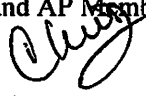


MEMORANDUM

TO: Council, SSC and AP Members
FROM: Chris Oliver 
Executive Director
DATE: September 20, 2012
SUBJECT: Protected Resources Report

ESTIMATED TIME 6 HOURS All B Items
--

ACTION REQUIRED

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

BACKGROUND

Deep Water Corals

On August 20, 2012 the Center for Biological Diversity filed a petition seeking protection under the U.S. Endangered Species Act for 43 species of corals in Alaskan waters. The petition claims that the corals face a growing threat of extinction due to large-scale climate change effects and fisheries activities. NOAA must respond to the Center's petition within 90 days and determine whether listing may be warranted for the named species. The full petition was forwarded to you and copies are available upon request. NMFS staff are available to update the Council on their plan to respond.

Ice Seals

NMFS has not made a final ESA listing determination for ringed and bearded seals. The determination originally was due in December 2011. NMFS extended the decision by six months as allowed under the ESA. The extension was based on disagreement in the record regarding model projections of future sea ice habitat and related impacts, which relates directly to the magnitude and immediacy of threats posed to the seals by projected habitat changes. On September 12, 2012 The Center for Biological Diversity sued NMFS (**Item B-7(a)**) for failing to finalize the listing determinations for ringed and bearded seals. NMFS reports that the final listing determinations are currently in review.

Western DPS Steller sea lions

The reviews of the 2010 Biological Opinion from the Center for Independent Experts were released and emailed to you on September 6, 2012 and are posted on our website. Mr. Jon Kurland (AKR PR) will present a summary of NMFS' next steps regarding these reviews.

Steller Sea Lion Mitigation Committee

Since May, the SSLMC has met five times to review the 2010 Biological Opinion, and to review the order to prepare an EIS, EIS requirements, and new information about SSLs in Alaska and Russia. The SSLMC has drafted scoping comments for the Council to consider. Those comments will be discussed during agenda item C-4(a). The SSLMC will meet again in on October 18-19, November 7-9, and November 28-29 to draft, review, and revise proposed alternative RPAs for the Council's consideration in December.

Agenda and Minutes from each meeting are included as **Items B-7(b)**. Copies of presentations are not attached here, but are available for viewing and download on the Council's website at <http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html>. In some cases, the SSLMC received presentations that contained preliminary or unpublished data. In those cases we were asked not to post the presentations, and they are not available.

The SSLMC Chairman has requested that committee members submit proposals for alternative RPAs to Council staff by October 12, 2012 in order to provide sufficient time for proposal review, revision, and final RPA preparation by the December 2012 Council meeting. Each proposal should be in a standard format, directions for which were emailed to interested parties in September. Those directions are attached as **Item B-7(c)**, and are also available from Steve MacLean (steve.maclean@noaa.gov) upon request. The Chairman noted that proposals that are received late, or are not responsive to the standard format will not be considered. Members of the public who wish to contribute to proposed RPAs should contact a committee member with their suggestions.

2012 Protection Measures EIS

NMFS Alaska Region continues to work on the 2012 SSL Protection Measures EIS, and remains on schedule to complete the EIS in the prescribed time. NMFS submitted its first progress report on 6/29/12. The next progress report is due on 9/24/12. At this meeting, NMFS will present their analytical approach for status quo analysis to the Scientific and Statistical Committee. They will present that information to the Council under agenda item C-4(b).

Recent Publications

The following new publications are available from Steve MacLean upon request:

- Bowen, W. D., & Iverson, S. J. (2012). Methods of estimating marine mammal diets: A review of validation experiments and sources of bias and uncertainty. *Marine Mammal Science*. doi:10.1111/j.1748-7692.2012.00604.x
- Ferenbaugh, J., Strauss, R., Tollit, D., Chen, Z., & Diamond, S. (2009). Exploring the potential of otolith microchemistry to enhance diet analysis in pinnipeds. *Marine Biology*, 156(11), 2235–2246. doi:10.1007/s00227-009-1251-9
- Ferguson, S. H., Kingsley, M. C. S., & Higdson, J. W. (2012). Killer whale (*Orcinus orca*) predation in a multi-prey system. *Population Ecology*, 54(1), 31–41. doi:10.1007/s10144-011-0284-3
- Himes Boor, G. K., & Small, R. J. (2012). Steller sea lion spatial-use patterns derived from a Bayesian model of opportunistic observations. *Marine Mammal Science*. doi:10.1111/j.1748-7692.2011.00541.x
- Horning, M., & Mellish, J.-A. E. (2012). Predation on an upper trophic marine predator, the Steller sea lion: Evaluating high juvenile mortality in a density dependent conceptual framework. *PLoS One*, 7(1), e30173. doi:10.1371/journal.pone.0030173
- Miller, R. J., Hocesvar, J., Stone, R. P., & Fedorov, D. V. (2012). Structure-forming corals and sponges and their use as fish habitat in Bering Sea submarine canyons. *PLoS one*, 7(3), e33885. doi:10.1371/journal.pone.0033885
- Waite, J. N., Burkanov, V. N., & Andrews, R. D. (2012). Prey competition between sympatric Steller sea lions (*Eumetopias jubatus*) and northern fur seals (*Callorhinus ursinus*) on Lovushki Island, Russia. *Canadian Journal of Zoology*, 90(1), 110–127.
- Waite, J. N., Burkanov, V. N., & Andrews, R. D. (2012). Prey competition between sympatric Steller sea lions (*Eumetopias jubatus*) and northern fur seals (*Callorhinus ursinus*) on Lovushki Island, Russia. *Canadian Journal of Zoology*, 90(1), 110–127.
- Wilson, K., Fritz, L., Kunisch, E., Chumbley, K., & Johnson, D. (2012). Effects of research disturbance on the behavior and abundance of Steller sea lions (*Eumetopias jubatus*) at two rookeries in Alaska. *Marine Mammal Science*, 28(1), E58–E74. doi:10.1111/j.1748-7692.2011.00485.x

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Attorneys for Plaintiff

**UNITED STATES DISTRICT COURT FOR THE
DISTRICT OF ALASKA**

CENTER FOR BIOLOGICAL DIVERSITY,

Plaintiff,

v.

REBECCA BLANK, Acting United States
Secretary of Commerce and NATIONAL
MARINE FISHERIES SERVICE

Defendants.

CASE NO.:

COMPLAINT FOR DECLARATORY JUDGMENT AND INJUNCTIVE RELIEF

(16 U.S.C. §§ 1531 *et seq.*)

I. INTRODUCTION

1. In this civil action for declaratory and injunctive relief, Plaintiff CENTER FOR BIOLOGICAL DIVERSITY challenges the failure of Defendants REBECCA BLANK, Acting United States Secretary of Commerce, and the NATIONAL MARINE FISHERIES SERVICE (collectively "NMFS") to comply with the non-discretionary listing provisions of the Endangered Species Act, as amended, 16 U.S.C. §§ 1531-1544 (ESA). NMFS has failed to finalize its listing determinations for ringed seals (*Phoca hispida*) and bearded seals (*Erignathus barbatus*) under the ESA. See 16 U.S.C. §§ 1533(b)(6)(A)(i) & (B)(i). Plaintiff requests this Court to order NMFS to comply by a date certain with the ESA's mandatory, non-discretionary final listing determination deadline. *Id.* Compliance with this mandatory deadline is necessary to ensure the continued survival of ringed and bearded seals in the wild.

2. Ringed and bearded seals depend on sea ice for reproductive activities of birthing and nursing as well as molting that are essential to the survival of these species. Multiple studies have documented how the loss and early breakup of sea ice and decreasing snowpack are negatively impacting the ice seals throughout many regions in their range.

3. Global warming, caused by society's emissions of greenhouse gases, has resulted in significant warming across the Arctic and a rapid decline in Arctic sea-ice cover. Average winter temperatures in some areas of the Arctic have already risen by seven degrees Fahrenheit (four degrees Celsius). Even using moderate projections of future greenhouse gas emissions levels, average winter temperatures are projected to rise by an average of 14 degrees Fahrenheit (eight degrees Celsius) and up to 20 degrees Fahrenheit (11 degrees Celsius) over the Arctic by the end of this century. Summer sea-ice extent this year fell to a new record low and summer sea-ice cover is predicted to disappear entirely in the next two decades. The disappearance of sea ice poses a grave threat to ringed and bearded seals.

4. Ringed and bearded seals are threatened by other factors as well, including but not limited to high levels of organochlorides and other pollutants in the Arctic, and proliferating oil and gas development in their habitat.

5. On this basis, on May 28, 2008, the Center submitted a formal, detailed petition

to list three seal species, including ringed and bearded seals, under the ESA. On September 4, 2008, NMFS made a positive 90-day finding on the Center's petition, initiated a 60-day public comment period and continued its status review. 73 Fed. Reg. 51615 (Sept. 4, 2008). On September 8, 2009, the Center filed suit challenging NMFS's failure to issue a 12-month finding on the petition. Pursuant to a settlement agreement, NMFS agreed to make 12-month findings for ringed and bearded seals no later than November 1, 2010. On December 10, 2010, NMFS published in the federal register 12-month findings proposing to list the ringed seal and two distinct population segments (DPSs) of the bearded seal. 75 Fed. Reg. 77476 (Dec. 10, 2010) (ringed), 75 Fed. Reg. 77496 (Dec. 10, 2010) (bearded). On December 13, 2011, NMFS published in the federal register a six-month extension of the deadline for a final listing determination for both seal species. 76 Fed. Reg. 77466 (Dec. 13, 2012) (ringed), 76 Fed. Reg. 77465 (Dec. 13, 2011) (bearded).

6. Pursuant to these federal register notices and the ESA, NMFS's final listing determination was due no later than June 10, 2012. 16 U.S.C. §§ 1533(b)(6)(A)(i) & (B)(i). NMFS is therefore currently in violation of the ESA for failing to finalize its determinations to list the ringed and bearded seals under the ESA.

7. NMFS has abrogated its mandatory statutory duty under the ESA to finalize its listing determinations for ringed and bearded seals. These seals will not receive the protections they desperately need and deserve under the ESA until the Secretary makes all of the required findings and completes the listing process.

8. Plaintiff now seeks judicial relief declaring that the Secretary has violated the ESA and the Administrative Procedures Act ("APA"), 5 U.S.C. §§ 706 *et seq.*, by failing to finalize the listing determinations. Plaintiff also asks the Court to order the Secretary to finalize the listing determinations by a date certain.

II. JURISDICTION, VENUE, and INTRADISTRICT ASSIGNMENT

9. This Court has jurisdiction over this action pursuant to 16 U.S.C. §§ 1540(c) & (g) (action arising under the ESA and citizen suit provision), 28 U.S.C. § 1331 (federal question), 5 U.S.C. § 702 (APA), and 28 U.S.C. § 1361 (Mandamus). The relief sought is

authorized by 28 U.S.C. §§ 2201 (declaratory judgment) and 28 U.S.C. § 2202 (injunctive relief).

10. Venue is proper in the District of Alaska pursuant to 28 U.S.C. § 1391(e), as this civil action is brought against an agency of the United States and an officer of the United States acting in his official capacity and under the color of legal authority, no real property is involved in this action, and some or all of the legal violations occurred within this judicial district.

11. By written notice sent on June 18, 2012 and received by NMFS on the same day, Plaintiff informed NMFS of its violations more than sixty days prior to the filing of this Complaint, as required by the ESA. 16 U.S.C. § 1540(g). Despite receipt of Plaintiff's notice letter, NMFS has failed to remedy its violations of the ESA. An actual, justiciable controversy exists between the parties within the meaning of 28 U.S.C. § 2201.

12. Plaintiff has no adequate remedy at law. NMFS's continuing failure to finalize its listing determinations will result in irreparable harm to the ringed and bearded seals, to Plaintiff and Plaintiff's members and constituents, and to the public. No monetary damages or other legal remedy can adequately compensate Plaintiff, its members and constituents, or the public, for this harm.

13. Plaintiff and its members and constituents are adversely affected or aggrieved by federal agency action and are entitled to judicial review of such action within the meaning of the ESA and the APA. NMFS's failure to finalize its listing determination prevents the completion of the listing process and therefore the implementation of measures to protect ringed and bearded seals pursuant to the ESA. Without the substantial protections of the ESA, ringed and bearded seals are more likely to continue to decline and become extinct. Plaintiff is therefore injured because its use and enjoyment of ringed and bearded seals described below is threatened by the decline and likely extinction of the seals. These are actual, concrete injuries to Plaintiff, caused by NMFS's failure to comply with the ESA, the APA, and their implementing regulations. The relief requested will fully redress those injuries.

14. The federal government has waived sovereign immunity in this action pursuant

to 16 U.S.C. § 1540(g) and 5 U.S.C. § 702.

III. PARTIES

15. Plaintiff CENTER FOR BIOLOGICAL DIVERSITY (“the Center”) is a non-profit 501(c)(3) corporation with offices in Alaska, Arizona, California, Florida, Minnesota, Nevada, New Mexico, New York, Oregon, Vermont and Washington, D.C. The Center is actively involved in species and habitat protection issues throughout the United States, including protection of Arctic wildlife in general and ringed and bearded seals in particular. The Center has more than 38,000 active members throughout the United States and the world.

16. Plaintiff’s members and staff include individuals with varying interests in ringed and bearded seals and their habitat ranging from scientific, professional, and educational to recreational, aesthetic, moral, and spiritual interests. Further, Plaintiff’s members and staff enjoy, on an on-going basis, the biological, scientific, research, education, conservation, recreational and aesthetic values of the Arctic region inhabited by these species. Plaintiff’s staff and members observe and study ringed and bearded seals and their habitat, and derive professional, scientific, educational, recreational, aesthetic, inspirational, and other benefits from these activities and have an interest in preserving the possibility of such activities in the future. An integral aspect of the Plaintiff’s members’ use and enjoyment of ringed and bearded seals is the expectation and knowledge that the species are in their native habitat. For this reason, the Center’s use and enjoyment of these seals is entirely dependent on the continued existence of healthy, sustainable populations in the wild. Plaintiff brings this action on its own behalf and on behalf of its adversely affected members and staff.

17. Defendant REBECCA BLANK, Acting United States Secretary of Commerce, is the highest ranking official within the Department of Commerce and, in that capacity, has ultimate responsibility for the administration and implementation of the ESA with regard to ringed and bearded seals, and for compliance with all other federal laws applicable to the Department of the Commerce. She is sued in her official capacity.

18. Defendant NATIONAL MARINE FISHERIES SERVICE (NMFS) is a federal agency within the National Oceanic and Atmospheric Administration in the Department of

Commerce authorized and required by law to protect and manage the fish, marine mammals, and other marine resources of the United States, including enforcing and implementing the ESA. NMFS has been delegated authority by the Secretary of Commerce to implement the ESA for the bearded and ringed seals, including responsibility for making decisions and promulgating regulations, including proposed and final listing decisions and the processing of petitions for such actions.

IV. LEGAL BACKGROUND

19. The ESA is a federal statute enacted to conserve endangered and threatened species and the ecosystems upon which they depend. 16 U.S.C. § 1531(b). The ESA “is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court’s review of the ESA’s “language, history, and structure” convinced the Court “beyond a doubt” that “Congress intended endangered species to be afforded the highest of priorities.” *Id.* at 174. As the Court found, “the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Id.* at 184.

20. The ESA protects species listed as either “endangered” or “threatened” by the Secretary. A species is “endangered” if it “is in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). A species is “threatened” if it is “likely to become an endangered species within the foreseeable future.” 16 U.S.C. § 1532(20)

21. Once a species is listed, an array of statutory protections applies. For example, Section 7 requires all federal agencies to ensure that their actions neither “jeopardize the continued existence” of any listed species nor “result in the destruction or adverse modification” of its “critical habitat.” 16 U.S.C. § 1536(a)(2). Section 9 and its regulations further prohibit, among other things, “any person” from intentionally “taking” listed species or “incidentally” taking listed species without a permit from the Service. 16 U.S.C. §§ 1538(a)(1)(B), 1539. Other provisions require NMFS to designate “critical habitat” for listed species, 16 U.S.C. § 1533(a)(3), require NMFS to “develop and implement” recovery plans for listed species, 16 U.S.C. § 1533(f), authorize NMFS to acquire land for the protection of listed species, 16 U.S.C.

§ 1534, and make federal funds available to states to assist in its efforts to preserve and protect threatened and endangered species, 16 U.S.C. § 1535(d).

22. However, none of these protections come into force until a species is officially listed as threatened or endangered under the ESA.

23. In order to ensure the timely protection of species, Congress set forth the listing process described below. The process includes mandatory, non-discretionary deadlines for the three required findings that the Secretary must meet, so that species in need of protection do not languish in administrative purgatory. The three required findings, described below, are the 90-day finding, the 12-month finding, and the final listing determination.

24. Any interested person can begin the listing process by filing a petition to list a species with the Secretary. 16 U.S.C. § 1533 (b)(3)(A); 50 C.F.R. § 424.14(a).

25. Upon receipt of a petition to list a species, the Secretary has 90 days “to the maximum extent practicable,” to make a finding as to whether the petition “presents substantial scientific or commercial information indicating that the petitioned action may be warranted.” 16 U.S.C. § 1533 (b)(3)(A); 50 C.F.R. § 424.14 (b)(1). If the Secretary finds that the petition presents substantial information indicating that the listing may be warranted, the Secretary then publishes in the Federal Register a “90 day finding and commencement of status review.” 16 U.S.C. § 1533(b)(3)(A).

26. Upon issuing a positive 90-day finding, the Secretary must then conduct a full review of the status of the species. 50 C.F.R. § 424.14. Upon completion of this status review, and within 12 months from the date that he received the petition, the Secretary must make one of three findings: (1) the petitioned action is not warranted; (2) the petitioned action is warranted; or (3) the petitioned action is warranted but presently precluded by other pending proposals for listing species, provided certain circumstances are present. 16 U.S.C. § 1533(b)(3)(B); 50 C.F.R. § 424.14 (b)(3). This second determination is known as a “12-month finding.” This deadline is mandatory. There is no mechanism by which the Secretary can extend the deadline for the finding.

27. If the Secretary finds in the 12-month finding that the listing of the species is

warranted, then he must publish in the Federal Register a proposed rule, for public comment, to list such species as endangered or threatened. 16 U.S.C. § 1533(b)(5).

28. Within one year of the publication of a proposed rule to list a species, the ESA requires the Secretary to render a final determination on the proposal. 16 U.S.C. § 1533(b)(6)(A).

29. At such time, the Secretary must either list the species, withdraw the proposal, or if there is substantial disagreement about scientific data, delay a final determination for no more than six months to solicit more scientific information. 16 U.S.C. §§ 1533(b)(6)(A)(i)(III) & 1533(b)(6)(B)(i).

30. Concurrently with a final determination to list a species, the Secretary must render a final decision concerning the designation of critical habitat for the species to the maximum extent prudent and determinable. 16 U.S.C. §§ 1533(a)(3) & 1533(b)(6)(C). If the Secretary finds that designation of critical habitat is prudent, but is not currently determinable, then the Secretary may extend the deadline to issue a final regulation concerning critical habitat by no more than one additional year. 16 U.S.C. § 1533(b)(6)(C)(ii).

31. It is critical that the Secretary scrupulously follow the ESA's listing procedures and deadlines if species are to be protected in a timely manner, because the ESA does not protect a species until the species is formally listed as threatened or endangered.

V. FACTUAL BACKGROUND

32. The ringed seal is the most widespread marine mammal in the ice-covered regions of the Northern Hemisphere and the smallest and most ice-adapted of all northern pinnipeds. Five distinct subspecies of the ringed seal are recognized: the Arctic ringed seal (*P. h. hispida*) that inhabits the seasonally and permanently ice-covered waters of the Arctic Ocean and contiguous subarctic seas; the Okhotsk ringed seal (*P. h. ochotensis*) restricted to the Okhotsk Sea; the Lake Saimaa ringed seal (*P. h. saimensis*) confined to Lake Saimaa, Finland; the Lake Ladoga ringed seal (*P. h. ladogensis*) confined to Lake Ladoga, Russia; and the Baltic ringed seal (*P. h. botnica*) restricted to the Baltic Sea. Unlike other northern phocids, the ringed seal is able to inhabit and reproduce in landfast ice during the winter and spring breeding season

due to its ability to make and maintain breathing holes in thick ice and to excavate subnivalian lairs in snowdrifts over breathing holes, which it uses for resting, giving birth, and nursing pups during March to June.

33. The bearded seal is, after the walrus, the largest of the ice-associated pinnipeds that inhabit Alaskan waters. The bearded seal occurs in a patchy circumpolar distribution around the perimeter of the Arctic Ocean and the contiguous subarctic seas. Two subspecies of the bearded seal are recognized: the Atlantic bearded seal (*E. b. barbatus*) and Pacific bearded seal (*E. b. nauticus*). Bearded seals reproduce and haulout primarily on drifting pack ice over shallow water where the ice is in constant motion producing leads, polynyas and other openings. Because the bearded seal feeds predominantly on benthic prey, its distribution is generally restricted to relatively shallow shelf waters of less than 150 to 200 meters where such prey are more abundant. Both bearded and ringed seals perform seasonal migrations in conjunction with the seasonal advance and retreat of sea ice.

34. The sea-ice habitat of ringed and bearded seals is threatened by rapid Arctic climate change that is occurring at a pace that is exceeding the predictions of the most advanced climate models. Arctic surface temperatures increased twice as much as the global average during the 20th century. Winter sea-ice extent in 2006 and 2007 declined to a minimum that most climate models forecast would not be reached until 2070, and summer sea-ice extent in 2007 plummeted to a record minimum which most climate models forecast would not be reached until 2050. This year's sea-ice minimum has broken the 2007 record and is now the lowest ever recorded.

35. In the range of the ringed and bearded seals, sea-ice extent has declined significantly during the March through July breeding and molting season in recent decades throughout most of the range, including the seasonally ice-covered Okhotsk and Bering Seas, Hudson Bay, Baffin Bay, Greenland Sea, Canadian Archipelago, Barents Sea, Kara Sea, Laptev Sea, Chukchi Sea, and Arctic Ocean.

36. Of foremost concern for these seal species, global warming will accelerate in this century. Arctic air temperatures are projected to increase by an average of 14 degrees

Fahrenheit (eight degrees Celsius) during winter by the end of the century. Climate scientists have predicted that Arctic summer sea ice is likely to disappear entirely by the 2030s. Winter and spring sea ice will also continue to decline with the accelerating loss of summer sea ice that creates large open-water areas that increase the ice-albedo feedback. The Bering, Okhotsk, and Barents Seas are projected to lose at least 40 percent of winter sea-ice area by 2050. Any remaining sea-ice habitat will likely be of low quality because the sea ice will be thinner and the ice will melt sooner, leading to breakup of the sea ice during the reproductive and molting periods.

37. Global warming will impact ringed and bearded seals directly by degrading and eliminating critical sea-ice habitat, which will have devastating consequences by reducing adult reproductive success and the survival of pups and impairing their ability to molt. Due to global warming, snowpack on sea ice is also getting thinner which is making it more difficult for ringed seals to build snow caves for raising their young and is making snow caves more prone to collapse, putting seal pups at higher risk of death from freezing and predation. Growing threats from climate change include depletion of prey resources due to changing ocean conditions and ocean acidification; increasing exposure to predators, competitors, disease, and human disturbance; and increasing shipping activity and oil and gas development, with associated risks of oil spills and noise pollution as sea-ice loss increases the accessibility of previously ice-covered regions.

38. The ringed and bearded seal also face threats from current or potential overexploitation from hunting, current oil and gas development in many parts of their range, rising contaminant levels in the Arctic, and bycatch mortality from commercial fisheries. Many of these threats will interact with global warming in cumulative and synergistic ways, further heightening the threat to the seals.

39. Section 4(b)(6) of the ESA and its implementing regulations required NMFS to finalize its listing determination for ringed and bearded seals by June 10, 2012. 16 U.S.C. § 1533(b)(6)(A)(i) & (B)(i). NMFS failed to meet this deadline.

VI. CLAIM FOR RELIEF

Violation of Endangered Species Act, 16 U.S.C. § 1533(b)(6)(A)(i) & (B)(i), for Failure to Finalize Listing Determinations

40. Plaintiff realleges and incorporates by reference all the allegations set forth in this Complaint, as though fully set forth below.

41. NMFS's failure to finalize its listing determinations for ringed and bearded seals within the timeframes set by the ESA is a violation of the ESA and its implementing regulations and is actionable thereunder. 16 U.S.C. §§ 1533(b)(6)(A)(i) & (B)(i); 1540(g)(1)(c).

VII. PRAYER FOR RELIEF

42. For the reasons stated above, Plaintiff respectfully requests that the Court grant the following relief:

- a. Declare that NMFS is in violation of its non-discretionary duties under 16 U.S.C. § 1533(b)(6)(A)(i) & (B)(i) of the ESA for failing to finalize its listing determinations for ringed and bearded seals under the ESA;
- b. Issue permanent injunctive relief compelling NMFS to make and publish in the Federal Register final listing determinations for ringed and bearded seals under the ESA by a date certain;
- c. Award Plaintiff its costs of litigation, including reasonable attorneys fees; and
- d. Grant Plaintiff such other relief as the Court deems just and proper.

Dated: September 12, 2012.

s/ Rebecca Noblin

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Steller Sea Lion Mitigation Committee

MINUTES

5-31-2012

9-11 AM

TELECONFERENCE

ATTENDEES – COMMITTEE MEMBERS	Larry Cotter-Chairman, Rudy Tsukada, Kenny Down, Alvin Osterback, Dave Fraser, Jon Warrenchuk, Gerry Merrigan, John Gauvin, Ernie Weiss, Todd Loomis, Steve MacLean-Council staff
PUBLIC ATTENDEES	Bill Wilson, Lowell Fritz, Cynthia Suchman, Doug DeMaster, Dana Segars, Paul MacGregor, Karla Bush, Mike Levine, Frank Kelty, Tom Gemmell, Nicole Kimball, and NMFS staff included Mary Furuness, Josh Keaton, Ben Muse, Mary Grady, Jon Kurland, Sarah Elgen, Gretchen Harrington, Melanie Brown

Agenda topics

PURPOSE OF SSLMC

COTTER

DISCUSSION	The purpose of the SSLMC is to interact with the NMFS PR and SF staff during the development of the SSL Protection Measures EIS, and specifically to develop one or more RPAs for consideration for analysis in the EIS. The objective is to replicate the successful interactions that occurred during the 2001 RPA committee, and improve on the interactions that occurred in later committee meetings.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

ORGANIZATIONAL STRUCTURE

COTTER

DISCUSSION	The organizational structure of the SSLMC will be both formal and informal at times. The Chairman will generally recognize Committee members first to speak, but members of the public will be allowed to participate at the Chairman's option, based upon time and other considerations. The public will be allowed to testify follow lunch of each first day, and at the start of the meeting and after lunch of the second day.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

SCHEDULE

COTTER

DISCUSSION	The schedule for the SSLMC to meet and complete its work is dictated by the EIS schedule. The period of time for the Committee to develop RPAs and scoping comments is during the scoping period, which ends on October 15. After that time, the Committee will develop the RPAs for presentation to the Council at the December Council meeting.		
Melanie Brown gave an overview of the EIS scoping process, and schedule for completion of the scoping report. Chairman Cotter asked what NMFS' intent is for the range of scoping. The Court remand directed NMFS to analyze at least the current RPA, which includes the Bering Sea and Aleutian Islands management area but focuses on the central and western Aleutians. It is likely that the current EIS will focus on the central and western Aleutians unless an issue is identified during scoping that would indicate a need to expand the scope further. A final decision on the scope of the EIS will be made when the scoping report is prepared (December 2012), and the scope of the EIS will not change after that report is complete. Based on that information Chairman Cotter stated that it is unlikely that the Committee will consider anything beyond the Aleutians for management measures. Mr. Merrigan questioned whether the Committee was limited to the Aleutians when requesting new information or data. Chairman Cotter indicated that the Committee is not geographically limited when requesting new information or data.			
The remaining schedule was discussed and modified to account for existing scheduling conflicts.			
CONCLUSIONS	Schedule for upcoming meetings is:		

AGENDA B-7(b)
OCTOBER 2012

June 14-15. Juneau, AK. Agenda topics include EIS/ESA requirements and other legal issues (John Lepore), review of 2012 BiOp (AK Region lead), "Getting smart" – what new information does the Committee wish to hear – suggestions include disease, contaminants, unmanned aerial vehicles. John Gauvin requested a report from NMFS re: permitting for research regarding SSL and fisheries interactions. Gerry Merrigan requested presentation from NMFS regarding the selection of baseline data for EIS (2004 – 2010).		
July 17-18. Seattle, WA. Continue to Get Smart		
July 30-31. Seattle, WA. Before CIE review panel meeting.		
September 5-6. Location TBD		
October 17-18. Location TBD		
November 7-9. Location TBD		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Send Steve MacLean suggestions for new information/data for which the Committee would like to receive presentations.	Committee Members	June 4 (suggestion)

OBSERVERS	
RESOURCE PERSONS	
SPECIAL NOTES	

North Pacific Fishery Management Council

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June 11, 2012

The North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee (Committee) will meet in Juneau, Alaska on June 14-15, 2012 from 9 AM-5 PM Alaska Standard Time. The purpose of the meeting is to review the EIS and ESA requirements and other legal issues for the 2012 Steller sea lion mitigation measures EIS, review the 2010 Biological Opinion, and receive other information about Steller sea lions, sea lion research, and information about the progress of the 2012 EIS. The meeting will take place in the 4th floor conference room of the Federal Building at 709 West 9th Street.

Agenda

June 14

9:00	Welcome, introductions	
9:15 – 9:30	Review purpose of SSLMC Scope of SSLMC	Cotter
9:30 – 10:30	Review ESA and other legal considerations	Lepore
10:30 – 10:45	Break	
10:45 – 12:00	Continue Review ESA and other legal considerations and Committee discussion	Lepore
12:00 – 1:30	Lunch	
1:30 – 2:00	Public Testimony	
2:00 – 3:30	Review 2010 Biological Opinion	Segars
3:30 – 3:45	Break	
3:45 – 5:00	2012 EIS baseline data presentation & discussion	Keaton

**Agenda
June 15**

9:00	Summary of Day 1 – review any questions	Cotter
9:30 – 10:30	Update of progress on 2012 EIS	Brown
10:30 – 10:45	Break	
10:45 – 12:00	Committee Discussion	Cotter
12:00 – 1:30	Lunch	
1:30 – 2:00	Public Testimony	
2:00 – 5:00	Committee Discussion Incl. Data and presentation requests from NMML & AFSC for July meetings.	Cotter
5:00	Adjourn	

Steller Sea Lion Mitigation Committee

MINUTES

6-14/15-2012

9 AM – 5 PM

JUNEAU, AK

ATTENDEES – COMMITTEE MEMBERS	Larry Cotter-Chairman, Rudy Tsukada, Dave Fraser, Jon Warrenchuk, Gerry Merrigan, John Gauvin, Ernie Weiss, Todd Loomis, Steve MacLean-Council staff
PUBLIC ATTENDEES	Michael Levine, Jon Kurland, Kristen Mabry, Melanie Brown, Dana Seagars, Josh Keaton, Steve Lewis, Ben Muse, Tom Gemmell, Mary Furuness, Dave Benton, John Lepore, Sadie Wright, Heather Brandon, Doug Vincent-Lang, Glenn Reed, Jim Balsiger, Tom Gelatt, John Bengtson, Mary Grady, Brandi Gerke, Sarah Ellgen, Stephanie Madsen, Diane Scoboria

Agenda topics

INTRO, REVIEW PURPOSE & SCOPE

COTTER

DISCUSSION	Chairman Cotter welcomed the Committee and public and asked each person present to introduce themselves. Eight committee members were present, missing were Alvin Osterback and Kenny Down. Chairman Cotter reiterated that the purpose of the SSLMC was to develop comments for the scoping process in the SSL EIS, and to develop one or more alternatives for the Council to consider advancing for analysis in the SSL EIS.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

ESA AND OTHER LEGAL CONSIDERATIONS

LEPORE

DISCUSSION	<p>Mr. John Lepore summarized a presentation previously given to the NPFMC regarding the purposes, requirements, and recent court decisions concerning the ESA, and provided legal context for the next steps of the EIS process. Mr. Lepore reiterated the Gifford Pinchot Task force v. U.S. Fish and Wildlife Service and the National Wildlife Federation v. NMFS decisions, and their interpretation that evaluation of the impacts of federal actions on both survival <i>and</i> recovery are required. This resulted in the “Hogarth Memo” that explains NMFS policies for applying the ESA. Mr. Lepore further identified NMFS’ interpretation of “conservation” in the ESA. There was some discussion about the use of recovery plans and recovery criteria in ESA Section 7 consultations, and the resulting Biological Opinions. There was a statement from PR staff that the recovery criteria should be included in biological opinions, and that the two need to be linked.</p> <p>Mr. Lepore provided a summary of the January 19, 2012 US District Court determination. Following this summary, there were questions about the appeal of that decision that has been filed. As that is ongoing litigation, there was little discussion of the appeal.</p> <p>There were questions from the Committee about whether a new formal Section 7 consultation would be required at the end of the SSL EIS process, would a new RPA require a new Biological Opinion? The feeling from both Sustainable Fisheries and Protected Resources was that although it is possible that a new RPA would not require</p>
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	reconsultation if the effects of that RPA had already been considered and did not differ from the status quo, it is very likely that any new RPA resulting from the EIS would require reinitiation of formal consultation. The timeline developed for the EIS and rulemaking process (delivered to the Council in April, 2012) does include time for Section 7 consultation. A question was asked whether the "performance standards" used in the 2010 Biological Opinion were the standards that would be applied in the EIS, could NMFS estimate the effects of an alternative during the EIS process using different standards than those used in the 2010 Biological Opinion? Mr. Lepore reported that yes, an alternative, or alternatives, could be analyzed using different standards.	
CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
N/A		

2010 BIOLOGICAL OPINION

SEAGARS

DISCUSSION	<p>Dana Seagars (AKR PR) gave a presentation summarizing the 2010 Biological Opinion. Mr. Seagars' presentation summarized the concepts of jeopardy and adverse modification (JAM), and explained that the agency must ensure that the action does not cause jeopardy to the continued existence or recovery of the population, or adversely modify designated critical habitat. The presentation provided a history of Section 7 consultations related to the Steller sea lion in Alaska, and the inclusion of recovery criteria from the 2008 Steller Sea Lion Recovery Plan in the 2010 BiOp. The new information that was cited to reinitiate consultation included status and trends of the wDPS, new SSL research, and fisheries data. The presentation then summarized the conclusions of the 2010 BiOp, that nutritional stress is likely affecting the survival and recovery of the wDPS and it is not possible to exclude the likelihood that commercial groundfish fisheries cause JAM, current fishery management measures in the eastern AI, BS, and GOA appear to be having their intended effect and should be continued, and that mitigation needs to be more precautionary in the western AI where SSL population declines are steepest. Performance standards used to establish and evaluate reasonable and prudent alternatives (RPAs) were presented. There were questions about the performance standards that were applied in the 2010 BiOp, and whether those same performance standards would be applied to the 2012 EIS. Mr. Seagars responded that the performance standards used in the 2010 BiOp would likely be used again. A comment was made that the existence of performance standards suggested that metrics by which those standards could be measured existed. For example, one of the metrics listed is to conserve the overall forage biomass for Steller sea lions, which suggests that a measure of biomass exists. The Committee would like to know whether that measure entails measuring biomass or uses fishery removals as a proxy for overall forage biomass. Mr. Seagars agreed that PR would provide a list of metrics to the Committee. However, it was noted during discussion that alternative metrics would also be appropriate, and the Committee is not restricted to the metrics used by NMFS in the 2010 BiOp and could suggest alternate metrics to evaluate alternatives in the EIS process, and use alternate metrics during the development of their own alternatives.</p> <p>Mr. Seagars concluded by summarizing the "bulls eye" concept for the RPA put into effect by the Interim Final Rule.</p>
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CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
PR will provide list of metrics to measure performance standards to the SSLMC	Seagars	

INTERIM FINAL RULE **M. BROWN**

DISCUSSION	Melanie Brown presented an overview of the Interim Final Rule that was put in place in 2011. This presentation included a summary of the closures in effect in areas 541, 542, and 543, and changes to the RPA since October 2010. Some discussion occurred about the likelihood of a new RPA requiring reconsultation. PR and SF staff concurred that any new RPA would likely require either formal or informal consultation, and a new Biological Opinion. Reconsultation is anticipated in the timeline for implementation by 2014.	
CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
N/A		

PUBLIC TESTIMONY

DISCUSSION	Mike Levine, Oceana, provided public testimony wherein he reiterated that any new RPA being considered should fit within the existing management framework considered in the original BiOp, and suggested that any consideration beyond that is beyond the scope of the committee. Mr. Levine also requested that opportunities for teleconferencing should be provided for SSLMC meetings.	
CONCLUSIONS	The Committee requested that future SSLMC meetings be made available to the public via teleconference.	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Council staff will arrange for the remaining SSLMC meetings to be broadcast (listen and video presentation only) via teleconference.	MacLean	

NMML UPDATE **TOM GELATT**

DISCUSSION	Tom Gelatt, National Marine Mammal Lab. Alaska Ecosystems Program Leader, presented information about the Alaska Ecosystem Program's recent work. Dr. Gelatt noted that NMML staff have been notified that they may be requested to provide information to the Committee at either the July 15-16 or 30-31 meetings, and they are prepared to do so. Gross topics for which NMML is prepared to provide data include: abundance trends of wDPS through 2011 (2012 data may be available by the December 2012 Council meeting); Survival rates through age 11 for EAI, CGOA, EGOA, and time series survivorship changes from the CGOA from 1975 – 2011; Age-sex composition of wDPS and comparisons with SEAK; Aleutian Island SSL food habits from 199 – 2011, including a manuscript that is intended to be available as a citation for the 2012 EIS; summary of information from recent satellite telemetry work.	
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Work being conducted this year includes: aerial surveys planned for the entire Aleutian Islands, starting from the western Aleutians, moving eastward; Brand resight surveys from Kenai – Kodiak – Amak; Brand resight surveys aboard the FWS *R/V Tiglax*; capture and biosampling pups from the Aleutians, and refurbishing remote cameras placed on Attu and Agatu Islands to obtain timelapse presence / absence data on rookeries and haulouts.

CONCLUSIONS The Committee will request presentations from NMML staff for the July meetings via written request to Dr. Doug DeMaster.

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Prepare request for presentations letter	MacLean	

2012 EIS BASELINE DATA & CATCH ACCOUNTING SYSTEM J. KEATON, S. LEWIS

DISCUSSION Josh Keaton provided information about the data sources and products that NMFS will use to evaluate alternatives in the 2012 EIS. The Catch Accounting System (CAS) is the official record of non CDQ (2003 – current) and CDQ (2008 – current) catch in Alaska. Although all data are available, some data are confidential if individual entities (vessels or processors) are three or fewer. Confidential data must be summarized to dilute individually identifiable information. The baseline for the 2012 EIS includes data from 2004 – 2010, although information from 2011 and 2012 may also be used where appropriate. The years 2004 – 2010 were selected because they are the latest data that cover the current management practices, and only data since 2004 include fine scale data. A question was asked about pre-2003 observer data, and what changes in 2003-2004 preclude using 2003 data. Mr. Keaton responded that after 2004, blended data were no longer included in the dataset.

Steve Lewis presented an introduction to the Catch In Area (CIA) dataset, which will also be used for analysis in the 2012 EIS. Mr. Lewis demonstrated the reprojecting functioning of the CIA dataset, which allows for an analysis of likely distribution of effort if certain areas are closed. As an example, Mr. Lewis demonstrated the reprojected longline effort around the Pribilof Islands for proposed closures that were analyzed for the Pribilof Islands blue king crab rebuilding EA.

CONCLUSIONS

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

2012 EIS PROGRESS & UPDATE ON ATKA MACKEREL STUDIES M. BROWN

DISCUSSION Day two began with a presentation of progress to date on the 2012 Steller sea lion protection measures EIS, and an update on the Atka mackerel tagging study. The EIS is well underway, letters have been sent to tribal entities in Alaska announcing availability for Tribal Consultation, the State of Alaska, US Coast Guard, and US Fish and Wildlife Service have all accepted invitations to act as consulting agencies, the writing teams for each chapter have been developed and teams are beginning to write their sections. Writing teams have received EIS specific training, and training with software that will be used to manage citations (Mendeley) and share chapter drafts.

	The Atka mackerel tagging study was not able to obtain a research permit authorizing use of Atka mackerel in the no-retention zone established by the Interim Final Rule. NMFS plans to include the Atka mackerel tagging study as part of the research recommendations chapter in the 2012 EIS.		
CONCLUSIONS			
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
Council staff will create a Mendeley workgroup for the SSLMC to share research papers and citations	MacLean		

RESEARCH PRESENTATION REQUESTS COTTER

DISCUSSION	<p>The Committee discussed the range of presentations that they would like to receive during the development of scoping comments and alternatives for consideration in the EIS. The Committee decided to add another day to the September meeting for development of scoping comments, the meeting will now take place September 5-7, in Juneau. The Committee directed Council staff to work with the chairman to develop a list of presentations from NMML, AFSC, and other agencies for the July and September meetings. A request was made for a summary of fleet behavior and reaction to the 2010 IFR by gear type and component. NMFS AKR staff indicated they could make that presentation, likely in September, when the Committee meeting will be in Juneau. The Committee also requested an update and forecast of fleet behavior in the State waters fishery.</p> <p>Additionally, the Committee requested that relevant recent research papers should be obtained and distributed to the Committee.</p>		
CONCLUSIONS	Council staff will work with the Chairman to draft a list of requested presentations and solicit presentations from NMFS AKR, NMML, the State of Alaska, and other agencies where appropriate		
	Council staff will compile a list of recent research articles and data (not intended to be comprehensive) and distribute papers and data (if possible) to the Committee		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
Develop list of requested presentations and send requests	MacLean		
Compile recent research articles	MacLean		

OBSERVERS	
RESOURCE PERSONS	
SPECIAL NOTES	

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July 9, 2012

The North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee (Committee) will meet in Seattle, Washington on July 16-17, 2012 from 9 AM-5 PM Alaska Standard Time. The purpose of the meeting is to receive updates on recent research relevant to SSLs in the Aleutian Islands. The meeting will take place at the Alaska Fisheries Science Center, in the National Marine Mammal Laboratory conference room in Building 4.

Agenda

July 16

9:00	Welcome, introductions, briefings	
9:15 – 9:30	Review June 14-15 meeting & approve minutes	Cotter
9:30 – 10:30	Update on EIS progress Status quo analysis	Brown
10:30 – 10:45	Break	
10:45 – 12:00	Recent Catch information from Areas 541, 542, 543	Lewis & Keaton
12:00 – 1:30	Lunch	
1:30 – 2:00	Public Testimony	
2:00 – 3:00	Steller sea lion abundance trends through 2011 (with limited data from 2012). Pup/non-pup counts and regional trends for wDPS	Fritz
3:00 – 3:15	Break	
3:15 – 4:15	Continue SSL abundance presentation Brand – resight results for wDPS	Fritz
4:15 – 5:00	CIE Review panel	MacLean

**Agenda
July 17**

9:00	Summary of Day 1 – review any questions	Cotter
9:30 – 10:30	Presence and abundance of mammal-eating killer whales in the Aleutian Islands	Wade
10:30 – 10:45	Break	
10:45 – 11:30	FIT – Recent program information and review of previous results	Loggerwell
10:30 – 12:00	Recent SSL Telemetry results Results from adult female and juveniles	Fadely
12:00 – 1:30	Lunch	
1:30 – 2:00	Public Testimony	
2:00 – 3:00	LHX tags & survival estimates	Horning
3:00 – 3:15	Break	
3:15 – 4:00	Update on SSL feeding in AI	Gelatt
5:00	Adjourn	

Steller Sea Lion Mitigation Committee

MINUTES

7-16/17-2012

9 AM – 5 PM

SEATTLE, WA

ATTENDEES – COMMITTEE MEMBERS	Larry Cotter-Chairman, Rudy Tsukada, Dave Fraser, Gerry Merrigan, John Gauvin, Ernie Weiss, Todd Loomis, Steve MacLean-Council staff
PUBLIC ATTENDEES	<p>Josh Keaton, Melanie Brown, Merrick Burden, Alan Haynie, Tom Gelatt, Mary Grady, Sadie Wright</p> <p>Doug Vincent Lang, Brian Fadely, Katie Sweeney, Lowell Fritz, Glenn Merrill, Steve Lewis, Paul MacGregor, Glenn Reed, Anne Vanderhoeven, Matt Upton, John Lepore, Kim Parsons, Brandee Gerke, Vladimir Burkanov, Susanne McDermott, Lori Swanson, Tonya Zeppelin, Markus Horning</p> <p>Others were listening online, but were not recorded.</p>

Agenda topics

INTRO, REVIEW
PURPOSE & SCOPE

COTTER

DISCUSSION	Chairman Cotter welcomed the Committee and public and asked each person to introduce themselves. Six committee members were present, missing were Alvin Osterback and Jon Warrenchuk. The purpose of the meeting was to begin receiving presentations of new data.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

UPDATE ON 2012 SSL
MITIGATION MEASURES
EIS

M. BROWN

DISCUSSION	<p>Ms. Melanie Brown (NMFS AKR) presented a progress update on the 2012 Steller sea lion mitigation measures EIS. Since the last SSLMC meeting, the agency has submitted a status report to the U.S. District Court. The EIS is progressing as expected, and Ms. Brown distributed an updated schedule for the development of the EIS and other processes that occur alongside the EIS. Ms. Brown reported that the agency has not received any new letters regarding the scope of the EIS, and has not received any response from the tribal organizations that were contacted regarding formal Tribal Consultation.</p> <p>Agency staff are currently working on completing the analysis of the status quo action (current fishing restrictions, status presented later in the meeting by Josh Keaton and Steve Lewis), and identifying reasonably foreseeable future actions that may affect the analysis.</p> <p>Ms. Brown reported that the list of citations is growing, but there is not yet a way to allow the public to have access to the list of references. Steve MacLean has sent out a partial list of Steller sea lion related papers that were published between 2009 and 2012. There were questions about whether those publications could be</p>
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	provided to the SSLMC and interested members of the public. Because of copyright concerns, those papers cannot be distributed at this time. Many of the government papers and reports are available for free download, and most academic libraries will have access to other, printed papers.	
CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
N/A		

STATUS QUO ANALYSIS

J. KEATON & S. LEWIS

	<p>Josh Keaton and Steve Lewis (NMFS AKR) provided an update of the status quo analysis. They are analyzing the RPA that accompanied the 2010 BiOp as an alternative, and modeling the potential impacts of the restrictions retroactively. They are hindcasting what the effects of the RPA <i>could</i> have been if the RPA were in effect in 2004. They note that they are producing an index of abundance for Atka mackerel and Pacific cod, rather than a statistically tested analysis. There are no confidence intervals around their analysis, and the index of fish abundance. This index may provide a comparison to evaluate the potential impacts of other alternatives, relative to status quo. There were some questions about the "hindcast", and how that might affect forecast of either the existing RPA or other alternatives. Mr. Keaton and Mr. Lewis reported that because the hindcast creates an index of abundance, rather than "real" data, the hindcast should not have any effects on any forecasts of the RPA or other alternatives. Questions were asked about the differences between the baseline for the EIS, and the hindcast years for the status quo analysis. Ms. Brown responded that the baseline for the EIS remains the same, 2004 – 2010, and represents the "state of nature" to compare alternatives. The hindcasting timeframe for the existing RPA is 2004 – current (December 2012 as cutoff).</p>
DISCUSSION	<p>A comment was made that a status quo analysis should capture the costs that have been incurred by prior SSL mitigation measures, for example the prohibition on pollock harvest in the Aleutian Islands, as part of the cumulative impacts section.</p> <p>The agency was asked whether they have data to analyze catch as a proportion of biomass by year. It was noted that actual catch numbers may be misleading if the biomass estimates change dramatically, for instance a doubling of catch does not have any additional impact if the biomass also doubles. Ms. Brown responded that yes, the agency can use stock assessments to address those questions. A question was then asked whether the most recent assessments will be available for analysis, considering the time that is required for those to be reviewed by the Council, etc. It was noted that a December 15 cutoff for new information may not provide sufficient time for the newest assessments to be vetted. Ms. Brown responded that there should be enough time to get the assessments ready for the current analysis.</p> <p>The agency was also asked whether single-species models or multi-species models would be used to assess the impacts of the status quo on fish resources. Ms. Brown replied that the Alaska region is working with the Alaska Fisheries Science Center to determine which models are appropriate for use. However, Ms. Brown</p>

noted that it is likely that the single-species models will still be used to assess the impacts of alternatives. Some multi-species models are used in the ecosystem impacts chapter, but not likely for setting ABC, TAC, etc.		
CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Steve MacLean will request a presentation re: single-species and multi-species models for the July 30/31 meeting.	MacLean	

RECENT CATCH AND FLEET BEHAVIOR		LEWIS & KEATON	
DISCUSSION	<p>Mr. J. Keaton (AKR) and Mr. S. Lewis (AKR) presented information about recent vessel activity (2011, partial 2012) in the western and central AI, in areas 541, 542, 543. There was relatively little fishing activity in the western and central Aleutian. Rather, most of the fishing activity occurred in the Bering Sea, where abundance and size of cod was greater than expected. One committee member questioned whether the shift to the Bering Sea was because of the abundance and size of the cod or whether it was merely coincidental.</p> <p>There were questions about what effect a potential split in the Bering Sea and Aleutian Island Pacific cod TAC might have on SSL mitigation measures. Mr. Lewis and Mr. Keaton reported that they would review the potential impacts of a P. cod TAC split and report back to the Committee.</p>		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

WESTERN STELLER SEA LIONS: POPOULATION TRENDS, VITAL RATES, COMPOSITION AND MOVEMENT		LOWELL FRITZ	
DISCUSSION	<p>Mr. Lowell Fritz (National Marine Mammal Laboratory) presented a very detailed presentation about population trends, vital rates, and composition and movement of the western DPS of Steller sea lions. This presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html. Included in the talk were</p> <ul style="list-style-type: none"> • Abundance and Trends <ul style="list-style-type: none"> ○ 2011 pups and non-pups ○ 2012 update – Aleutians • Survival (Vital Rates) <ul style="list-style-type: none"> ○ wDPS: E Aleutians – E GOA ○ Comparisons with SE AK ○ Changes in wDPS survival 1970s-200s 		

- Possible relationships between survival, natality, population trends and differences in life history between e & wDPS
- Composition
 - Pup/Female ratios by region in AK – relative natality
 - Length distribution by region in AK
 - Sizes of adult females
 - Proportion of juvenile – implications for vital rates
- Movement to and from Aleutians and Russia
 - Russian branded sea lions in US and vice versa
 - eDPS and GOS brands in the Aleutians

Aerial surveys for 2012 were planned for the entire Aleutians region, with a focus on the western Aleutians. However extensive fog precluded most of the surveys. A question was asked about the results on trend sites, and whether that trend was representative of those on non-trend sites. Mr. Fritz responded that the trend sites are a great majority of the rookery sites in the Aleutians, and the trends are the same. In 2011, a total of 11,547 pups were counted, compared to 11,120 in 2009. This is an increase in 427 pups, or approximately 1.8% annual growth. An estimate for the total number of animals in the wDPS is derived by a multiplier that estimates the number of adult animals from the number of pups counted. The multiplier used for the western DPS is 4.5, which was derived from a life history table using age-specific fecundity and survival for the stable, mid-1970s population. However, using this multiplier, the estimated total population for the Alaskan portion of the wDPS is 50,040 animals. Trends in the Aleutian Islands vary: RCA 1 is declining rapidly, RCAs 2-3 are declining, RCAs 4-5 are stable or increasingly slowly.

A discussion about the population trends in Russia centered around the trend in pup production in the Commander Islands, and the level of recovery in other Russian areas. Overall, the population in the Northern Sea of Okhotsk, Kuril Islands, and Sea of Japan appear to be recovering, while the population in the Western Bering Sea, Kamchatka, and Commander Islands are not recovering. The number of animals estimated to occur in the Russian part of the wDPS is approximately 20,000 – 25,000 animals. The estimated total number of animals in the wDPS is therefore, 70,000 – 75,000.

Survival estimates in the 200s in the wDPS from the eastern Aleutian Islands through the eastern GOA (area where most tagging effort has been conducted) appear to be higher than the 1980s and 90s, and appears to be similar to modeled estimates of survival from 1998n – 2004. Fritz reported that when age and sex biases in Horning and Mellish (2012) are taken into account, the two estimates of survival appear to be very similar. Fritz disagrees with the Horning and Mellish (2012) conclusion that juvenile survival remains low and could still be constraining recovery.

New data on the composition and length of Steller sea lions was presented. The data are used to estimate the proportion of juvenile animals within the western DPS, and to estimate the pup: adult female ratio. The data suggest that the pup : adult female ratio is 24% higher in the eDPS than in the wDPS as a whole, and nearly twice the level in the western AI. The juvenile portion of the total

population in the western and central Aleutians was smaller than in the eastern Aleutians through GOA, which could be due to reduced juvenile survival, or reduced natality in the western and central Aleutians. A question was asked how the foraging trip length affected this ratio by affecting the number of females on shore. Mr. Fritz asked Katie Sweeney (NMML) to respond. Ms. Sweeney acknowledged that the foraging length and the proportion of females in the water would affect the ratio. A question was asked about the ratio across decades, has it been similar or is the ratio declining? Ms. Sweeney responded that those data are generally lacking for previous decades. A statement was made that the length does not necessarily identify age classes, it could simply be that females in the western DPS are smaller than in the eDPS and the results may not indicate fewer juveniles. However, data indicate that the eastern DPS females are significantly smaller than the western DPS. Ms. Sweeney was asked about the selection of animals and sites for analysis. Ms. Sweeney summarized the criteria (index of straightness) used to select individuals for inclusion. In total, 6021 animals were measured from 68 different sites in the eastern and western DPS.

Mr. Fritz concluded with a summary of research planned in the near future and through 2013.

CONCLUSIONS

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

PRESENCE AND ABUNDANCE OF MAMMAL EATING KILLER WHALES IN THE ALEUTIAN ISLANDS

PAUL WADE

DISCUSSION

Dr. Paul Wade (NMML) presented information about killer whales in the Aleutian Islands. This presentation is available on the NPFMC website at <http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html>. Three types of killer whales are present in the Aleutian Islands: fish eating, offshore (feeding on upper trophic level fish such as sharks) and mammal eating (formerly known as "transient", now proposed as new species, Bigg's Killer Whale).

A question was asked regarding the age class of killer whales that have been seen attacking Steller sea lion pups. Dr. Wade noted that those observations have only been made in the Gulf of Alaska, particularly around the Chiswell Islands. It appeared that a group of Bigg's killer whales were teaching younger members of the group to hunt sea lions and using the pups on the Chiswells as learning tools. Craig Matkin, with extensive observations of killer whales in the eastern Aleutians has only seen one attack on Steller sea lions.

Dr. Wade presented information on the Nitrogen 15 isotope ratios ($\delta^{15}\text{N}$) for killer whales that feed on a variety of prey. Nitrogen 15 isotope ratios suggest that Bigg's killer whales in the Bering Sea and Aleutian Island are feeding largely on cetaceans (gray whales, Dall's porpoise, etc.), rather than on pinnipeds. A question was asked about the nitrogen ratios that would be expected if killer

	<p>whales were feeding on Steller sea lion pups. Dr. Wade responded that the ratios from killer whales feeding on Steller sea lion pups would be off the range of the chart that showed the data collected so far.</p> <p>Several questions were asked about recent satellite tagging results that showed Bigg's killer whales moving far to the south, near the Pacific convergence where large populations of cetaceans occur. Dr. Wade was asked if Bigg's killer whales in the North Pacific could be feeding on northern fur seal pups, which are resident in the North Pacific for up to two years after leaving the Pribilof Islands. Dr. Wade responded that the fur seals are there, so it is entirely possible that Bigg's killer whales do feed on northern fur seal pups.</p>						
CONCLUSIONS							
ACTION ITEMS	<table border="1"> <thead> <tr> <th data-bbox="797 723 1057 776">PERSON RESPONSIBLE</th> <th data-bbox="1057 723 1385 776">DEADLINE</th> </tr> </thead> <tbody> <tr> <td data-bbox="797 776 1057 825"></td> <td data-bbox="1057 776 1385 825"></td> </tr> <tr> <td data-bbox="797 825 1057 870"></td> <td data-bbox="1057 825 1385 870"></td> </tr> </tbody> </table>	PERSON RESPONSIBLE	DEADLINE				
PERSON RESPONSIBLE	DEADLINE						

**FISHERY INTERACTION
TEAM RESEARCH
OVERVIEW**

LIBBY LOGGERWELL

DISCUSSION	<p>Dr. Libby Loggerwell (AFSC) presented an overview of the Fishery Interaction Team's recent research, including:</p> <ul style="list-style-type: none"> • assessment of localized depletion from pollock fishing in Kodiak Island • Cape Sarichef Pacific cod localized depletion • Aleutian Islands Atka mackerel tagging • Aleutian Islands SSL consumption model • Aleutian Island cooperative pollock survey <p>This presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html</p> <p>Atka mackerel tagging and recovery cruises in the central and western Aleutians in 2011 and 2012 were curtailed by the inability to obtain a scientific research permit to harvest Atka mackerel in the central and western Aleutians. The PIs will continue to seek funding and permits to tag and recapture Atka mackerel in the central and western Aleutians in 2013.</p> <p>Dr. Loggerwell noted that in 2011 an adult female that had been fitted with a satellite tag was feeding in the area where the FIT team was tagging Atka mackerel tagging. Those data are not yet analyzed.</p> <p>Dr. Loggerwell presented the results of previous Atka mackerel tagging studies that showed that in Seguam Pass in 2000 and 2002, the abundance of Atka mackerel was much higher inside the trawl exclusion zone (TEZ) than outside the TEZ, at Tanaga Island and Amchitka Island, the biomass inside and outside the TEZ were very similar, and at Kiska Island in 2006, the Atka mackerel biomass outside the TEZ was greater than that inside the TEZ. Additional data suggested that at some sites and times (Seguam Pass 2000, Tanaga Island 2002), movement between inside and outside the TEZ was limited, but in other sites and times</p>
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	<p>(Seguam 2002, Amchitka Island 2003, Kiska Island 2006), movement was greater. In Seguam Pass (2002) and Kiska Island (2006), movement was primarily from outside to inside the TEZ, while at Amchitka Island (2003) movement was primarily from inside to outside the TEZ. However, for all sites the rate of movement ranged from less than 0.002 to 0.01. Dr. Loggerwell concluded that the efficacy of TEZ at mitigation completion between sea lions and commercial fisheries varies geographically, movement to and from the TEZ varies, and the abundance of fish inside the TEZ also varies, with large biomass at Seguam, Tanaga, and Kiska, and small biomass at Amchitka.</p> <p>Dr. Loggerwell also presented data that the Committee had previously seen comparing the biomass of Atka mackerel at several sites to the modeled dietary needs of Steller sea lions in the area, and fish predators. The results suggest that some areas in the Aleutians may not be able to support a Steller sea lion population comparable to the 1977 abundance, if all other factors remained the same.</p> <p>Dr. Loggerwell presented data from the 2008 Aleutian Islands Cooperative Acoustic Survey Study, aboard the F/V Muir Milach. Dr. Loggerwell noted how seasick she became aboard that vessel, much to the consternation of one of the Committee members. The acoustic survey data were compared to Steller sea lion feeding data from rookeries near the survey locations. Diets of Steller sea lions on haulouts near the areas where high densities of pollock were observed showed a high frequency of occurrence of pollock, and local pollock aggregations are important for sea lions in the central Aleutians during winter.</p> <p>Future plans for the FIT include management strategy simulations to examine potential indirect effects of fisheries in Steller sea lions, and process-oriented studies of the effects of targeted fishing removal, fish movement, and oceanography.</p>				
CONCLUSIONS					
ACTION ITEMS	<table border="1"> <thead> <tr> <th data-bbox="803 1257 1063 1306">PERSON RESPONSIBLE</th> <th data-bbox="1063 1257 1388 1306">DEADLINE</th> </tr> </thead> <tbody> <tr> <td data-bbox="803 1306 1063 1355"></td> <td data-bbox="1063 1306 1388 1355"></td> </tr> </tbody> </table>	PERSON RESPONSIBLE	DEADLINE		
PERSON RESPONSIBLE	DEADLINE				

RECENT SSL TELEMETRY RESULTS

BRIAN FADELY

DISCUSSION	<p>Dr. Brian Fadely (NMML) presented preliminary results of a single adult female Steller sea lion tagged in the central Aleutians in November 2011, and 16 juvenile Steller sea lions tagged in the central Aleutians in 2005. This presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html</p> <p>A single adult female (branded as “=24”) was tagged on Ulak Island in the central Aleutians in November, 2011. She generally remained in the Unalga/Kavalga Islands area for about three weeks until she moved to Semisopochnoi Island at the end of November. From Semisopochnoi, from November 2011 – April 2012, she made a series of feeding trips to the northeast of the island in the Petrel Bank area. Fortuitously, she was feeding in the same area that the FIT Atka mackerel tagging</p>
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project was operating, and real-time coordination between researchers allowed hydroacoustic surveys and five tows in areas where fish signals were detected near the trackline of =24. The tows indicated site specific fish species composition. Hydroacoustic data from that overlapping period have not yet been analyzed.

The results of the juvenile tagging study are available in a NOAA Tech Memo0 from March 2011. A Continuous-time correlated Random WaLk (CRAWL) model was applied to the telemetry data. Overall, modeled proportions of locations associated within diving to >4m, and proportions of locations associated with greater than average dive frequency within and outside of critical habitat zones were similar to proportions derived from filtered Argos locations indicating diving to > 4m (method used in the BiOp) That Tech Memo has been distributed to the SSLMC and other interested parties.

CONCLUSIONS

ACTION ITEMS

PERSON RESPONSIBLE

DEADLINE

**LIFE HISTORY
TRANSMITTER PROJECT**

MARKUS HORNING

DISCUSSION

Dr. Markus Horning (Oregon State University) presented results from his collaborative project with Dr. Jo-Ann Mellish (Alaska SeaLife Center) to study juvenile mortality in Steller sea lions using implanted tags. This presentation is available on the NPFMC website at <http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html>.

The results of Drs. Horning and Mellish work are presented in a paper published in PLoS One 7(1):e30173. This paper has been distributed to the SSLMC. To date, 36 weaned juvenile Steller sea lions have been fitted with LHX tags and released in the Gulf of Alaska. Sixteen mortalities have been detected, from sea lions aged from 14 months to 4.1 years. All mortality events have been attributed to predation, 3 events *could* be attributed to Pacific sleeper sharks, and the rest are likely Bigg's killer whales. Horning and Mellish (2011) conclude that their mortality data do not support a hypothesis of increased juvenile survival to pre-decline numbers, but they acknowledge an age- and sex-bias in their sample. Mr. Lowell Fritz commented that when that age- and sex-bias was accounted for the estimates of survival generated from the LHX tags and brand/resighting are nearly equal. Horning and Mellish (2011) suggest that the data from the GOA indicate that survival rates for juvenile SSLs remain low, and natality (Maniscalco et al. 2010) is higher than modeled.

Dr. Horning presented the results of a qualitative model using their updated survival schedule to evaluate the linkages between predation and other vital rates, and how that could affect the population trajectory of Steller sea lions. Horning and Mellish (2011) concluded that predation could be the biggest constraint on recovery of the population in the area of their study, and that escape from a "predation-drive productivity pit" may only be possible with reduced predation. There was a question about the concept of the predator pit, and whether SSLs could recover from the current population level if fish biomass were increased. Dr. Horning replied that his model only considered mortality (predation) and did not address food for SSLs.

CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

DIET OF THE WESTERN
STOCK OF STELLER SEA
LIONS FROM 1999-2009

TONYA ZEPPELIN

DISCUSSION	<p>Ms. Tonya Zeppelin (NMML) presented an update on the analysis of scat samples from the western DPS of Steller sea lions from 1999 – 2009. This presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html. The objective of the latest project was to compare sea lion diet during the past decade across the range and seasons, and to compare those results to sea lion diet information from 1990 – 1998.</p> <p>In general, the regional breaks in diet occurrence found in 90-98 remained, and corresponded with population trends for the wDPS . Additionally the relative prey importance within regions and seasons held, although there were significant increases in the occurrence of some prey species in some regions (e.g. Sandlance in regions 1-3 in summer and winter) and decreases in some species (e.g. walleye pollock in regions 1, 3).</p> <p>Ms. Zeppelin was asked about the two distinct groups that appeared in the analysis of the later data for region 4. Ms. Zeppelin responded that in region 4, two clusters fell one, one focused on Atka mackerel, and the other as a mix of Atka mackerel and other species.</p> <p>Ms. Zeppelin was asked about the size of cod that were seen in scat. No new data are available on the sizes of prey species consumed. Those data have not yet been analyzed.</p> <p>Ms. Zeppelin was asked about the effects of seasonal variation on the frequency of occurrence in SSL scat. Seasonal differences were presented. The main differences between seasons were an increase in Pacific cod, decrease in Atka mackerel, and an increase in the overall diversity of prey during the winter. Frequency of occurrence selects for regular presence, rather than seasonal or infrequent prey items.</p> <p>Ms. Zeppelin was asked for a table that would list the number of scats collected by calendar month, as a way to determine seasonal gaps in data. Dr. Zeppelin indicated she could provide such a table.</p> <p>Ms. Zeppelin was asked about the possibility of secondary sampling in scat samples, for instance what is the likelihood of sampling sand lance bones that were consumed by larger fish which were then consumed by SSLs? Ms. Zeppelin noted that secondary sampling does occur (e.g. small cephalopod beaks) but also noted that increases in FO of Sandlance have also been noted in puffin populations in the BSAI.</p>
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<p>Ms. Zeppelin was asked whether scat FO results have been compared with fish survey results or with fishing effort. Ms. Zeppelin noted that comparison had not been done, but she would check with the FIT to check into that possibility.</p> <p>Ms. Zeppelin was asked about whether fatty acid analyses could also be used to assess the diet of SSLs in the Aleutians. Ms. Zeppelin noted that some of that work has been done, and Dr. Lorrie Rea at ADF&G would be the appropriate person to discuss that with the SSLMC. Dr. Rea has been scheduled to provide a presentation to the SSLMC in September.</p>		
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

CIE REVIEW PANEL

STEVE MACLEAN

DISCUSSION	<p>The Committee was asked to think about the sorts of information that they would wish to be delivered to the CIE review panel as part of the Council's presentation. It was noted that there are industry, and other panels that will also be presenting information to the CIE reviewers, and it would be more appropriate to deliver direct industry comments to the CIE reviewers at that time.</p> <p>One committee member suggested the comments should include a request for analysis of catch in critical habitat as a proportion of biomass available in the same area. For instance, if biomass in the area doubles, but catch remains the same, catch would have approximately half the impact despite having no change in catch.</p> <p>It was noted that Atka mackerel biomass and ABC in the area has recently increased, and is now at the level that was desired in the BiOp. Additionally, there are now an estimated 75,000 animals in the wDPS, and the trend across the range of the wDPS is up. It was stated that this "bends the definition and intent of 'endangered' ".</p> <p>One committee member requested that the CIE address the "exposure analysis", that is the overlap (spatial, temporal, size) of fishing effort and Steller sea lion prey.</p> <p>A comparison between the Commander Islands and western AI populations was requested, noting that no fishing has occurred in the Commander Islands since the 1980s (illegal fishing occurred after the no-fishing area was established in 1958). According to comment, this increases the doubt regarding nutritional stress affecting SSLs in the Aleutians.</p> <p>The efficacy of the RPA as an adaptive management experiment was also addressed. One committee member noted the Commander Islands as a comparison, with many branded animals. Few immigrants are seen in the Commander Islands, is the same true for the western Aleutians?</p>
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	The Chairman requested that committee members send written suggestions for CIE comments to Steve MacLean by Wednesday, July 25 for inclusion in a draft of comments to be reviewed by the SSLMC at the July 30-31 meeting.		
CONCLUSIONS			
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
Committee members will send suggested CIE comments to Steve MacLean by Wednesday, 7/25.	SSLMC	7/25	

OBSERVERS	
RESOURCE PERSONS	
SPECIAL NOTES	

North Pacific Fishery Management Council

Eric A. Olson, Chairman
Chris Oliver, Executive Director



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July 24, 2012

The North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee (Committee) will meet in Seattle, Washington on July 31, 2012 from 8:30 AM-5 PM Pacific Standard Time. The purpose of the meeting is to receive updates on recent research relevant to SSLs in the Aleutian Islands. The meeting will take place at the Alaska Fisheries Science Center, in the Traynor conference room in Building 4.

Agenda

July 31

0830	Welcome, introductions, briefings, minutes	Cotter
0845 – 0900	Update on EIS progress	Melanie Brown
0900 – 0930	Update on Status Quo analysis	Josh Keaton & Steve Lewis
0930 – 1000	CIE comment review	MacLean
1000 – 1015	Break	
1015 – 1200	2010 & 2011 AI trawl survey results Estimates of total biomass	Michael Martin
1200 – 1300	Lunch	
1300 – 1430	Multi-species and single-species modeling in the AI ecosystem	Kerim Aydin
1430 – 1445	Break	
1445 – 1615	Steller sea lion nutrition analysis – results of transient juvenile feeding study	Shannon Atkinson
1615 – 1700	Committee Discussion	
1700	Adjourn	

Steller Sea Lion Mitigation Committee

MINUTES

7-31-2012

8:30 AM – 5 PM

SEATTLE, WA

ATTENDEES – COMMITTEE MEMBERS	Larry Cotter-Chairman, Rudy Tsukada, Dave Fraser, Gerry Merrigan, John Gauvin, Ernie Weiss, Todd Loomis, Kenny Down, Jon Warrenchuk, Steve MacLean-Council staff
PUBLIC ATTENDEES	Dave Benson, Kerim Aydin, Jim Ianelli, Brandee Gerke, Frank Kelty, Dana Seagars, Tom Gelatt, Doug DeMaster, Shannon Atkinson, Tom Gemmell, Steve Lewis, Jon Kurland, Melanie Brown, Mary Grady, Mary Furuness, Glenn Merrill, Lowell Fritz Others were listening online, but were not recorded.

Agenda topics

INTRO, REVIEW
PURPOSE & SCOPE

COTTER

DISCUSSION	Chairman Cotter welcomed the Committee and public and asked each person to introduce themselves. Nine committee members were present, missing was Alvin Osterback. The purpose of the meeting was to receive presentations of new data.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

UPDATE ON 2012 SSL
MITIGATION
MEASURES EIS

M. BROWN

DISCUSSION	Ms. Melanie Brown (NMFS AKR) presented a progress update on the 2012 Steller sea lion mitigation measures EIS. The authors and contributors of the marine mammals chapter of the EIS held a meeting in Seattle on 7.30 to plan production of the chapter and review scoping comments. Ms. Brown was asked whether the scope of the EIS was likely to expand. Ms. Brown responded that there is no new information to determine that yet, but noted that comments may suggest broadening the scope of the EIS, at which point the agency would determine whether a change in scope is necessary. The scope would not necessarily be broadened simply because of comments. Ms. Brown was asked about the nature of the comments the team was responding to, were they new comments or older comments? Ms. Brown explained that the agency has recorded comments that were included in the joint briefings to the court, and letters to the court. The scoping period closes October 15, the scoping report will be delivered in mid-November.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

STATUS QUO ANALYSIS

S. LEWIS

<p>DISCUSSION</p>	<p>Mr. Steve Lewis (NMFS AKR) presented an update on the status quo analysis. Much of the conversation centered on the data that are available for the status quo analysis. Mr. Lewis has delivered data and maps to Steve MacLean, those will be posted on the NPFMC website. Approx. 10% of the available data were redacted for confidentiality reasons. Mr. Lewis explained that there are methods (aggregating years, etc.) that can be used to reduce the data that must be redacted, but some data will remain confidential. Mr. Lewis noted the differences between the Catch In Area (CIA) database and the data that are used to manage commercial fisheries in-season. The CIA database apportions catch according to the proportion of a tow that occurred within a smaller area than other datasets, therefore the portion of a tow that occurred within critical habitat can be attributed to CH, while that portion of the tow that occurred outside CH will be attributed to outside CH, known as "proportional apportionment". This differs from a "business rule" that directs that if any catch occurs within CH, then the entire catch from that haul must be attributed to CH. It was noted that the SSC will review and comment on this analytical approach at the October Council meeting.</p> <p>Mr. Lewis was asked whether total biomass would be estimated for each area in the status quo analysis. Mr. Lewis responded that estimating area-specific biomass was outside his purview but estimated that analysts are likely "years away" from being able to estimate total biomass on an area specific scale.</p> <p>It was suggested that reporting catch as a proportion of total catch for an area that occurred within zones of critical habitat could show where the largest proportion of catch was occurring (e.g. showing proportion of a catch along a gradient of distance from rookery/haulout). Mr. Lewis noted that the CIA database does report catch in zones (0-3, 3-6, 6-10, 10-20 nmi from rookery/haulout), so does show that gradient. It was also suggested that reporting catch in those zones as a proportion of total from an area, rather than absolute catch, could reduce the data that would be required to be redacted because of confidentiality. If proportion of catch were reported, rather than actual catch, the confidentiality might be excused. Mr. Lewis stated he would look into the possibility.</p> <p>It was asked whether it was possible to estimate the tonnage of fish consumed by Steller sea lions at each rookery and haulout, in order to estimate the needs of Steller sea lion for current and recovered populations. Doug DeMaster indicated that the AFSC could attempt to address this question, but would be more interested in current needs than trying to predict future (or model past) needs as increasing uncertainty makes the exercise of limited value.</p>		
<p>CONCLUSIONS</p>	<p>N/A</p>		
<p>ACTION ITEMS</p>	<p>PERSON RESPONSIBLE</p>	<p>DEADLINE</p>	
<p>Steve MacLean will post the data and maps for status quo analysis.</p>	<p>MacLean</p>		

<p>DISCUSSION</p>	<p>Dr. Michael Martin presented a summary of results from the 2010 Aleutian Islands</p>
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	<p>bottom trawl survey. This survey is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html. The objectives of the surveys are to provide a standardized time series of groundfish population estimates for use in stock assessment. Data collected include:</p> <ul style="list-style-type: none"> • Relative abundance • Size and age composition • Spatial distribution • Biological parameters (sex, age, condition, feeding habits) • Ancillary data (e.g., temperature, light, acoustic) <p>Surveys were conducted triennially from 1980- 1997, then biennially from 2000, although the survey was 2008 was missed. Surveys are conducted aboard two chartered commercial fishing vessels for approx. 70 days from June through mid-August. Surveys employ a stratified-random survey design with 45 strata based on regulatory areas and bathymetry. Stations are formed from the intersection of a 5x5 km grid with strata boundaries. Stations are selected from previously towed stations, rather than randomly assigned. Protocols are identified in NOAA Tech Memo NMFS-SPO-65 (2004)</p> <p>Effort is allocated according to a Neyman allocation for each species; 19 species in 2010. Effort is weighted according to abundance and economic value of each species, in order to lower the uncertainty in the population assessment for the 19 species identified as priorities. In 2010, 32% of survey effort was allocated to reduce uncertainty in Pacific ocean perch, ~17% for walley pollock, ~16% for Pacific cod, and ~ 15% for Atka mackerel.</p> <p>Dr. Martin was asked whether any tows occurred at night, as that is when Atka mackerel are more aggregated and when the commercial fishery targets mackerel. Dr. Martin responded that crew limitations and other logistics necessitated tows during daytime, and no tows were conducted at night. Some discussion occurred regarding the “catchability” (Q) of Atka mackerel. For these surveys, Q = 1. Discussion concerned whether assuming Q = 1 was reasonable for Atka mackerel given the daytime surveys when Atka mackerel are more difficult to catch. IT was pointed out that “catchability” refers to the probability of catching a fish in the path of the net, and does not refer to “availability”, which is accounted for in the population model that is populated with the catch data.</p> <p>In the Aleutian Islands, the proportion of the survey area that occurs within SSL critical habitat varies with water depth. Approximately 90% of the survey area less than 100m deep occurs in SSL critical habitat, 81% of survey area 101-200m deep occurs in CH, 75% of survey area 201-300m deep, and 76% of survey area 301-500m deep occurs in SSL CH. In the Western Aleutians, approximately 66% of survey area occurs in SSL CH. This allows a comparison of CPUE for each species inside and outside CH. Those results are shown in Dr. Martin’s presentation.</p>		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

2011 ALEUTIAN
ISLANDS PACIFIC COD,
WALLEYE POLLOCK
AND ATKA MACKEREL

SANDRA LOWE

DISCUSSION

Dr. Sandra Lowe presented a summary of the 2011 estimates of abundance for Pacific cod, walleye pollock, and Atka mackerel in the Aleutian Islands. This presentation is available on the NPFMC website at <http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html>.

Currently Pacific cod are managed as a combined, BS – AI stock. The age-structured model for Pacific cod has always applied just to the Bering Sea, an “inflation factor” (1.10) has been applied to the BS age-structured model to estimate the total BSAI stock.

- $BSAI = BS_model * (BS_survey + AI_survey) / BS_survey$

Pacific cod in the BSAI may soon be managed as split BS and AI stocks. The age-structured model for the AI is under development. Both the survey data and Kalman filter methods suggest a decline in the AI Pacific cod biomass estimate.

Dr. Lowe was asked how the AI P cod catch in 2012 compared to the potential TAC in the AI with a BS-AI split. Dr. Lowe responded that for 18 of the past 19 years the OFL and TAC were both lower than catch in the AI. However, it was noted that the catch rates were potentially inflated by using survey estimates of biomass rather than model estimates.

Walleye pollock TAC in the AI management area is currently restricted to 19,000 tons or ABC, whichever is lowest. Recent (2002 – 2010) surveys suggest that the areas of highest pollock abundance have shifted from the central Aleutians to the eastern Aleutians, although variability is high and sub-area specific assessments are problematic. Model estimates of pollock recruitment and total AI (age 2+0) biomass remain at low levels relative to the 1980s.

Atka mackerel are currently managed on a Bering Sea and Aleutian Islands basis. The age-structured stock assessment for Atka mackerel has remained consistent from 2008 – 2011, and $B_{2012} = 128,800$ t, which is approximately 50% of modeled unfished spawning biomass. Projections for 2012 suggest that age 3+ biomass is down ~7% relative to 2011 estimates, and ABC and OFL are both reduced ~4% relative to 2011.

The 2010 AI Atka mackerel survey showed a point estimate that is approximately 150% higher than the 2006 point estimate in the western Aleutians, a 29% decrease in the central Aleutians, and a 13% increase in the eastern Aleutians and southern Bering Sea. The 2011 assessment model shows a continued decline in age 1+ total biomass from 2001 – 2010. Estimated recruitment for 2011 is unchanged from the 2009 and 2010 estimates. Recommended 2012 and 2013 ABC apportionment for BSAI Atka mackerel remain unchanged from the 2011 apportionment for areas 541, 542, 543.

Dr. Lowe was asked how the survey biomass for Atka mackerel compares to the total estimate. Dr. Lowe responded that the survey biomass (point) estimate is 844,000 t, while the modeled estimate (age 1+) was 608,000 t. One committee

	<p>member suggested that the estimate of total biomass (rather than age 1+ biomass) was a better consideration for SSL needs because of the size overlap with SSL prey.</p> <p>It was noted that the draft BiOp estimated harvest rates using the 2006 survey, although the final BiOp used an average of the last three surveys. The assessment uses a weighted average of the last 4 surveys. As a result, the harvest rate estimation was much lower in the final BiOp than in the draft. However the RPA remained unchanged despite substantially lower harvest rate estimates.</p>		
CONCLUSIONS			
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	

**MULTISPECIES
MODELS IN THE AI
ECOSYSTEM**

KERIM AYDIN

DISCUSSION	<p>Dr. Kerim Aydin presented an overview of multispecies models in the Aleutian Islands ecosystem. This presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html.</p> <p>Dr. Aydin described the differences and similarities in two types of multispecies models: Whole Food Web (WFW) and Minimum Realistic (MR). The WFW model includes "all" species and functional groups, and estimates "mass-balance" in a system, assuming consistency of mass in a closed system. A MR model is an age-structured 3 species model which is similar (identical) to stock assessment models, but with additional dynamic natural mortality added. For each model, species interactions are based on an extensive database of fish and mammal diets, the primary data sources are the summer surveys, with additional data supplemented by observer-collections in other seasons. Each model encompasses the whole AI (areas 541, 542, 543), and are NOT SPATIAL (author emphasis). Both models were last updated in 2008-2008, but only include data available to 2003. Staff tasking and budgets have precluded updating the models.</p> <p>Dr. Aydin was asked whether using stomach contents for diet determination introduced bias (e.g., from regurgitation in sampling). Dr. Aydin replied that samples are limited to trawl sampling (to limit gear sampling bias), and fish are excluded from analysis if any sign of regurgitation is detected. Dr. Aydin acknowledged that time of day is still a potential bias, but noted that it generally takes 24 hours for a meal to clear a fish, so the sample should still be fairly representative of the diet. Dr. Aydin also acknowledged potential biases from pelagic vs. bottom trawling.</p> <p>Results of the WFW model (years omitted) suggest that mortality of Atka mackerel > 20 cm fork length is attributable to</p> <ul style="list-style-type: none"> • Steller sea lions – 30.4% • Pacific cod – 25.9%
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	<ul style="list-style-type: none"> • Fisheries – 20.9% <p>The WFW model was used to estimate the response of SSL biomass to an increase in survival for P. cod and Atka mackerel. For P. cod, an increase in survival of 10% resulted in a very small increase in SSL biomass. A 10% increase in Atka mackerel produced a very small positive response from SSLs.</p> <p>The WFW indicated that small (<20 cm) Atka mackerel were consumed overwhelmingly by walleye pollock, and that small walleye pollock were consumed overwhelmingly by Atka mackerel. The system appears to consist of two predators that eat each other. The WFW model also suggests that large Pacific cod overwhelmingly consume Atka mackerel, which make up to 100% of the large cod (100+ cm) diet.</p> <p>The MLMAK model extends the AMAK model to several species, simultaneously, and uses stomach samples of each species for diet data. The model allows alternative “submodels” for predation, and either single-species or multispecies configurations.</p> <p>Dr. Aydin presented results from Kinzey & Punt (2009) that assessed multi-species and single-species models, both as a match to survey biomass data, and estimates of spawning biomass for pollock, Atka mackerel, and Pacific cod. The models are all sensitive to the assumptions of predation and other mortality estimations.</p> <p>Updating any of these models will require staff time and resources that are currently not available (est. 6+ months of staff time). Spatial models would require significantly more effort that is also currently not available.</p> <p>Dr. Aydin was asked about the variability in fishery mortality that has occurred in the AI in the last decade, and whether that could be used to test the model. Dr. Aydin responded that it could absolutely be done, but resources that are not currently available would be required.</p>
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CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

THE POLLOCK
PARADOX: JUVENILE
SSL GROWTH ON
POLLOCK DIET

SHANNON ATKINSON

DISCUSSION	<p>Dr. Shannon Atkinson (UAF) presented results from a study (in review) that tested the “junk food hypothesis” (Rosen & Trites 2000) that posits that juvenile Steller sea lions are incapable of obtaining sufficient nutrition or energy to maintain their body condition on a diet of 100% pollock. To test the hypothesis, two groups of <i>five</i> juvenile (age 13 – 24 months) Steller sea lions were captured from Prince William Sound and held in temporary captivity at the Alaska SeaLife Center Transient Juvenile facility. After initial health assessments, the juvenile SSLs were</p>
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	<p>fed a diet of 100% pollock for > 4 weeks. SSLs were fed via “fish cannon” which eliminated the need for human handling and required the sea lions to chase and capture their prey. In both spring and fall the juvenile SSLs gained mass and body fat percentage on the 100% pollock diet. Proportions of lean tissue (muscle mass) declined in both treatment groups.</p> <p>Proximate composition analysis of the pollock from each feeding trial showed a distinct difference in one of the pollock batches fed to the SSLs. Total lipid composition for one of the batches was substantially reduced compared to the other batches. For at least one SSL, the mass of pollock consumed appeared to increase in response to the lower lipid content (and resultant lower caloric content) of the pollock from that batch. All juvenile SSLs continued to gain mass and body fat, even on the lower lipid pollock batch.</p> <p>These results are in stark contrast to the “junk food hypothesis” (Rosen and Trites 2000, Trites et al. 2004) that suggests that juvenile Steller sea lions are physically incapable of ingesting sufficient pollock to maintain body condition on a diet of 100% pollock. Differences in the study design and methodology are likely responsible for the different conclusions: Rosen and Trites (2000) maintained their study diet for 6 days, compared to more than 4 weeks for the ASLC feeding trial, Rosen and Trites (2000) assumed an <i>ad libitum</i> diet while feeding their sea lions from a trough until they began to play with their food while the ASLC feeding trial used a “fish cannon” to feed their transient SSLs <i>ad libitum</i>, SSLs in the Rosen and Trites (2000) study were permanently captive, initially captured as pups from the eastern DPS, the SSLs from the ASLC study were wDPS animals, held in temporary captivity and released back into the wDPS at the conclusion of the study. The different results, and the inability to repeat the results of Rosen and Trites (2000) strongly suggests that the “junk food hypothesis” should be rejected, and that juvenile Steller sea lions are capable of maintaining health and body condition on a presumed “low-calorie” diet. Finally, the variation in the proximate composition of pollock found in the ASLC study suggests that pollock, like all other fish species, varies in caloric value throughout the year, and no fish species should be considered “junk food” for Steller sea lions.</p>	
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

CIE REVIEW PANEL

STEVE MACLEAN

DISCUSSION	<p>The Committee discussed the comments to the CIE panel scheduled for 8/1 - 8/2. No comments from committee members were submitted to Council staff by 7/25 as required. Rather than try to draft comments during the meeting, the Chairman and Council staff drafted comments based on concerns expressed by the Committee during the discussion. Those comments are available at the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html.</p>
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	The comments to the CIE were endorsed by the majority of the committee, with one objection.	
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

OBSERVERS	
RESOURCE PERSONS	
SPECIAL NOTES	

North Pacific Fishery Management Council

Eric A. Olson, Chairman
Chris Oliver, Executive Director



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August 24, 2012

The North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee (Committee) will meet in Juneau, Alaska on September 5-7, 2012 from 8:30 AM-5 PM Alaska Time. The purpose of the meeting is to receive updates on recent research relevant to SSLs in the Aleutian Islands, and to begin the process of drafting new alternatives for the 2012 SSL Protection Measures EIS. If the CIE review of the 2010 BiOp is available on September 7, the committee will read and discuss the review. The meeting will take place at the Federal Building, in the fourth floor conference room.

Agenda September 5

0830	Welcome, introductions, briefings, minutes	Cotter
0845 – 0900	Update on EIS progress	Melanie Brown
0900 – 0930	Update on Status Quo analysis	Josh Keaton & Steve Lewis
0930 – 1000	Review scoping issues identified to date	Brown/MacLean
1000 – 1015	Break	
1015 – 1200	Identify scoping issues from SSLMC	Cotter
1200 – 1315	Lunch & public comment	
1315 – 1430	Process for drafting alternatives for EIS	Cotter
	• Identify method to develop alternatives. 1430 – 1445	Break
1445 – 1700	Committee Discussion: drafting alternatives for EIS	Cotter
1700	Adjourn	

**Agenda
September 6**

0830 – 0845	Reconvene, questions	Cotter
0845 – 0945	Contaminants in SSL	Adam Zaleski
0945 – 1000	Break	
1000 – 1200	Assessing SSL diet using stable isotopes & fatty acids Age at weaning using stable isotopes Total mercury	Lorrie Rea
1200 – 1330	Lunch & public comment	
1330 – 1500	Committee discussion – developing alternatives	Cotter
1500 – 1515	Break	
1515 – 1630	Committee discussion – developing alternatives	Cotter
1630	Adjourn	
1800	Barbecue at Chairman Cotter's house on Thane road. Directions will be provided. Guests are welcome to bring a beverage of their choice.	

**Agenda
September 7**

0800 – 0815	Reconvene, questions	
	Remaining agenda will depend on availability of the CIE report. If available, committee will read and discuss the CIE report. If unavailable, the committee will continue discussion to develop alternatives for the 2012 EIS.	
1200	Adjourn	

Steller Sea Lion Mitigation Committee

MINUTES

9/5-7/2012

8:30 AM – 5 PM

JUNEAU, AK

ATTENDEES – COMMITTEE MEMBERS	Larry Cotter-Chairman, Rudy Tsukada, Dave Fraser, Gerry Merrigan, John Gauvin, Ernie Weiss, Todd Loomis, Kenny Down (9/6), Jon Warrenchuk, Steve MacLean-Council staff
PUBLIC ATTENDEES	Tom Gelatt, Melanie Brown, Glenn Merrill, Brandee Gerke, Michael Levine, Dana Seagars, Glenn Reed, Mary Furuness, John Lepore, Mary Grady, Sarah Ellgen, Ben Muse, Jon Kurland, Karla Bush, Steve Lewis, Josh Keaton Others were listening online, but were not recorded.

Agenda topics

INTRO, REVIEW
PURPOSE & SCOPE

COTTER

DISCUSSION	Chairman Cotter welcomed the Committee and public and asked each person to introduce themselves. Eight committee members were present. Kenny Down was present on 9/6 only. Alvin Osterback was absent. The purpose of the meeting was to draft scoping comments from the Committee, receive presentations of new data, and develop a process to draft alternatives for the EIS.		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	
N/A			

UPDATE ON 2012 SSL
MITIGATION
MEASURES EIS

M. BROWN

DISCUSSION	Ms. Melanie Brown (NMFS AKR) gave a brief update on progress of the EIS, and informed the committee of the objectives for the scoping meeting at the October Council meeting. The scoping meeting provides opportunity for the public to submit written scoping comments and ask questions of the agency. Oral scoping comments will not be taken at the meeting. The scoping period ends October 15, 2012. The briefs for the appeal of the ruling upholding the 2010 Biological Opinion have been posted on the NMFS AK Region website.		
CONCLUSIONS			

STATUS QUO
ANALYSIS

S. LEWIS, J. KEATON

DISCUSSION	Mr. Steve Lewis and Mr. Josh Keaton presented a brief update on the status quo analysis. They again presented a summary of the catch-in-areas database and differentiated between the timeline for status quo analysis and for the baseline
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	<p>data. Status quo analysis uses the years 2004 – 2011 because of the change to the catch-in-areas database and the continuity of data for those years. Mr. Lewis and Mr. Keaton noted, after being questioned, that it would be possible for them to do a general overview type of review of possible RPAs (fatal-flaw type review) while the RPAs are being developed, but a full analysis of developing RPAs would not be possible because of the time involved to fully review alternatives.</p> <p>Mr. Ben Muse presented a brief overview of the DRAFT RIR and Community Impacts chapters of the EIS that will be presented to the Council’s Scientific and Statistical Committee (SSC) at the October Council meeting. Mr. Muse noted that the review will be for methods used in the analysis, rather than the draft results, which are likely to change as data are updated for the final EIS.</p>		
CONCLUSIONS	N/A		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE	

EIS SCOPING

L. COTTER

DISCUSSION	<p>The SSLMC was directed to draft scoping comments for the 2012 SSL Protection Measures EIS for the Council’s consideration. The committee dedicated the first meetings to receiving presentations about new information that could be important in the development of the EIS, and to define the scope of the EIS. The scoping discussion began on the afternoon of 9/5, and continued throughout the SSLMC meeting. The CIE reviews of the 2010 BiOp were received on the morning of September 6, and the committee was given extra time at lunch to read the reviews in order to include some of the points of the review in the committee’s scoping comments. This summary, therefore, captures discussion that occurred over a number of days.</p> <p>It was originally envisioned that the committee, or a subcommittee, would take the lead in developing scoping comments for Council consideration. However, rather than the subcommittee process, the whole committee discussed scoping issues, with each committee member raising and recording their own comments. Comments were recorded, and Council staff will compile comments into draft scoping comments for the committee to review. Final scoping comments will be presented to the Council during the October council meeting.</p> <p>The committee discussed the method for developing scoping comments, and decided to present a two-tiered list of comments: consensus comments, and those with less than consensus. Both consensus and non-consensus comments will be presented to the Council to include the full range of discussion in the SSLMC.</p> <p>There was general discussion about the geographic scope of the EIS. It was agreed that the scope for analysis should consider the entire range of the wdPS, but disagreement about whether the scope for the alternatives should expand beyond the western and central Aleutians to include the Bering Sea and Gulf of Alaska. There was also some discussion about how to include information from</p>
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	<p>the Pribilof Islands and other islands (e.g., Round Island) that are separated from the Aleutians.</p> <p>Following general discussion on the topics identified above, there was opportunity for each committee member to raise their own scoping concerns. Each of those comments (with editing to remove redundancy) are included in the draft scoping comments from the committee, and identified as either consensus, or non-consensus comments.</p>	
CONCLUSIONS	N/A	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Compile SSLMC scoping comments for committee review and council presentation	MacLean	9/14

CONTAMINANTS IN SSL

ADAM ZALESKI

DISCUSSION	<p>Mr. Adam Zaleski (M.S. Student, SFOS) presented preliminary results from his Master's work concerning the effect of environmental contaminants on estimating western Steller sea lion survival using multi-state mark-recapture methods. Because the work is preliminary, the presentation is not available on the website.</p> <p>Generally, Mr. Zaleski is investigating the question of whether, and how organochlorine contaminants (OCs) affect the survival and reproduction of Russian Steller sea lions. The goals of the project were to investigate the relationship between resight probability and contaminant levels, natal rookery, and resight effort for pups branded on Russian sea lion rookeries from 2002-2011. The null-hypothesis he tested is: <i>There is no difference in resight probability between rookeries or pups with varying post-natal contaminant loads.</i></p> <p>Mr. Zaleski presented background information that noted that SSLs from Russian rookeries had higher levels of DDT metabolites than did SSLs from Alaskan rookeries, and proposed that the different levels may affect reproductive success for those pups. A total of 136 whole blood samples were collected from individually marked (branded) pups from 4 natal rookeries in June-July, 2002. Those samples were analyzed for OC levels, and the recapture history for each pup was examined. Resighting efforts took place on Russian rookeries every year from 2002 – 2011, and a resighting history was developed for each marked animal from the 2002 cohort. Mr. Zaleski used a multi-state mark-recapture model in the program MARK with 3 model parameters: survival (covariates: PCB and DDT levels), probability of recapture (covariate: resight effort), and probability of movement (not addressed in this presentation).</p> <p>Mr. Zaleski calculated age 0 survival to be 59% for his marked animals, and age 1 survival to be 89%. These numbers are lower than for Alaskan wDPS animals. Mr. Zaleski hypothesized that OC contamination may be contributing to the lack of robust recovery of the Russian population.</p> <p>Mr. Zaleski identified several models to fit survival to OC contaminant levels. So far there are no significant differences between the survival models with and</p>
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	without OCs, and no data to suggest that OC contaminant loads affect juvenile SSL survival.	
	Future work includes analyzing an additional 105 serum samples from branded females and a longitudinal study of branded females to investigate whether age and first reproduction or breeding success are related to post-natal contaminant loads.	
CONCLUSIONS	No current support for hypothesis that OC contaminants affect SSL survival, but low sample size must be considered.	
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

CHEMICAL FEEDING
ECOLOGY AND HEAVY
METAL
CONTAMINANTS IN
SSLS

LORRIE REA

DISCUSSION	<p>Dr. Lorrie Rea (ADF&G) presented a summary and update of her projects using stable isotopes of carbon and nitrogen and fatty acid analysis to investigate SSL diet, investigating mercury contamination in SSLs, and using stable isotopes signatures in pups to infer changes in adult female diet. Dr. Rea's presentation is available on the NPFMC website at http://www.alaskafisheries.noaa.gov/npfmc/conservation-issues/ssl.html.</p> <p>Dr. Rea noted that the $\delta^{13}\text{C}$: $\delta^{15}\text{N}$ ratios show a distinct change when pups are weaned. This signature is noted in the whiskers that are sampled from pups. Combining the chemical data and the known growth rate of whiskers enables Dr. Rea to determine the age of weaning for sampled pups. Dr. Rea found that very few (0% - 3%) pups are weaned in their first year. However, 67% of yearlings in the Aleutian Islands, 26% of yearlings in Prince William Sound, and 41% of yearlings in SEAAK are weaned. By age 2, 79% of juveniles were weaned in SEAK, and 71% in PWS. Dr. Rea next plans to calculate when weaning occurred using the chemical signature and calculated growth rate for whiskers.</p> <p>Dr. Rea presented data from a project to estimate diet composition using stable isotope modeling. Dr. Rea noted that stable isotope analysis has some advantages over scat analysis (relative contribution, seasonality, individual sampling), but noted that there are challenges as well (probability distributions, distinguishing some diet items difficult). Dr. Rea used whiskers collected from sea lion pups, which are developed <i>in utero</i>, to infer the diet of their mothers during gestation. Using known whisker growth rates, they are able to isolate sections of the whisker and show regional and seasonal differences in isotope ratios, and thereby seasonal differences in diet.</p> <p>Dr. Rea presented the factors necessary to model diet composition using stable isotope data. Those needs include:</p> <ul style="list-style-type: none"> • Carbon and nitrogen isotope ratios from whiskers. Those data have been collected using pup whiskers sampled every 0.5 cm. • Discrimination factors for diet to tissue deposition and mother to pup
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whiskers. Data were collected and published in Christ et al. (2012) and Stricker et al. (2012).

- Growth rates of whiskers for all age classes. Calculated using whiskers from individual pup captured twice, 4.5 months apart, yearlings, subadults, and adults.
- Scat hard parts data from one season to validate isotope signatures.
- Carbon and nitrogen isotope ratios for pre species. This work is ongoing, and they are still compiling and testing models.

Scherer et al. (2012) reported the spatial variation in the diets of female SSLs inferred from carbon and nitrogen stable isotopes using whiskers from pups. They determined that SSLs from the central Aleutians are depleted in $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ compared to subpopulations to the east. They used the discrimination factors that are still being developed to estimate the proportion of pollock and Atka mackerel in the diet of SSLs from the central Aleutians, eastern Aleutians, central GOA, eastern GOA, and Southeast AK. However, it should be noted that the discrimination factors may not be able to distinguish between walleye pollock and herring, at this point. Estimated proportions of each item in the diet by subregion are shown in Dr. Rea's presentation.

Dr. Rea summarized some recent results investigating problems with using fatty acid signatures to infer diet. Rosen and Tollit (in press) fed Steller sea lions, northern fur seals, and harbor seals known diets consisting of either herring and eulachon (SSL) or just herring (NFS, HS), and compared the fatty acids accumulated in the predators. They showed that the fatty acids from the different diet items were synthesized in the predators in different ways, and that 32% of the fatty acids analyzed were not comparable. Additionally, SSLs were maintained on a four species (herring, eulachon, squid, rockfish) diet for 160 days, after which their diet was inferred using fatty acid analysis. They noted that there were 23-27% misclassification errors in the analysis. Dr. Rea concluded that although fatty acid analysis is a useful tool to study the diet of SSLs, more work is needed to increase the sensitivity and reliability of the method.

Dr. Rea concluded by presenting results of a recent study investigating the link between adult female diet and mercury contamination in SSL pups. Dr. Rea began by summarizing previous studies of mercury contamination in SSLs in Alaska, including Beckmen et al. (2002), Holmes et al. (2008), and Castellini et al. (2012). All three previous studies have shown that the wDPS pups have higher total mercury than pups from the eastern DPS. Further, Castellini et al. (2012) found that young pups had the highest total mercury concentrations, and that for all age groups (YOY and young pups), the total mercury concentration was higher in the wDPS than eDPS.

The current study collected samples in 2011 and 2012 from pups at Agattu Island, Bogslov Island, Ugamak Island, Ulak Island, and Seguam Island. Total mercury concentrations were determined for mothers and pups and calibrated using known growth curves for whiskers. Results to date indicate that there is a wide range of total mercury in the hair of young Steller sea lion pups, suggesting that some fetuses are exposed to high levels of mercury *in utero*. Stable isotope ratios of nitrogen and carbon measured along the length of pup whiskers reflect the trophic

	<p>level of their mother's diet while the pups were developing <i>in utero</i>. And those pups with the highest total mercury in hair also showed elevated $\delta^{15}\text{N}$, suggesting that their mothers were feeding on higher trophic level prey than those with pups with lower total mercury. In summary, very young pups seem to have the highest exposure to mercury, pups in the more western populations appear to be exposed to higher levels of mercury through maternal diet, and hair appears to be an efficient mercury excretory mechanism for newborn pups.</p> <p>The next steps for the contaminants work in the western Aleutian Islands include analysis of samples collected in 2012, total mercury body burden analysis, selenium content of tissues (possible protective value against mercury), modeling individual diet to assess foraging strategies (generalist / specialist or "Generalist population of specialists"), and analysis of OC contaminants in blubber and milk.</p>	
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

METHODS FOR
DEVELOPING RPAS
FOR 2012 EIS

L. COTTER

DISCUSSION	<p>Chairman Cotter led a discussion to determine the methods that the SSLMC will use to develop RPAs for consideration in the 2012 EIS. It was determined that proposals should come from the committee members, and will be submitted in a standard format by 10/12/2012. This time frame is necessary to provide sufficient time for the SSLMC to review, modify, and develop a suite of proposals for the NPFMC to consider by the December council meeting deadline. Council staff was asked to develop directions for proposals and to submit them to the public. The public are invited to submit proposals directly to a SSLMC member for submission to the full committee. All proposals must be submitted to the Chairman or Council staff by 10/12/2012 for consideration. Late proposals, or proposals not responsive to the format provided will not be accepted.</p> <p>Meeting was adjourned at 11:30 AM 9/7.</p>	
CONCLUSIONS		
ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
Draft proposal submission directions	MacLean	9/14

DISCUSSION	
CONCLUSIONS	

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE

OBSERVERS	
RESOURCE PERSONS	
SPECIAL NOTES	

North Pacific Fishery Management Council

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September 13, 2012

In 2010 a Biological Opinion (BiOp) determined that the Bering Sea and Aleutian Islands groundfish fisheries, as then prosecuted, violated the U.S. Endangered Species Act by causing jeopardy to the western Distinct Population Segment (DPS) of Steller sea lions, and adverse modification to its designated critical habitat (JAM). As a result, severe fishery restrictions were enacted in the western and central Aleutian Islands and implemented by an Interim Final Rule in January 2011. The BiOp was challenged in court, and although the BiOp was upheld, the judge ordered NMFS to prepare an Environmental Impact Statement (EIS) to evaluate other alternatives to remove the likelihood of JAM and to provide the public with opportunity to comment on the recommended protection measures.

The North Pacific Fishery Management Council's Steller Sea Lion Mitigation Committee will be preparing recommendations to the Council for alternatives for inclusion in the Steller sea lion mitigation measures EIS currently being prepared by NMFS. The purpose of the alternatives is to remove the likelihood of causing jeopardy to the western DPS of Steller sea lions, or adverse modification to its designated critical habitat, while potentially modifying the existing restrictive management measures. Proposals are being drafted by Steller Sea Lion Committee members, and will be submitted to the committee by October 12, 2012. The Steller Sea Lion Mitigation Committee will construct one or more alternatives for recommendation to the Council by December 2012. Members of the public are welcome to contact any of the Steller Sea Lion Mitigation Committee members to provide input for proposals. Contact information for each committee member is included below.

Larry Cotter, Chairman
Lcotter371@aol.com

Kenny Down
kennydown@comcast.net

Dave Fraser
dfraser@olympus.net

John Gauvin
gauvin@seanet.com

Todd Loomis
tloomis@oceanpeaceinc.com

Gerry Merrigan
merrigan@gci.net

Alvin Osterback
adoislandhopper@gmail.com

Rudy Tsukada
rtsukada@aleutcorp.com

Jon Warrenchuk
jwarrenchuk@oceana.org

Ernie Weiss
eweiss@aeboro.org

In order to be eligible for consideration by the Steller Sea Lion Mitigation Committee, proposals must satisfy the criteria outlined below. Because of the severely constrained time requirements for preparing alternatives for the EIS, any proposals inconsistent with these criteria will not be accepted by the committee.

PLEASE BE CERTAIN TO COMPLETE ALL PORTIONS OF THIS FORM. SUBMIT THE FORM AND SUPPORTING MATERIALS TO ANY OF THE SSLMC COMMITTEE MEMBERS BY 8:30 AM ON OCTOBER 12, 2012. LATE PROPOSALS WILL NOT BE CONSIDERED. PLEASE USE ADDITIONAL SHEETS AS NECESSARY (UP TO MAXIMUM OF 10 PAGES) TO PREPARE PROPOSALS.

Proposals should be no more than ten pages, including figures, tables, and references, in Times New Roman 12 point font. The complete proposal should have the following sections, at a minimum. Other sections may be necessary, and are left at the proposer's discretion.

- **Introduction materials** – Provide name of proposer or institution, address and telephone number of proposer, email address for primary contact.
- **Brief Statement of Proposal** – Provide a single, brief paragraph that concisely describes the action to be taken. Details will be specified in additional sections.
- **Objectives of Proposal** – Begin with a concise statement of the problem to be addressed in the proposal, and the remedy for the problem. Provide detailed description of the proposed changes to regulations, and justification for each.
- **Impacts of Proposal** – Briefly outline the effects you think the proposed changes to management will have, including effects on Steller sea lions, other sectors of the fishery, and Aleutian Island communities.
- **Supporting data and other documentation** – Provide any relevant data or other information to support your proposal.
- **Alternative solutions** – Provide other potential solutions to the problem, if any, that the Council could consider to address the problem.
- **Justification for Council action** – Provide an explanation of why Council action is required, and the consequences should the Council not take action.

For additional information, contact Steve MacLean at steve.maclea@noaa.gov or (907) 271-2809. Proposals should be submitted to one of the committee members identified above for submission to the Steller Sea Lion Mitigation Committee. Receipt of proposal does not ensure that the proposal will be included in the recommended alternatives to the Council. The SSLMC may also modify, amend, add and subtract from each proposal to develop a set of recommended alternatives.



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2303 West Commodore Way, Suite 202, Seattle, WA 98199

September 20th, 2012

Jane Lubchenco, Administrator
National Oceanic & Atmospheric Administration
1401 Constitution Avenue NW
Room 5128
Washington, DC 20230

**Re: CIE Independent Review Reports for 2010 North Pacific Groundfish Fishery
Biological Opinion**

Dear Dr. Lubchenco:

I write on behalf of the Freezer Longline Coalition ("FLC"), which represents the owners and operators of the vessels that participate in the freezer longline sector of the Pacific cod fishery in the federal waters of the Bering Sea/Aleutian Islands and the Gulf of Alaska. The FLC members appreciate you taking the time to read this letter.

One of the primary cornerstones of the Obama Administration is its expressed commitment to scientific integrity. Consistent with this commitment, the National Oceanic and Atmospheric Administration ("NOAA") has issued policy proclamations commanding, among other things, that "[s]cientific integrity is essential to elevating science to its rightful place in informing government decisions, and more fundamentally, scientific integrity is essential for democracy." See <http://nrc.noaa.gov/scientificintegrity.html>. The issue addressed below fundamentally implicates NOAA's application of, and adherence to, this clearly expressed policy.

In 2010, the National Marine Fisheries Service ("NMFS") issued a North Pacific Groundfish Fishery Biological Opinion ("BiOp") that evaluated the effects of the North Pacific groundfish fisheries on Steller sea lions listed under the Endangered Species Act ("ESA"). The BiOp concluded that the fisheries were likely to jeopardize Steller sea lions and adversely modify their critical habitat and, consequently, NMFS imposed drastic and wide-ranging management measures. However, last week, three independent scientists – commissioned by NMFS through the Center for Independent Experts ("CIE") to review the BiOp – issued final reports that roundly criticize the findings, rationales, and conclusions of the BiOp. Some of the key determinations of these three scientists bear emphasis here:

- “It is my conclusion that the BiOp fails to provide reasonable support for the conclusion that continued fishing [for Alaska pollock, Pacific cod, and Atka mackerel] . . . in the BSAI and GOA is likely to jeopardize the survival or adversely modify critical habitat (JAM) of the western population of SSL [Steller sea lions]. There is no direct evidence that by removing fish, these fisheries compete with SSL in the central and western Aleutians and elsewhere.... In my opinion, the weight-of-evidence argument for JAM rests on speculation of what is thought possible rather than what is supported by scientific evidence.” (Dr. W. Don Bowen, Nova Scotia).
- “[T]here needs to be a critical and unbiased evaluation of the evidence. To a large extent, the BiOp fails in this regard.” (Dr. W. Don Bowen, Nova Scotia).
- “My evaluation of the information and data presented and the arguments constructed in the Biological Opinion, the additional information presented at the public meeting, and the legal framework governing the assessment is that the conclusions of the Biological Opinion are not supported.” (Dr. Brent S. Stewart, San Diego, California).
- “The size of the BiOp, and logic resulting from legal interpretations, makes for a document that is scientifically unsatisfying, to the point of causing frustration.” (Dr. Kevin Stokes, New Zealand).

In 2011, FLC filed a lawsuit against NMFS in which we have challenged, among other things, the findings and conclusions of the BiOp. NMFS defended the conclusions of the BiOp in the district court and obtained a largely favorable judgment. In the district court ruling the judge did not rule on the scientific findings of the BiOp, rather he deferred that judgment to the agency's evaluation; hence, his ruling should not be taken to be an endorsement of the science contained in the BiOp.

We appealed to the Ninth Circuit Court of Appeals, where the case is currently pending. The findings and conclusions of the three independent CIE reviewers, as summarized above, directly contradict the BiOp's conclusions as well as the arguments offered by NMFS to the district court in defense of the BiOp. In addition an independent panel of marine scientists assembled by the states of Washington and Alaska came to the same conclusions. *See* http://wdfw.wa.gov/conservation/steller_sealions/final_fmp_biop_ind_sci_rev_08oct2011.pdf.

The FLC has always maintained that the BiOp's conclusions are not supported by the best available science, are premised on speculative assumptions, and unfairly and irrationally single out fisheries as the cause of an unproven and hypothetical problem perceived by NMFS. The CIE review commissioned by NMFS confirms FLC's position in no uncertain terms. We firmly believe that it would be unjust, unfair, dishonest, and contrary to principles of scientific integrity for NMFS, as a public agency charged with managing our Nation's fishery resources, to continue to defend – in court – a decision that your agency knows has been categorically denounced by three expert and independent scientists whose opinions were solicited by NMFS itself. *Accordingly, we respectfully request that you, as NOAA's Administrator, formally (i) notify the Court of the new, important, and compelling information contained in the CIE reports and (ii) withdraw the BiOp.*

Our request is fully consistent with the principles of sound science and agency integrity espoused by the Obama Administration, NOAA, and NMFS, and we hope that the Administration will remain faithful to these principles. As quoted by NMFS in its scientific integrity policy, "anyone who doesn't take truth seriously in small matters cannot be trusted in large ones either." <http://nrc.noaa.gov/scientificintegrity.html> (quoting Dr. Albert Einstein).

Thank you for your consideration of this letter and our request. If you wish to discuss this matter further, please feel free to contact me at (206) 284-2522.

Sincerely,



Kenny Down
Executive Director
Freezer Longline Coalition

cc:

Dr. Rebecca M. Blank, Acting Secretary of Commerce
Mr. Samuel D Rauch, Assistant Administrator for Fisheries
Dr. James Balsiger, Administrator for NOAA Fisheries Alaska Region
The Honorable Senator Maria Cantwell
The Honorable Senator Patty Murray
The Honorable Senator Mark Begich
The Honorable Senator Lisa Murkowski
The Honorable Congressman Doc Hastings
The Honorable Congressman Don Young
Mr. Eric Olson, Chairman NPFMC
Commissioner Cora Campbell, Alaska Department of Fish & Game
Mr. Phil Anderson, Director Washington Department of Fish & Wildlife
Mr. Bill Tweit, Policy Lead Washington Department of Fish & Wildlife
Mr. Larry Cotter, Chairman SSL Mitigation Committee



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September 25, 2012

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 W. Fourth Avenue, Suite 306
Anchorage, AK 99501-2252

Dr. James Balsiger, Regional Administrator
NOAA Fisheries, Alaska Region
709 West Ninth Street
Juneau, AK 99802-1668

RECEIVED
SEP 25 2012

Re: Agenda Item B-7: Protected Species Report
Agenda Item C-4: Steller Sea Lion Issues

Dear Chairman Olson, Dr. Balsiger, and Council Members:

The National Marine Fisheries Service (NMFS) has begun preparing an environmental impact statement (EIS) evaluating management changes needed to ensure that the Bering Sea and Aleutian Islands (BSAI) groundfish fisheries do not cause jeopardy to endangered Steller sea lions or adverse modification of designated Steller sea lion critical habitat. *See* 77 Fed. Reg. 22750 (April 17, 2012). The agency has committed to work with the North Pacific Fishery Management Council (Council) and members of the public as it completes the NEPA process. As we have made clear in previous letters, this EIS should be consistent with the conclusions and analysis in the 2010 Biological Opinion. There is no new information or other factor that justifies deviating substantially from those conclusions, and the Council should not encourage or allow this process to be driven by those seeking to undermine NMFS's long-standing conclusion that fishing may contribute to the Western Populations' decline and failure to recover by competing with sea lions for important prey species. The EIS process might appropriately focus on alternative ways, should any exist, to achieve the level of protection needed to ensure that fisheries are not causing jeopardy to the Western Population of Steller sea lions or adverse modification of their critical habitat.

The EIS process is the result of a broad legal challenge filed by the State of Alaska, head-and-gut trawl companies, and freezer longliners. *See State of Alaska v. Lubchenco*, No. 3:10-cv-00271-TMB, slip op (D. Ak, Jan. 19, 2012). Among other claims, the plaintiffs in that suit challenged new management measures designed to alleviate competition between fisheries and Steller sea lions in the western Aleutian Islands. The new measures were developed as part of a formal ESA Section 7 consultation, begun in 2006 and completed in December 2010, in which NMFS concluded appropriately that, as then managed, the groundfish fisheries were likely to cause jeopardy to the endangered Western Distinct Population Segment of Steller sea lions and adverse modification of designated critical habitat. *See Fisheries of the Exclusive Economic Zone Off Alaska; Steller Sea Lion Protection Measures for the Bering Sea and Aleutian Islands*

Groundfish Fisheries Off Alaska, 75 Fed. Reg. 77,535 (Dec. 13, 2010). NMFS reached that conclusion based on the extensive decline of the population, its failure to recover, and ongoing decline in the western Aleutian Islands. One likely cause of the continued decline and failure to recover is competition for food with the industrial groundfish fisheries.

The court rejected all of the plaintiffs' ESA challenges to those conclusions. It found that "NMFS made reasoned findings sufficient to establish the required causal link between the proposed action and its jeopardy and adverse modification determinations" and "did not misapply the jeopardy and adverse modification standards," "rely on factors that Congress did not intend it to consider," or "fail[] to consider an important aspect of the problem or failed to articulate a rational connection between its findings and conclusions." *State of Alaska v. Lubchenko*, slip op at 27, 30, 33, 38. Thus, there is a clear set of parameters, established by NMFS and verified by the court, that must be applied to any management regime in the BSAI. The Council, including its Steller Sea Lion Mitigation Committee, must be mindful of these parameters and the need to conserve resources by not attempting to use the NEPA process inappropriately to undermine the substantive conclusions in the BiOp.

The recent Center for Independent Experts review, while relevant to the NEPA process, does not provide an opening to revisit the conclusions in the BiOp. As the reviewers note, better science would likely improve certainty in management choices; and better metrics to understand the changes in the Western Population of Steller sea lions might be developed in the future. For now, however, indicators like pup/non-pup ratios and scat samples are the best available way to estimate natality and feeding habits across the population. Those indicators—coupled with the substantial declines in the western Aleutian Islands and overall failure of the population to meet recovery criteria—support NMFS's longstanding and widely supported conclusion, in place since at least 1990, that fishing may contribute to the Western Populations' decline and failure to recover by competing with sea lions for important prey species, such as Atka mackerel, Pacific cod, and pollock.

More importantly, the uncertainties highlighted in the CIE reviews do not supersede NMFS's obligation to comply with the substantive protections mandated by the Endangered Species Act. Indeed, the ESA is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). It reflects "a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies." *Id.* at 184. To effectuate this purpose, the ESA places on all federal agencies the substantive obligation to "insure that any action . . . is not likely to jeopardize the continued existence of any endangered species . . . or result in the destruction or adverse modification of habitat for such species." 16 U.S.C. § 1536(a)(1). The obligation to "insure" against a likelihood of jeopardy or adverse modification requires the agencies to give the benefit of the doubt to endangered species and to place the burden of risk and uncertainty on the proposed action. *See Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987). Thus, the inquiry that the Office of Protected Resources, as expert agency, must undertake during consultation does not require a showing of causation and does not focus on the word "likely." Rather, the agency must use the best available science to determine whether its actions "insure" that jeopardy and adverse modification will not result. As the court made clear, the agency complied with those obligations here.

Rather than continuing to rehash old arguments, we should recognize that the decline and continued failure to recover of the western stock of Steller sea lions is telling us that we must find a better way to take fish from the ocean and must consider the needs of marine ecosystem as we do so. We should take this opportunity to consider the changes needed to build sustainable Alaskan fisheries, potentially those using hook-and-line and other lower-impact gear, rather than seeking to undermine legal and scientific requirements in order to allow a few more years of industrial trawling.

Accordingly, the Council and NMFS should look holistically at the impacts that the groundfish fisheries are having on the marine ecosystem, including Steller sea lions. Such an examination should include addressing declines in natality; local declines in some regions; rebuilding of the historically viable rookeries in the Pribilof Islands; and the effects of the past reductions of the prey base caused by commercial fisheries, in particular the past overfishing of Aleutian and Aleutian Basin/Bogoslof pollock stocks. The Council and NMFS should work toward addressing the interactions noted in the Aleutian Islands Fishery Ecosystem Plan (AIFEP), which explains that commercial fishing has effects on the ecosystem and that those effects may impact Steller sea lions. *See* Aleutian Islands Fishery Ecosystem Plan 32-33, *available at* http://www.fakr.noaa.gov/npfmc/current_issues/ecosystem/AIFEP12_07.pdf (“[R]elationships between major Aleutian Islands fisheries, key predators[, such as sea lions], and the shared prey base within the pelagic food web illustrate both the common oceanic energy source for fisheries, and the extent to which fisheries may compete with each other and with other predators for energy within the ecosystem.”). The AIFEP suggests an integrated management approach in which ecosystem considerations and the needs of predators, such as Steller sea lions are considered as fishing levels are set. *See id.* at 84-85.

Ultimately, triage to stem the continuing sea lion declines in the Aleutians clearly is both justified and necessary. To avoid another emergency, however, we should consider more basic changes in fisheries management to address the shortcomings of a maximum yield approach and allow the Steller sea lion population to recover. Thank you for considering these comments, and we look forward to continuing our work with you on this important issue.

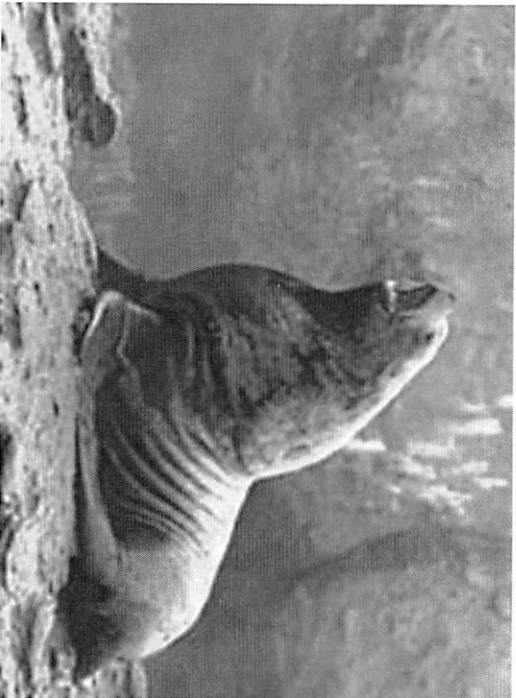
Sincerely,



Susan Murray
Senior Director, Pacific
Oceana

Alaska Region

CIE Review of the 2010 BiOp on the Effects of the Alaska Groundfish Fisheries on Steller Sea Lions



Summary of the Review and
NOAA Fisheries' Initial Response

October 2, 2012

2010 Biological Opinion

- The BiOp concluded the groundfish fisheries were likely to jeopardize the continued existence of the wDPS of SSL and adversely modify their critical habitat.
- The best available information led NMFS to conclude that the wDPS may be experiencing nutritional stress to an extent that the population's birth rate (natality) may be reduced relative to historic rates.
- The “Reasonable and Prudent Alternative” was designed to ensure that the groundfish fisheries are not likely to jeopardize the continued existence of the wDPS or adversely modify critical habitat.

CIE Review of the 2010 BiOp

- NMFS contracted with the Center for Independent Experts (CIE) to conduct a peer review of the 2010 BiOp.
- Reviewers were asked to comment on the adequacy of the best available science and the appropriate interpretation of that science to reach the conclusions in the BiOp, and to review new information that became available since the BiOp including presentations from interested parties.

CIE Reviewer Reports

- NMFS received reports from the three reviewers on September 6, 2012.
- The CIE reviewers:
 - Dr. Dan Bowen (Bedford Institute of Oceanography - Dartmouth, Nova Scotia)
 - Dr. Kevin Stokes (Consultant - Wellington, New Zealand)
 - Dr. Brent Stewart (Hubbs-Sea World Research Institute - San Diego, California)

Summary of the CIE Reviews

The reviews were conducted individually, thus the reviewers highlighted some common and some differing views and emphases.

Key Common Views

- The BiOp used a weak proxy (pup to non-pup ratios) to infer SSL natality, and then relied upon that as an indicator of nutritional stress.
- The cause of the SSL decline is unknown, but the lack of any direct evidence for fishery-induced nutritional stress makes the BiOp's conclusions unsupportable.

Key Differing Views

- Whether the SSL population trend monitoring design is reliable
- Whether killer whale predation is a major factor contributing to the lack of SSL recovery
- Whether NMFS appropriately downplayed forage to biomass ratios

NMFS's Response

- NMFS greatly appreciates the CIE reviewers' efforts.
- The reviewers raised many good points. Their feedback presents an opportunity for NMFS to improve our future BiOp analyses, and we are examining their specific suggestions carefully.
- Some of the additional research suggested by the reviewers would be beneficial to help elucidate the effects of fisheries on SSL.
- In the interim, future Section 7 consultations on the groundfish fisheries must continue to reach determinations based upon the best available scientific information.

Improvements for Future BiOps

The Alaska Fisheries Science Center has committed to undertaking several analyses in response to the CIE reviews to strengthen future BiOps:

1. A continued analysis of Steller sea lion food habits data taking into account the biases and potential inaccuracies of our approach, and continued emphasis on cooperative research that evaluates emerging new methods of diet study
2. Additional analyses to clarify the circumstances under which pup/non-pup ratios are useful in making inferences regarding SSL birth rates
3. A review and analysis of the available studies evaluating relationships between Steller sea lion abundance and fishing effort
4. A synthesis of movement data for SSLs in the Aleutian Islands sub-regions including, as possible, quantitative models

Improvements for Future BiOps

NMFS will also address the reviewers' criticisms in future BiOps by:

1. Critically reviewing the relevant literature and data in the BiOp
2. Clearly describing the assumptions and caveats about the interpretation of the science
3. Providing an accounting of the data available for each region and the level of uncertainty in the data presented
4. Ensuring competing hypotheses are treated objectively
5. Reconciling conflicting statements
6. Presenting transparent and structured exposure, response, and risk analyses with the available evidence
7. Striving to present the results of our analysis in a more concise format that is easier to follow and that more clearly articulates the basis for the conclusions

Next Steps

- None of the results from the CIE review would cause us to alter current fishery management measures in the central and western Aleutian Islands.
- The District Court upheld the 2010 BiOp and interim final rule (RPA) but ordered NMFS to prepare an EIS to evaluate alternative SSL protection measures. NMFS is now developing the EIS.
- NMFS will incorporate the reviewers' feedback into the EIS and into a new BiOp focused on the preferred alternative recommended by the North Pacific Fishery Management Council (if that differs from the 2010 RPA).

Schedule

NMFS developed the schedule for the EIS in coordination with the North Pacific Fishery Management Council to ensure sufficient opportunities for public involvement.

- Public scoping period ends: October 15, 2012
- Council recommends alternatives: December 2012
- Publish draft EIS: May 2013
- Commence new Section 7 consultation: May 2013
- Release new BiOp: January 2014
- Publish Final EIS and begin rulemaking: February 2014
- Implement preferred alternative: January 2015

Conclusions

- NMFS appreciates and will benefit a great deal from the CIE reviews – informing and improving our future analyses as well as our planning for future research.
- Fishery management measures resulting from previous BiOps have been associated with benefits for SSL in the Gulf of Alaska and eastern Aleutian Islands, but NMFS is still concerned about the steep, sustained decline in the western Aleutian Islands.
- Based on the best available information – including available information on SSL abundance and trends, diet, and natality – NMFS remains concerned about the potential for fisheries to cause nutritional stress in SSL.
- Whatever management alternative is adopted as a result of the EIS, NMFS must insure that the action is not likely to jeopardize the continued existence of the wDPS or adversely modify critical habitat.

Key SSL Research Needs

To improve the scientific evidence for future groundfish BiOps there is a need to focus SSL and fisheries studies on the central and western Aleutian Islands, to include:

- Expanded studies of key SSL population parameters (counts, survival, natality)
- Expanded SSL prey and movement studies (females/juveniles)
- Expanded regional biomass estimates for Atka mackerel and Pacific cod
- Additional movement and fisheries removal studies of key SSL prey
- Additional studies of SSL predators (killer whales)
- Basic biological oceanography for the region

PUBLIC TESTIMONY SIGN-UP SHEET

Agenda Item: B Reports

	NAME (PLEASE PRINT)	TESTIFYING ON BEHALF OF:
1	Jimmy R. Hurley SR	SELF
2	Donna Parker	Arctic Storm
3	Kenny Down	Frozen Longline Coalition
4	Glenn Reed / VINCE O'SHEA	PACIFIC SEAFOOD PROCESSOR ASSOC.
5	Jim Ayers	SELF
6	Mike LeVine / Tom Wareschuk	Oceana
7	Julie Bonney / Bob Krueger / Glenn Reed	AGDB / AWTG / PSPA
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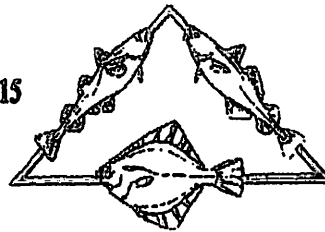
NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited 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.

Groundfish Data Bank

Alaska

PH: 907-486-3033 FAX: 907-486-3461 P.O. BOX 788 - KODIAK, AK. 99615

Julie Bonney, Executive Director jbonney@gei.net
Katy McGauley, Fisheries Biologist agdb@gei.net



Agenda Item: B-2

CGOA TRAWL FISHERY INDUSTRY IS IN CRISIS AND NEEDS CATCH SHARES NOW Recap of the 2012 fisheries

This memo is to provide the Council some insight into the immediate problems facing the Gulf of Alaska trawl fisheries. Management of GOA limited access trawl fisheries has grown increasingly complex in recent years. As this complexity has grown, NMFS management has become ever more reliant on a system of self governance by the harvesters and processors through voluntary quasi-cooperative structures. As you will see below, this voluntary self governance structure fell apart this year. That is not surprising given the competitive nature of the fisheries under an open access race for fish. Predictably, recent influxes of new vessels and fishing power have led to overcapitalization, a new race for fish, and speculative activity to build fishing history. In addition the Council recently adopted strict new measures to reduce Chinook salmon bycatch and halibut PSC limits which has put additional pressure on the fisheries.

Clearly, we do not have the ability to self regulate via voluntary measures as some would suggest. What successes we have had in the past through voluntary measure were fragile and appear to have completely disappeared in 2012. Below is a description of the challenges and subsequent failures for 2012 so far.

CGOA A season catcher vessel trawl Pacific cod fishery: The CGOA trawl sector chose to stand down on cod and move into the pollock targets as a means to reduce halibut PSC usage and rates. The WGOA was closed to trawl catcher vessel targeting Pacific cod on February 22nd when the available quota was reached. ~~Some WGOA trawlers who have endorsements for the CGOA regulatory area fished area 620~~ and delivered their catch to Sand Point. For the A season 31% (or 2,833 mt) of the CGOA trawl catcher vessel quota was caught and delivered outside Kodiak with 69% (or 6,287 mt) delivered in Kodiak (NMFS personnel communication). This compares to virtually 100% delivered to Kodiak prior to the sector split. In addition the WGOA vessels that were fishing across the line were all less than 60 foot so did not carry observers. The high halibut bycatch rates that the Kodiak fleet was intending to correct by delaying the fishery was thus extrapolated over these vessels catches and resulted in high halibut mortality usage. The good intentions of the Kodiak fleet resulted in lost cod catch and high halibut usage by others which reduced halibut mortality available for the second and third quarter flatfish fisheries.

July Shallow water Flatfish fishery: There were 180 mt of halibut mortality available at the start of the third quarter (July 1) flatfish fishery. The fishery was closed on July 14th with actual halibut usage of 225 mt. Typically this amount of halibut would last the majority of the summer not just two short weeks. Vessels that newly entered the fishery were responsible for high halibut bycatch rates and high halibut bycatch usages due to their inexperience and desire to accumulate catch history.

CGOA C season pollock fishery:

Voluntary management plan: The Kodiak trawl sector met the week of August 20th to consider how best to prosecute the fall CGOA pollock fisheries. The fleet decided in both the area 620 and 630 pollock fisheries that they would voluntarily agree to limit each vessel to certain number of trips to catch the available quota. The fleet wanted to remove the race for fish so that they could focus on salmon bycatch avoidance since everyone understood that the newly adopted Chinook cap could close the fishery before the available quotas could be reached.

No closed class – over capitalization: The number of vessels that have participated in the fall fisheries has increased dramatically – 29 in 2009 compared to 40 in 2012. Any vessel that has a LLP endorsed for the CGOA is eligible for the fishery even if they have not fished out of Kodiak for 10 years. No sooner was an agreement reached than additional vessels wanted to pile in. All that could be done was to hopefully get these vessels to agree to the same catch limit as the rest of the fleet even though it meant that the available quota could potentially be exceeded. The only thing that kept the number of new entrance vessels from spinning completely out of control was the need to have a buyer for the vessel's pollock catch.

CGOA vessels split over to the WGOA pollock fishery: Most Kodiak processing plants wanted to wait on pollock so they could continue to focus on pink salmon processing. Once the catch share plan was agreed to each plant and corresponding fleet could prosecute their voluntary allocation to meet their individual business plan. Because some plants wanted to wait to start the pollock fishery due to conflicts with the salmon fishery and the fact that the fleet was still negotiating pollock price – several of the Kodiak vessels with WGOA endorsements headed to area 610 to participate in the C season pollock fishery. Three of these vessels traditional fish in the area but usually after the CGOA fisheries closes; another bought an under 60 ft LLP from a Sand Point resident and is now new to the WGOA trawl fishery. The Sand Point / King Cove fleets were unhappy with the additional early effort and blamed the extra effort on the catch share plan / pollock pricing strike.

Voluntary catch share plan for Area 620 falls apart: NMFS announces a closure for Sept 10th for the area 610 pollock fishery. The Kodiak fleet is extremely nervous that the WGOA vessels might move into area 620. The fleet settles for a price on Sept 12th and the CGOA pollock fishery begins. Rumors run rampant that tenders and catcher vessels are headed to area 620 from the WGOA. The CGOA fleet focuses on area 620 and tries to control salmon bycatch. NMFS looks at the fishery on Friday, Sept 14th and agrees to leave the fishery open over the weekend based on information from some of the WGOA processors suggesting that tendering was off the table for them. AGDB assures NMFS that the Kodiak fleet will stick to their agreed allocation and the agreement will hold.

NOAA Enforcement discovers WGOA catcher vessels and tenders in area 620 and deploys a helicopter to inform the WGOA participants regarding tendering regulations. While catcher vessels can fish wherever they want tendering is only allowed on the Sand Point side of 157 degrees longitude. NMFS comes in on Monday, Sept 17th discovers significant additional catches outside the Kodiak fleet. NMFS announces a closure for Sept 18 (24 hours later). Kodiak vessels that had not caught their area 620 allocation race to the fishing grounds. Weather is gale warning with 20 ft seas. Vessels switch from Chinook bycatch avoidance to trying to catch their pollock allocation before the closure. The three highest salmon hits for the entire C season occurred within this frantic period.

Area 620 C season pollock fishery summary: The area 620 C season quota was exceeded by 2,100 mt: available quota was 7,000 mt compared to actual catch of 9,100 mt. Of the 9,100 mt of catch appropriately 2,625 mt was delivered to ports outside of Kodiak. Effective observer coverage was only 13% of the catch due to the large amount of catch taken by the under 60 foot fleet out of the WGOA and the fact that the AFA vessels met their quarterly observer coverage requirement in the BS pollock fishery and needed no further coverage in the GOA. The CAS salmon catch estimate is more than 2 times as large as actual catch based on retention data / FT data for area 620. As of September 22nd, in the CGOA pollock fishery Chinook salmon bycatch was 4,585 out of the 8,929 fish cap split 3,395 Chinook in area 620 and 1,190 Chinook in area 630.

NMFS cannot manage hard cap under a race: NMFS has chosen to close the area 620 D season fishery upfront and not allow any fishing for the D season (available quota of 5,000 MT, approximately \$1.8 million ex-vessel value). The agency is concerned that they cannot control the fishery in-season so instead chose a preemptive closure. This year's salmon bycatch rate in area 620 and historical rates for the area suggest that the CGOA pollock fishery could be over the Chinook salmon cap of 8,929 fish. As the GOA Chinook salmon bycatch cap analysis pointed out the present management system includes fleet wide accountability, no individual accountability which makes it very difficult for the agency to manage the Chinook salmon cap. Also the Sand Point / King Cove fleet are threatening to fish in area 620 so NMFS is concerned that there will be too much fishing capacity based on the available quota. If the salmon counts are low enough in the D season in area 630 and enough vessels drop out of the fishery towards the end of October then the agency believes the fishery may become manageable and could reopen the fishery in area 620.

Conclusion: The CGOA trawl industry has lost their ability to self-manage the fisheries. The agency has depended on these voluntary catch share arrangements to ensure that the fishery can be prosecuted without exceeding the caps for target and bycatch species. Things are expected to get worse as other regulatory actions become effective – restructured observer program, sweep modification for CGOA flatfish trawlers, halibut PSC cap reduction of 15% and finally the race for catch history as the NPFMC considers additional tools for the CGOA trawl industry.

Western Steller Sea Lions in AK

2012 Update



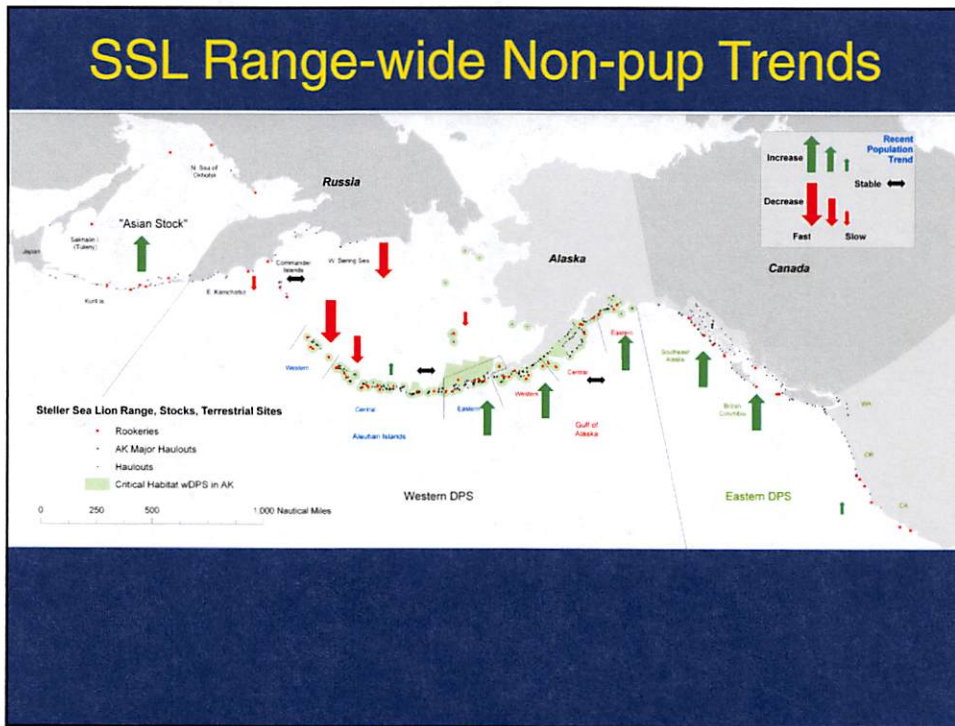
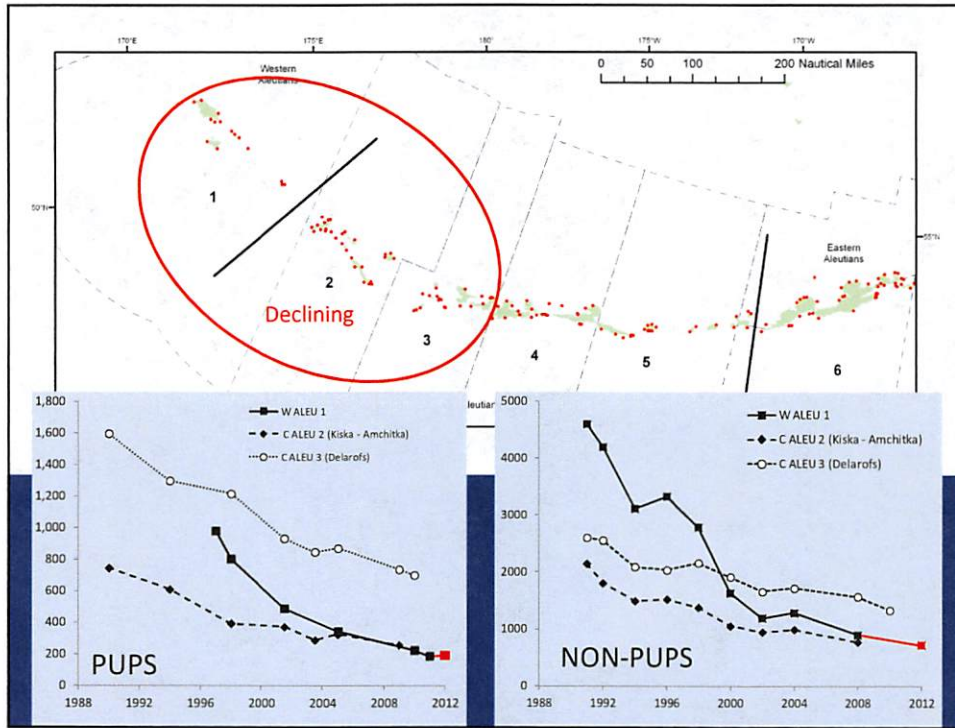
Alaska Ecosystem Program
NOAA Fisheries
National Marine Mammal Laboratory
Alaska Fisheries Science Center
Seattle, WA



2012 Steller Sea Lion Survey

- Fog, Fog, Fog
- Western Aleutians only
- Pups and Non-pups





2012-13 NMML Steller Sea Lion Research

- October 2012
 - FORAGING ECOLOGY, CONDITION: Adult female capture/tagging in the C & W ALEU
- June-July 2013
 - POPULATION TREND: Aerial surveys
 - Manned aircraft, pups & non-pups, SE AK through E ALEU
 - Unmanned aircraft, pups & non-pups, C & W ALEU [MAYBE]
 - Tech Memo summarizing 2008-12 surveys
 - VITAL RATES: Brand pups and Sighting effort
 - Field camps at Marmot and Ugamak
 - Two cruises - Aleutians and Gulf of Alaska
 - Brand pups - Aleutians
 - Paper summarizing survival rates thru age 11, E ALEU thru E GULF
 - CONDITION: Pups at rookeries
- October 2013
 - FORAGING ECOLOGY, CONDITION: Adult female capture/tagging in the C & W ALEU



Steller Sea Lion "Myths"

- "Killer whale predation is impeding recovery."
- "Steller sea lions are near-shore foragers." [low spatial overlap]
- "Steller sea lions are shallow divers." [low spatial overlap]
- "Steller sea lions only eat small, young fish." [low size overlap]
- "Juvenile sea lions cannot survive on a gadid-rich diet." [regime shift-
"junk" food]

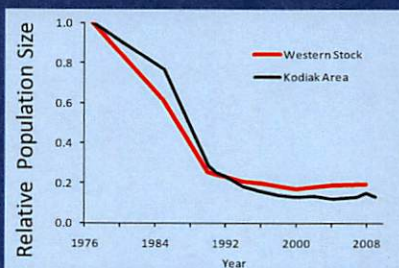
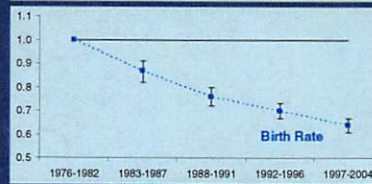
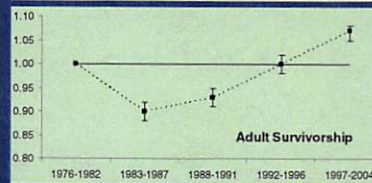
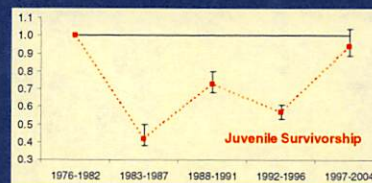
Steller sea lion Survival

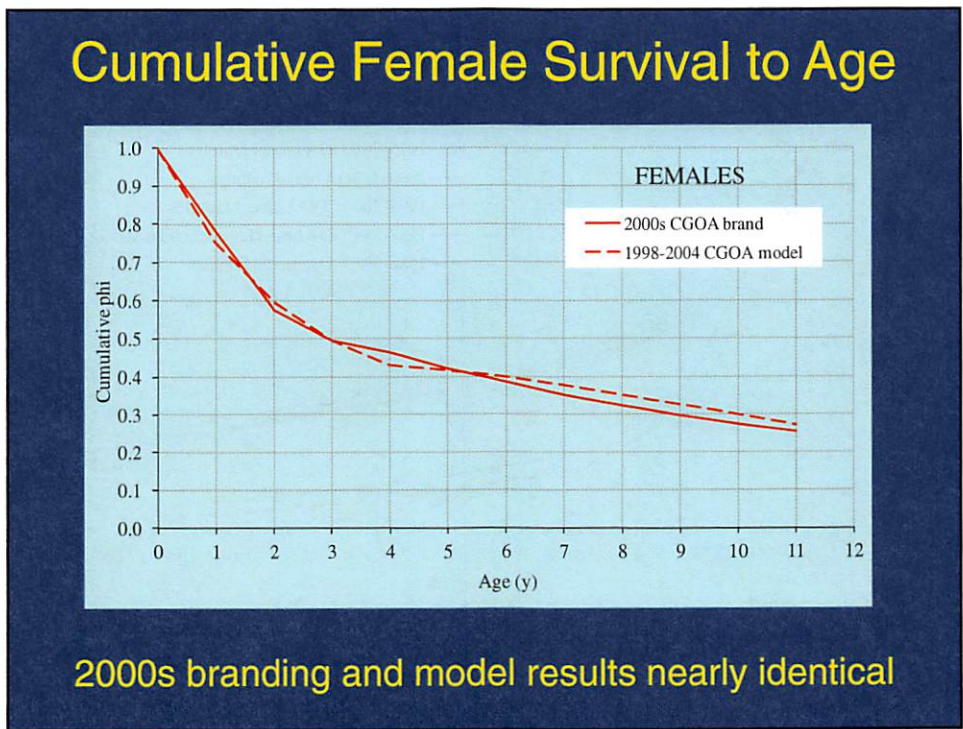
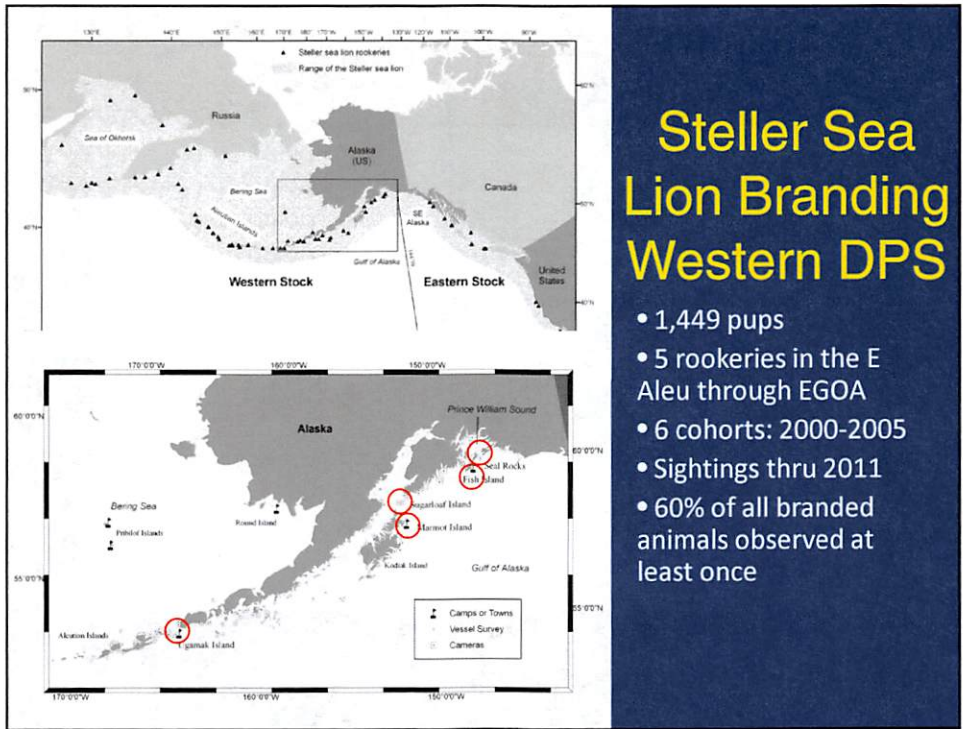
“Killer whale predation is impeding recovery.”

CGOA Female Vital Rate Changes over Time [Holmes et al. 2007]

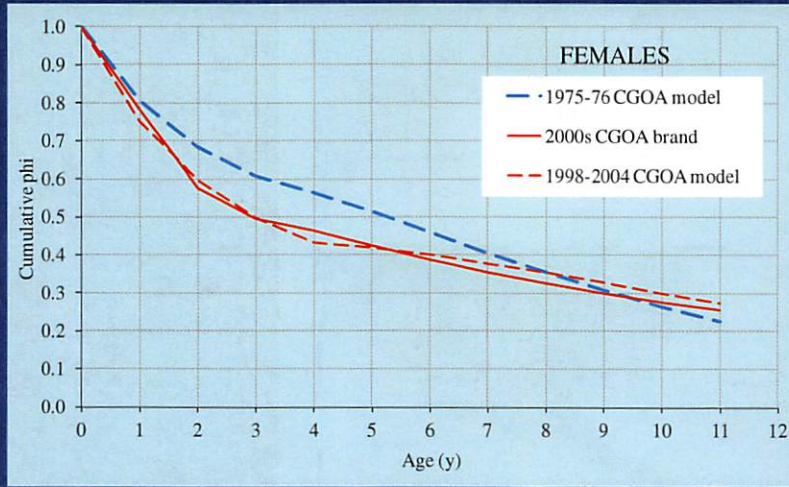
- Vital Rates of 1970s are baseline
- ‘Low’ survival in late 80s-early 90s
- ‘High’ survival in 2000s
 - Similar or greater than 1970s
- Decline in birth rate
- Rebound in survival suggests direct mortality factors (e.g. predation) not affecting recovery

Changes in Vital Rates to Fit Counts and Age Structure



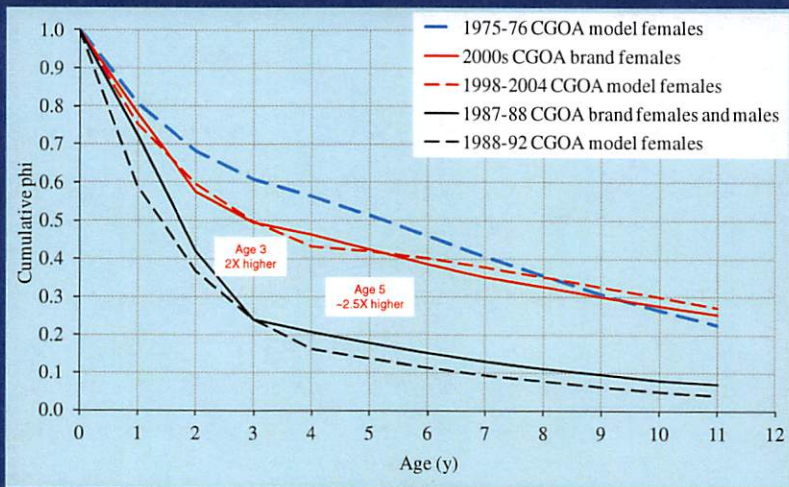


Cumulative Female Survival to Age



- Survival to ages 3-5 10-20% lower in 2000s than 1970s
- Survival to ages 7-11 similar in 2000s than 1970s

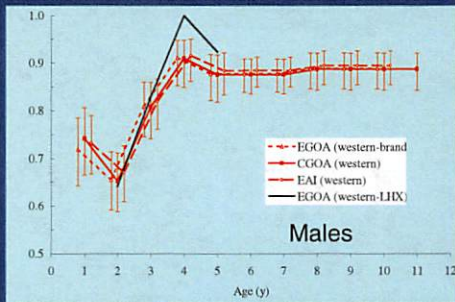
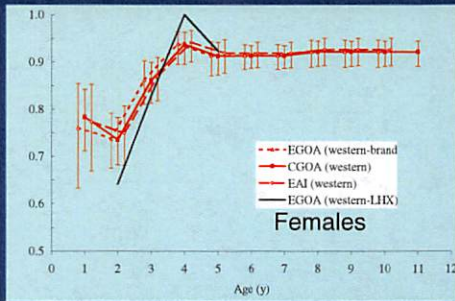
Cumulative Survival to Age



CGOA Survival in 2000s much greater than in late 80s-early 90s

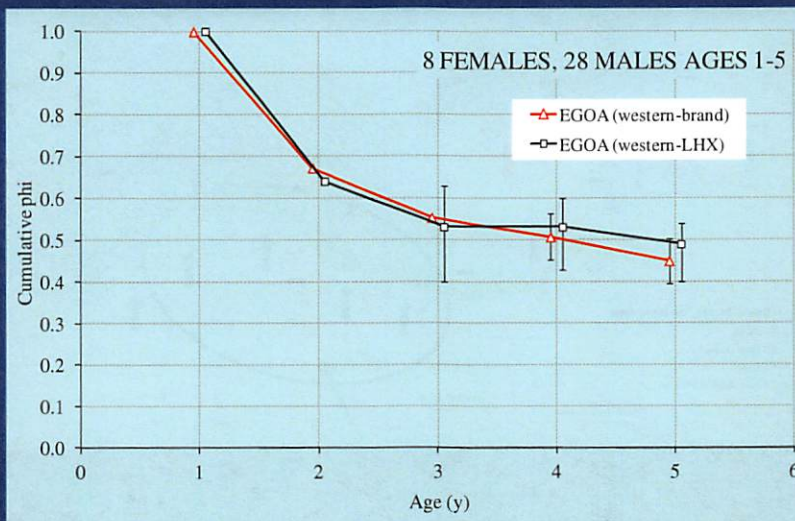
NMML Brand & LHX

[Horning & Mellish 2012]



- LHX = Life History Transmitter
- Surgically implanted in 1-2 year old SSLs
- N=36: 28 males, 8 females
- Transmits to satellite upon death
 1. Location
 2. Time
 3. Temperature profile
- 12 detected mortalities
- Temperature profiles in 11 of 12 consistent with predation (rapid cooling of LHX tag)
- LHX data ages 2-5 only
- LHX results similar to branded males ages 2-3

Cumulative Survival to Age: Brand & LHX

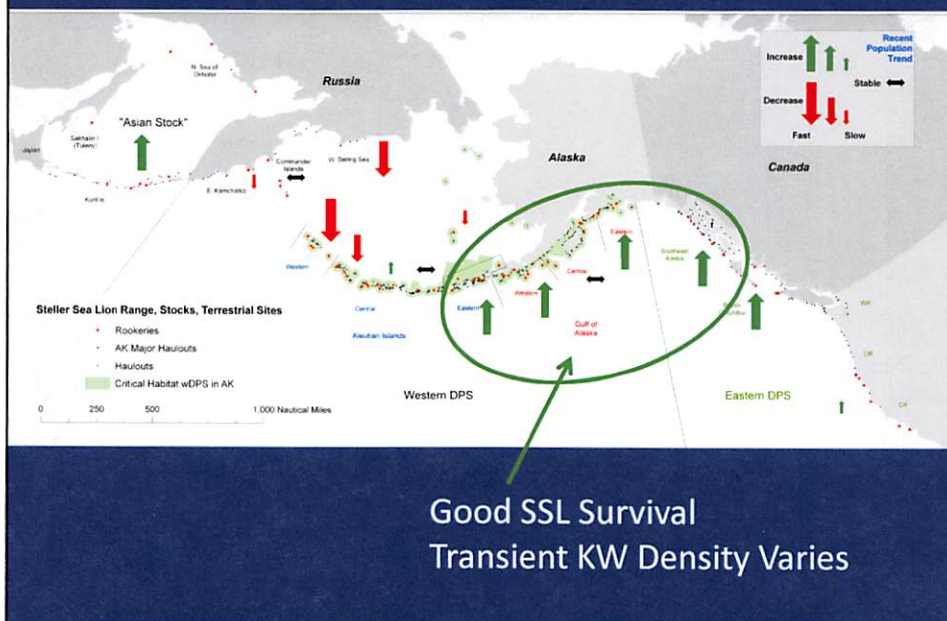


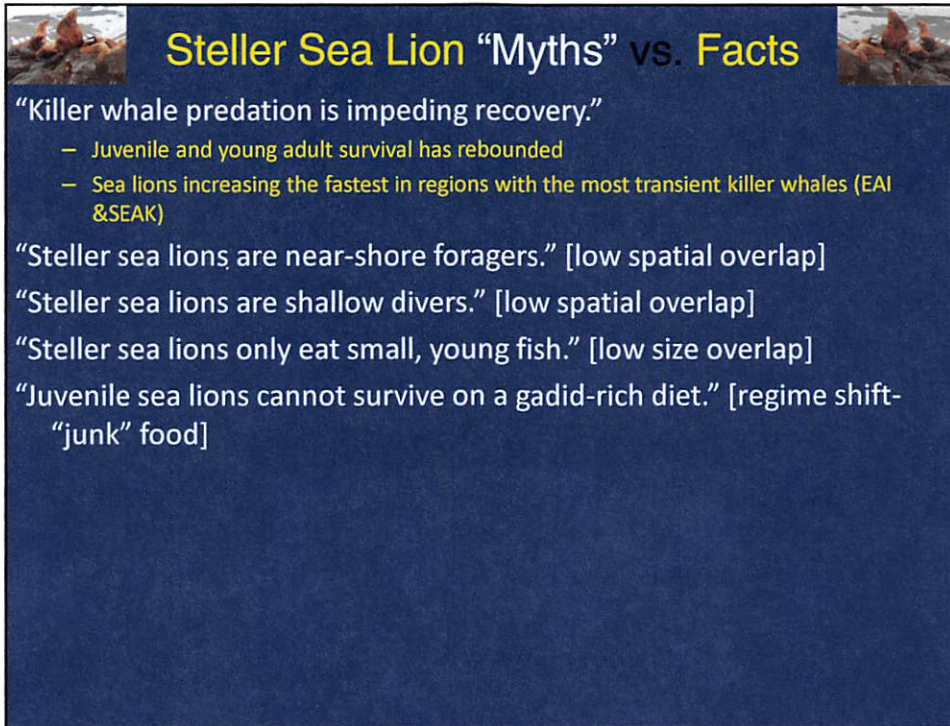
Brand and LHX survival nearly identical ages 1-5 in the 2000s

Are our conclusions different from Horning and Mellish's?

- Yes and No
- H&M: "...our data demonstrate **continued low juvenile survival** in the Prince William Sound/Kenai Fjords region of the Gulf of Alaska..."
- Juvenile survival in 2000s 2X higher than 80s and slightly lower than in 1970s
 - 1970s > 2000s >> 1980s
 - **Not continued low juvenile survival**
- In 2000s, **LHX results = Branding results** for sample with same sex composition
 - 28 males, 8 females
- Survival of **Females > Males**
- H&M compared mostly male (LHX) with female (Holmes et al. 2007) survival
- Survival in 2000s is NOT lower than estimated by Holmes et al.
 - **We found that LHX=Brand=Model for 2000s**
- Survival in 2000s is NOT stalling recovery
 - **Survival to maturity is not currently low**
 - **E Gulf population (Prince William Sound/Kenai Fjords) is increasing**
- Killer whale predation is likely a major component of total juvenile sea lion mortality but it is not likely a threat to recovery in the EGOA-EAI region

SSL Range-wide Trends





Steller Sea Lion "Myths" vs. Facts

"Killer whale predation is impeding recovery."

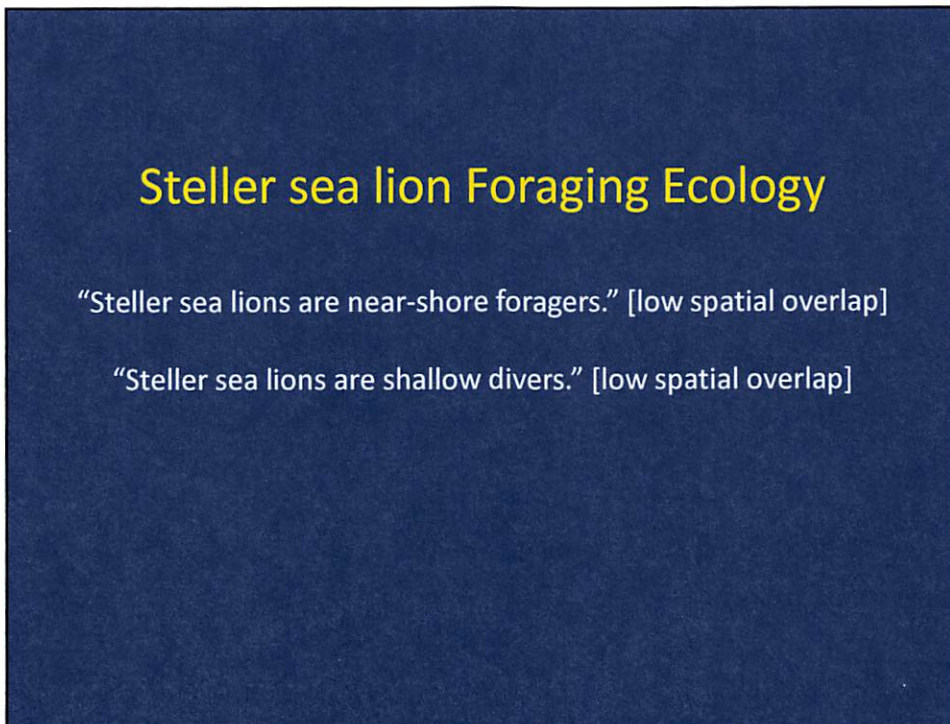
- Juvenile and young adult survival has rebounded
- Sea lions increasing the fastest in regions with the most transient killer whales (EAI & SEAK)

"Steller sea lions are near-shore foragers." [low spatial overlap]

"Steller sea lions are shallow divers." [low spatial overlap]

"Steller sea lions only eat small, young fish." [low size overlap]

"Juvenile sea lions cannot survive on a gadid-rich diet." [regime shift-
"junk" food]



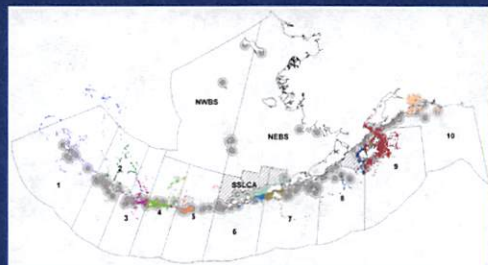
Steller sea lion Foraging Ecology

"Steller sea lions are near-shore foragers." [low spatial overlap]

"Steller sea lions are shallow divers." [low spatial overlap]

Background

- 2010 BiOp summarized telemetry from 116 juvenile (3-28 months old) sea lions tracked during 2000-2005 throughout the wDPS in Alaska by NMML/ADFG.
- 37 were tracked in the western/central Aleutian Islands (RCAs 1-4).



Adult female captures

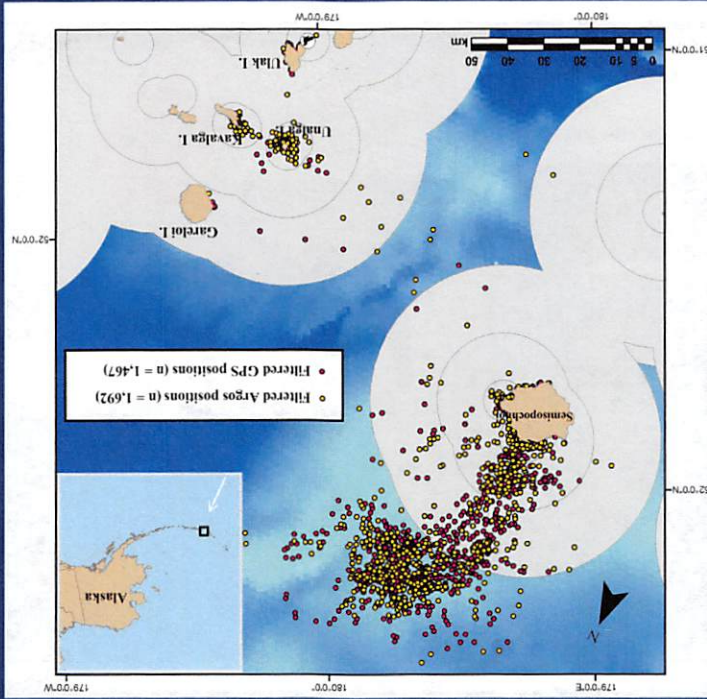
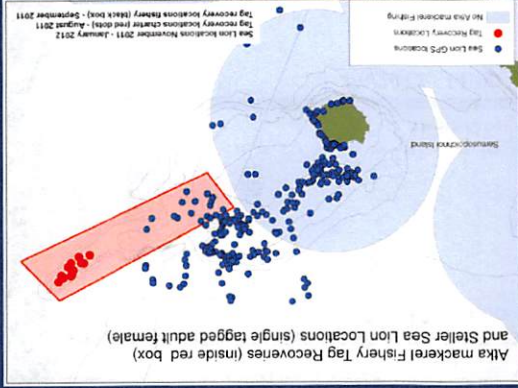
- Challenges
 - Weather/access
 - Sea lion distribution
 - Drug: dosage/sedation

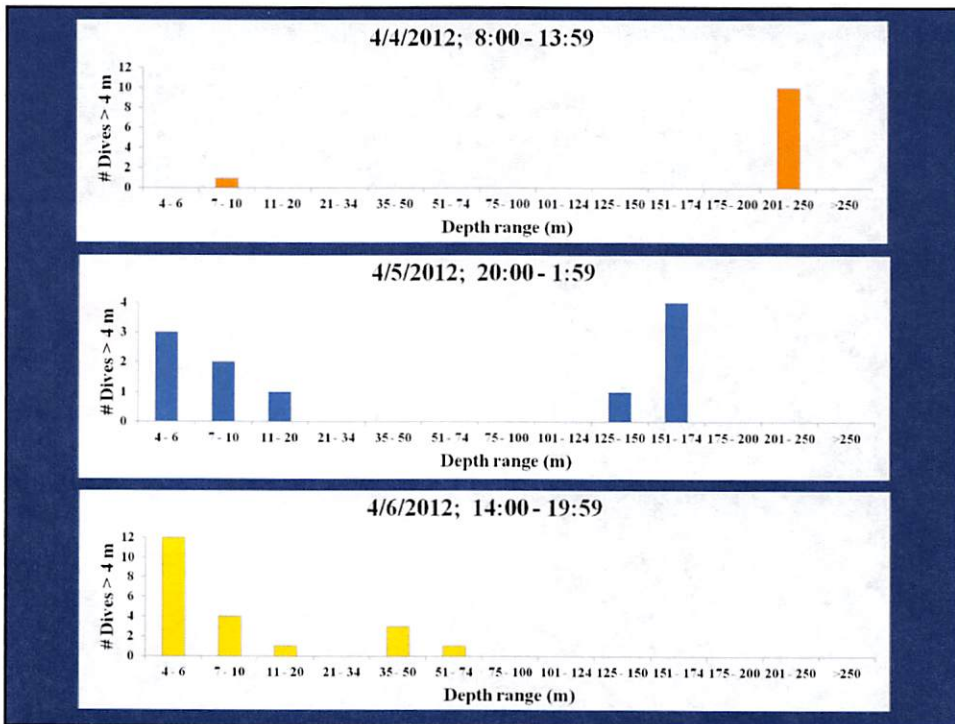
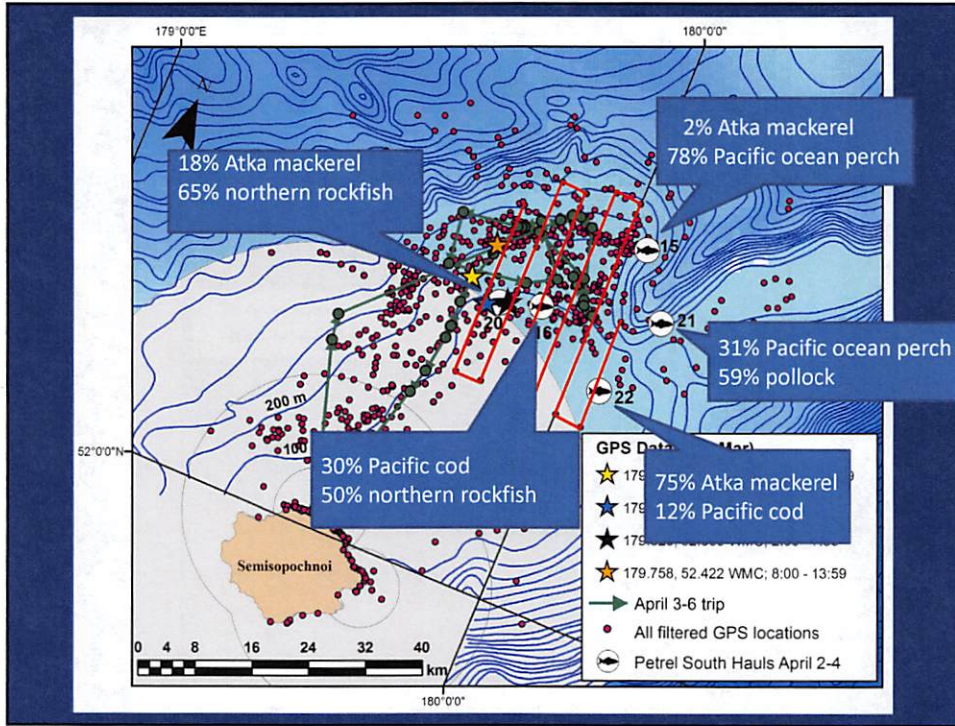


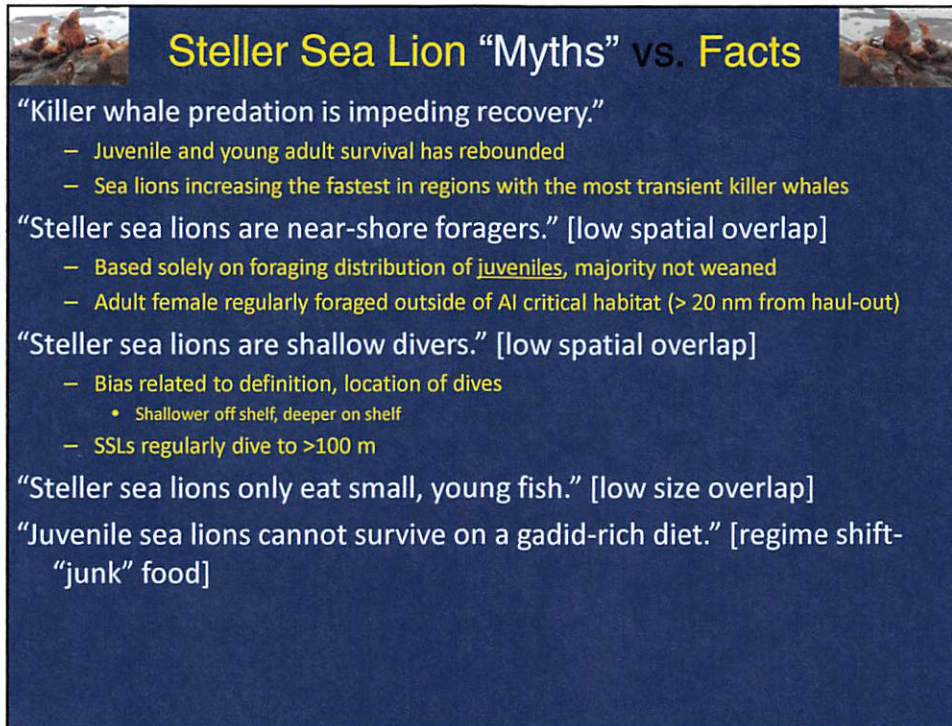
Steller sea lion – Fishery Study Central Aleutian Islands 2-6 April 2012



Alka mackerel tagging studies
Susanne McDermott and others
of the Fisheries Interaction Team,
AFSC







Steller Sea Lion “Myths” vs. Facts

“Killer whale predation is impeding recovery.”

- Juvenile and young adult survival has rebounded
- Sea lions increasing the fastest in regions with the most transient killer whales

“Steller sea lions are near-shore foragers.” [low spatial overlap]

- Based solely on foraging distribution of juveniles, majority not weaned
- Adult female regularly foraged outside of AI critical habitat (> 20 nm from haul-out)

“Steller sea lions are shallow divers.” [low spatial overlap]

- Bias related to definition, location of dives
 - Shallower off shelf, deeper on shelf
- SSLs regularly dive to >100 m

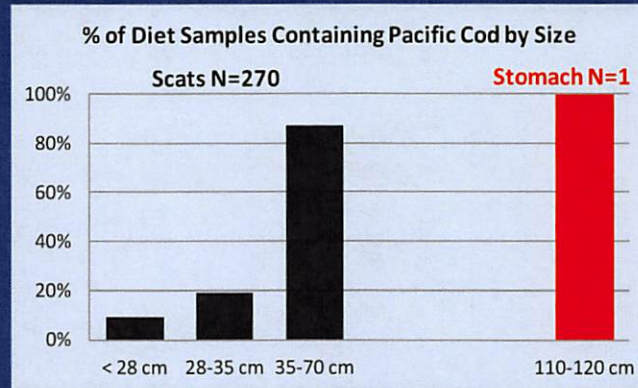
“Steller sea lions only eat small, young fish.” [low size overlap]

“Juvenile sea lions cannot survive on a gadid-rich diet.” [regime shift-
“junk” food]

Diet of Steller sea lions

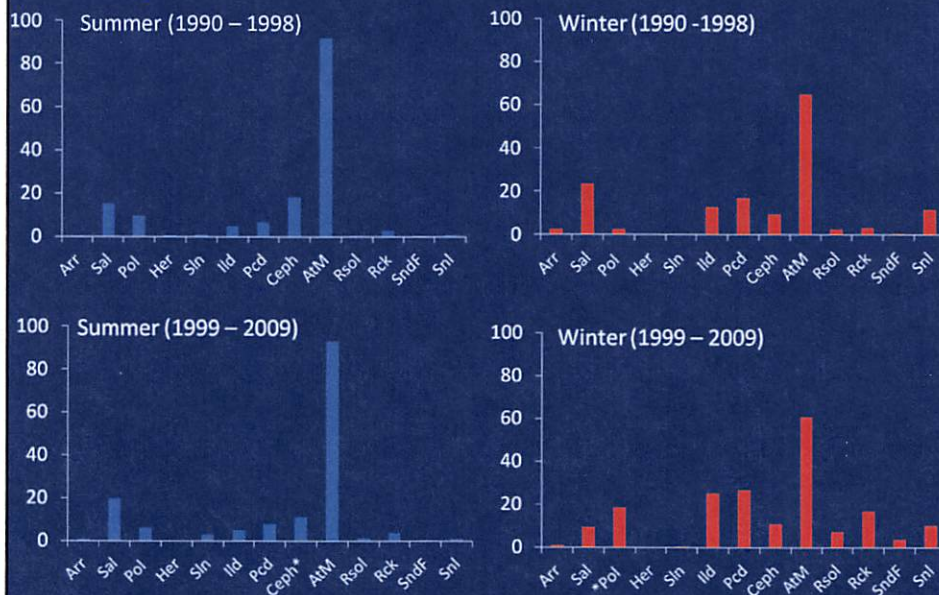
“Steller sea lions only eat small, young fish.” [low size overlap]

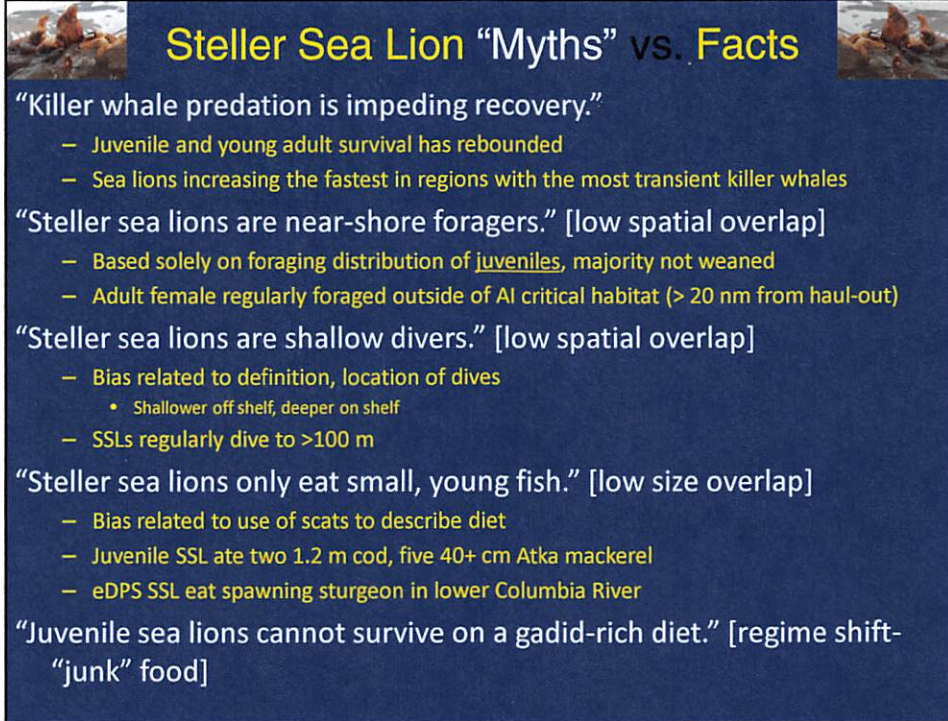
Steller Sea Lions can and do eat BIG Fish



- **FACT:** Big fish are under-represented in hard part remains in scat
 - Large bones, etc. are not passed; often regurgitated
- June 2012 stranded recently deceased juvenile sea lion, Agattu Is.
 - Stomach contained two 1.1-1.2 m cod and five 40+ cm Atka mackerel

Comparison between decades – W & C ALEU





Steller Sea Lion “Myths” vs. Facts

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“Steller sea lions only eat small, young fish.” [low size overlap]

- Bias related to use of scats to describe diet
- Juvenile SSL ate two 1.2 m cod, five 40+ cm Atka mackerel
- eDPS SSL eat spawning sturgeon in lower Columbia River

“Juvenile sea lions cannot survive on a gadid-rich diet.” [regime shift-
“junk” food]

Diet of Steller sea lions

“Juvenile sea lions cannot survive on a gadid-rich diet.” [regime shift-
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ASLC Juvenile Steller sea lion Feeding Study

Atkinson et al. in prep.
Information below from Calkins et al. Abstract to Marine Mammal Society Meeting, 2005

1. Do free-ranging Steller sea lions suffer negative health consequences consuming only pollock?
2. 15 free-ranging juveniles (1 to 2 yrs old) held captive for 54 d
3. 7 fed a diet of 100% pollock
4. 8 fed a mixed diet of fish and cephalopods (averaged 92% herring)
5. All animals increased mass on both diets
6. Pollock diet group: Significant increase in mean body fat (8.2%; $p=0.023$)
7. No significant difference in mass change between diet types ($p=0.287$)
8. No negative consequences noted in blood chemistry or body condition in sea lions consuming only pollock
9. Authors' conclusion: Negative health effects outlined in previous studies were artifacts of the permanent captivity of the test sea lions



Steller Sea Lion Facts



Predation

- Killer whale predation is a significant source of sea lion mortality, but in areas where we have survival information, no indication that it is impeding sea lion population recovery.

Foraging Range

- Adult Steller sea lions, even those with dependent young, can forage well beyond 20 nm from haul-out.

Diving Range

- Steller sea lions regularly dive > 100 m

Size of Fish Consumed

- Juvenile Steller sea lion stranded in western Aleutian ate two 1.1-1.2 m Pacific cod
- Eastern Steller sea lions prey upon mature adult sturgeon in lower Columbia

"Junk food"

- There is no "junk" food. Prey species with low energy density are just as healthy for sea lions as those with high energy density.