

North Pacific Fishery Management Council

Eric A. Olson, Chairman
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February 19, 2010

Mr. Douglas Mecum
Acting Regional Administrator
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802-1668

Dear Mr. Mecum:

At its February 2010 meeting, the North Pacific Fishery Management Council received briefings on the schedule for the upcoming draft *status quo* Biological Opinion (BiOp) and a report from its Steller Sea Lion Mitigation Committee (Committee). We also reviewed NMFS' response to our previous request for input on the Center for Independent Experts' (CIE) terms of reference for their pending review of the draft BiOp. Based on discussions during that February meeting, the Council expressed some overarching perspectives that we believe are critical to the Council's potential involvement in development of RPAs for the 2011 fishing year, depending on the findings in the draft BiOp; i.e., if the BiOp contains a jeopardy and/or adverse modification (JAM) determination.

The Council tasked its Committee with reviewing the draft Biological Opinion at its March 9-12, 2010 meeting in Juneau. The Committee will provide comments on the BiOp to the Council at its April 2010 meeting, which may inform the Council's development of comments on the draft BiOp to NMFS. Further, the Committee is tasked with commenting on the feasibility of the Council developing appropriate SSL mitigation measures (RPAs) given the content and findings of the draft BiOp. Key to this feasibility is the level of definition of any performance standards included in the draft BiOp. If the performance measures are overly prescriptive, it will not be useful to engage the Committee and Council process in the development of potential RPAs. Conversely, any performance measures will need to provide the Council and its Committee enough definition of problem areas to allow us to craft responsive management actions. It is the Council's intent, upon consideration of the Committee comments and recommendations, to decide whether or how to further engage the Committee and the Council process in the development of potential SSL mitigation measures for the 2011 fishing year.

The Council also requests that NMFS prepare a concise white paper that would be made available concurrently with the draft BiOp, which would clearly describe the methodology NMFS is using to determine the current status (total count) of Western Distinct Population Segment (DPS) SSLs relative to the downlisting criteria in the Final Steller Sea Lion Recovery Plan, including:

- The specific methodology used in the Recovery Plan to determine the 42,500 animal baseline found in downlisting criterion 1 (Recovery Plan, p. xiii).

- The specific methodology used to establish the 53,100 animal target set for 2015, described in downlisting criterion 1.
- A clear determination of the current status of the WDPS as gauged against these criteria by applying the specific methodology used to calculate the 42,500 animal baseline.

If this information is clearly discernable in the draft BiOp, a separate white paper may not be necessary. However, the Council believes this information is critical to framing the information and findings in the draft BiOp.

Finally, the Council wishes to express its appreciation for the opportunity to comment on the Center for Independent Experts (CIE) Statement of Work (SOW) and Terms of Reference (TOR). The Council's SSC also provided comments on the SOW and TOR for consideration by the Council. The SSC's comments are incorporated as appropriate in the Council's comments provided here. The Council offers the following comments to improve the CIE process by focusing the review more on the science and its interpretation, and by enhancing the transparency of the review:


- a) The Council reiterates its request of December 23, 2009 to modify the review schedule to allow the public, SSLMC, SSC, and Council the opportunity to review and comment on the draft BiOp prior to the CIE review. The TOR and SOW should be modified to task the reviewers to consider any such comments in their review of the draft BiOp. The intent is not for separate input to the CIE from the various bodies, but that the Council would be the vehicle to synthesize that input and forward to NMFS and the CIE.
- b) The Council recommends that the TOR and SOW be modified to request the CIE to review and consider all of the science relevant to the analysis of factors affecting the status and recovery of the WDPS, not just the science provided in the draft BiOp to support its conclusions. The CIE reviewers should be tasked to assess, among other things, the information provided to the SSLMC at its January 2010 meeting. This information, including the minutes from the recent SSLMC meeting, should be made available to the reviewers prior to the review. Preparation of a comprehensive bibliography of relevant research may be necessary to fulfill this recommendation.
- c) The Council recommends that the TOR and SOW be modified to specifically task the CIE to review the relevant genetic papers, brand re-sight data, survey counts, and other relevant data on EDPS animals that may be found within the range of the WDPS, and WDPS animals that may be found within the range of the EDPS, and to make a recommendation on how these animals be counted when the agency calculates the WDPS population.
- d) The Council recommends that the TOR and SOW be modified to task the CIE to assess the relationship between population trends and downlisting criteria, and whether there are factors (other than fishing) affecting the recovery of the WDPS, including predation, changes in the ecosystem/carrying capacity, emigration, or other factors that should be taken into account.
- e) The Council concurs with the recommendation of the SSC regarding pre-review documents and further recommends that the background materials provided to the CIE reviewers include the studies and reports provided to the SSLMC at its January 2010 meeting, along with the genetic, brand re-sight data, and other scientific information or studies identified above. The

basic analyses and data should also be provided to the CIE reviewers for studies such as the Fishery Interaction Team (FIT) analysis presented to the SSLMC, not just the Powerpoint presentations. These materials should be provided to the CIE reviewers well before the CIE begins its work in order to provide time for a thorough review.

- f) The Council concurs with the comments by the SSC regarding the requirements for CIE reviewers, pre-review documents, and the SSC's suggestion for revising the second bullet under item 3 in the TOR.
- g) The Council also concurs with the recommendations by the SSC regarding the schedule of milestones and deliverables (although specific dates may need to be adjusted to conform to the schedule), and further recommends that the CIE schedule be modified to provide the CIE reviewers adequate time to perform their reviews. Currently the SOW indicates that the reviewers will have a maximum of 10 days to complete the review.

The Council appreciates the work conducted by NMFS to complete the draft BiOp, and particularly for accommodating our request to comment on the CIE review process. The above information will greatly assist the Council as it reviews the draft BiOp. Moreover, the suggested revisions to the CIE review process, Terms of Reference, and Statement of Work will significantly enhance the transparency and scope of the review process. We believe that accommodation of our requests is critical to the review of the draft BiOp. Please contact me or the Council's Executive Director if you have any questions regarding these requests.

Sincerely,



Eric Olson
Chairman

Cc: Dr. James Balsiger
Dr. Douglas DeMaster
Ms. Kaja Brix



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

January 22, 2010

Eric Olson
Chair, North Pacific Fishery Management Council
605 W 4th Ave Suite 306
Anchorage, AK 99501-2252

Dear Mr. Olson:

Thank you for your letter requesting additional information from the National Marine Fisheries Service (NMFS) in regard to the upcoming groundfish status quo Biological Opinion (BiOp). We address below the points raised by your letter as you enumerated them (in italics, with responses in regular type).

1. *The Council requested input to the draft Terms of Reference (TOR) for the Center for Independent Experts (CIE) review of the BiOp.* NMFS is attaching the TOR for your review and comment. As you are aware, NMFS intends to have the CIE review the rationale and information used to support the conclusion in the BiOp, but not the conclusion itself.
2. *The Council requested that the BiOp schedule allow for public and Council review prior to the CIE review.* NMFS can accommodate this request by releasing the BiOp to the public and the Council prior to the CIE review. We can charge the CIE with review of the information contained in the BiOp and additional information, recognizing that this format may delay the finalization of the BiOp and implementation of any changes that may need to be made to the fisheries. NMFS is using all of the best available information in the analyses conducted in the BiOp.
3. *Will the Agency be using the downlisting criteria as guidance for the analysis in the consultation?* NMFS will use the Recovery Plan and the downlisting criteria contained within that plan as a general framework for assessing the capacity of the population, and the habitat that supports that population, recover.
4. *The Council asked the Agency to provide the years we will use to measure performance of the current SSL protection measures i.e., are we using the base year of 2000 to measure SSL trends.* The trend in abundance of SSL is based on data collected over approximately 30 years. It is this overall trend that provides indication as to the trajectory of the population. A subset of years may be informative for some purposes but will not be the sole basis by which the population is measured.



5. *With respect to trends in wSSL non-pup abundance, NMFS reported at the Council's February 2009 meeting that the trends across the range were an overall 14% increase over the period 2000 to 2008, or an annual increase of 1.7%. At that time, NMFS posed a hypothesis that the counts in the eastern portion of the wSSL range were inflated due to animals from the eSSL moving west to Kayak Island or other nearby areas. Partial counts were done in the summer 2009, and NMFS is now reporting that the overall increase in the wSSL population may be around 12% or a 1.4% annual rate of increase. NMFS further reported that genetics or tagging work is needed to confirm the hypothesis. Since the 1.4% number is linked to a hypothesis, will the 1.7% increase measured last year be used in the BiOp?*

The results of the summer 2009 non-pup survey in the northern Gulf of Alaska supported the hypothesis that there was an early summer movement of sea lions between SE Alaska (eastern stock) and the Prince William Sound area (western stock) in 2008 that affected trend analyses in both stocks. The analysis used in the new Biological Opinion will use the most up to date information available. The trend will be calculated through 2008, but will use the information obtained in 2009 on seasonal movements between stocks that resulted in the 12% overall increase between 2000 and 2008. However, it should be noted that both of the estimated annual rates of population change between 2000 and 2008 (1.4% per year using the 2009 information to adjust the 2008 counts, and 1.7% per year using the unadjusted 2008 data) are not significantly different from 0 and as such do not meet the recovery criteria noted in the 2008 Steller Sea Lion Recovery Plan.

Also, how will the wSSL animals (as determined by genetics and brand/resight data) found in the eSSL region be accounted for in wSSL trends used in the BiOp? For example, there are two rookeries (Graves and White Sisters) in the eSSL range where genetic samples and observations of branded animals indicate that 60% and 40%, respectively, of these animals and their pups are of wSSL origin. Are these females and their pups accounted for in the 1.7% annual rate of increase for pups and non-pups in the wSSL population?

NMFS will determine SSL stock trends based on counts of pups and non-pups on terrestrial sites during the breeding season within the designated ranges of the eastern and western stocks (E and W of 144°W, respectively), as modified by any information on seasonal movement across stock boundaries. The survey counts report the number of Steller sea lions (pups and non-pups) counted in aerial photos taken of particular rookeries and haulouts. The rookeries and haulouts are grouped by region and ultimately by stock. The genetic makeup of the animals at the time they are photographed is unknown and has never been included in these counts.

6. The 2008 SSL Recovery Plan reported the total U.S. non-pup wSSL population at 42,500 animals. How was this calculated considering the issues described in No. 5 above? What would this total U.S. non-pup wSSL population number be today if calculated using this methodology.

The number reported in the 2008 SSL Recovery Plan is 45,000. This is an estimate of the total western Steller sea lion population (pup and non-pup) in Alaska in 2005. It was based on the number of pups counted in aerial photographs in 2005 (9,950) multiplied by 4.5 (rounded to the nearest 1000). Using the 2009 pup production estimate (11,120) and the same methodology, the total western SSL population in Alaska is estimated to be 50,000 in 2009. The issues described in No. 5 do not affect these total population estimates because they are based on pup counts not non-pup counts, which are the subject of No. 5. The 4.5 multiplier on pup production comes from a life table of a stable equilibrium Steller sea lion population derived by Calkins and Pitcher (1982). It is the total number of sea lions (pups and non-pups) divided by the number of pups. Any pup multiplier based on a life table is only valid for use in estimating total population size if the underlying vital rates (survival and natality) that form the basis of the life table are known. In the case of the western SSL population in AK, the vital rates within each region are not known. It is for this reason that NMFS determines wSSL status by monitoring trends in pups and non-pups at key sites across the range rather than by estimating changes in total population size.

- 7. The Council requested the fishery catch data as used in the BiOp. Those tables are available and will be provided to the Council electronically with submission of this letter. NMFS began to look at these catch data in response to the Council's request to reinitiate consultation on the federal groundfish fisheries.*

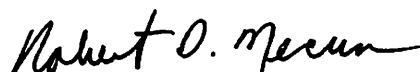
- 8. NMFS reported on its plans for future SSL survey and other research. It appears that NMFS is planning to devote the majority of its resources to continued investigations in the Northern Gulf of Alaska including branding and genetics work. The Council requests that, instead of continuing to focus on this region, that emphasis be placed on filling the gaps in the western and central Aleutian Islands where surveys have not been completed in several years. In addition, SSL natality studies in areas such as the eastern Aleutian Islands would be useful; these data could be used to compare natality rates with other areas of the wSSL in an attempt to better understand the dynamics of pup production and survival.*

NMFS agrees that the Western and Central Aleutian Islands require the most attention as they are the areas showing the greatest and most rapid population declines. NMFS will continue to conduct annual aerial surveys of the entire western stock including the areas in question. The inability to complete these surveys in these areas in recent years has not been due to research focus. Rather, logistical difficulties such as weather delays, mechanical breakdowns,

and most recently the closure of the Shemya airstrip have limited the survey extent.

NMFS is continuing to study vital rates, including natality, of Steller sea lions in the eastern Aleutian Islands (as well as in the central and eastern Gulf of Alaska) as part of a brand-resighting program. Permanent marking of pups was reinitiated in the western stock in 2000 in the central Gulf of Alaska, and in 2001 in the eastern Aleutians and eastern Gulf. Therefore, the oldest marked sea lion currently alive in the eastern Aleutians is only 8 years old. Female Steller sea lions can become sexually mature at 3 years old (at the earliest) and first give birth at age 4, but only a small fraction (<10%) develop this quickly. Prime breeding ages for Steller sea lion females occur between 6 and 20 years old. Consequently, any study of sea lion natality rates in the western stock has just begun, since marked females are just now entering their prime breeding ages. NMFS has not had the opportunity to capture adult females for study over the last several years because of permitting issues, but is now actively developing new capture and analytic methods to directly measure female sea lion condition and reproductive status. NMFS hopes to test these techniques during the next several field seasons within the range of the wSSL. However, it is not expected that these new methods and capture techniques will provide significant new information for at least the next several years due to limited sample sizes. It is for this reason that continued study of the large number of permanently marked animals is critical.

Sincerely,



Robert D. Mecum
Acting Administrator, Alaska Region

Attachments:
TOR for CIE review
Fishery Catch Tables- electronically

cc: Jim Balsiger
Sam Rauch
Jim Balsiger
Kaja Brix
Sue Salvesson
John Lepore

Statement of Work
(Subtask T007-04, 11 December 2009)

External Independent Peer Review by the Center for Independent Experts

Review of the 2010 Draft National Marine Fisheries (NMFS) Biological Opinion on the Effects of the Bering Sea/Aleutian Islands and Gulf of Alaska Federal Groundfish Fisheries and the State of Alaska Parallel Fisheries on ESA Listed Species and Designated Critical Habitats, Including Steller Sea Lions and Their Designated Critical Habitat

Scope of Work and CIE Process: The National Marine Fisheries Service's (NMFS) Office of Science and Technology coordinates and manages a contract to provide external expertise through the Center for Independent Experts (CIE) to conduct impartial and independent peer reviews of NMFS scientific projects. This Statement of Work (SoW) described herein was established by the NMFS Contracting Officer's Technical Representative (COTR) and CIE based on the peer review requirements submitted by NMFS Project Contact. CIE reviewers are selected by the CIE Coordination Team and Steering Committee to conduct the peer review of NMFS science with project specific Terms of Reference (ToRs). Each CIE reviewer shall produce a CIE independent peer review report with specific format and content requirements (**Annex 1**). This SoW describes the work tasks and deliverables of the CIE reviewers for conducting an independent peer review of the following NMFS project.

Project Description: Under Section 7 of the ESA, NMFS Alaska Region is preparing a draft programmatic Biological Opinion. A Biological Opinion is the summary document produced by NMFS that includes (1) the opinion of the agency as to whether or not the Federal action is likely to jeopardize the continued existence of a listed species, or result in adverse modification of designated critical habitat; (2) a summary of the information on which that opinion is based; and (3) a detailed discussion of the effects of the action on listed species and designated critical habitat.

In this opinion, NMFS PRD has evaluated the effects of three actions:

- Authorization of groundfish fisheries under the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area;
- Authorization of groundfish fisheries under the Fishery Management Plan for Groundfish of the Gulf of Alaska; and
- State of Alaska parallel groundfish fisheries for pollock, Pacific cod, and Atka mackerel

The objective of the evaluation in this biological opinion is to determine if the aforementioned groundfish fisheries, as implemented under their respective FMPs and State management plans, are likely to jeopardize the continued existence of listed species and/or are likely to destroy or adversely modify designated critical habitat. Based on the directives of the ESA and implementing regulations, as well as Court findings with respect to previous opinions, the scope of this consultation and resulting opinion is comprehensive. Through the consultation which has

led to this Biological Opinion, NMFS has considered not only the effects of the fisheries themselves, but also the overall management framework as established under the respective FMPs. It is NMFS' intent to determine if that management framework includes sufficient conservation and management measures to insure the protection of listed species and their critical habitat.

The main listed species of concern is the endangered western distinct population segment of the Steller sea lion. The designated critical habitat of concern is critical habitat designated for Steller sea lions. The document also evaluates the effects of the action on the threatened eastern distinct population segment of Steller sea lion and the effects on two species of ESA-listed whales: humpback whales and sperm whales.

The draft biological opinion that is the subject of this review is the result of a reinitiated Section 7 consultation. Thus, NMFS has previously consulted on the effect of the Bering Sea/Aleutian Islands groundfish fisheries, the Gulf of Alaska groundfish fisheries, and the State of Alaska parallel groundfish fisheries.

On November 30, 2000, NMFS issued a FMP level biological opinion that evaluated the effects of authorization of the BSAI and GOA FMPs on ESA-listed species, as required by section 7(a)(2) of the ESA. Through that consultation and the resulting biological opinion, NMFS found that the FMPs, as proposed, would jeopardize both the western and eastern distinct population segments (DPSs) of Steller sea lion and adversely modified their designated critical habitat. As a result, a reasonable and prudent alternative (RPA) was provided and partially implemented in 2001.

In January 2001, an RPA committee, comprised of members of the fishing community, the conservation community, NMFS, State agencies and the Council's Science and Statistical Committee, was formed to develop an alternative RPA. In July of 2001, the action agency (SFD) proposed this alternative RPA to replace the components of the original FMP action that had resulted in the jeopardy and adverse modification finding in the 2000 FMP-level consultation. In 2001, NMFS prepared a project level biological opinion which reviewed the revised action and determined that it was not likely to jeopardize or adversely modify critical habitat. The Court reviewed the 2001 Biological Opinion and found that it was arbitrary and capricious and remanded the opinion back to NMFS for revision. In response to the Court order, NMFS prepared a supplement (NMFS 2003) to the 2001 biological opinion (NMFS 2001), which affirmed NMFS's conclusions that the revised FMP actions were not likely to jeopardize ESA-listed species or adversely modify critical habitat. In the 2001 Biological Opinion (2001:8) NMFS specified that:

“...the FMP level biological opinion will remain in effect as NMFS' coverage at the plan level, and this opinion” (the 2001 opinion) will address the project level effects on listed species that would be likely to occur if the Council's preferred action were implemented.”

Since the conclusion of the 2000 and the 2001 consultations and the completion of the resulting biological opinions and supplement, all subsequent modifications and proposed modifications to

the action have been considered through informal consultations except for a March 9, 2006 Biological Opinion on the issuance of an exempted fishing permit (EFP) to support a feasibility study using commercial fishing vessels for acoustic surveys of pollock in the Aleutian Islands subarea.

On October 18, 2005, the North Pacific Fishery Management Council (Council) requested that NMFS SFD reinstate consultation on the BSAI and GOA FMPs. The Council's request was based on the recognition that a substantial amount of new research on Steller sea lions has been published since NMFS completed the 2000 Biological Opinion, such that an evaluation of the FMPs in light of that new information would be prudent. The consultation was formally reinstated in April of 2006.

Thus, the basis for the reinstatement of consultation is the new information available to the agency as a result of approximately 10 years of intensive research on SSL in Alaska. The new information pertains to the status of the species, the trend and abundance, and the impacts of the existing conservation measures as well as the prosecution of the federal fisheries and the State of Alaska parallel groundfish fisheries. Additionally, since NMFS wrote the last Programmatic Biological opinion in 2000, the subsequent project level biological opinion in 2001, and the 2003 supplement, a considerable amount of information has been collected on topics of relevance to understanding the effects of this action. For example, there is considerable new information on the ways in which fisheries might have effects on various populations and the ecosystems in which they occur, the potential effects that global warming and natural environmental variability might have on the marine ecosystems of the North Pacific; and other topics that are relevant to understanding ways in which listed species and designated critical habitats might be affected by these fisheries.

The subject of review would be the scientific information contained in the Biological Opinion **and not the conclusions of the Opinion as per the ESA thresholds**. The reviewers would be asked to comment on the adequacy of the best available science and of the appropriate use of that science to reach the conclusions about potential effects of the actions on listed species and designated critical habitats. The reviewers would be asked to critically evaluate whether NMFS has used the best available science appropriately to consider not only the effects of the fisheries themselves, but also the overall management framework as established under the respective FMPs. As it is NMFS' intent to determine if that management framework includes sufficient conservation and management measures to insure the protection of listed species and their critical habitat, the review should evaluate whether NMFS has appropriately and sufficiently evaluated this question.

The Terms of Reference (ToRs) of the peer review are attached in **Annex 2**.

Requirements for CIE Reviewers:

Three CIE reviewers shall conduct an impartial and independent peer review in accordance with the SoW and ToRs herein. Each CIE reviewer's duties shall not exceed a maximum of 10 days (this may need to be longer) to complete all work tasks of the peer review described herein. CIE reviewers shall have the expertise, background, and experience to complete an independent

scientific peer review in accordance with the SoW and ToRs herein. CIE combined reviewer expertise shall include: fishery science; fishery effects on ecosystems and/or ecosystem management of fisheries; marine mammal biology and ecology, with emphasis on otariids, if possible; and familiarity with the standards of the Endangered Species Act Section 7 in relation to conservation biology.

The CIE reviewers shall have the expertise necessary to complete an impartial peer review and produce the deliverables in accordance with the SoW and ToR as stated herein.

Location of Peer Review:

Each reviewer shall conduct the peer review as desk review, therefore no travel is required.

Statement of Tasks:

Each CIE reviewer shall conduct necessary preparations prior to the peer review, conduct the peer review, and complete the deliverables in accordance with the SoW and milestone dates as specified in the Schedule section.

Prior to the Peer Review: Upon completion of the CIE reviewer selection by the CIE Steering committee, the CIE shall provide the CIE reviewer information (name, affiliation, and contact details) to the COTR, who forwards this information to the NMFS Project Contact no later the date specified in the Schedule of Milestones and Deliverables. The CIE is responsible for providing the SoW and ToRs to the CIE reviewers. The NMFS Project Contact is responsible for providing the CIE reviewers with the background documents, reports, foreign national security clearance, and information concerning other pertinent meeting arrangements.

Pre-review Background Documents: Approximately two weeks before the peer review, the NMFS Project Contact will send all necessary background information and reports for the peer review to the CIE reviewers by electronic mail, shall make this information and these reports available at an FTP site available to the CIE reviewers, or shall provide electronic links to all background documents. In the case where the documents need to be mailed, the NMFS Project Contact will consult with the CIE on where to send documents. The CIE reviewers shall read all documents in preparation for the peer review.

Below is a tentative list of pre-review documents to be sent to the CIE reviewers as background information of the peer review:

1. Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Areas. North Pacific Fishery Management Council. April 2009.
<http://alaskafisheries.noaa.gov/npfmc/fmp/bsai/bsai.htm>

2. Fishery Management Plan for Groundfish of the Gulf of Alaska. North Pacific Fishery Management Council. April 2009. Available at:
<http://alaskafisheries.noaa.gov/npfmc/fmp/goa/goa.htm>
3. Aleutian Islands Fishery Ecosystem Plan. North Pacific Fishery Management Council. December 2007. Available at:
http://www.fakr.noaa.gov/npfmc/current_issues/ecosystem/AIFEPbrochure1207.pdf
4. 2000 Endangered Species Act Section 7 Consultation Biological and Incidental take Statement. Authorization of Bering Sea/Aleutian Islands groundfish fisheries based on the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish; and Authorization of Gulf of Alaska groundfish fisheries based on the Fishery Management Plan for Groundfish of the Gulf of Alaska. November 2000. National Marine Fisheries Service. 2000. Available at: <http://fakr.noaa.gov/protectedresources/stellers/section7.htm>
5. 2001 Biological Opinion and Incidental Take Statement. October 2001. Authorization of Bering Sea/Aleutian Islands groundfish fisheries based on the Fishery Management Plan for the Bering Sea/Aleutian Islands Groundfish as modified by amendments 61 and 70; and Authorization of Gulf of Alaska groundfish fisheries based on the Fishery Management Plan for Groundfish of the Gulf of Alaska as modified by amendments 61 and 70. Parallel fisheries for pollock, Pacific cod, and Atka mackerel, as authorized by the State of Alaska within 3 nm of shore, plus selected supporting documents. National Marine Fisheries Service. 2001. available at:
<http://fakr.noaa.gov/protectedresources/stellers/section7.htm>
6. 2003 Supplement to the Endangered Species Action Section 7 Biological Opinion and Incidental take statement of October 2001, plus appendices. National Marine Fisheries Service. 2003. available at: <http://fakr.noaa.gov/protectedresources/stellers/section7.htm>
7. Judge Zilly's Order Remanding some aspects of the 2001 biological opinion to NMFS for further action. United States District Court, Western District of Washington at Seattle. December 18, 2002. Available at:
<http://fakr.noaa.gov/protectedresources/stellers/biop2002/final.htm>
8. Background information on the ESA and NMFS' responsibilities for implementing the ESA is available from the NMFS Office of Protected Resources web site at: Available at:
<http://www.nmfs.noaa.gov/pr/laws/esa.htm>.

These documents and other background material (or links to them) will be provided to the CIE reviewers by the Project Contact according to the schedule herein.

Documents 1 through 9 are available for pre-review by February 14, 2010 (may need to modify this date). This list of pre-review documents may be updated up to two weeks before the peer review. Any delays in submission of pre-review documents for the CIE peer review will result in delays with the CIE peer review process. Furthermore, the CIE reviewers are responsible for

only the pre-review documents that are delivered to them in accordance to the SoW scheduled deadlines specified herein.

Any delays in submission of pre-review documents for the CIE peer review will result in delays with the CIE peer review process, including a SoW modification to the schedule of milestones and deliverables. Furthermore, the CIE reviewers are responsible only for the pre-review documents that are delivered to the reviewer in accordance to the SoW scheduled deadlines specified herein.

Desk Peer Review: The primary role of the CIE reviewers is to conduct an impartial peer review in accordance with the SoW and ToRs to ensure that the best available science is utilized for NMFS evaluations of the potential effects of actions on endangered species and designated critical habitat under Section 7 of the Endangered Species Act. **Modifications to the SoW and ToRs can not be made during the peer review, and any SoW or ToRs modifications prior to the peer review shall be approved by the COTR and CIE Lead Coordinator.**

Contract Deliverables - Independent CIE Peer Review Reports: Each CIE reviewer shall complete an independent peer review report in accordance with the SoW. Each CIE reviewer shall complete the independent peer review according to the required format and content as described in Annex 1. Each CIE reviewer shall complete the independent peer review addressing each ToR as described in Annex 2.

Specific Tasks for CIE Reviewers: The following chronological list of tasks shall be completed by each CIE reviewer in a timely manner as specified in the **Schedule of Milestones and Deliverables**.

- 1) Conduct necessary pre-review preparations, including the review of background material and reports provided by the NMFS Project Contact in advance of the peer review;
- 2) Conduct an independent peer review in accordance with the ToRs (Annex 2);
- 3) No later than REPORT SUBMISSION DATE, each CIE reviewer shall submit an independent peer review report addressed to the "Center for Independent Experts," and sent to Mr. Manoj Shivlani, CIE Lead Coordinator, via email to shivlanim@bellsouth.net, and CIE Regional Coordinator, via email to {CIE will insert email}. Each CIE report shall be written using the format and content requirements specified in Annex 1, and address each ToR in Annex 2;
- 4) CIE reviewers shall address changes as required by the CIE review in accordance with the schedule of milestones and deliverables.

Schedule of Milestones and Deliverables: CIE shall complete the tasks and deliverables described in this SoW in accordance with the following schedule.

Draft Schedule:

1 March 2010	NMFS Project Contact sends the CIE Reviewers the report and background documents TENTATIVE DATE
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1-12 March 2010	Each reviewer conducts an independent peer review as a desk review
26 March 2010	CIE reviewers submit CIE independent peer review reports to the CIE Lead Coordinator and CIE Regional Coordinator
2 April 2010	CIE submits CIE independent peer review reports to the COTR
5 April 2010	The COTR distributes the final CIE reports to the NMFS Project Contact and Regional Administrator

Modifications to the Statement of Work: Requests to modify this SoW must be made through the Contracting Officer's Technical Representative (COTR) who submits the modification for approval to the Contracting Officer at least 15 working days prior to making any permanent substitutions. The Contracting Officer will notify the CIE within 10 working days after receipt of all required information of the decision on substitutions. The COTR can approve changes to the milestone dates, list of pre-review documents, and Terms of Reference (ToR) of the SoW as long as the role and ability of the CIE reviewers to complete the SoW deliverable in accordance with the ToRs and deliverable schedule are not adversely impacted. The SoW and ToRs cannot be changed once the peer review has begun.

Acceptance of Deliverables: Upon review and acceptance of the CIE independent peer review reports by the CIE Lead Coordinator, Regional Coordinator, and Steering Committee, these reports shall be sent to the COTR for final approval as contract deliverables based on compliance with the SoW. As specified in the Schedule of Milestones and Deliverables, the CIE shall send via e-mail the contract deliverables (the CIE independent peer review reports) to the COTR (William Michaels, via William.Michaels@noaa.gov).

Applicable Performance Standards: The contract is successfully completed when the COTR provides final approval of the contract deliverables. The acceptance of the contract deliverables shall be based on three performance standards: (1) each CIE report shall have the format and content in accordance with Annex 1, (2) each CIE report shall address each ToR as specified in Annex 2, (3) the CIE reports shall be delivered in a timely manner as specified in the schedule of milestones and deliverables.

Distribution of Approved Deliverables: Upon notification of acceptance by the COTR, the CIE Lead Coordinator shall send via e-mail the final CIE reports in *.PDF format to the COTR. The COTR will distribute the approved CIE reports to the NMFS Project Contact and regional Center Director.

Key Personnel:

William Michaels, Contracting Officer's Technical Representative (COTR)
 NMFS Office of Science and Technology
 1315 East West Hwy, SSMC3, F/ST4, Silver Spring, MD 20910

William.Michaels@noaa.gov

Phone: 301-713-2363 ext 136

Manoj Shivlani, CIE Lead Coordinator

Northern Taiga Ventures, Inc.

10600 SW 131st Court, Miami, FL 33186

shivlanim@bellsouth.net

Phone: 305-383-4229

NMFS Project Contact:

Kaja Brix,

Protected Resources Director

NMFS, Alaska Region, 709 W.9th St., Juneau AK, 99802-1668

Kaja.Brix@noaa.gov,

Phone: 907-586-7824

Annex 1: Format and Contents of CIE Independent Peer Review Report

1. The CIE independent report shall be prefaced with an Executive Summary providing a concise summary of the findings and recommendations.
2. The main body of the reviewer report shall consist of a Background, Description of the Individual Reviewer's Role in the Review Activities, Summary of Findings for each ToR, and Conclusions and Recommendations in accordance with the Terms of Reference (ToRs).
 - a. Reviewers should discuss their independent views of findings, conclusions, and recommendations for each ToRs.
 - b. The CIE independent report shall be a stand-alone document as an independent peer review.
3. The reviewer report shall include as separate appendices as follows:
 - Appendix 1: Bibliography of materials provided for review
 - Appendix 2: A copy of the CIE Statement of Work

Annex 2: Terms of Reference

1. Read and assess the March 1, 2010 draft Biological Opinion on the BSAI and GOA groundfish fisheries; and state waters parallel fisheries for pollock, Atka mackerel, and Pacific cod.
2. Make an assessment as to whether the scientific information constitutes a reasonable rationale for the conclusion in accordance with the requirements of section 7 and implementing regulations under the Endangered Species Act. A Biological Opinion under section 7 of the ESA does not require proof that a federal action jeopardizes the continued existence of a listed species or destroys or adversely modifies critical habitat. The ESA requires that an action agency ensure that the federal action does not jeopardize or adversely modify or destroy critical habitat.
3. CIE reviewers are requested to specifically focus on and address the following questions in their review reports:
 - Does the Biological Opinion thoroughly describe what is known about the status of the listed species.
 - Does the Biological Opinion thoroughly describe the effects (direct and indirect) of the action on the listed species and its critical habitat.
 - Can you identify any additional literature that should be brought to bear on this Opinion.
 - Can you identify any additional assessment/analysis that should contribute to a conclusion in this Opinion.
 - In accordance with section 7 of the ESA does the Biological Opinion draw a reasonable conclusion based on the evidence with respect to the standard of “jeopardy” for the listed species and with respect to the standard of “adverse modification” as defined by the ESA and implementing regulations for critical habitat. Note that the regulatory definition for adverse modification was struck down by the courts. NMFS is working under the definition as contained in the Act and a guidance memo issued by the agency on November 7, 2005 (attached).

North Pacific Fishery Management Council

Eric A. Olson, Chairman
Chris Oliver, Executive Director



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October 27, 2010

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

Dear Dr. Lubchenco:

At its October 2010 meeting, the North Pacific Fishery Management Council received briefings on the schedule for completion of the final Steller Sea Lion Biological Opinion (BiOp) and the pending review of the BiOp by the Center for Independent Experts (CIE). NMFS indicated that an independent review of the final BiOp will be conducted by the Center for Independent Experts (CIE) during the CIE's 2011 review cycle, unless the Council requests a different review process.

We understand that the CIE has been provided with a Statement of Work and Terms of Reference for its review of the final BiOp, and asked that NMFS provide the Council with these documents prior to our upcoming December 2010 meeting. The Council reviewed the CIE Statement of Work and Terms of Reference in February 2010, and appreciated the opportunity to provide written comments to NMFS. The Council's comments incorporated comments from its SSC, and were intended to improve the CIE process by enhancing the scope and transparency of the review process, including a recommendation that the CIE review all relevant science and comments on the draft BiOp, not just that provided in support of the BiOp's conclusions (see attached comments). We are anxious to see how the Council's comments were addressed in the revised terms of reference, and the Council plans to discuss the CIE and other possible peer review processes at its December meeting, and provide further recommendations to the agency.

The Council also reviewed its 5-year research priorities at the October 2010 meeting, received a report from Dr. DeMaster on SSL research priorities, and with input from the SSC, passed a motion outlining its overall 5-year research priorities. Among the Council's top priorities for Steller sea lion research is to initiate foraging ecology studies in the Western and Central Aleutian Islands. Specifically, this research would include at-sea tracking of adult females and juveniles to determine the location and depth of foraging activities, and food habits studies to assess seasonal prey dependence. In addition, studies to assess vital rates (i.e., reproduction and survival) of Steller sea lions throughout the western Distinct Population Segment (DPS), and brand-resight data to assess movements, are critical to understanding the population trend of SSLs in the Western and Central Aleutian Islands in comparison to other subareas within the western DPS. Additional surveys of fish abundance at local scales important to SSLs would also shed light on the availability of prey in the Western and Central Aleutian Islands.


All of these studies would require additional funding. NMFS has estimated that initiating a new SSL research program in the Western and Central Aleutian Islands would require an additional \$750,000 to \$1 million in annual funding for a 4 to 5 year period. The North Pacific Research Board (NPRB) recently initiated a call for proposals for \$800,000 in funding that could potentially be directed toward research in

the Western and Central Aleutian Islands. An additional \$400,000 is available from NPRB for cooperative industry-agency studies. These funding sources have the potential to help initiate this critical research, but additional funding would be required to ensure that multi-year research projects would be adequately funded.

Finally, at its October meeting the Council also recommend that a high level scientific institution, such as the National Research Council, conduct a programmatic review of NMFS's Steller sea lion research program. The review would evaluate the effectiveness of the research program, identify remaining data gaps, and make recommendations for a re-focused SSL research program to address pressing scientific and management needs. The Council requested that the Executive Director, working with the Council Chair, explore options for securing such a comprehensive programmatic review of the Steller sea lion research program. Additional funding would also need to be obtained to conduct such a programmatic review. In December we will receive an overview from Council staff of the types of independent reviews that have been conducted in the past, and the cost, time requirements, and potential funding sources for different review processes.

In closing, we believe that our suggested revisions to the CIE review process will significantly enhance the review of the final BiOp. Moreover, the draft BiOp identified data gaps that are critical to understanding Steller sea lion foraging ecology and demographic trends in the Western and Central Aleutian Islands, and we believe that initiating this research should be the agency's highest Steller sea lion research priority. In addition, a comprehensive scientific review of the Steller sea lion research program would ensure that the program focuses on addressing these critical information needs that directly impact management. Please contact me or the Council's Executive Director, Mr. Chris Oliver, if you have any questions regarding these recommendations.

Sincerely,



Eric A. Olson
Chairman

cc: Secretary Gary Locke
Senator Lisa Murkowski
Senator Mark Begich
Congressman Don Young
Senator Patty Murray
Senator Maria Cantwell
Senator Ron Wyden
Senator Jeff Merkley
Dr. James Balsiger
Dr. Douglas DeMaster
Ms. Kaja Brix
Ms. Sue Salvesson
Arne Fuglvog
Bob King
Dave Whaley

Attachment

North Pacific Fishery Management Council

Eric A. Olson, Chairman
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February 19, 2010

Mr. Douglas Mecum
Acting Regional Administrator
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802-1668

Dear Mr. Mecum:

At its February 2010 meeting, the North Pacific Fishery Management Council received briefings on the schedule for the upcoming draft *status quo* Biological Opinion (BiOp) and a report from its Steller Sea Lion Mitigation Committee (Committee). We also reviewed NMFS' response to our previous request for input on the Center for Independent Experts' (CIE) terms of reference for their pending review of the draft BiOp. Based on discussions during that February meeting, the Council expressed some overarching perspectives that we believe are critical to the Council's potential involvement in development of RPAs for the 2011 fishing year, depending on the findings in the draft BiOp; i.e., if the BiOp contains a jeopardy and/or adverse modification (JAM) determination.

The Council tasked its Committee with reviewing the draft Biological Opinion at its March 9-12, 2010 meeting in Juneau. The Committee will provide comments on the BiOp to the Council at its April 2010 meeting, which may inform the Council's development of comments on the draft BiOp to NMFS. Further, the Committee is tasked with commenting on the feasibility of the Council developing appropriate SSL mitigation measures (RPAs) given the content and findings of the draft BiOp. Key to this feasibility is the level of definition of any performance standards included in the draft BiOp. If the performance measures are overly prescriptive, it will not be useful to engage the Committee and Council process in the development of potential RPAs. Conversely, any performance measures will need to provide the Council and its Committee enough definition of problem areas to allow us to craft responsive management actions. It is the Council's intent, upon consideration of the Committee comments and recommendations, to decide whether or how to further engage the Committee and the Council process in the development of potential SSL mitigation measures for the 2011 fishing year.

The Council also requests that NMFS prepare a concise white paper that would be made available concurrently with the draft BiOp, which would clearly describe the methodology NMFS is using to determine the current status (total count) of Western Distinct Population Segment (DPS) SSLs relative to the downlisting criteria in the Final Steller Sea Lion Recovery Plan, including:

- The specific methodology used in the Recovery Plan to determine the 42,500 animal baseline found in downlisting criterion 1 (Recovery Plan, p. xiii).

- The specific methodology used to establish the 53,100 animal target set for 2015, described in downlisting criterion 1.
- A clear determination of the current status of the WDPS as gauged against these criteria by applying the specific methodology used to calculate the 42,500 animal baseline.

If this information is clearly discernable in the draft BiOp, a separate white paper may not be necessary. However, the Council believes this information is critical to framing the information and findings in the draft BiOp.

Finally, the Council wishes to express its appreciation for the opportunity to comment on the Center for Independent Experts (CIE) Statement of Work (SOW) and Terms of Reference (TOR). The Council's SSC also provided comments on the SOW and TOR for consideration by the Council. The SSC's comments are incorporated as appropriate in the Council's comments provided here. The Council offers the following comments to improve the CIE process by focusing the review more on the science and its interpretation, and by enhancing the transparency of the review:

- a) The Council reiterates its request of December 23, 2009 to modify the review schedule to allow the public, SSLMC, SSC, and Council the opportunity to review and comment on the draft BiOp prior to the CIE review. The TOR and SOW should be modified to task the reviewers to consider any such comments in their review of the draft BiOp. The intent is not for separate input to the CIE from the various bodies, but that the Council would be the vehicle to synthesize that input and forward to NMFS and the CIE.
- b) The Council recommends that the TOR and SOW be modified to request the CIE to review and consider all of the science relevant to the analysis of factors affecting the status and recovery of the WDPS, not just the science provided in the draft BiOp to support its conclusions. The CIE reviewers should be tasked to assess, among other things, the information provided to the SSLMC at its January 2010 meeting. This information, including the minutes from the recent SSLMC meeting, should be made available to the reviewers prior to the review. Preparation of a comprehensive bibliography of relevant research may be necessary to fulfill this recommendation.
- c) The Council recommends that the TOR and SOW be modified to specifically task the CIE to review the relevant genetic papers, brand re-sight data, survey counts, and other relevant data on EDPS animals that may be found within the range of the WDPS, and WDPS animals that may be found within the range of the EDPS, and to make a recommendation on how these animals be counted when the agency calculates the WDPS population.
- d) The Council recommends that the TOR and SOW be modified to task the CIE to assess the relationship between population trends and downlisting criteria, and whether there are factors (other than fishing) affecting the recovery of the WDPS, including predation, changes in the ecosystem/carrying capacity, emigration, or other factors that should be taken into account.
- e) The Council concurs with the recommendation of the SSC regarding pre-review documents and further recommends that the background materials provided to the CIE reviewers include the studies and reports provided to the SSLMC at its January 2010 meeting, along with the genetic, brand re-sight data, and other scientific information or studies identified above. The

Mr. Doug Mecum
February 19, 2010
Page 3

basic analyses and data should also be provided to the CIE reviewers for studies such as the Fishery Interaction Team (FIT) analysis presented to the SSLMC, not just the Powerpoint presentations. These materials should be provided to the CIE reviewers well before the CIE begins its work in order to provide time for a thorough review

- f) The Council concurs with the comments by the SSC regarding the requirements for CIE reviewers, pre-review documents, and the SSC's suggestion for revising the second bullet under item 3 in the TOR.
- g) The Council also concurs with the recommendations by the SSC regarding the schedule of milestones and deliverables (although specific dates may need to be adjusted to conform to the schedule), and further recommends that the CIE schedule be modified to provide the CIE reviewers adequate time to perform their reviews. Currently the SOW indicates that the reviewers will have a maximum of 10 days to complete the review.

The Council appreciates the work conducted by NMFS to complete the draft BiOp, and particularly for accommodating our request to comment on the CIE review process. The above information will greatly assist the Council as it reviews the draft BiOp. Moreover, the suggested revisions to the CIE review process, Terms of Reference, and Statement of Work will significantly enhance the transparency and scope of the review process. We believe that accommodation of our requests is critical to the review of the draft BiOp. Please contact me or the Council's Executive Director if you have any questions regarding these requests.

Sincerely,



Eric Olson
Chairman

Cc: Dr. James Balsiger
Dr. Douglas DeMaster
Ms. Kaja Brix

INDEPENDENT REVIEWS CONDUCTED BY NPFMC

National Research Council (NRC) Review of 2000 BiOp and SSL Research Program

- Comprehensive review of 2000 BiOp and SSL Research Program
- Statement of task: Examine interactions between Alaska groundfish fisheries and Steller sea lions, and the role of these fisheries in the evolving status of the SSL population. The focus of the study will be: 1) the status of current knowledge about the decline of the SSL population in the Bering Sea and Gulf of Alaska ecosystems, 2) the relative importance of food competition and other possible causes of SSL decline and impediments to SSL recovery, 3) the critical information gaps in understanding the interactions between SSLs and Alaska fisheries, 4) the type of research programs needed to identify and assess potential human and natural causes of SSL decline, and 5) the components of an effective SSL monitoring program, with yardsticks for evaluating the efficacy of various management approaches.
- Findings based on a review of the scientific literature, information in the BiOp, input from public meetings, and other written materials submitted to the committee.
- Committee of 10 experts appointed with no direct connection to N. Pacific fisheries but with internationally recognized expertise.
- Met 4 times, including 2 public sessions (one in Alaska, one in Seattle)
- Time frame: April 2001- October 2002. 15 months to deliver draft, 4 months to finalize report
- Cost: \$525,000
- Source of funding: Congressional appropriation.

'Blue Jean' Review of 2000 SSL BiOp

- Short-term, independent review of 2000 BiOp, more limited in scope than the NRC review.
- Statement of task: 1) review science associated with BiOp, 2) act in an advisory capacity to Council's RPA committee from June-October 2001 to arrive at a set of RPAs.
- Committee of 4 team members: Dr. Don Bowen (chair), Dr. Gordon Swartzmann, Dr. John Harwood, Dr. Daniel Goodman. Selected members with no direct connection to N. Pacific fisheries but with internationally recognized expertise.
- Time frame: March-June 2001; 3-4 weeks of work per team member. Final report in Sept 2001.
- Cost: \$30K per team member, \$35K to chair, plus travel expenses.
- Source of funding: Council.

F40 Harvest Strategy Review

- In October 2001, the Council passed a final motion on SSL mitigation measures. As part of the motion, the Council moved to seek an independent scientific review of the F40 harvest policy relative to national standards. The SSC requested that terms of reference be developed for the review.

- Statement of task: 1) describe the current harvest strategy, 2) determine if the current approach is consistent with the MSA, and if F40 is an appropriate value for determining MSY for all groundfish species, 3) evaluate whether this approach adequately considers ecosystem needs.
- Reviewers charged with using any available scientific information, describing the role of F40 in their findings, and relating findings to the 10 MSA National Standards, particularly NS 1.
- Panel of 8 selected. Met 3 times at AFSC.
- Time frame: May-September 2002; 4-6 weeks work per team member.
- Cost: Stipend of \$15K per panel member and \$20K for chair.
- Source of funding: Council.

Review of the Ocean Research Priorities Plan and Implementation Strategy

Work Statement

Part I

An ad hoc committee will review the draft plan for the Ocean Research Priorities Plan prepared by the JSOST with input from a public workshop in April 2006. The review will address the following questions about the draft plan as a whole:

1. Is the plan responsive to the nation's needs for ocean research?
2. Does it effectively link proposed science and technology developments to benefits to the nation with regard to quality of life, safety and security, economic growth, environmental sustainability, and education?
3. (a) Are the priorities for each theme area clear and appropriate? (b) Is the time frame for attaining these priorities realistic?
4. Is there an appropriate balance (a) between short-term (2-5 years) and longer-term (5-10 years) priorities, (b) among substantive research areas, and (c) between research activities such as observations, modeling, and communicating results?
5. Does the document adequately identify multidiscipline and/or multi-mission issues?
6. Does the document identify the highest near-term research priorities to address the goals and expected societal results?
7. Does the plan adequately consider the following resources: physical infrastructure, information infrastructure, and intellectual capital?

In its review, the committee will consider the scientific and stakeholder community comments at the April 2006 workshop and other comments received during the public comment period.

8. The committee will also evaluate whether the format of the workshop promoted the open exchange of ideas and suggestions for improvement.

Part II

In this phase, the committee will provide an overall assessment of the revised (final) plan with an emphasis on the following:

- How has the plan evolved in response to the NRC review and other community input?
- How could the implementation strategy provided in the Ocean Research Priorities Plan and Implementation Strategy be expanded or modified to ensure continuity of community-wide planning and implementation?
- What processes could be employed to assess progress in addressing the priorities and to reevaluate the priorities in light of new information or emerging ocean issues?

Elements of a Science Plan for the North Pacific Research Board

Work Statement

The NRC study committee will assist the NPRB in developing a science plan that (1) is comprehensive and long range (10-20 years), (2) identifies major research themes, with emphasis on marine resource management issues, (3) is flexible, dynamic, and able to adapt to new research and monitoring findings, (4) is responsive to the vision, mission and goals of the NPRB and addresses the elements of a science plan identified as important by the NPRB, (5) builds on past and ongoing research programs of the Federal government, the State of Alaska, universities, and other relevant entities, (6) has a high probability of furthering the goals and objectives of the NPRB and maintaining awareness of the need to sustain a variety of marine resources and (7) is consistent with NPRB enabling legislation.

In addition, the committee should consider questions such as the appropriate balance between process studies and time-series studies, the role of modeling, the availability and usefulness of proxy and historical data, coordination with other activities (including international activities), and any other issues related to assuring the program has a strong strategic vision and sound management and oversight.

To guide the NPRB as it develops its science plan, the committee will:

- Identify broad research themes in the North Pacific, Bering Sea, and Arctic Ocean region, through discussions and a workshop.
- Conduct a series of site visits in Alaska to gather further input on the research themes.
- Provide supporting information and recommendations for achieving the desired attributes of the plan.
- Prepare an interim report that outlines the components of a successful long-term science plan and provides guidance to NPRB as it develops its plan, drawing on insights gained from past reviews of similar science plans to help the NPRB avoid known difficulties and pitfalls.
- Subsequently review the science plan drafted by the NPRB in light of the identified research themes and overall guidance provided in the interim report, making any necessary suggestions for improvement.

Assessment of the Department of Energy's Methane Hydrate Research and Development Program: Evaluating Methane Hydrates as a Future Energy Resource

Work Statement

The Energy Policy Act of 2005, Section 968, calls for the Secretary of Energy to enter into an agreement with the National Research Council to (1) conduct a study of the progress made under the methane hydrate R&D program, and (2) make recommendations for future methane hydrate R&D needs.

Specifically, the study will:

1. Briefly review previous methane hydrate research conducted by DOE and its federal and nonfederal collaborative partners from 2000-2005.
2. Review in detail the methane hydrate R&D conducted by DOE and partners from 2005-2007 considering the progress made in identifying and addressing the issues related to resource and reserve estimates, discovery methodology, production technology, and environmental impacts.
3. Review the process by which past and current R&D has been and is being conducted and advised including domestic interagency coordination (between DOE and USGS, NOAA, MMS, BLM, NSF and the Office of Naval Research); collaboration with institutes of higher education, oceanographic institutions, and industry; international cooperation and collaboration; the methane hydrates advisory panel mechanism; and peer-review mechanisms.
4. Evaluate future R&D needs, with specific attention to:
 - a. The use of remote sensing and improved seismic processing for identification of methane hydrate resources,
 - b. Developing new technologies to produce natural gas from methane hydrates, including technologies to reduce the risk of drilling through methane hydrates,
 - c. Assessing the research conducted to evaluate and mitigate the environmental impact of hydrate degassing, both naturally and in conjunction with commercial exploitation,
 - d. The scope and design of exploratory drilling, well testing, pilot and full-scale production well tests on permafrost and non-permafrost gas hydrates necessary to address (a) through (c), above.
5. Make recommendations concerning:
 - a. Suitability of methane hydrate resources to make a substantial contribution to domestic natural gas supply by 2025,
 - b. Changes to the current program of R&D to meet the research needs identified above,
 - c. Coordination of interagency, academic, and industrial research and partnerships, domestically and internationally, in carrying out the program,
 - d. Graduate education and training in methane hydrate research and resource production.

Review of the Scientific Accomplishments and Assessment of the Potential for Future Transformative Discoveries with U.S.-Supported Scientific Ocean Drilling

Work Statement

The National Science Foundation has requested that the National Research Council appoint an ad hoc committee to review the scientific accomplishments of U.S.-supported scientific ocean drilling (Deep Sea Drilling Project [DSDP], Ocean Drilling Program [ODP], and Integrated Ocean Drilling Program [IODP]) and assess the potential for future transformative scientific discoveries. The study committee will undertake two tasks:

1) Identification of DSDP, ODP, and IODP scientific accomplishments and analysis of their significance, with an emphasis on evaluating how scientific ocean drilling has shaped understanding of the Earth system and history. Additional emphasis will be placed on assessing the extent to which the availability of deep ocean drilling capabilities has enabled new fields of inquiry. The analysis will include consideration of the drilling programs' contributions to capacity building, science education, and outreach activities. The study will not consider organizational framework.

2) Assessment of the potential for transformative scientific discovery resulting from implementation of the draft science plan for the next proposed phase of international scientific ocean drilling (2013-2023). This assessment will include advice on opportunities resulting from stronger collaboration between ocean drilling and other NSF-supported science programs and research facilities.

This study will engage the ocean science and engineering communities by convening a workshop to obtain a wide range of viewpoints and discussion of U.S.-supported scientific drilling accomplishments. Members of the international scientific community will be invited as well, to provide a worldwide perspective. Products of this workshop and other information gathering activities will inform the consensus report produced by the committee. In addition, the report will review the draft science plan for the planned 2013-2023 phase of U.S.-supported scientific ocean drilling, which will help to strengthen the draft science plan and increase its usefulness as a planning document.

Secondly, MCA is writing to request that you take a hard look at NOAA's current SSL research program, and redirect funding beginning in 2011 to address SSL research priorities identified by the Council at their October meeting. In their letter to you, the Council discussed the need for research in the Aleutian Islands to assess the status of SSLs in the region, obtain basic foraging ecology data, track short term movement, and conduct studies targeted to identify whether or not fisheries are affecting SSL recovery (effects on prey base adjacent to SSL sites, reproduction, and survival). The Council based their recommendations on a presentation of SSL research priorities by Dr. Demaster of NMFS. MCA strongly supports the Council's recommended research priorities.

This topic also came up in our meeting on November 10, where we emphasized the urgency to initiate this research in the 2011 field season. While there is general agreement that research in the Aleutian Islands needs to commence in 2011, NMFS has stated that they will only initiate new research if additional funds are found. This could significantly delay start-up of crucial research. MCA believes that this is a short sighted approach to addressing the most critical research needs in the area of greatest concern for SSLs. We respectfully request that NOAA look for ways to redirect funds so that this research work can commence in the Aleutian Islands in 2011.

And, as a final matter, MCA believes that this is a good time to take a comprehensive look at the SSL research program. Beginning in the early 2000's, substantial funding went into SSL research to look at factors affecting their recovery. Of fourteen indicators that NMFS used in the draft BiOp, only one was deemed to indicate that fisheries might be affecting SSL recovery, and there is considerable scientific debate about this one indicator. With this latest BiOp and round of mitigation measures, it is apparent that the lack of good empirical data on factors affecting recovery is costing the industry and the nation millions of dollars and thousands of jobs. MCA believes that a comprehensive review of the past decade's SSL research program by an organization such as the National Research Council is in order. The review should look at the goals and results of the program, identify gaps in our knowledge, and make recommendations for new research directions to determine whether or not fisheries are significantly affecting SSL recovery, or if other factors are impacting SSL populations and their recovery. We encourage you to work with the Council and others to secure such a review.

Finally, we want to thank you and your staff for taking the time to meet with us on November 10 to discuss these issues. We thought it was a useful discussion and look forward to working with you as we move forward.

Sincerely,



David Benton
Executive Director

Encl: North Pacific Fishery Management Council by letter dated October 27, 2010 regarding the Steller Sea Lion (SSL) Biological Opinion (BiOp)

**Cc: Governor Sean Parnell, State of Alaska
Governor Chris Gregoire, State of Washington
Governor Ted Kulongoski, State of Oregon
Senator Lisa Murkowski
Senator Mark Begich
Senator Patty Murray
Senator Maria Cantwell
Congressman Don Young
Congressman Doc Hasting
Mr. Eric Olson, Chair, North Pacific Fishery Management Council**

North Pacific Fishery Management Council

Eric A. Olson, Chairman
Chris Oliver, Executive Director



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October 27, 2010

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

Dear Dr. Lubchenco:

At its October 2010 meeting, the North Pacific Fishery Management Council received briefings on the schedule for completion of the final Steller Sea Lion Biological Opinion (BiOp) and the pending review of the BiOp by the Center for Independent Experts (CIE). NMFS indicated that an independent review of the final BiOp will be conducted by the Center for Independent Experts (CIE) during the CIE's 2011 review cycle, unless the Council requests a different review process.

We understand that the CIE has been provided with a Statement of Work and Terms of Reference for its review of the final BiOp, and asked that NMFS provide the Council with these documents prior to our upcoming December 2010 meeting. The Council reviewed the CIE Statement of Work and Terms of Reference in February 2010, and appreciated the opportunity to provide written comments to NMFS. The Council's comments incorporated comments from its SSC, and were intended to improve the CIE process by enhancing the scope and transparency of the review process, including a recommendation that the CIE review all relevant science and comments on the draft BiOp, not just that provided in support of the BiOp's conclusions (see attached comments). We are anxious to see how the Council's comments were addressed in the revised terms of reference, and the Council plans to discuss the CIE and other possible peer review processes at its December meeting, and provide further recommendations to the agency.

The Council also reviewed its 5-year research priorities at the October 2010 meeting, received a report from Dr. DeMaster on SSL research priorities, and with input from the SSC, passed a motion outlining its overall 5-year research priorities. Among the Council's top priorities for Steller sea lion research is to initiate foraging ecology studies in the Western and Central Aleutian Islands. Specifically, this research would include at-sea tracking of adult females and juveniles to determine the location and depth of foraging activities, and food habits studies to assess seasonal prey dependence. In addition, studies to assess vital rates (i.e., reproduction and survival) of Steller sea lions throughout the western Distinct Population Segment (DPS), and brand-resight data to assess movements, are critical to understanding the population trend of SSLs in the Western and Central Aleutian Islands in comparison to other subareas within the western DPS. Additional surveys of fish abundance at local scales important to SSLs would also shed light on the availability of prey in the Western and Central Aleutian Islands.

All of these studies would require additional funding. NMFS has estimated that initiating a new SSL research program in the Western and Central Aleutian Islands would require an additional \$750,000 to \$1 million in annual funding for a 4 to 5 year period. The North Pacific Research Board (NPRB) recently initiated a call for proposals for \$800,000 in funding that could potentially be directed toward research in

the Western and Central Aleutian Islands. An additional \$400,000 is available from NPRB for cooperative industry-agency studies. These funding sources have the potential to help initiate this critical research, but additional funding would be required to ensure that multi-year research projects would be adequately funded.

Finally, at its October meeting the Council also recommend that a high level scientific institution, such as the National Research Council, conduct a programmatic review of NMFS's Steller sea lion research program. The review would evaluate the effectiveness of the research program, identify remaining data gaps, and make recommendations for a re-focused SSL research program to address pressing scientific and management needs. The Council requested that the Executive Director, working with the Council Chair, explore options for securing such a comprehensive programmatic review of the Steller sea lion research program. Additional funding would also need to be obtained to conduct such a programmatic review. In December we will receive an overview from Council staff of the types of independent reviews that have been conducted in the past, and the cost, time requirements, and potential funding sources for different review processes.

In closing, we believe that our suggested revisions to the CIE review process will significantly enhance the review of the final BiOp. Moreover, the draft BiOp identified data gaps that are critical to understanding Steller sea lion foraging ecology and demographic trends in the Western and Central Aleutian Islands, and we believe that initiating this research should be the agency's highest Steller sea lion research priority. In addition, a comprehensive scientific review of the Steller sea lion research program would ensure that the program focuses on addressing these critical information needs that directly impact management. Please contact me or the Council's Executive Director, Mr. Chris Oliver, if you have any questions regarding these recommendations.

Sincerely,



Eric A. Olson
Chairman

cc: Secretary Gary Locke
Senator Lisa Murkowski
Senator Mark Begich
Congressman Don Young
Senator Patty Murray
Senator Maria Cantwell
Senator Ron Wyden
Senator Jeff Merkley
Dr. James Balsiger
Dr. Douglas DeMaster
Ms. Kaja Brix
Ms. Sue Salvesson
Arne Fuglvog
Bob King
Dave Whaley

Attachment

North Pacific Fishery Management Council

Eric A. Olson, Chairman
Chris Oliver, Executive Director



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February 19, 2010

Mr. Douglas Mecum
Acting Regional Administrator
National Marine Fisheries Service
P.O. Box 21668
Juneau, AK 99802-1668

Dear Mr. Mecum:

At its February 2010 meeting, the North Pacific Fishery Management Council received briefings on the schedule for the upcoming draft *status quo* Biological Opinion (BiOp) and a report from its Steller Sea Lion Mitigation Committee (Committee). We also reviewed NMFS' response to our previous request for input on the Center for Independent Experts' (CIE) terms of reference for their pending review of the draft BiOp. Based on discussions during that February meeting, the Council expressed some overarching perspectives that we believe are critical to the Council's potential involvement in development of RPAs for the 2011 fishing year, depending on the findings in the draft BiOp; i.e., if the BiOp contains a jeopardy and/or adverse modification (JAM) determination.

The Council tasked its Committee with reviewing the draft Biological Opinion at its March 9-12, 2010 meeting in Juneau. The Committee will provide comments on the BiOp to the Council at its April 2010 meeting, which may inform the Council's development of comments on the draft BiOp to NMFS. Further, the Committee is tasked with commenting on the feasibility of the Council developing appropriate SSL mitigation measures (RPAs) given the content and findings of the draft BiOp. Key to this feasibility is the level of definition of any performance standards included in the draft BiOp. If the performance measures are overly prescriptive, it will not be useful to engage the Committee and Council process in the development of potential RPAs. Conversely, any performance measures will need to provide the Council and its Committee enough definition of problem areas to allow us to craft responsive management actions. It is the Council's intent, upon consideration of the Committee comments and recommendations, to decide whether or how to further engage the Committee and the Council process in the development of potential SSL mitigation measures for the 2011 fishing year.

The Council also requests that NMFS prepare a concise white paper that would be made available concurrently with the draft BiOp, which would clearly describe the methodology NMFS is using to determine the current status (total count) of Western Distinct Population Segment (DPS) SSLs relative to the downlisting criteria in the Final Steller Sea Lion Recovery Plan, including:

- The specific methodology used in the Recovery Plan to determine the 42,500 animal baseline found in downlisting criterion 1 (Recovery Plan, p. xiii).

Mr. Doug Mecum
February 19, 2010
Page 2

- The specific methodology used to establish the 53,100 animal target set for 2015, described in downlisting criterion 1.
- A clear determination of the current status of the WDPS as gauged against these criteria by applying the specific methodology used to calculate the 42,500 animal baseline.

If this information is clearly discernable in the draft BiOp, a separate white paper may not be necessary. However, the Council believes this information is critical to framing the information and findings in the draft BiOp.

Finally, the Council wishes to express its appreciation for the opportunity to comment on the Center for Independent Experts (CIE) Statement of Work (SOW) and Terms of Reference (TOR). The Council's SSC also provided comments on the SOW and TOR for consideration by the Council. The SSC's comments are incorporated as appropriate in the Council's comments provided here. The Council offers the following comments to improve the CIE process by focusing the review more on the science and its interpretation, and by enhancing the transparency of the review:

- a) The Council reiterates its request of December 23, 2009 to modify the review schedule to allow the public, SSLMC, SSC, and Council the opportunity to review and comment on the draft BiOp prior to the CIE review. The TOR and SOW should be modified to task the reviewers to consider any such comments in their review of the draft BiOp. The intent is not for separate input to the CIE from the various bodies, but that the Council would be the vehicle to synthesize that input and forward to NMFS and the CIE.
- b) The Council recommends that the TOR and SOW be modified to request the CIE to review and consider all of the science relevant to the analysis of factors affecting the status and recovery of the WDPS, not just the science provided in the draft BiOp to support its conclusions. The CIE reviewers should be tasked to assess, among other things, the information provided to the SSLMC at its January 2010 meeting. This information, including the minutes from the recent SSLMC meeting, should be made available to the reviewers prior to the review. Preparation of a comprehensive bibliography of relevant research may be necessary to fulfill this recommendation.
- c) The Council recommends that the TOR and SOW be modified to specifically task the CIE to review the relevant genetic papers, brand re-sight data, survey counts, and other relevant data on EDPS animals that may be found within the range of the WDPS, and WDPS animals that may be found within the range of the EDPS, and to make a recommendation on how these animals be counted when the agency calculates the WDPS population.
- d) The Council recommends that the TOR and SOW be modified to task the CIE to assess the relationship between population trends and downlisting criteria, and whether there are factors (other than fishing) affecting the recovery of the WDPS, including predation, changes in the ecosystem/carrying capacity, emigration, or other factors that should be taken into account.
- e) The Council concurs with the recommendation of the SSC regarding pre-review documents and further recommends that the background materials provided to the CIE reviewers include the studies and reports provided to the SSLMC at its January 2010 meeting, along with the genetic, brand re-sight data, and other scientific information or studies identified above. The

Mr. Doug Mecum
February 19, 2010

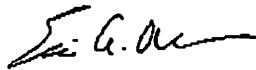
Page 3

basic analyses and data should also be provided to the CIE reviewers for studies such as the Fishery Interaction Team (FIT) analysis presented to the SSLMC, not just the Powerpoint presentations. These materials should be provided to the CIE reviewers well before the CIE begins its work in order to provide time for a thorough review.

- f) The Council concurs with the comments by the SSC regarding the requirements for CIE reviewers, pre-review documents, and the SSC's suggestion for revising the second bullet under item 3 in the TOR.
- g) The Council also concurs with the recommendations by the SSC regarding the schedule of milestones and deliverables (although specific dates may need to be adjusted to conform to the schedule), and further recommends that the CIE schedule be modified to provide the CIE reviewers adequate time to perform their reviews. Currently the SOW indicates that the reviewers will have a maximum of 10 days to complete the review.

The Council appreciates the work conducted by NMFS to complete the draft BiOp, and particularly for accommodating our request to comment on the CIE review process. The above information will greatly assist the Council as it reviews the draft BiOp. Moreover, the suggested revisions to the CIE review process, Terms of Reference, and Statement of Work will significantly enhance the transparency and scope of the review process. We believe that accommodation of our requests is critical to the review of the draft BiOp. Please contact me or the Council's Executive Director if you have any questions regarding these requests.

Sincerely,



Eric Olson
Chairman

Cc: Dr. James Balsiger
Dr. Douglas DeMaster
Ms. Kaja Brix



Marine Conservation Alliance

promoting sustainable fisheries to feed the world

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Alaska Whitefish Trawlers Association

Alaska Groundfish Data Bank

Alaska Pacific Seafoods

Alaska Scallop Association

Aleutian Pribilof Island Community Development Association

Adak, Adak, Plover Pass, Nelson Lagoon, Nikiski, St. George

At-Sea Processors Association

Bristol Bay Economic

Development Corporation

Alutash, Chukchi Point, Dillingham, Egegik, Ektai, Ekwok, King Salmon, Laredo, Merambay, Nainina, Plover Point, Plover Harbor, Portage Creek, South Nakatna, Togiak, Twin Hills, Umanik

Central Bering Sea Fishermen's Association

St. Paul

City of Unalaska

Coastal Villages Region Fund

Chignik, Crooked, Gull, Goodnews, Ser. Hooper Bay, Kasaan, Korymboski, Kuparuk, Makrova, Napavik, Nipmuk, Nivak, Niglamut, Oscarville, Pletch, Satchell, Seward Bay, Tobacco Bay, Turbulent, Umanik

Groundfish Forum

High Seas Catchers Cooperative

Idle Seafoods

MotherShip Group

PV Cullinane

PV Ocean Floor

PV Golden Alaska

Norton Sound Economic

Development Corporation

Brendy Island, Chirikof, Gull, Goodnews, Gulkana, Koyuk, Nainina, Saint Michael, Seward, Shelikof, Sitka, Togiak, Umanik, Umanik, Umanik, Umanik

Pacific Seafood Processors Association

Alaska General Seafoods

Alaska Seafoods, Inc.

Golden Alaska Seafoods, Inc.

North Pacific Seafoods, Inc.

Peter Pan Seafoods, Inc.

Princess Pacific Seafoods, Inc.

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Prowler Fisheries

Trident Seafoods Corporation

United Catcher Boats

Adak Catcher Vessel Assoc.

Acad. Enterprise Assoc.

MotherShip Fleet Cooperative

North Star Fleet

Peter Pan Fleet Cooperative

Unalaska Center

Unalaska Fleet Cooperative

Unalaska Fleet Cooperative

U.S. Seafoods

Waterfront Associates

Western Alaska Fisheries, Inc.

Yukon Delta Fisheries

Development Association

Alutash, Ekwok, Gulkana, Graying, Koyuk, Mountain Village, Nainina, St. Paul

November 24, 2010

Via Electronic Mail

Ms. Kaja Brix

National Marine Fisheries Service

Protected Resources Division

P.O. Box 21668

709 West 9th Street

Juneau, Alaska 99802

Dear Ms. Brix:

Re : 0648-XZ23

On behalf of the Marine Conservation Alliance ("MCA"), I am pleased to submit comments on the taking of marine mammals incidental to commercial fishing operations in Alaska. 75 Fed. Reg. 68767 (November 9, 2010).

MCA is a broad based coalition of harvesters, processors, coastal communities, Community Development Quota organizations, and support service businesses involved in the groundfish and shellfish fisheries off Alaska. MCA was formed to promote the sustainable use of North Pacific marine resources by present and future generations. MCA supports research and public education regarding the fishery resources of the North Pacific and seeks practical solutions to resource conservation issues. Our members collectively represent approximately 70% of the production of North Pacific fisheries which in turn accounts for over half the nation's fishery production.

We support the issuance of a three-year incidental take permit for the Federal and State parallel Category II groundfish fisheries: AK Bering Sea/Aleutian Islands flatfish trawl, AK Bering Sea/Aleutian Islands Pollock trawl, AK Bering Sea sablefish pot, and Bering Sea/Aleutian Islands Pacific cod longline fisheries.

In reviewing the Federal Register notice, and the accompanying *Marine Mammal Protection Act Section 101 (a)(5)(E) Draft Negligible Impact Determination* (Draft Determination), we note some items worthy of additional comment, most notably the discussion under Section 7.0 of the Draft Determination, *Steller sea lion*, *Western Stock* regarding the status of the population and its separation into eastern and western distinct population segments.

On page 23 the Draft Determination states "*despite the wide-ranging movements of juveniles and adult males in particular, exchange between rookeries by*

breeding adult females and males (other than between adjoining rookeries) appears low (NMFS 1995).

However, the draft goes on to note on page 23-24 that "movement across the western and Eastern U.S. stock boundary by animals (particularly juveniles) from both populations does occur (Raum-Suryan et al. 2002). Moreover, Steller sea lions may sometimes disperse from their rookeries of birth and breed at other rookeries within their parent populations. This breeding dispersal has the potential to affect local population dynamics and patterns of underlying genetic variation. Movement of animals has also indicated that the geographic boundary between the western and eastern populations as it existed at the time of the listing of two DPSs may be changing or blurring at the edges (Gelatt et al. 2006; Pitcher et al. 2007; NMFS unpublished)."

This suggests that movement across the boundary between the eastern Distinct Population Segment (EDPS) and the western DPS (WDPS) is more active than anticipated when the stock separation was established by final rule in 1997. Moreover, since the time of the stock separation new information (Gelatt et al 2007)¹ documented the presence of "western stock" haplotypes at Graves Rock, over 250 nautical miles inside the eastern region from the 144 degree line separating the eastern and western zone. The White Sisters rookery, even further south than the Graves Rock rookery in the eastern zone, also showed the presence of "western stock" haplotypes. The presence of these haplotypes indicates that the "distinct break" between eastern and western regions that was thought to exist in 1996 no longer exists. In fact, Graves Rock rookery was established by SSLs from both the eastern and western regions since 1997.

MCA raised these issues in more detail by letter to you dated October 14, 2010 in response to NMFS' five year review of the eastern DPS. Letter attached for your reference. We are anticipating a response to that letter shortly, although we have not received a response as of this date.

In addition, we noted that the Draft Determination does not always incorporate the most up-to-date population data. We would suggest updating the document to include data from the most current non-pup and pup surveys. For example, NMFS (2009) data indicate a 14% increase in pup production for the WDPS overall for the period 2001-2002 to 2009. NMFS trend analyses indicate that the WDPS population of adults and juveniles (non-pups) has grown from between 12% to 14% since 2000 when comprehensive fishery restrictions first went into place. This translates into an annual growth rate of around 1.4-1.7% per year. Johnson (2010) has the annual growth rate at roughly 1.5%. Surveys of SSL pups show a similar trend, approximately 1.7 % per year, between 2000/2001 and 2009. While the Draft Determination finds these growth rates to be statistically insignificant, it is important to underscore that this is on track to meet the SSL Recovery Plan recovery criteria for the overall population trajectory for downlisting from Endangered to Threatened.

As a final comment, you note that NMFS has insufficient funds to prepare a take reduction plan for the "endangered" western U.S. stock of the Steller sea lion. We would like to know more

¹ Population Trends, Diet, Genetics, and Observations of Steller Sea Lions in Glacier Bay National Park. Authors: Tom Gelatt, Andrew W. Trites, Kelly Hastings, Lauri Jemison, Ken Pitcher, and Greg O'Corry-Crowe, 2007

about the impact of this funding short fall on the recovery of this stock. Also, how much funding would be required to accomplish this task and are requests for funds included in the FY2012/13 budgets?

Thank you for this opportunity to comment on the permit and accompanying analysis. We look forward to your response to this and our letter of October 14, 2010.

Sincerely,



David Benton
Executive Director

Encl: MCA letter of October 14, 2010 on SSL EDPS

Copy: Governor Sean Parnell, State of Alaska
Senator Lisa Murkowski
Senator Mark Begich
Congressman Don Young
Mr. Eric Olson, Chair, North Pacific Fishery Management Council



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- Alaska Scallop Association
- Alutian Pribilof Island Community Development Association
- Atkasut, Afuk, Pribilof Pass, Nelson Lagoon, Nikiski, St George
- At-Sea Processors Association
- Bristol Bay Economic Development Corporation
- Alatavak, Clark's Point, Dillingham, Igrook, Ozuk, Shook, King Salmon, Unalaska, Umanak, Hoonah, Pood, Pood Harbor, Portage Creek, South Naknek, Tokeak, Tuba Falls, Uyakak
- Central Bering Sea Fishermen's Association
- St Paul
- City of Unalaska
- Coastal Villages Region Fund
- Chukotak, Chukot, Gulk, Goodwin Bay, Hooper Bay, Igrook, King Salmon, Unalaska, Umanak, Hoonah, Pood, Pood Harbor, Portage Creek, South Naknek, Tokeak, Tuba Falls, Uyakak
- Groundfish Forum
- High Seas Catchers Cooperative
- Iceland Seafoods
- Motherhip Group
- Py Enchikoy, Py Oleni Phoon, Py Oleni Alaska
- Norton Sound Economic Development Corporation
- Swain, Alaknuk, Dikson, Elm, Gumbel, Gumbel, Koyuk, Noma, Sakh Mitchell, Suvonope, Shelikof, Shikof, Tully, Unalakleet, Wain, Wain Mountain
- Pacific Seafood Processors Association
- Alaska Central Seafoods, Inc., Alaska Seafoods, Inc., Olden Alaska Seafoods, Inc., North Pacific Seafoods, Inc., Taku Seafoods, Inc., Prudhoe Pacific Seafoods, Inc., Tidwell Seafoods Corp., Unifish Inc., Westport Seafoods, Inc.
- Prowler Fisheries
- Trident Seafoods Corporation
- United Catcher Boats
- Alutian Catcher Boat Assoc., Arctic Endangered Assoc., McIlwain Fleet Cooperative, Kasilof Fish Fleet, Peter Port Fleet Cooperative, Unalakleet Coop, Unalakleet Fleet Cooperative, Unalakleet Fleet Cooperative
- U.S. Seafoods
- Waterfront Associates
- Western Alaska Fisheries, Inc.
- Yukon Delta Fisheries Development Association
- Alatavak, Chukotak, Groyling, Koyuk, Koyuk Valley, Nunami

October 14, 2010

Via Electronic Mail

Ms. Kaja Brix
National Marine Fisheries Service
Protected Resources Division
P.O. Box 21668
709 West 9th Street
Juneau, Alaska 99802

Dear Ms. Brix:

On behalf of the Marine Conservation Alliance ("MCA"), I am pleased to submit comments on the five-year review of the eastern Distinct Population Segment ("DPS") of the Steller sea lion ("SSL") pursuant to the Endangered Species Act ("ESA"). 75 Fed. Reg. 37385 (June 29, 2010).

MCA is a broad based coalition of harvesters, processors, coastal communities, Community Development Quota organizations, and support service businesses involved in the groundfish and shellfish fisheries off Alaska. MCA was formed to promote the sustainable use of North Pacific marine resources by present and future generations. MCA supports research and public education regarding the fishery resources of the North Pacific and seeks practical solutions to resource conservation issues. Our members collectively represent approximately 70% of the production of North Pacific fisheries which in turn accounts for over half the nation's fishery production.

The Federal Register notice announcing the five-year review states the National Marine Fisheries Service ("NMFS"), as part of the species status review, is also considering the DPS designation for the eastern SSL DPS. 75 Fed. Reg. at 37386. The necessary corollary is that NMFS is considering whether the original designation of a western SSL DPS and an eastern SSL DPS remains valid. MCA will focus its comments on this issue.

I. Summary

Pursuant to existing policy adopted by the Congress and NMFS, and affirmed by the courts, a DPS designation can be made only when a preponderance of the best scientific data shows conclusively that the designation is warranted. The existing DPS designations fail this evidentiary standard.

The existing DPS designations are based mainly on genetic evidence from a single 1996 study alleging a marked genetic separation between SSL populations. The evidence relied on for the DPS designations addressed only a subset of the entire SSL population. This contravenes the ESA and court decisions requiring that NMFS must consider the entire population.

The consideration of all the available evidence for the entire population shows strong genetic similarities between the DPSs. It also shows the physical movement of SSLs across the DPS boundary. In fact, animals from the supposedly separate and distinct DPSs are routinely moving back and forth across the supposed barrier separating them. The available evidence also shows that animals from the supposedly separate and distinct DPSs are interbreeding and females from one DPS are establishing breeding colonies in the other DPS, effectively defeating any allegation of genetic separation. Finally, the evidence shows that even if females often return to the same rookery to give birth to their pups, male mediated gene flow is sufficient to prevent the marked genetic differentiation required for a DPS designation. In short, compelling genetic, breeding, behavioral, and migratory evidence gathered since the original DPS designations show that the existing designations fail to meet the applicable legal and evidentiary standards for a DPS.

II. The Evidentiary Standard for DPS Designations

The current DPS designation is legally defective because it is contrary to Congressional intent and to the DPS designation policy adopted by NMFS. The intent of Congress is reflected in the policy adopted by NMFS and the Fish and Wildlife Service ("FWS") in 1996 regarding DPS designations, 61 Fed. Reg. 4722 (Feb. 7, 1996) ("DPS Policy"). The DPS Policy states Congress intended that DPS designations be used "sparingly." S. Rept. 151, 96th Congr., 1st Sess., at 6, cited at 61 Fed. Reg. 4725. The sentence in the Senate Report cited with approval in the DPS Policy also states a DPS designation should occur "only when the biological evidence indicates such action is warranted." *Id.* (Emphasis added.) Courts considering whether the DPS Policy requires NMFS to follow this Congressional intent have held "[t]he DPS Policy expressed an intent to follow that instruction." *Northwest Ecosystem Alliance v. United States Fish and Wildlife Service*, 475 F.3d 1136, 1144 (9th Cir. 2007).

Congress elaborated further on the appropriate evidentiary standard for DPS designations stating that listing a DPS "may be necessary when the "preponderance of evidence indicates that a species faces a widespread threat but conclusive data is available with regard to only certain populations." S. Rept. 151, 96th Cong., 1st Sess., at 6 (emphasis added). In a recent decision, the United States Court of Appeals for the Ninth Circuit noted with approval the fact that in applying the Evolutionary Significant Unit ("ESU") Policy, the admitted twin of the DPS Policy, NMFS used the Congressionally mandated standard that there must be "conclusive evidence" to justify a DPS listing. *Modesto Irrigation District v. Guitierrez*, No. 09-151214, 2010 WL 3274499 (9th Cir., Aug. 20, 2010) at *3.

Congress intended that NMFS be held to a high evidentiary standard in making a DPS designation. NMFS, together with FWS, has incorporated that intent into the DPS Policy. The courts have approved this evidentiary standard. The existing DPS designation failed to meet the required evidentiary standard in 1997 and new scientific information and data developed since the 1997 designation further demonstrates that failure.

III. The Discreteness Standard For DPS Designations

According to the DPS Policy, the first threshold a population segment must cross to qualify as a DPS is that it must be discrete. 61 Fed. Reg. at 4725. To be discrete, a population segment must meet one of two conditions. One condition, that it be delimited by international governmental boundaries, was nowhere mentioned in the SSL DPS designation. Therefore, this condition cannot be a basis for any discreteness finding. The second condition is that the population segment is "markedly separated" from other populations of the same taxon because of (1) physical, (2) physiological, (3) ecological, or (4) behavioral factors. *Id.* Genetic or morphological discontinuity may provide evidence of this separation. *Id.*

At the outset, it is important to understand the required framework for analysis. First, as noted above, Congress established an evidentiary standard, incorporated by reference into the DPS Policy, that a DPS designation may be made only when the preponderance of biological evidence shows conclusively that it is warranted. Second, the words "marked separation" contain two different standards. There must first be a separation and then that separation must be marked. The existence of genetic differences by themselves is insufficient. There must be marked differences. In that regard, the DPS Policy states the word "marked" is to be given its "commonly understood" sense. *Id.* at 4723. Courts have construed the commonly understood meaning of "markedly" to be "appreciably." *Nat'l Ass'n of Homebuilders v. Norton*, 340 F.3d 835, 851 (9th Cir. 2003), *citing* Webster's New World Dictionary. Finally, the evidence used for this determination must be the best scientific and commercial data available. 16 U.S.C. §1533(b)(1)(A). As the Supreme Court has held: "The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise." *Bennett v. Spear*, 520 U.S. 154, 176 (1997) (emphasis added). The discreteness finding for the existing DPSs meets none of these standards.

A. The DPS Policy Factors

NMFS reclassified SSLs into eastern and western DPSs in 1997. 62 Fed. Reg. 24345 (May 5, 1997) ("1997 Final Rule"). The 1997 Final Rule neither discussed nor relied on physical, physiological, ecological, or behavioral factors as a basis for the DPS designations. Thus, none of the four standards for a DPS designation set forth in the DPS Policy were used as a basis for

the SSL DPS designations. Instead, NMFS relied exclusively on alleged genetic differences. *Id.* at 24346, 24349.¹

B. The Genetic Evidence

In considering the genetic “evidence,” a fourth legal and evidentiary issue arises in addition to the three discussed above. The courts have been clear that the ESA “preclud[es] any listings below the ESU/DPS level.” *Modesto Irrigation District v. Gutierrez*, 2010 WL 3274499 at *3. In *Alsea Valley Alliance v. Evans*, 161 F.Supp.2d 1154 (D. Ore. 2001), the court conducted a lengthy review of the legislative history of the amendment adding the existing DPS language to the ESA. The court’s words and its citation to that legislative history are instructive.

The term “distinct population segment” was amended in the ESA in 1978 so that it “would exclude taxonomic [biological] categories below subspecies [smaller taxa] from the definition.” H.R. Conf. Rep. No. 95-1084, at 17 (1978) Congress expressly limited the Secretary’s ability to make listing distinctions among species below that of subspecies or distinct population segment of a species.

Id. at 1163.

These judicial precedents are fully consistent with court decisions regarding other ESA sections. Section 7(a)(2) requires that federal agencies not undertake, authorize, or permit actions that are likely to jeopardize the continued existence of a listed species, which is defined to include DPSs. 16 U.S.C. §1536(a)(2), 16 U.S.C. §1532(16). In *Rock Creek Alliance v. United States Fish and Wildlife Service*, 390 F.Supp.2d 993 (D. Mont. 2005), the issue was an agency determination that a proposed action would not jeopardize the continued existence of a DPS. Plaintiffs challenged that finding arguing that some subpopulations of the DPS would be jeopardized by the agency action. The court rejected this argument, finding FWS must examine the status of the listed species “across its entire range” before making a jeopardy determination. *Id.* at 1010.

To designate a DPS, NMFS must examine whether the entire proposed DPS is markedly separate. NMFS cannot limit its examination to a subset of the DPS. To do so would be listing

¹ The 1997 Final Rule states that population trend data showing a stable population in the eastern DPS and a declining population in the western DPS lend support to the DPS designation. Population trends are not a legally cognizable basis for DPS designation under the DPS Policy. Therefore, this basis for the DPS designation is legally insufficient. Furthermore, if information about the population trend is used in the DPS designation the DPS definition will change as the population trends change. Clearly, a robust definition of a DPS would be immune to this kind of effect. The fact that different *ad hoc* groupings within a population show different trends is not a basis for saying they are distinct. In fact, these opposite trends could be an indication of connected populations if opposite trajectories of neighboring segments are due to directional migration between those segments. For example, Boyd suggested this in his recent analysis of SSL status, Assessing the effectiveness of conservation measures: resolving the “wicked” problem of the Steller sea lion. Author(s): Boyd, I.L. Source: BIOLOGICAL CONSERVATION, Volume: 143, Issue 7, Pages 1664-1674, 2010.

below the DPS level. Applying this well established ESA legal principle to the current DPS designation, NMFS cannot examine the genetic structure of only pups or only adult females and then conclude the entire DPS, male and female, juvenile and adult, should be designated as a DPS. The reality is that the Final Rule improperly alleged genetic separation based on an examination of only a subset of the entire DPS. 62 Fed. Reg. at 24346. The study relied on by NMFS, and many subsequent studies, focused only on samples of pups at a subset of rookeries. By definition, a limited examination of pups is not an examination of the entire DPS, particularly because it cannot account for, or include, migrants and immigrants that may not have entered the breeding population or that were breeding at locations other than those sampled. In short, the sampling methodology relied on in the 1997 Final Rule will yield a biased result and an inaccurate picture of the entire population.

Further, the genetic analysis of pups relied on in the 1997 Final Rule is generally limited to mitochondrial DNA ("mtDNA"). MtDNA is maternally inherited. Thus, the analysis in the 1997 Final Rule generally reflects only female gene flow in pups. Nuclear DNA, on the other hand, is inherited from both parents and reflects total gene flow, *i.e.*, from males and females. Moreover, mtDNA represents only a fraction of the entire genome. Consider that mtDNA is composed of approximately 16,500 nucleotides (DNA building blocks) while nuclear DNA is composed of billions of nucleotides². Because of this, limiting genetic analysis to only mtDNA can yield misleading results. Indeed, patterns of mtDNA differentiation and a corresponding lack of nuclear DNA differentiation are very common in vertebrate species, particularly marine species³. For example, brown bears living on islands in Southeast Alaska that are geographically separated from mainland Alaska have different mtDNA haplotypes from mainland bears. However, the key point is that they do not have differentiated nuclear DNA frequencies⁴. In the SSL, genetic differentiation using mtDNA is almost as great within the western DPS as it is between the eastern and western DPSs⁵ but many of these differences disappear when nuclear DNA is used⁶. Overall, the genetics show a confused picture of the structure of the SSL population which, in most analyses, also generally fail to acknowledge that the structural features reflected in the genetics are historical and will not reflect current rates of introgression between different subpopulations. As shown by Herreman et al⁷, management stocks of harbor seals in

² Mitochondrial-DNA in wildlife taxonomy and conservation biology – cautionary notes. Author(s): Cronin, M. Source: WILDLIFE SOCIETY BULLETIN, Volume: 21, Pages: 339-348, 1993.

³ Population genetics and phylogeography of sea turtles. Author(s): Bowen BW, Karl SA. Source: MOLECULAR ECOLOGY, Volume: 16, Pages: 4897, 2007.

⁴ Gene flow between insular, coastal and interior populations of brown bears in Alaska. Author(s): Paetkau, D., Shields, G.F., Strobeck, C. Source: MOLECULAR ECOLOGY, Volume: 7, Pages: 1283-1292, 1998.

⁵ Demographic independence along ecosystem boundaries in Steller sea lions revealed by mtDNA analysis: implications for management of an endangered species. Author(s): O'Corry-Crowe, G., Taylor, B.L., Gelatt T, et al. Source: CANADIAN JOURNAL OF ZOOLOGY, Volume: 84, Pages: 1796-1809, 2007.

⁶ Deep genetic subdivision within a continuously distributed and highly vagile marine mammal, the Steller's sea lion (*Eumetopias jubatus*). Author(s): Hoffman, J.L, Matson, C.W., Amos, W., et al. Source: MOLECULAR ECOLOGY, Volume: 15, Pages: 2821-2832, 2006.

⁷ Asymmetrical male-mediated gene flow between harbor seal (*Phoca vitulina*) populations in Alaska. Author(s): Herreman, J.K., Blundell, G.M., McDonald, D.B., et al. Source: CANADIAN JOURNAL OF ZOOLOGY, Volume: 87, Pages: 498-507, 2009.

Alaska previously thought to be distinct based upon mtDNA and population trends are in fact part of a single stock. The facts are that studies done since the 1997 Final Rule consistently report that an examination of the entire genetic structure (*i.e.*, nuclear DNA inherited from both parents) shows markedly less genetic differentiation. Thus, Hoffman et al⁸ note that genetic differences are higher for mtDNA markers than for nuclear DNA.

The analytical points are that (1) mtDNA analysis examines only part of the genetic structure of a species, and a small part at that, especially when only pups are used, and (2) examination of the entire DNA gives a far different picture. The legal point is that basing a DPS designation on alleged genetic differences in only one part of the proposed DPS is, in effect, basing the DPS listing on a subset of the population.

1. The 1997 Final Rule Did Not Measure Marked Differences

An accepted scientific basis for finding there is a marked, *i.e.*, appreciable, genetic difference is to conduct a statistical analysis of the extent of the difference. There are accepted and well understood norms for this analysis but those carried out to date are deficient in two important ways. First, they do not, indeed cannot, account for underlying sampling uncertainties emerging from the way in which samples have been collected. These uncertainties involve small sample sizes compared with the overall population available for sampling, a focus on sampling only particular rookeries without an appropriate stratification procedure, and the collection of samples over many years at a time when there may be change in the pattern of gene flow among parts of the SSL population. Second, the studies test a null hypothesis that is different from the legal definition of a DPS. This arises because they test a hypothesis that is examining the historical population structure possibly brought about by historical barriers to dispersal. The statistical tests do not address the current distinctiveness of the populations in the absence of clear and unambiguous physical barriers to dispersal and in the presence of evidence of some level of present day dispersal. Consequently, the statistical analyses of genetics provide a very narrow, and essentially historical, view of the behavioral standard contained in the DPS Policy. The weight given to genetics evidence within the context of the 1997 Final Rule is driving management decisions toward the preservation of a population structure that has no relevance in the present day context.

Another test of the 1997 Final Rule could be the gene flow resulting from migration given that a migration of between one and ten animals per generation is generally considered sufficient to prevent genetic differentiation between populations^{9 10}. A further consideration is the extent of DNA allele and haplotype differences. However, the sharing of alleles and haplotypes even at different frequencies indicates common ancestry and gene flow. Finally, an analysis of the

⁸ Contrasting patterns of genetic diversity at three different genetic markers in a marine mammal metapopulation. Author(s): Hoffman, J.I., Dasmahapatra, K.K., Amos, W., et al. Source: MOLECULAR ECOLOGY, Volume: 18, Pages: 2961-2978, 2009.

⁹ Conservation implications of complex population structure: lessons from the loggerhead turtle (*Caretta caretta*). Author(s): Bowen, B.W., Bass, A.L., Soares, L., et al. Source: MOLECULAR ECOLOGY Volume: 14, Page: 2390, 2005.

¹⁰ Asymmetrical male-mediated gene flow between harbor seal (*Phoca vitulina*) populations in Alaska. Author(s): Herreman, J.K., Blundell, G.M., McDonald, D.B., et al. Source: CANADIAN JOURNAL OF ZOOLOGY, Volume: 87, Pages: 498-507, 2009.

degree of DNA sequence divergence for mtDNA or nuclear DNA can provide insights into genetic differentiation. Nowhere in the 1997 Final Rule was any of this done. The 1997 Final Rule failed to conduct the analyses necessary to determine if the data support a conclusion of marked separation. On this basis alone, the conclusory statements in the 1997 Final Rule regarding the alleged marked genetic separation of the DPSs are unsupported and fail to meet the required evidentiary threshold.

2. A Review Of Genetic Evidence Shows No Marked Separation

The 1997 Final Rule asserted, based on one study published in 1996, that there was a “distinct break in haplotype distribution” between the sampled eastern and western SSL groupings. 62 Fed. Reg. at 24349. However, more recent and more detailed studies show clear evidence of migration across the eastern and western SSL DPSs, including evidence that migrants are involved in reproduction. This has the obvious implication that gene sharing is occurring at least at the boundary between the eastern and western DPS.

Gelatt et al 2007¹¹ documented the presence of “western stock” haplotypes at Graves Rock in the eastern DPS zone, 259 nautical miles from the 144° west longitude line dividing the eastern and western SSL DPSs. The White Sisters rookery, even farther south from the Graves Rock rookery in the eastern zone, also showed the presence of “western stock” haplotypes. *Id.* The presence of common haplotypes indicates that even if there was a “distinct break in haplotype distribution” between the eastern and western SSL DPSs in the years preceding 1996, that distinction no longer exists. Indeed, the Graves Rock rookery was established after 1997 by SSLs from the eastern and western DPSs. *Id.* In other words, there is clear physical and genetic movement between the eastern and western SSL DPSs.

A 2010 study by the Alaska Department of Fish and Game¹² confirmed the movement of SSLs between the eastern and western zones and the corresponding gene flow between the two SSL DPSs. The Report states that during the study period 100 eastern born SSLs traveled into the western SSL DPS zone (98 males and 2 females) while 76 western born SSLs (nearly half being females) traveled into the eastern DPS zone. The study concludes that SSLs “regularly travel” between the two DPS zones and that “some [western stock] females were seen within [the eastern zone] annually since a young age, eventually pupping in the eastern zone, suggesting permanent emigration....” The Report goes on to state that immigration from west to east likely contributes to population growth in the eastern DPS. *Id.*

Similarly, materials prepared by Greg O’Corry-Crowe¹³ of the NMFS Southwest Fisheries Science Center suggest that some pups born on rookeries in the eastern DPS zone “were fathered by western DPS males.”

¹¹ Population Trends, Diet, Genetics, and Observations of Steller Sea Lions in Glacier Bay National Park. Authors: Tom Gelatt, Andrew W. Trites, Kelly Hastings, Lauri Jemison, Ken Pitcher, and Greg O’Corry-Crowe, 2007.

¹² Inter-stock movements of Steller sea lions in Alaska, presented at the Alaska Marine Science Symposium by Lauri Jemison and Grey Pendleton found at <http://doc.nprb.org/web/symposium/2010/2010%20AMSS%20Abstract%20Abstract%20Abstract.pdf>.

¹³ Report available at <http://www.fakr.noaa.gov/sustainablefisheries/sslmc/june-06/crowe.pdf>.

Other studies, though not genetic analyses, also confirm the movement of SSLs between the two DPSs. movements that integrate the populations and allow for interbreeding. For example, a 2009 memorandum prepared by NMFS on the SSL population survey reported that non-pup population counts at trend sites were changing because of season movements of SSLs between the two DPSs.¹⁴ Another NMFS report on the movement of SSLs notes that branded animals travel between the eastern and western DPSs.¹⁵

The movement of animals between the eastern and western DPS zones is significant for two reasons. First, as noted above, a migration of between one and ten animals per generation (about 10 years in SSLs) is generally considered sufficient to prevent genetic differentiation between populations – an alleged differentiation that was the foundation for dividing SSLs into eastern and western DPSs. Second, this physical movement between DPS zones, including evidence of cross-breeding, establishes the existence of male mediated gene flow (*i.e.*, males breeding regularly and freely with females from different rookeries in different DPS zones). The SSL DPSs cannot be considered genetically distinct if the nuclear genome (*i.e.*, nuclear DNA) is being mixed by male mediated gene flow because of males moving between the zones.

This mixing of genetic material is further documented in several studies published since the 1997 Final Rule, some of which are discussed above. In addition, Bickham 2005¹⁶ reports that haplotype S, the most common haplotype in the database, was found in SSL pups “from Okhotsk to southeastern Alaska.” While its frequency differs by region, its existence across both DPS zones calls into question the conclusion in the 1997 Final Rule that there is a distinct break in haplotype distribution between the eastern and western SSL DPSs.

Bickham 2005 goes on to note that haplotype 1 animals are all from the White Sisters Islands rookery in the eastern zone and “likely represent immigrants from the western stock.” Further, haplotype 3 was found to be common throughout the western zone, including Asia, “but is also common in southeastern Alaska and British Columbia” in the eastern zone. In the same manner, Baker et al 2005¹⁷ found that two haplotypes (A and BB) were distributed “throughout the entire species range....” While one can also identify haplotypes that are found exclusively or predominantly in the western or eastern zones, the existence of common haplotypes indicates common genetic heritage and genetic mixing. Bickham 2005 explains that there is greater evidence for the movement of individuals among the eastern and western DPSs when examining juveniles than pups and that haplotype frequencies in juveniles show clear evidence of movement across the boundaries. Few other studies appear to have considered juveniles to the same extent and, consequently, have provided a biased view of the rates of emigration currently under way between the eastern and western DPSs

¹⁴ Memorandum to Douglas Mecum, Director Alaska Region, from Douglas DeMaster, Director Alaska Fisheries Science Center, December 2, 2009, at 5-6.

¹⁵ Steller Sea Lion Brand Sighting, Report of the National Marine Mammal Laboratory, June 2009.

¹⁶ Variation in mitochondrial DNA of Steller sea lions: Cytochrome b and control region sequences from juveniles and pups from western stock rookeries. Report to Dr. T.S. Gelatt from Dr. J.W. Bickham, March 7, 2005.

¹⁷ Variation of mitochondrial control region sequences of Steller sea lions: The three-stock hypothesis. Author(s): Baker, A.R., Loughlin, T.R., Burkanov, V., et al. Source: JOURNAL OF MAMMALOGY, Volume: 86, Pages: 1075-1084, 2005.

In considering the marked separation issue in the context of genetics, it may also be helpful to consider the ruling in *Northwest Ecosystem Alliance v. Fish and Wildlife Service*, 475 F.3d 1136 (9th Cir. 2007). There, the issue was the listing as a DPS of that portion of the gray squirrel population found in Washington State. The court upheld a FWS finding of no marked genetic separation of the Washington gray squirrels. *Id.* at 1149-50. The basis for that finding by the court undermines the premises of the 1997 Final Rule because there was a stronger evidentiary basis for designating the gray squirrel as a DPS than exists, or existed, for the SSL DPS designation. Four facts stand out: (1) the Columbia River constituted a clear, unambiguous geographical barrier to gray squirrel and gene flow while no such barrier exists for SSLs; (2) there was evidence of reduced genetic diversity in the Washington gray squirrel population that is not found for SSLs (Hoffman et al 2009); (3) there were no shared mtDNA haplotypes from the control region in the mtDNA in western gray squirrels across the Columbia River barrier which stands in contrast to SSLs where a large number of haplotypes are shared and where there is clear evidence from mtDNA that emigration occurs; and (4) there was evidence of reduced suitability of squirrel habitat north of the Columbia River that could have threatened that population whereas there is no such evidence regarding SSLs.

It also appears that in the case of the western gray squirrel FWS placed a lower weighting on the genetic evidence than is the case for the SSL. It suggested, for example, that the small populations in that case meant there were likely to be confounding effects brought about by inbreeding and random genetic drift. While these specific issues are unlikely to be the case for SSLs, there are other issues to be considered when weighing the relevance of the genetic data, namely the fact that (1) the genetic data mainly reflects a historical picture of the population that may not be relevant in present circumstances, (2) the genetic data are not a random sample of the population which is a problem given the known meta-population features of SSLs and the likelihood that immigrants will not be evenly distributed through the breeding population, and (3) there is uncertainty about whether the current population genetics are simply driven by a historical geographical divide resulting from glaciation that has now been absent for several thousand years. The contemporary population appears to be composed of parapatric (neighboring) subpopulations in which genetic differentiation is the result of the combined effects of distance (O'Corry-Crowe et al 2006; Hoffman et al 2006) and the tendency for individuals to be substantially, but not entirely, philopatric (return to breed where they were born themselves). In other words, there are geographically defined subpopulations distributed along the coast from the western Aleutians to California which mix to some extent where they abut and the extent of this mixing is explained by geographical distance.

3. Natal Site Fidelity

The 1997 Final Rule argues that breeding female SSLs exhibit pupping site fidelity, typically returning to the same rookeries. 62 Fed. Reg. at 24349. The 1997 Final Rule suggests this site fidelity justifies a discreteness determination. *Id.*

The claim of natal site fidelity and "reproductive isolation" fails to account for the fact that post-1997 studies show SSLs are regularly moving back and forth between the eastern and western DPS zones and that females from the western zone are colonizing areas in the eastern zone. This movement between zones and the corresponding existence of male mediated gene flow is fatal to any natal site fidelity and "reproductive isolation" argument. Further, as discussed above, there

is concurrence in the scientific literature that if between one and ten animals from a population migrate to a part of the population in another geographic area and breed there once in a generation, it is sufficient to keep the overall population from genetically differentiating and from being isolated. As discussed above, that is the case here.

A further issue concerning natal site fidelity is that fidelity to a pupping site does not define whether females also mate at this site. In other seal species which are more amenable to study than SSLs, it has been possible to show that females often mate with males that are not present on the breeding colony (Willmer et al 1999¹⁸; Hoffman et al 2003¹⁹). Consequently, the level of fidelity to pupping sites in females is not a good indicator of a restriction of gene flow because of mating with males away from the rookeries.

Stepping back from the evidence for a moment, it is also important to recognize that the 1997 Final Rule mixed different concepts. First, as discussed in the preceding two paragraphs, natal site fidelity is not the same thing as genetic isolation. Second, natal site fidelity and accompanying assertions of reproductive isolation are used in science to denote the isolation that accompanies species formation where two species cannot interbreed and produce fertile and viable offspring. Where gene flow (*i.e.*, interbreeding among areas) is common across geographical groups of the same species, as is the case for SSLs in the eastern and western zones, the concept of "reproductive isolation" as that term is used by scientists in population genetics is not applicable.

Equally important, the claim of natal site fidelity has no legal meaning. Each birthing or breeding site for every species in the world is unique in that it exists in a different geographic locale. Using such a geographic standard, every site or area to which members of any species return to breed or give birth would become a "unique" site sufficient to "justify" a DPS designation. Such a legal "standard" is, in fact, no standard at all, and it assuredly conflicts with the DPS Policy that DPS designations should be used only "sparingly." Even if the words "natal site fidelity" or "reproductive isolation" had legal meaning in some context, they do not under the ESA in the instant case. The net effect of arguing that female SSLs are isolated because of "unique" breeding areas or because of natal homing is to classify an entire species based on the characteristics of only part of the proposed DPS, breeding adult females. To do so, violates the ESA.

The reality is that the recent common ancestry of SSLs, the acknowledged movement of animals between the DPS zones, the colonization of areas in one zone by animals from the other zone, the uncertainty surrounding the meaning of site fidelity and male mediated gene flow among SSLs all demonstrate that SSLs are not "reproductively isolated." While there may be limited female mediated gene flow, SSLs interbreed in evolutionary and ecological timescales and are not "reproductively isolated." Thus, evidence developed since 1997 shows that the reliance in

¹⁸ Where have all the fathers gone? An extensive microsatellite analysis of paternity in the grey seal (*Halichoerus grypus*). Author(s): Wilmer, J.W., Allen, P.J., Pomeroy, P.P., et al. Source: MOLECULAR ECOLOGY, Volume: 8, Pages: 1417-1429, 1999.

¹⁹ Male reproductive strategy and the importance of maternal status in the antarctic fur seal *Arctocephalus gazella*. Author(s): Hoffman, J.L., Boyd, I.L., Amos, W. Source: EVOLUTION, Volume: 57, Issue: 8, Pages: 1917-1930, 2003.

the 1997 Final Rule on natal site fidelity is an inappropriate and incorrect basis for the DPS designations.

C. Conclusion

As stated in Baker et al 2005: "The zones of contact between the Asian and western stocks and between the eastern and western stocks likely do not represent barriers to gene flow. Rather, they are the historical points of contact of three expanding populations that have adjusted their ranges in response to increased habitat availability since the last glaciation." The presence of the same haplotypes in each of the eastern and western SSL DPSs, the movement of male and female SSLs between the zones, the colonization of rookeries in the eastern DPS by western DPS animals, and the evidence of male mediated gene flow all support the fact that there are no barriers to gene flow and, in fact, that gene flow is occurring. The facts are that numerous studies and events since the 1997 Final Rule defeat the assertion that there is a marked genetic separation and a distinct genetic break between the eastern and western SSL DPSs.

IV. The Significance Standard For DPS Designations

Pursuant to the DPS Policy, after an affirmative discreteness finding is made, a population segment must then be determined to be significant to the species to which it belongs. 61 Fed. Reg. at 4725. The question of significance does not arise unless and until a discreteness finding is made. In the instant case, no valid discreteness finding has been made. Therefore, it is unnecessary to consider the significance issue. However, and only for the sake of argument, this Comment will review the significance criteria.

Pursuant to the DPS Policy, the consideration of significance may include, but is not limited to, the following four factors.

- Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon.
- Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon.
- Evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range.
- Evidence that the discrete population segment differs markedly from other populations of the species in genetic characteristics.

Id.

As with the determination of discreteness, the terms "markedly" and "significant" are to be given their "commonly understood" sense. *Id.* at 4723. "Markedly," as discussed above, means "appreciably." Webster's New World Dictionary defines "significant" as important or momentous. *See also, Northwest Ecosystem Alliance v. Fish and Wildlife Service*, 475 F.3d

1136, 1146 (9th Cir. 2007), (“[T]he term ‘significant’ has ‘its commonly understood meaning,’ which is ‘important.’”). Further, as with a discreteness finding, the evidentiary standard is that a significance determination is to be made only when the preponderance of biological evidence allows a conclusive finding. Finally, the requirement that the best scientific and commercial data available be used in making a significance finding applies with equal force. None of these standards are met for the existing DPS designation.

The 1997 Final Rule made no claim the DPSs exist in a unique or unusual ecological setting or that they represent the only surviving occurrence of a taxon. The genetics factor is easily disposed of. The existence of genetic differences alone is insufficient to support a significance finding and, for reasons articulated above, claims of a marked genetic difference fail.

Regarding the significant gap factor, the 1997 Final Rule states, without analysis or explanation, that each SSL population segment is important and its extinction would represent a “substantial loss” in ecological and genetic diversity. 62 Fed. Reg. at 24350. Such a statement represents a self-fulfilling and, therefore, inappropriate legal standard. The net effect of such a standard is that every population grouping is significant and, therefore, everything is significant. A standard under which everything qualifies is, in fact, no standard. The DPS Policy purports to establish a significance standard but the 1997 Final Rule ignores it by finding that everything is significant.

Further, the basis for the 1997 Final Rule was that there is a “distinct break” in genetic distribution between the eastern and western SSL DPSs. If that were the case, then NMFS’ significant gap argument makes no sense. If there is no genetic mixing, no interbreeding, and each population segment is completely separate then it would not matter to the taxon if one segment disappeared because there is no relationship between the two. However, post-1997 studies show significant interbreeding and genetic mixing. These studies show SSL movement between the DPS zones and colonization of one DPS area by SSLs from the other area. Not only does this colonization show a lack of discreteness but it also undermines the significant gap theory.

V. The Listing Factors for DPS Designations

If a population segment meets the separate tests of being discrete and significant, it must then satisfy the ESA standards for listing as a threatened or endangered species. 61 Fed. Reg. at 4725. However, pursuant to the DPS Policy, the listing factors are considered only if the proposed DPS is found to be both discrete and significant. *Id.* Here, neither the discreteness nor the significance standards are met. Therefore, this Comment will not evaluate the listing factors except to note that serious questions have been raised about the status of the existing SSL DPSs.

VI. Conclusion

The ESA defines a DPS as a vertebrate species of fish or wildlife “which interbreeds when mature.” 16 U.S.C. §1532(16). Thus, evidence of interbreeding is a lynchpin of a DPS designation and population groups that interbreed should be considered as one unit. Given that, it is incorrect to persist in the present DPS designations in the face of clear evidence developed since 1997 of (1) interbreeding between the eastern and western SSL DPSs as animals from one DPS zone mix and breed with animals from the other DPS zone, (2) male mediated gene flow,

and (3) no barriers to genetic exchange between the eastern and western DPS zones. Further, the genetic evidence relied on in the 1997 Final Rule for the SSL DPS designations fails to meet the required legal and evidentiary standards necessary to establish a marked genetic separation. Given events and studies that have occurred since 1997, some of which are discussed above, the necessary result of the current stock assessment must be a finding that the existing SSL DPS designations fail to meet the statutory standards in the ESA and fail to meet the discrete and significant thresholds in the DPS Policy.

Sincerely,



David Benton
Executive Director

cc: Governor Sean Parnell, State of Alaska
Governor Christine Gregoire, State of Washington
Governor Ted Kulongoski, State of Oregon
Senator Lisa Murkowski
Senator Mark Begich
Senator Patty Murray
Senator Maria Cantwell
Congressman Don Young
Honorable Gary Locke, Secretary of Commerce
Dr. Jane Lubchenco, Undersecretary of Commerce for Oceans and Atmosphere
Dr. Eric Schwaab, NOAA Assistant Administrator for Fisheries
Chairman Eric Olson, North Pacific Fishery Management Council