002; amended 67 FR 21600, May 1, 2002; corrected 67 FR 45671, July 10, 2002, 67 FR 47472, July 19, 2002, and 67 FR 64315, October 18, 2002; and extended 67 FR 34860, May 16, 2002).

A detailed history on past biological opinions and court cases regarding Steller sea lions and the Alaska groundfish fisheries and a description of how the protection measures meet the national standards in the Magnuson-Stevens Act are presented in the preamble to the January 8, 2002, emergency interim rule (67 FR 956).

Summary of the 2002 Protection Measures

For more detailed descriptions by topic, fishery, and area, see the preamble to the proposed rule (67 FR 56692, September 4, 2002). Closure areas apply to vessels named on a Federal Fisheries Permit issued under § 679.4(b) in the groundfish fisheries in the BSAI and GOA reporting areas, including the State waters within those reporting areas. The following is a summary of protection measures:

1. Area closures for all groundfish fishing within 0–3 nm of 39 rookery sites. These sites are considered the most sensitive for females with pups, and the nearshore marine critical habitat is the most important to protect from interactions between groundfish fisheries and Steller sea lions.

2. Protection measures for the Atka mackerel, pollock, and Pacific cod directed fisheries in the waters off Alaska, which include the following: (a)

section 7(a)(2) of the ESA pending completion of the remand.

The Steller sea lion protection measures in this rule must be effective by January 1, 2003, the date on which the emergency interim rule implementing these measures expires and the 2003 groundfish fisheries will open. The measures contained in this rule are substantially the same as those contained in the emergency interim rule dated January 8, 2002 (67 FR 956 and extended May 16, 2002, 67 FR 34860), and therefore this rule is largely a continuation of the status quo. Because the industry is already complying with similar measures, additional time is not required for compliance. Accordingly, there is good cause to waive the requirement of a 30–day delay in the effective date for this rule pursuant to 5 U.S.C. 553(d)(3). However, NMFS will make this rule effective on January 1, 2003, thereby providing a short delay in the effective date.

List of Subjects in 15 CFR Part 902 and 50 CFR Part 679

Alaska, Fisheries, Recordkeeping and reporting requirements.

Dated: December 23, 2002.

William T. Hogarth,

Assistant Administrator for Fisheries, National Marine Fisheries Service.

15 CFR Chapter IX

For the reasons set out in the preamble, 15 CFR part 902, chapter IX, is amended as follows:

PART 902— NOAA INFORMATION COLLECTION REQUIREMENTS UNDER THE PAPERWORK REDUCTION ACT; OMB CONTROL NUMBERS

1. The authority citation for part 902 continues to read as follows:

Authority: 44 U.S.C. 3501 *et seq.*

2. In § 902.1, the table in paragraph (b) is amended by adding under 50 CFR the following entries in numerical order:

§ 902.1 OMB Control numbers assigned pursuant to the Paperwork Reduction Act.

* * * * *

(b) * * *

CFR part or section where the information collection requirement is located	Current OMB control number (All numbers begin with 0648–)
* * * *	*
50 CFR	
679.4(b)(5)(vi)	–0206
679.20(a)(8)(iii)	–0269
679.28(f)(4), (f)(5), (f)(6)	–0445
* * * *	*

50 CFR Chapter VI

For reasons set out in the preamble, 50 CFR part 679 is amended as follows:

PART 679—FISHERIES OF THE EXCLUSIVE ECONOMIC ZONE OFF ALASKA

1. The authority citation for part 679 continues to read as follows:

Authority: 16 U.S.C. 773 *et seq.*; 1801 *et seq.*; 3631 *et seq.*; Title II of Division C, Pub. L. 105–277; Sec. 3027, Pub. L. 106–31; 57 Stat. 113; 16 U.S.C. 1540(f); and Sec. 209, Pub. L. 106–554.

2. In § 679.2, the definition for "Steller Sea Lion Protection Areas" is removed, paragraph (1) of the definition for "Fishing trip" is revised, and the definition for "harvest limit area (HLA) for Atka mackerel directed fishing" is added in alphabetical order to read as follows:

§ 679.2 Definitions.

* * * * *

Fishing trip means:

(1) Retention requirements (MRA, IR/IU, and pollock roe stripping).

(i) With respect to retention requirements of MRA, IR/IU, and pollock roe stripping, an operator of a catcher/processor or mothership processor vessel is engaged in a fishing trip from the time the harvesting, receiving, or processing of groundfish is begun or resumed in an area until:

(A) The effective date of a notification prohibiting directed fishing in the same area under § 679.20 or § 679.21;

(B) The offload or transfer of all fish or fish product from that vessel;

(C) The vessel enters or leaves an area where a different directed fishing prohibition applies;

(D) The vessel begins fishing with a different type of authorized fishing gear; or

(E) The end of a weekly reporting period, whichever comes first.

(ii) With respect to retention requirements of MRA, IR/IU, and pollock roe stripping, an operator of a catcher vessel is engaged in a fishing trip from the time the harvesting of groundfish is begun until the offload or transfer of all fish or fish product from that vessel.

* * * * *

Harvest limit area (HLA) for Atka mackerel directed fishing for the purposes of §§ 679.4(b)(5)(vi)(B), 679.20(a)(8)(ii) and (iii), and 679.22(a)(8)(iv)(A), means the waters of statistical areas 542 and 543 that are (1) west of 178° W long. and (2) within 20 nm seaward of sites listed in Table 6 of this part that are located west of 177°57.00′ W long.

* * * * *

3. In § 679.4, paragraph (b)(5)(vi) is revised to read as follows:

§ 679.4 Permits.

* * * * *

(b) * * *

(5) * * *

(vi) *Atka Mackerel, Pollock, and Pacific Cod Directed Fisheries.* (A) Indicate use of pot, hook-and-line, or trawl gear in the directed fisheries for pollock, Atka mackerel, or Pacific cod.

(B) Indicate directed fishing for Atka mackerel in the harvest limit area, as defined in § 679.2.

* * * * *

4. In § 679.5 paragraph (n)(2)(iii)(B)(*4*) is revised to read as follows:

§ 679.5 Recordkeeping and reporting.

* * * * *

(n) * * *

(2) * * *

(iii) * * *

(B) * * *

(*4*) Indicate the intended target species.

* * * * *

5. In § 679.7, paragraph (c)(3) is removed, paragraphs (a)(1), (a)(17), (a)(18), (a)(19), and (b) are revised to read as follows:

§ 679.7 Prohibitions.

* * * * *

(a) * * *

(1) *Federal Fisheries Permit.* (i) Fish for groundfish in the BSAI or GOA with a vessel of the United States that does not have on board a valid Federal Fisheries Permit issued under § 679.4.

(ii) Conduct directed fishing for Atka mackerel, Pacific cod, or pollock with pot, hook-and-line, or trawl gear from a vessel of the United States that does not have on board a valid Federal Fisheries Permit issued under § 679.4 and endorsed for Atka mackerel, Pacific cod, or pollock under § 679.4(b)(5)(vi).

* * * * *

(17) *Tender vessel.* (i) Use a catcher vessel or catcher/processor as a tender

vessel before offloading all groundfish or groundfish product harvested or processed by that vessel.

(ii) Use a catcher vessel or catcher/processor to harvest groundfish while operating as a tender vessel.

(18) *Pollock, Pacific Cod, and Atka Mackerel Directed Fishing and VMS.* Operate a vessel in any Federal reporting area when a vessel is authorized under § 679.4(b)(5)(vi) to participate in the Atka mackerel, Pacific cod, or pollock directed fisheries and the vessel's authorized species and gear type is open to directed fishing, unless the vessel carries an operable NMFS-approved Vessel Monitoring System (VMS) and complies with the requirements in § 679.28(f).

(19) *Atka Mackerel HLA Groundfish Prohibition.* For vessels registered for directed fishing for Atka mackerel HLA under § 679.20(a)(8)(iii), conduct directed fishing for groundfish, other than for Atka mackerel in an assigned HLA directed fishery under § 679.20(a)(8)(iii), during the time period that the first Atka mackerel HLA directed fishery to which the vessel is assigned under § 679.20(a)(8)(iii)(B) is open.

(b) *Prohibitions specific to the GOA.* (1) *Southeast outside trawl closure.* Use trawl gear in the GOA east of 140° W long.

(2) *Catcher vessel trip limit for pollock.* Retain on board a catcher vessel at any time during a trip, more than 300,000 lb (136 mt) of unprocessed pollock.

(3) *Tender vessel restrictions for pollock.* (i) Operate as a tender vessel east of 157°00′ W long. for pollock harvested in the GOA.

(ii) Operate as a tender vessel west of 157°00′ W long. while retaining on board at any time more than 600,000 lb (272 mt) of unprocessed pollock.

* * * * *

6. In § 679.20:

a. Remove paragraphs (a)(7)(iii)(B) and (f)(3), and redesignate paragraph (a)(7)(iii)(C) and (D) as (a)(7)(iii)(B) and (C).

b. Revise paragraphs (a)(5)(i)(A), (a)(5)(i)(B), (a)(5)(ii)(B), (a)(6)(ii), (a)(6)(iii), (a)(7)(i)(C)(*2*) and (*3*), (a)(7)(ii)(A), (a)(7)(ii)(D), (a)(7)(iii)(A), the newly designated paragraph (a)(7)(iii)(B), (a)(8)(ii)(C), (a)(8)(iii), (a)(11), (b)(2)(i), (b)(2)(ii), (c)(2)(i) and (c)(2)(ii), and (d)(4).

c. Add paragraph (e)(2)(iv) to read as follows:

§ 679.20 General limitations.

* * * * *

(a) * * *

(5) * * *

(i) * * *

(A) *BSAI seasonal allowances—(1) Inshore, catcher/processor, mothership, and CDQ components.* The portions of the BSAI area pollock directed fishing allowances allocated to each component under Sections 206(a) and 206(b) of the AFA will be divided into two seasonal allowances corresponding to the two fishing seasons set out at § 679.23(e)(2), as follows: A Season, 40 percent; B Season, 60 percent.

(*2*) *Inseason adjustments.* Within any fishing year, the Regional Administrator may add or subtract any under harvest or over harvest of a seasonal allowance for a component to the subsequent seasonal allowance for the component through notification published in the **Federal Register.**

(B) *Steller sea lion conservation area (SCA) harvest limit.* For each component under Sections 206(a) and 206(b) of the AFA and for the open access fishery, no more than 28 percent of the annual pollock directed fishery allowance may be taken from the SCA before April 1. The SCA is defined at § 679.22(a)(7)(vii).

* * * * *

(ii) * * *

(B) GOA Western and Central Regulatory Areas seasonal apportionments. Each apportionment established under paragraph (a)(5)(ii)(A) of this section will be divided into four seasonal apportionments corresponding to the four fishing seasons set out at § 679.23(d)(2) as follows: A Season, 25 percent; B Season, 25 percent; C Season, 25 percent; and D Season, 25 percent. Within any fishing year, under harvest or over harvest of a seasonal apportionment may be added to or subtracted from remaining seasonal apportionments in a manner to be determined by the Regional Administrator, provided that any revised seasonal apportionment does not exceed 30 percent of the annual TAC apportionment for a GOA regulatory area.

* * * * *

(6) * * *

(ii) *GOA pollock.* The apportionment of pollock in all GOA regulatory areas and for each seasonal apportionment described in paragraph (a)(5)(ii) of this section will be allocated entirely to vessels catching pollock for processing by the inshore component in the GOA after subtraction of an amount that is projected by the Regional Administrator to be caught by, or delivered to, the offshore component in the GOA incidental to directed fishing for other groundfish species.

(iii) *GOA Pacific cod.* The apportionment of Pacific cod in all GOA regulatory areas will be allocated 90 percent to vessels catching Pacific cod for processing by the inshore component in the GOA and 10 percent to vessels catching Pacific cod for processing by the offshore component in the GOA.

* * * * *

(7) * * *

(i) * * *

(C) * * *

(*2*) Harvest of Pacific cod by catcher vessels less than 60 ft (18.3 m) LOA using pot gear:

(*i*) Will accrue against the 18.3 percent specified in paragraph (a)(7)(i)(C)(*1*)(*iii*) of this section when the Pacific cod fishery for vessels equal to or greater than 60 ft (18.3 m) LOA using pot gear is open.

(*ii*) Will accrue against the 1.4 percent specified in paragraph (a)(7)(i)(C)(*1*)(*iv*) of this section when the Pacific cod fishery for vessels equal to or greater than 60 ft (18.3 m) LOA using pot gear is closed.

(*3*) Harvest of Pacific cod by catcher vessels less than 60 ft (18.3 m) LOA using hook-and-line gear:

(*i*) Will accrue against the 0.3 percent specified in paragraph (a)(7)(i)(C)(*1*)(*ii*) of this section when the Pacific cod fishery for vessels equal to or greater than 60 ft (18.3 m) LOA using hook-and-line gear is open.

(*ii*) Will accrue against the 1.4 percent specified in paragraph (a)(7)(i)(C)(*1*)(*iv*) of this section when the Pacific cod fishery for vessels equal to or greater than 60 ft (18.3 m) LOA using hook-and-line gear is closed.

* * * * *

(ii) * * *

(A) *Reallocation within the trawl sector.* If, during a fishing season, the Regional Administrator determines that either component of catcher vessels using trawl gear or catcher/processors using trawl gear will not be able to harvest the entire amount of Pacific cod in the BSAI allocated to those vessels under paragraph (a)(7)(i), (a)(7)(ii)(C), or (a)(7)(iii)(A) of this section, he/she may reallocate the projected unused amount of Pacific cod to vessels using trawl gear in the other component through notification in the **Federal Register** before any reallocation to vessels using other gear type(s).

* * * * *

(D) *Unused seasonal allowance for trawl.* Any unused portion of a seasonal allowance of Pacific cod for vessels using trawl gear under paragraph (a)(7)(ii) or (a)(7)(iii)(A) of this section may be reapportioned by the Regional

	If you own or operate a catcher vessel and engage in directed fishing for pollock in the	During the...	Then you are prohibited from subsequently engaging in directed fishing for pollock with that catcher vessel in the...
(1)	BSAI	(i) A season	GOA until the following C season
		(ii) B season	GOA until the A season of the next year
(2)	GOA	(i) A season	BSAI until the following B season
		(ii) B season	BSAI until the following B season
		(iii) C season	BSAI until the A season of the following year
		(iv) D season	BSAI until the A season of the following year

9. In § 679.28, paragraphs (f)(3)(ii) and (f)(3)(iii) are revised, and paragraphs (f)(4), (f)(5), and (f)(6) are added to read as follows:

§ 679.28 Equipment and operational requirements.

* * * * *

(f) * * *

(3) * * *

(ii) Activate the VMS transmitter and receive confirmation from NMFS that the VMS transmissions are being received before engaging in operations when a VMS is required.

(iii) Continue the VMS transmissions until no longer engaged in operations requiring VMS.

* * * * *

(4) What must the vessel owner do before activating a VMS transmitter for the first time? If you are a vessel owner who must use a VMS and you are activating a VMS transmitter for the first time, you must:

(i) Contact the NMFS enforcement division by FAX at 907–586–7703 and provide: the VMS transmitter ID, the vessel name, the Federal Fisheries Permit number, and approximately when and where the vessel will begin fishing.

(ii) Call NMFS enforcement at 907–586–7225, Monday through Friday, between the hours of 0800 hours, A.l.t., and 1630 hours, A.l.t., at least 72 hours before leaving port and receive confirmation that the transmissions are being received.

(5) *What must the vessel owner do when the vessel replaces a VMS transmitter?* If you are a vessel owner who must use a VMS and you wish to replace a transmitter, you must either:

(i) Have followed the reporting and confirmation procedure for the replacement transmitter, as described above in paragraph (f)(4) of this section, or

(ii) Contact the NMFS Enforcement Division by phone or FAX and provide: the replacement VMS transmitter ID, the vessel name and the vessel's Federal Fisheries Permit Number and receive confirmation that the transmissions are being received before beginning operations.

(6) *When must the VMS transmitter be transmitting?* Your vessel's transmitter must be transmitting if the vessel is operating in any Reporting Area (see definitions at § 679.2) off Alaska while any fishery requiring VMS, for which the vessel has a species and gear endorsement on its Federal Fisheries Permit under § 679.4(b)(5)(vi), is open.

§ 679.32 [Amended]

10. In § 679.32, paragraph (e) is removed and reserved.

11. In § 679.50, paragraph (c)(1)(x) is revised to read as follows:

§ 679.50 Groundfish Observer Program applicable through December 31, 2007.

* * * * *

(c) * * *

(1) * * *(x) A vessel directed fishing with trawl gear for Atka mackerel in the Aleutian Islands subarea must carry two NMFS-certified observers at all times while directed fishing for Atka mackerel in the HLA directed fishery, as specified in § 679.20(a)(8).

* * * * *

12. In 50 CFR part 679, Tables 21, 22, 23, and 24 are deleted, Tables 4, 5, and 6 are revised, Table 12 is added, and Table 13 is removed and reserved to read as follows:

BILLING CODE 3510-22-S

Date: September 2, 2004

Proposer: Aleutians East Borough
2767 John Street
Juneau, AK 99801

Title of Proposal:
VMS regulations in the Gulf of Alaska

Summary Statement of the Proposal:
Fishermen in the Aleutians East Borough fish for a variety of species including Pacific cod, pollock, halibut and salmon. Fisheries for cod and pollock take place in both state and federal waters.

During the federal fishing seasons these fishermen are required to employ a VMS tracking device. The purpose of this requirement was to insure that NMFS could monitor fishing and transiting activities to be sure that fishermen were staying out of designated Steller sea lion haul outs and rookeries.

Under the current regulations, these vessels must continue to employ VMS as long as any cod, pollock or Atka mackerel fishery is open even though these vessels do not have endorsements for other areas that might continue to be open.

For example, the Eastern Gulf cod fishery remains open nearly year round. None of the vessels in AEB have endorsements for the Eastern Gulf. Yet they must pay $5.00 a day and fall under all the VMS rules while they fish for halibut and salmon. Perhaps the most onerous part of this is that should the VMS equipment fail, the vessels must return to port and cannot resume fishing until the equipment has been repaired or replaced.

In order to avoid this, vessels may turn in their federal permits when the local cod and pollock fisheries close and get them back in time for the next opening.

These circumstances present an undo burden on the segment of the local fleet that fishes for cod and pollock. It also creates unnecessary paperwork for NMFS.

Therefore, we believe that when the fisheries for which a vessel has endorsements closes, that vessel no longer needs to employ VMS.

After talking to NMFS enforcement, it is clear that they would like to require that all vessels carry VMS all the time, and that the current regulations are viewed as a wedge to open that door.

When the council implements such a rule, then naturally all vessels will comply. Until then, it is unreasonable to treat a small segment of the fishermen so differently. The purpose of the regulation was to monitor cod and pollock fishermen during the cod and pollock seasons.

Proposed Trade-Off Tool for Evaluating Alternate Proposals to Mitigate Potential Interactions between the Western Stock of Steller Sea Lion and Groundfish Fisheries in Alaska

The North Pacific Fisheries Management Council has charged its Steller Sea Lion Mitigation Committee (SSLMC) with evaluating the degree to which proposed changes to existing protection measures for Steller sea lions might adversely impact the western stock. The SSLMC has recommended to NMFS and the Council that some kind of tool or analytical model would help the SSLMC evaluate the effects of proposed changes to existing regulations on the recovery of the western stock of Steller sea lion (SSL).

In response to the request from the SSLMC, NMFS has developed a concept for a very simple "trade-off" tool, which would provide agency managers a tool for evaluating the risk of various alternative proposals for changes to existing protection measures. The concept is as follows:

1) Consider the most recent SSL survey data (i.e., non-pup count data) from haulouts and rookeries.
2) Determine for each rookery or haulout whether animals are present or absent in the breeding season and whether they are present or absent outside the breeding season.
3) Identify classes of fisheries (e.g., trawling, long-line, pot, traps, etc.) along with the distribution of these fisheries relative to critical habitat (e.g., 0-3 nm, 3-10 nm, and 10-20 nm) and season that have approximately equivalent removal rates on a daily basis of pollock, cod or Atka mackerel, and assign relative weights based on average prey removal rates. The scale for these weights will be arbitrary, but should reflect relative differences in the ability of a particular fishery to catch prey species of importance to Steller sea lions in a given region of SSL critical habitat. Where the distribution of a given fishery can not be predicted with certainty, it will be assumed that the fishery will fish as shoreward as possible in a given management regime.
4) Multiply the number of SSLs potentially impacted in a given season by the relative weight assigned to a class of fishery in a given area and season. Changes that worsen protection are assigned a positive value, while changes that increase protection are assigned a negative value.
5) Evaluate the overall impact of a particular alternative management strategy as the sum of all the relative scores for each proposed change. A score that is positive would be evaluated as worsening the overall protection measures for Steller sea lions relative to the status quo. A score that is negative would be evaluated as improving protection measures.
6) Where only one alternative management strategy is being evaluated, it would be "tuned" to achieve a score of approximately 0. Where multiple alternative management strategies are being evaluated, and where all of the strategies are equally acceptable to the stakeholders, the strategy with the most negative score would be evaluated as being preferred relative to the goal of Steller sea lion management.

The SSLMC noted at its April 2004 meeting that the Trade-Off Tool concept described herein involves an approach similar in concept to the analysis used by NMFS in Biop 3. The SSLMC further recalled that the SSC had recommended several clarifications by NMFS regarding the analysis reported in Biop 3 prior to its subsequent use. These included (SSC Minutes- 4-6 June 2001):

- The specific methods used to weight/score alternatives
- Critical underlying assumptions
- The rationale supporting harvest increases within critical habitat
- The rationale for including or excluding various fisheries and/or gear types.

Based on the comments from the SSC at its June 2001 meeting, NMFS decided to abandon the use of this analysis approach in making determinations regarding jeopardy in Biop 4.

However, the SSLMC noted during its April 2004 meeting that in this case the underlying model to be used would be much simpler. Therefore, there would be no assumptions regarding the subsequent dynamics of sea lions in subareas. Rather this model would use (1) data from each of the recognized rookeries and haulouts and (2) a relative index of potential impacts for a given fishery practice that could be objectively related to expected removal rates. The developers of the concept for the model and the SSLMC agreed that the approach should be reviewed by the Council's SSC prior to further development and implementation. If the SSC believes the model has merit in evaluating potential changes in SSL protection measures, it will be further developed and brought back to the SSC and Council at their October meeting for subsequent comment and then used by the SSLMC in future evaluations. If the SSC recommends against this approach, the SSLMC will recommend against the development of this tool. If that is the case, the SSLMC will have no other option other than to work with NMFS to evaluate each alternative separately using the approach adopted in Biop 4. The SSLMC noted that it is important to develop a tool for evaluating various proposals for SSL protection measure changes such that alternatives may be evaluated so that the "no net loss" can be achieved as possible using the best available data. The SSLMC was very supportive of the concept and urged the SSC and Council to support its further development and use. However, the SSLMC agreed that absent support from the SSC for the use of such a tool, it would be ill-advised to use this tool in the evaluation of alternative management strategies.

DRAFT
MINUTES
SCIENTIFIC STATISTICAL COMMITTEE
June 7-9, 2004

The Science Statistical Committee met June 7-9, 2004 at the Benson Hotel in Portland, Oregon. Members present:

Rich Marasco, Chair	Gordon Kruse, Vice Chair	Keith Criddle
George Hunt	Doug Woodby	Ken Pitcher
Sue Hills	Terry Quinn	Franz Mueter
Farron Wallace	Pat Livingston	Steve Hare
David Sampson	Seth Macinko	

C-2 DPSEIS

The SSC received staff presentations by Diana Evans and Steve Davis on this agenda item. No public testimony was received.

C-2 (a) Develop workplan for addressing management policy actions

The SSC considered the research needed to implement PSEIS policy objectives in the preferred alternative and identified the following high priority research items:

- Continued work to define and implement an improved system for non-target species management including observer-related issues,
- More effort by stock assessment scientists to incorporate ecosystem considerations into individual stock assessments,
- Research to define ecosystem-level reference points, which would necessitate improvements to predator-prey data and multi-species and ecosystem models and improved links to bottom-up processes,
- Research to evaluate present OY ranges, MSSTs for priority stocks, improvements in spawning stock biomass estimates for species in Tiers 4-5 and continued evaluation of harvest policies,
- Programs to review status of endangered or threatened marine mammal stocks and fishing interactions, and
- Research program to identify regional baseline habitat information and mapping.

C-2 (b) Groundfish FMP revisions

The SSC commends staff on their efforts to standardize the outline and format of different FMPs. The revised FMPs provide well structured and readable documents with excellent sections on the most pertinent characteristics of major stocks, fisheries, and fishing communities. While originally intended as a housekeeping amendment, the SSC concurs with others that this is a good time to review the document in its entirety and make changes as necessary. The majority of SSC concerns were in regard to definitions and specifications of OY, MSY, TAC, ABC, overfishing definitions, and harvest control rules in sections 3.2.1 and 3.2.2 of the FMP. Because of the importance of these issues, the SSC wishes to conduct a more thorough review of these sections before final action is taken. To this end, a SSC subcommittee consisting of Rich Marasco (chair), Terry Quinn, Gordon Kruse, Pat Livingston, Franz Mueter, and Farron Wallace was established and will conduct a review prior to the next council meeting.

do occur, the document is quiet on the implications for the non-CDQ fisheries and the fishery resources involved. Further, the document is vague on how, precisely, NMFS will attempt to constrain these aggregate harvests (the explanation on p. ES-2 that NMFS would specify additional management measures "as needed" is insufficient.) and the document does not discuss what would happen, in terms of accountability, in the event of a harvest overage. Nor does the document provide a justification for shifting the cost of compliance from the users to the agency; that is, a transferal of compliance costs from those who benefit directly from exploitation of the public resource to the taxpayers at large (and the resource itself). Under the current regime, staff indicated that fines can be levied on individual CDQ groups. Under the aggregate accounting scheme proposed, it is unclear whether any party will be held accountable since responsibility has been shifted to NMFS.

C-9 SSL Mitigation Measures

The presentation was divided into two parts. First, Lowell Fritz (NMML) presented preliminary information on a new analysis tool. Then Bill Wilson (Council staff), Scott Miller, Kristin Mabry, and Steve Lewis (NMFS Juneau) presented the EA/RIR/IRFA for the proposed changes to SSL measures in the GOA. Public testimony was taken from Julie Bonney (AGFDB) and Chuck McCallum.

New Analysis Tool. Lowell Fritz briefed the SSC on a conceptual model or "tool" to be used to evaluate if a proposed package of proposals would result in a "net loss" in protection of SSLs. This tool would be used for proposals to trade off open and closed areas rather than proposals such as TAC rollovers. The tool would use weighted rankings based on the type of fishery, the distance from the SSL site, the season of the impact, and the number of SSLs at the affected site. The SSC was shown hypothetical examples of how it could work, the limited scope in which it is intended to be used, and areas in which more work is needed, such as justification for assigned weights. The SSC suggested several refinements to the tool such as adding elements for seasonality, length of time of the fishery, using transformed numbers instead of raw counts, spatial considerations, disturbance, cumulative effects, and presence of alternate prey. Lowell Fritz and Shane Capron (NMFS Juneau, PR) explained that this tool is seen as useful for sifting through proposals until the next formal Section 7 consultation is conducted, and is expected to be used in the SSLMC as a way of evaluating whether a package of proposals result in no net loss of protection for SSL. The informal consultation on the proposed package would then look at the other additional issues the SSC mentioned in qualitative ways.

The "tool" appears to be very similar to the "bump" analysis that was used in previous SSL analyses, and the SSC has not changed its concerns with this kind of analysis, e.g., summing over arbitrary ranks. However, the SSC also recognizes the need for such a tool for coarse sifting among proposed changes to mitigation measures. The SSC was pleased to see at least a partial list of assumptions and recommends development of a complete list, along with a clear statement of the purposes for which the tool is intended. Although the SSC recommends further development of the tool, this in no way implies that the SSC has had adequate time for review of this method as it was handed out at the meeting. We will look forward to a more developed version for review prior to the October meeting.

SSL GOA Mitigation Measures EA/RIR/IRFA.

Mitigation mesures contained in the EA/RIR/IRFA included a reduction in the area closed to pollock trawling around the Puale Bay haulout, a closure out to 20 nm to pollock trawling around the Cape Douglas/Shaw Island haulout, a reduction in the area closed to Pacific cod pot fishery around the Kak Island haulout, opening Pacific cod pot fishing to the shoreline around Castle Rock, removal of the stand-down periods between the A and B and C and seasons in the GOA pollock trawl fishery, and change in

HO Bill Wilson
B-7 10-6-04
11 B0 AM

OCTOBER 2004
B-7 (SUPPLEMENTAL)

Marine Mammal Protection Act - Annual List of Fisheries
Proposed Changes for Alaska for 2005

Background

Section 118 of the MMPA requires that NMFS publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occur in each fishery.

The national criteria for fishery classification consist of a two-tiered, stock specific approach that first addresses the total impact of all fisheries on each marine mammal stock and then addresses the impact of individual fisheries on each stock. This approach is based on consideration of the level, in numbers of animals per year, of incidental mortalities and serious injuries of marine mammals due to commercial fishing operations relative to the potential biological removal (PBR) level for each marine mammal stock.

While Tier 1 considers the cumulative fishery mortality and serious injury for a particular marine mammal stock, Tier 2 considers fishery-specific mortality and serious injury for a particular stock. Fisheries are categorized on a per marine mammal stock basis. Therefore, a fishery may qualify for different categories for different marine mammal stocks. A fishery is placed on the List of Fisheries at its highest level of classification.

Tier 1: For each marine mammal stock, the total annual mortality and serious injury across all fisheries is calculated. If the total is less than or equal to 10 percent of the PBR of the stock, all fisheries interacting with this stock meet Category III criteria for that stock. If the total annual mortality and serious injury across all fisheries is greater than 10 percent of the stock's PBR, each fishery interacting with this stock is subject to a Tier II analysis.

Tier 2: The annual mortality and serious injury of a marine mammal stock in a given fishery is assessed relative to three thresholds and is categorized accordingly for each stock.

Category I: Annual Mortality / Serious Injury ≥ 50% of stock PBR level

Category II: 50% of stock PBR level >Annual Mortality/Serious Injury >1% of stock PBR level

Category III: Annual Mortality / Serious Injury ≤ 1% of stock PBR level

National Guidelines for the Assessment of Marine Mammal Stocks (GAMMS) recommend, for purposes of categorizing fisheries for the annual LOF, that a rolling five-year average of marine mammal serious injury and mortality observer data, or the best

available information, be used. Other criteria may be considered when determining a fishery's LOF Category. In the absence of reliable information indicating the frequency of incidental mortality and serious injury of marine mammals by a commercial fishery, NMFS will evaluate other factors, at the discretion of the Assistant Administrator, such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, qualitative data from logbooks or fisheries reports, stranding data, and marine mammal species distribution.

Alaska's Federal Fisheries LOF Categorization Methods Overview

The 2004 LOF included a major revision for Alaska's Federal fisheries. In years previous to 2004, Alaska's Federal fisheries were listed as large groups of fisheries based on gear type in the Bering Sea/Aleutian Islands and the Gulf of Alaska. For 2004, these groups were further delineated by target species to better align the LOF fishery listings with fisheries management by the Alaska Region and the North Pacific Fishery Management Council. These fisheries remained in Category III for the 2004 LOF, pending the results of an analysis of marine mammal mortality and serious injury by fishery relative to categorization thresholds.

Marine mammal incidental serious injuries and mortalities that occur in Federal fisheries are assigned to specific fisheries by the Alaska Regional Office's Protected Resources Division, in cooperation with the Sustainable Fisheries Division and the Alaska Fisheries Science Center. For the 2005 proposed LOF, observed marine mammal takes from 1999-2002 were assigned to fisheries using fisheries management data from the Blend system that had been used for fisheries quota accounting for about 10 years. The Blend system was based on weekly data from processors. Specifically, a marine mammal take was identified through observer data, and the trip was assigned a target fishery according protocols under the Blend system.

In 2003, the Alaska Regional Office changed from using the Blend system to using the catch accounting system. We now use observer data for 100% observer covered catcher processors and motherships, weekly production reports for 30% CP and motherships, and shoreside electronic logbook or weekly production reports for catcher vessels delivering shoreside. All PSC estimates are based on observer data. As a further result of this change, all observed marine mammal takes in Federal fisheries in 2003 were assigned to a fishery under the new catch accounting system protocols.

The new groundfish catch accounting system utilizes the same data sources as the Blend: observer data, shoreside processor landings data, and processor weekly production report data. However, where the Blend aggregated all data to the level of processor and week, the new system accounts for data at the haul (observer) and delivery (shoreside landings) level and can track all current fisheries quotas.

Under the new system, the groundfish species that accounts for the largest proportion of retained catch is considered the target species by trip or haul. The Alaska Regional Office assigns a target species to each haul in the observer data. To assign a trip target

species under the Catch Accounting System, a trip target date is used, with a week ending date for Catcher/Processors and trip start date for catcher vessels. To assign marine mammal takes to fisheries under this system, we are able to determine a target species at the haul level and at the trip level. Where the target for the haul in which a marine mammal take occurs and trip target do not match, the trip target is generally assigned as the fishery to which the marine mammal take is assigned.

Once the Alaska Regional Office assigns the marine mammal serious injuries and mortalities to a particular fishery, the Alaska Fisheries Science Center performs extrapolations to the entire fishery in which each take occurred. Two specific considerations with these data deserve note. The first regards the use of "serious injury" data, where the definition of "serious injury" is any injury that is likely to lead to mortality. The determination of whether any particular injury to marine mammals in Alaska should be considered "serious" is currently under assessment by NMFS and the Alaska Marine Mammal Scientific Review Group. While all of the data used in assigning the fisheries in Table 1 to Category II were actual mortalities, it is worthwhile to note that the MMPA gives NMFS the authority to consider serious injuries as mortalities when considering human effects on marine mammal populations.

The second consideration with these data is that the annual estimated serious injury /mortality data for humpback and killer whales includes some uncertainty regarding assignment of the takes to a specific stock. Where there is considerable uncertainty regarding to which stock a serious injury or mortality should be assigned, the Alaska Fisheries Science Center exercises a conservative approach by assigning the serious injury/mortality to each of the possible source stocks. Where this occurs, one mortality may appear to be counted more than once, but in reality is not. Rather, the effects of each scenario are considered independently. Where information is available regarding the location of the take, genetics of the animal taken, or other information that would conclusively link mortality to a specific stock, NMFS uses that information to assign the take to a specific stock. Based on the above guidelines, for each fishery in which a humpback or killer whale mortality occurred from 1999-2003 (Table 1), each mortality is assigned to the two possible source stocks. It should be noted that in each of these cases for the 2005 LOF, the Category II threshold is met regardless to which stock the mortality is assigned.

The two-tiered analysis to assign each fishery to an LOF category is performed at the Center. The Center forwards the analysis results to the Alaska Regional Office where any additional information may be considered before finalizing the proposed fishery MMPA Categories for forwarding to NMFS headquarters, where they will be incorporated into a proposed rule that includes LOFs for all NMFS Regions. The Alaska Fisheries Science Center intends to develop a paper more fully describing the methods used in the analysis. A draft is expected to be available concurrent with the publication of the proposed rule for the 2005 LOF.

2005 Alaska LOF Analysis Results Summary for Federal Fisheries

The analysis of marine mammal serious injury and mortality in Federal fisheries for the 2005 LOF used data from 1999-2003, in accordance with GAMMS protocol. The results from this analysis indicate that no Federal fisheries meet the threshold for a Category I fishery for the 2005 LOF. Five Federal fisheries meet the threshold for Category II fisheries and will be proposed to be elevated to Category II in the 2005 LOF. These fisheries are found below in Table 1. Annual estimated serious injury and mortality data in Table 1 are derived from observer data from the North Pacific Groundfish Observer Program. The remaining Federal fisheries on the LOF did not meet a Category I or II threshold and will be proposed to be listed as Category III fisheries in the 2005 LOF.

Table 1. Marine mammal stocks triggering Category II threshold by fishery for 2005

Fishery	**Marine Mammal Stocks Triggering Category II**	**Estimated incidental annual mortality and serious injury**	**Stock PBR**	**Percent of PBR**
BSAI Pacific cod longline	killer whale: Eastern North Pacific *transient stock*	0.8	2.8	28.57
	killer whale: Eastern North Pacific *resident stock*	0.8	7.2	11.11
BSAI Greenland turbot longline	killer whale: Eastern North Pacific *transient stock*	0.6	2.8	21.43
	killer whale: Eastern North Pacific *resident stock*	0.6	7.2	8.33
BSAI pollock trawl	Steller sea lion: western U.S. stock	2.5	209	1.20
	killer whale: Eastern North Pacific *transient stock*	0.6	2.8	21.43
	killer whale: Eastern North Pacific *resident stock*	0.6	7.2	8.33
	humpback whale: *western* North Pacific stock	0.3	0.7	42.86
	humpback whale: *central* North Pacific stock	0.3	7.4	4.05
BSAI flatfish trawl	Steller sea lion: western U.S. stock	3.1	209	1.48
	killer whale: Eastern North Pacific *transient stock*	0.5	2.8	17.86
	killer whale: Eastern North Pacific *resident stock*	0.5	7.2	6.94
Bering Sea sablefish pot	humpback whale: *western* North Pacific stock	0.2	0.7	28.57
	humpback whale: *central* North Pacific stock	0.2	7.4	2.70

Effects of Category I or II listing

Registration for authorization to incidentally take a marine mammal under the Marine Mammal Authorization Program (MMAP): Authorization to lawfully incidentally take a marine mammal in the course of commercial fishing operations shall be granted by NMFS to participants in Category I and II fisheries upon registration in the MMAP. Currently, NMFS requires annual authorization renewal with the publication of the annual LOF. The AKR is investigating its ability to automate issuance of such authorizations for Federal fisheries as it does with the Category II state fisheries.

Observer requirements: Vessels participating in a Category I or II fishery must accommodate an observer aboard upon request by NMFS or an authorized/permitted agent. This includes all vessels participating in the fishery, regardless of vessel size. NMFS does not foresee any additional observer requirements to Federal Category II fisheries beyond what is currently required by the GOA and BSAI FMPs and fisheries management regulations.

Take Reduction Plans: The MMPA requires that a Take Reduction Plan (TRP) be developed and implemented for each strategic marine mammal stock that interact with Category I or II fisheries. A TRP is developed by a Take Reduction Team convened by NMFS that consists of representatives from appropriate industry sectors, state and Federal management, Regional Fishery Management Councils, academic and scientific organizations, environmental groups, Alaska native organizations, and others as appropriate. However, the MMPA gives NMFS discretion in developing in TRPs, according to available funding, and designates as the highest priorities those stocks or species whose level of mortality and serious injury exceeds the stock's PBR, have a small population size, or are declining most rapidly. In practice, NMFS has required TRPs only for those stocks that meet the above criteria and interact with Category I fisheries.

Reporting Requirements for all participants in all U.S. commercial fisheries

In accordance with the MMPA, a vessel owner or operator (or permit holder in the case of non-vessel fisheries), participating in a U.S. commercial fishery must report to NMFS all incidental injuries or mortalities of marine mammals that occur during commercial fishing operations. Injury is defined as a wound or other physical harm; additionally, any animal that ingests fishing gear or that is released with fishing gear entangling, trailing, or perforating any part of the body is considered injured and must be reported. *Reports must be made by the vessel even if an observer is aboard, whether the observer witnessed the event or not.* Reports must be sent in writing by mail or fax within 48 hours of the end of the fishing trip in which the mortality or serious injury occurred with the following information:

1) Vessel name and Federal, state, or tribal vessel registration number
2) Name and address of vessel owner or operator.
3) Name and description of the fishery, including gear type and target species.
4) Marine mammal species. For each species: number of marine mammals injured or killed. Date, time and geographic location of the occurrence (at least statistical area). A description of the animal killed or injured must be included if species is unknown.