CIB - ESA (2PG)
LTR COMMENT
STATE OF ALASKA
MS. SARAH PALIN
(GOVERNOR)

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

May 9, 2007

Dr. William T. Hogarth
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
1315 East West Highway
Silver Spring, MD 20910

Dear Dr. Hogarth:

The proposed rule to list Cook Inlet beluga whale as endangered under the Endangered Species Act (FR Vol. 72, No. 76, April 20, 2007, p. 19855) has caused great concern among the residents of Southcentral Alaska pertaining to their activities in Cook Inlet and its drainages. We therefore respectfully request that the National Marine Fisheries Service extend the comment period one additional month, to July 19, 2007. The proposed rule provides only a 60-day comment period ending June 19, 2007, which is insufficient for us to gather, analyze, and prepare our comments. It is also insufficient time for us to provide the requested information concerning the Cook Inlet beluga population and its habitat, for evaluating development activities, for preparing economic information, and for compiling a comprehensive list of the existing regulatory mechanisms to protect Cook Inlet beluga whales currently in effect in Alaska laws, regulations, and permit conditions.

The comment period for proposed listings under the Endangered Species Act is commonly a 90-day period. I believe the public and communities within the Cook Inlet watershed should be afforded 90 days to comment given their concerns over this issue. Please note that the existing comment period coincides with the start of the affected residents' subsistence, personal use, and commercial season for harvest of fish, tourism and other industries' seasonal startups, unavailability of the biologists due to the start of field season, and the extensive involvement of whale expertise in the May meeting of the International Whaling Commission.

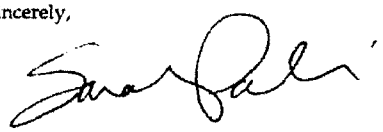
The State of Alaska also requests that the National Marine Fisheries Service conduct public hearings in the major communities within the Cook Inlet watershed,

including Anchorage, Palmer/Wasilla, Kenai/Soldotna, Homer and other communities as necessary to fully understand the concerns of Cook Inlet residents regarding this proposed listing.

We respectfully request that the following information be provided to the public at each hearing in addition to the opportunity for oral public comments: 1) a summary of the status of Cook Inlet beluga whales, and the range of modeling predictions; 2) information needed to evaluate options for designation of critical habitat; 3) discussion of development and other activities occurring or proposed in the communities that could be subject to federal section 7 consultation if beluga whales are listed as endangered; 4) evaluation process that will be used to render a nonlisting determination and proceed to update the conservation plan versus a listing determination that necessitates development of a recovery plan; and, 5) the range and extent of economic information that will be used in the subsequent economic analyses.

Thank you for your expedited consideration of these requests.

Sincerely,



Sarah Palin
Governor

cc: Alaska Congressional Delegation
Mayors of all Cook Inlet Municipalities

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

P.O. BOX 115526
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CIB-ESA
HR. COMMENT
DEPT OF FISH & GAME
DENBY S. LLOYD
(COMMISSIONER)

May 10, 2007

Ms. Kaja Brix
Assistant Regional Administrator-Alaska Region
National Marine Fisheries Service
National Oceanic and Atmospheric Association
P.O. Box 21668
Juneau, AK 99802

Dear Ms. Brix:

By virtue of this letter, and the enclosed letter from Governor Sarah Palin to Dr. William Hogarth dated May 9, 2007, the State of Alaska requests that public hearings be held on the proposed rule to list beluga whales in Cook Inlet as endangered under the Endangered Species Act (ESA).

Specifically, we request that the National Marine Fisheries Service (NMFS) conduct public hearings in Anchorage, Palmer/Wasilla, Kenai/Soldotna, Homer and other communities as necessary to fully understand the concerns of Cook Inlet and southcentral Alaska residents regarding this potential ESA listing.

As noted in Governor Palin's letter, we request that a suite of information be provided to the public at each hearing, including materials and discussion on 1) status of Cook Inlet beluga whales, 2) information regarding designation of critical habitat, 3) activities occurring or proposed in the area that could be subject to consultation under section 7 of the ESA, 4) the process that would be used to render a nonlisting determination versus a listing determination, and 5) economic information that will be used in subsequent economic analyses.

Thank you for your consideration.

Sincerely,

Denby S. Lloyd
Commissioner

Enclosure

CIB - ESA (2 pgs)
LTR COMMENT
STATE OF ALASKA
MS. SARAH PALIN
(GOVERNOR)

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

May 9, 2007

Dr. William T. Hogarth
Assistant Administrator for Fisheries
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
1315 East West Highway
Silver Spring, MD 20910

Dear Dr. Hogarth:

The proposed rule to list Cook Inlet beluga whale as endangered under the Endangered Species Act (FR Vol. 72, No. 76, April 20, 2007, p. 19855) has caused great concern among the residents of Southcentral Alaska pertaining to their activities in Cook Inlet and its drainages. We therefore respectfully request that the National Marine Fisheries Service extend the comment period one additional month, to July 19, 2007. The proposed rule provides only a 60-day comment period ending June 19, 2007, which is insufficient for us to gather, analyze, and prepare our comments. It is also insufficient time for us to provide the requested information concerning the Cook Inlet beluga population and its habitat, for evaluating development activities, for preparing economic information, and for compiling a comprehensive list of the existing regulatory mechanisms to protect Cook Inlet beluga whales currently in effect in Alaska laws, regulations, and permit conditions.

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We respectfully request that the following information be provided to the public at each hearing in addition to the opportunity for oral public comments: 1) a summary of the status of Cook Inlet beluga whales, and the range of modeling predictions; 2) information needed to evaluate options for designation of critical habitat; 3) discussion of development and other activities occurring or proposed in the communities that could be subject to federal section 7 consultation if beluga whales are listed as endangered; 4) evaluation process that will be used to render a nonlisting determination and proceed to update the conservation plan versus a listing determination that necessitates development of a recovery plan; and, 5) the range and extent of economic information that will be used in the subsequent economic analyses.

Thank you for your expedited consideration of these requests.

Sincerely,

Sarah Palin
Governor

cc: Alaska Congressional Delegation
Mayors of all Cook Inlet Municipalities

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENTS OF COMMERCE, COMMUNITY AND ECOMONIC DEVELOPMENT; ENVIRONMENTAL CONSERVATION; NATURAL RESOURCES; and FISH AND GAME

OFFICES OF THE COMMISSIONERS

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PHONE: (907) 465-4100
FAX: (907) 465-2332

July 31, 2007

Ms. Kaja Brix
Assistant Regional Administrator
Protected Resources Division
Alaska Region
National Marine Fisheries Service
P. O. Box 21668
Juneau, Alaska 99802

ATTN: Ellen Sebastian
SUBJECT: Cook Inlet Beluga Whale PR

Dear Ms. Brix:

The State of Alaska provides the enclosed comments on the "*Proposed Endangered Status for the Cook Inlet Beluga Whale,*" published April 20, 2007 (72 FR 76, 19854). The comments include information and analyses of factors that National Marine Fisheries Service (Service) did not consider in reaching its conclusion: "*the Cook Inlet beluga whale constitutes a distinct population segment (DPS) that is in danger of extinction throughout its range.*"

The state's comments provide information relevant to a listing under the Endangered Species Act (ESA), including current population status, biological and other information regarding threats to the species, and effectiveness of ongoing and planned conservation efforts. That information reveals that a slow recovery should have been expected and the population is now beginning to increase. Examples of significant economic impacts of designation of critical habitat are also provided. The state identifies areas within Cook Inlet that should be identified as an 'essential feature' and granted exclusion protection.

The state comments enclosed clearly demonstrate that the Cook Inlet stock of beluga is sufficiently recovering from unsustainable harvest during the early 1990s, and regulatory mechanisms are providing effective protection to assure conservation of the species. In the 2000 determination, the Service evaluated potential threats to beluga whales and determined that a listing was unwarranted. Based on our review of current information, nothing has changed to cause those threats to result in any different finding. The state urges a comprehensive conservation plan be coordinated with the state, finalized, and implemented, consistent with the Service's commitment in its 2000 determination.

Based on this information, the state urges the Service to find an ESA listing of the Cook Inlet stock of beluga whales is unwarranted at this time.

Sincerely,

Larry Hartig
Commissioner, Alaska Department of Environmental Conservation

Tom Irwin
Commissioner, Alaska Department of Natural Resources

Denby S. Lloyd
Commissioner, Alaska Department of Fish and Game

Emil Notti
Commissioner, Alaska Department of Commerce, Community and Economic Development

Enclosures

OVERVIEW

The National Marine Fisheries Service (Service) based its conclusion that "*the Cook Inlet beluga whale constitutes a distinct population segment (DPS) that is in danger of extinction throughout its range*" on the November 2006 "*status review and consideration of the factors affecting this species.*" The State of Alaska (State) comments provide information and analyses that were not considered by the Service in reaching this conclusion and demonstrate that the Service could and should have reached the significantly different conclusion that a listing as endangered under the Endangered Species Act (ESA) is unwarranted at this time. The State's detailed comments on the proposal to list the Cook Inlet stock of beluga whales under ESA are enclosed and grouped in chapters according to the factors listed in the 2007 proposed rule (19854):

Chapter 1: Current Population Status of the Cook Inlet Stock of Beluga Whale
Chapter 2: Biological or Other Information Regarding Threats to the Species
Chapter 3: Effectiveness of Ongoing and Planned Conservation Efforts by States or Local Entities
Chapter 4: Identification of Critical Habitat or Essential Physical and Biological Features for this Species
Chapter 5: Examples of Economic or Other Relevant Impacts of Designation of Critical Habitat.

These chapters also provide information and analyses to correct the November 2006 Status Review, which served as the basis for the Service's proposed conclusion to list under ESA. Analysis of these factors and supporting information in the enclosed chapters results in the following conclusions:

- Both the Service's determination in 2000 and the 2007 proposed rule refer to abundance estimates and calculations of decline and reproductive rates that were based on incorrect assumptions. Growth within the population could not reasonably be expected until the breeding age component of the population stabilized. This stabilization should not have been expected for at least 5 to 7 years after unsustainable hunting ended in 1999. Therefore, the abundance estimates and regression analysis inappropriately demonstrate a decline of 4.1 percent because the calculation starts in 1999, 5 to 7 years before reproductively mature whales make up a more normal portion of the population.

- We concur with Litzky (2001), cited in the Status Review, that a consistent recovery in the proportion of mature belugas might first be observed by 2004 and that the cumulative probability of observing recovery increases to >80 percent by 2007-2009. This prediction is reflected in the increasing counts of beluga whales in 2006 and 2007.

- The estimated risk of extinction for the most plausible models used in the Status Review was zero (0) at 50 years. The proposed rule concludes that Cook Inlet beluga whales are in danger of extinction based upon the continuing decline of the population and some statistical probability that the population is too small to be sustainable. The best available scientific and commercial data do not support this claim.

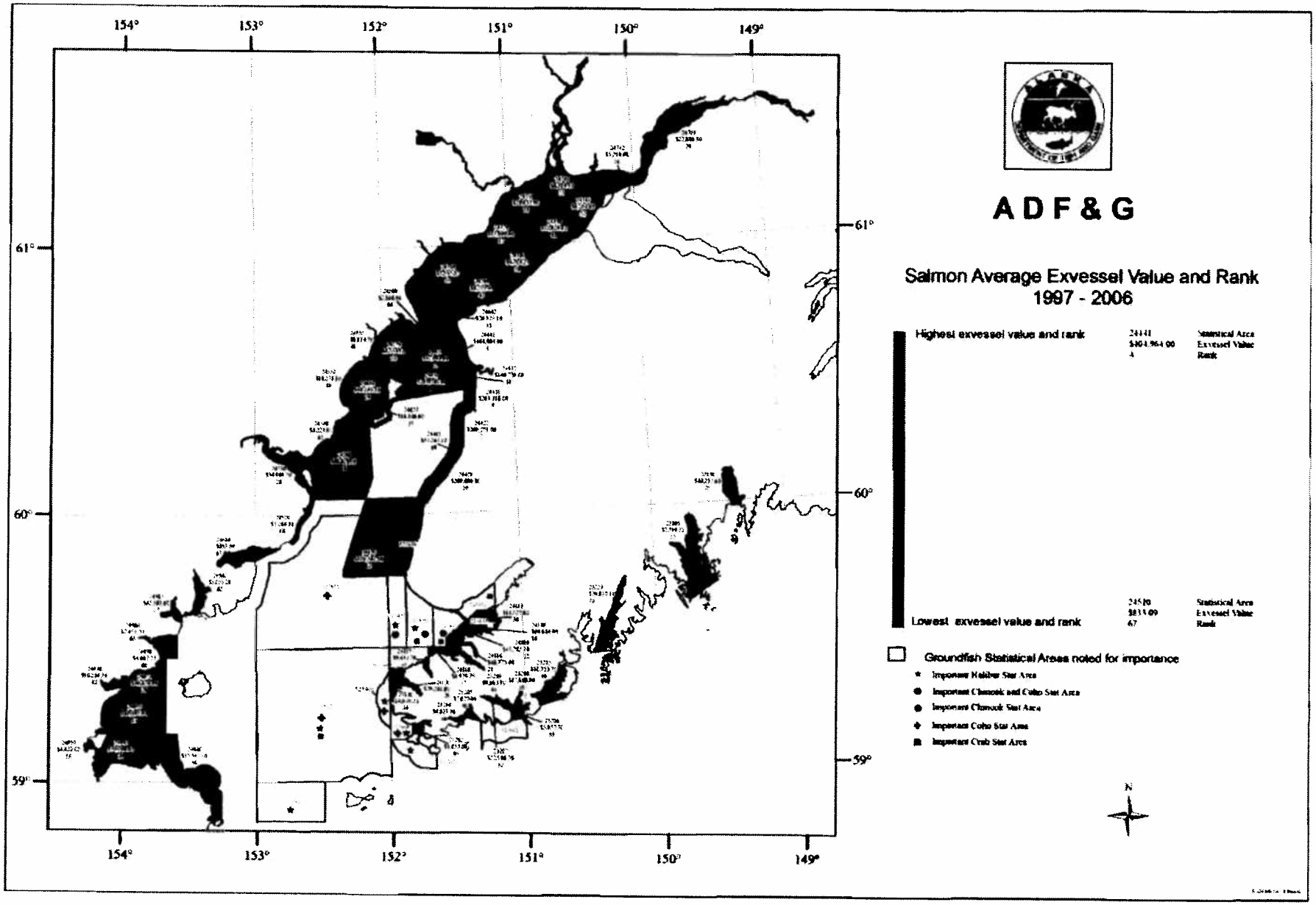
- Based on the recent Ninth Circuit Court of Appeals decision regarding Washington gray squirrel and the March 16, 2007, Department of the Interior Solicitor guidance regarding "significant portion of its range," two separate standards must be met for a population to be considered a Distinct Population Segment. We find that the Cook Inlet stock of beluga whales does not meet these current standards and request reevaluation of the Service's prior determination that the Cook Inlet stock of beluga whales constitutes a distinct population segment.

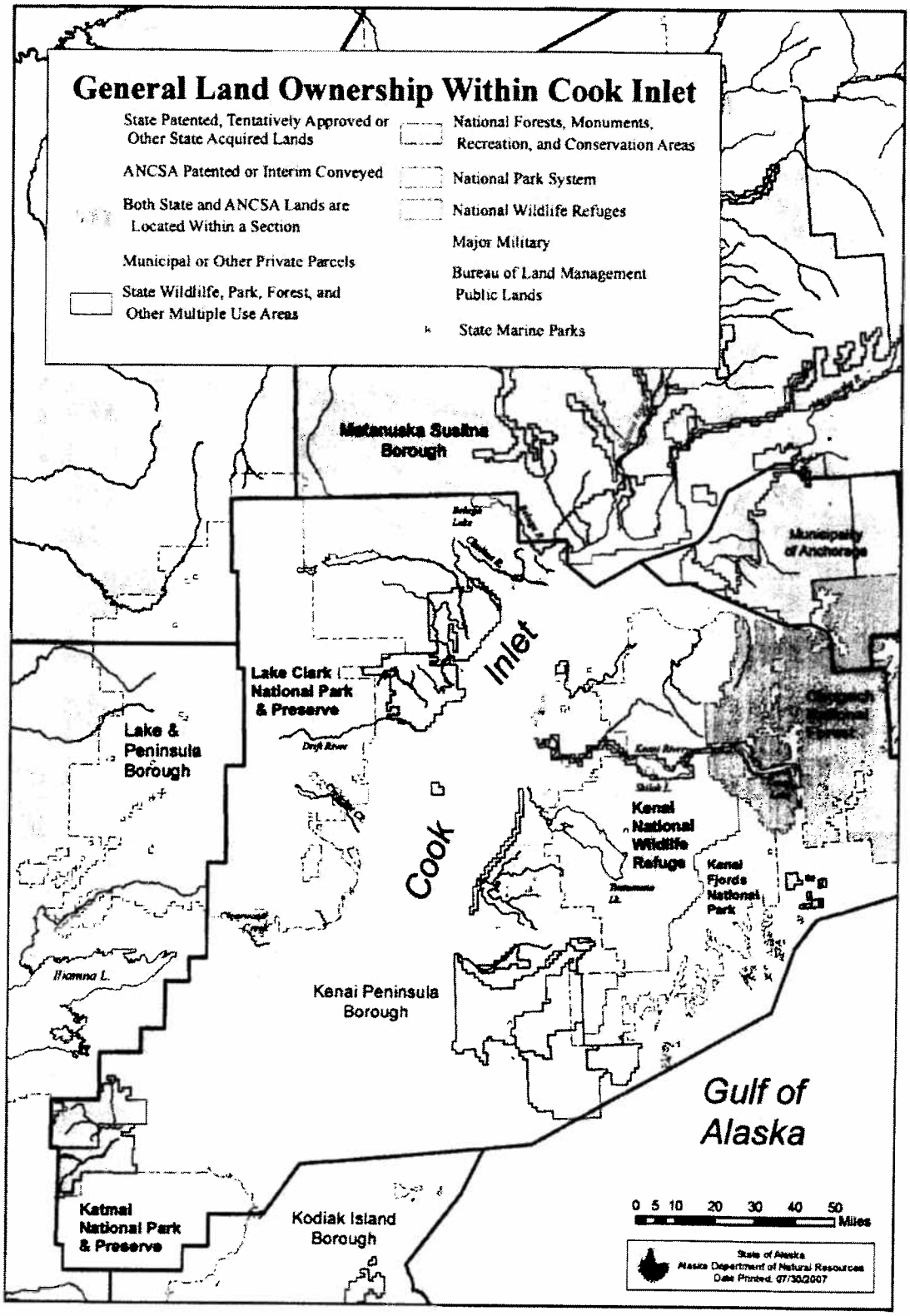
- The Service's 2007 proposed rule concludes there have been no impacts to the Cook Inlet stock of beluga whales since the 2000 decision that a listing was not warranted. However, the proposed rule fails to also acknowledge the important and comprehensive regulatory measures that the state and federal agencies provide for the ongoing and future developments and activities in Cook Inlet. Instead, the rule is based on unsubstantiated speculation that developments and cumulative effects on habitat will increase beluga mortality. There are no scientific or commercial data or any other rational basis for concluding that present or future habitat conditions are slowing recovery of beluga whales or that they will result in cumulative impacts that affect its continued existence. To the contrary, today's habitat protection standards are no less effective than past standards, and in some cases are superior, resulting in restoration of Cook Inlet habitat.

- The State requests the Service to coordinate with the State and others to finalize and cooperatively implement a conservation plan for the Cook Inlet stock of beluga whales. The Service committed in the 2000 rule to pursue such action with the State, other agencies, non-government organizations, and the public. The lack of progress during the intervening seven years needs to be immediately corrected in cooperation with the State and coordinated with other organizations to increase funding and implement important cooperative measures toward research and management of the beluga whales and their habitat. The adoption of a cooperative conservation plan would provide greater benefit for the Cook Inlet stock of beluga whales than is possible through an unwarranted listing and subsequent recovery plan.

- Extreme economic impact would occur to the residents, communities, and entire State of Alaska if Cook Inlet were determined to be critical habitat. This impact is discussed in Chapter 5. Attached is a map illustrating an example of the zones of economic importance of recreational and subsistence fisheries which are requested to be excluded from designation in the event that a determination to list is made.

- Over 15 million acres of protected land in and around Cook Inlet helps to protect whale habitat. The habitat in Cook Inlet supports healthy populations of fish on which beluga whales prey. These healthy populations of fish are evidenced by salmon returns to the river systems draining into Cook Inlet that continue to annually produce record numbers. These protected lands are comprised of State game refuges and critical habitats, special legislated management areas of the Upper Kenai and Recreational Rivers (Susitna), Chugach National Forest, Chugach State Park, and Katmai National Park and Preserve, among others. (See attached map).


154°
153°
152°
151°
150°
149°
61°
60°
59°
ADF&G
Salmon Average Exvessel Value and Rank
1997 - 2006
Highest exvessel value and rank
Statistical Area
Exvessel Value
Rank
Lowest exvessel value and rank
Statistical Area
Exvessel Value
Rank
Groundfish Statistical Areas noted for importance
N


General Land Ownership Within Cook Inlet
State Patented, Tentatively Approved or Other State Acquired Lands
ANCSA Patented or Interim Conveyed
Both State and ANCSA Lands are Located Within a Section
Municipal or Other Private Parcels
State Wildlife, Park, Forest, and Other Multiple Use Areas
National Forests, Monuments, Recreation, and Conservation Areas
National Park System
National Wildlife Refuges
Major Military
Bureau of Land Management Public Lands
State Marine Parks
Matanuska Susitna Borough
Municipality of Anchorage
Lake Clark National Park & Preserve
Lake & Peninsula Borough
Cook Inlet
Kenai National Wildlife Refuge
Kenai Fjords National Park
Kenai Peninsula Borough
Gulf of Alaska
Katmai National Park & Preserve
Kodiak Island Borough
0 5 10 20 30 40 50 Miles
State of Alaska
Alaska Department of Natural Resources
Date Printed: 07/30/2007

Chapter 1
Current Population Status of the Cook Inlet Stock of Beluga Whale

The Status Review and 2007 proposed rule accurately summarize some of the available scientific information for the Cook Inlet stock of beluga whale. Relative to some marine mammal species in the Gulf of Alaska and Bering Sea region, the amount of information on the biology and ecology available for this stock of beluga whales is more limited. For the purpose of making a decision on whether the Cook Inlet stock of beluga whales should be listed as endangered with extinction, the pertinent available information acquired by the National Marine Fisheries Service (Service) on the population and its various parameters was accurately summarized. However, numerous calculations and conclusions need reconsideration based on additional information, inconsistency with established policy and rules, and the fact that the Service's conclusions are not consistent with information presented in the Status Review, proposed rule, and other available information.

Background

On July 13, 2000, the Alaska Department of Fish and Game (Department) denied an October 18, 1999, petition to list the Cook Inlet beluga as endangered under the State of Alaska (State) endangered species statutes. The Department's denial was upheld by the Alaska Supreme Court. In the 2000 denial of the petition, the Department laid out the following important historical information concerning the management and status of the Cook Inlet stock of beluga whales.

In the 1970s and 1980s beluga whales were seen during summer over a wide area in the upper and middle inlet, while in the 1990s they were seen in a smaller part of the upper inlet. The Department considered such a reduction of their range to be consistent with the reduced population size in the 1990s. Based on general biological characteristics of beluga populations, the Department determined the sustainable harvest level is likely 2 percent per year, or 7 animals from a population of 350, but the Department's estimate of population abundance indicated the population had declined over the previous 6-year period by 45 percent (approximately 7.5 percent per year) and the Service had estimated the average kill during 1995-1997 at 87 per year. (These estimates vary from one federal register publication and Status Review to another between 2000 and 2007, but are within a relatively constant range.)

At the time of the 1999 petition under State law, the Department was actively involved in monitoring the Cook Inlet stock of beluga whales because State laws require that all populations be managed on a sustained yield basis. However, the State's ability to manage the harvest of the population had been preempted by federal law, the Marine Mammal Protection Act (MMPA). Had the Service not agreed in 2000 with the State's petition to list the stock as depleted under the MMPA and adopt regulations to restrict subsistence harvest, the State was prepared to pursue actions to protect the Cook Inlet stock. Recognizing that the Service had taken action, the State concluded that the population was not threatened with extinction. The Service concluded that the 1999 population estimate, following the hunting moratorium in 1998, gave a preliminary indication that the population was in recovery (65 FR 38788-790 (2000)). The Department's view was more conservative than the Service's, but it agreed that efforts to limit harvest would

eventually result in population recovery since no other factors were individually or collectively affecting the health of the population. The Department concluded that the population would be likely to recover slowly, hunting would have to be limited for a long time, and the population managed conservatively.

The State had previously acted to place much of the important beluga habitat within Cook Inlet in protected status, including several state game refuges and critical habitat areas. (See Chapter 3) Recent actions by the Alaska Department of Natural Resources had maintained protection of important habitat by removing it from lease and sale offerings, even though there was no evidence of any habitat decline or habitat-related cause for the population decline. Among other purposes, the habitat protection measures were anticipated to aid in beluga population recovery once the unsustainable harvest was stopped. Those habitat protection measures remain in effect today along with additional regulatory measures subsequently adopted.

2007 Proposal Contradicts 2000 Finding that a Listing is Unwarranted

The 2007 proposed rule (19855) to reverse the 2000 determination, that an Endangered Species Act (ESA) listing was not warranted, is based in part on the following (quoted):

> *The 2000 determination that ESA listing was not warranted was premised on at least two findings that justify further review. First, the only factor then known to be responsible for the decline in beluga abundance was subsistence harvest. Second, the 2000 Status Review used simulation modeling efforts that demonstrated this DPS is not likely to decline further if the harvest was reduced and an annual increase of 2 to 6 percent were assumed. Abundance estimates since harvest management began in 1999 have declined at an average rate of 4.1 percent per year, challenging the original findings.*
>
> *In addition, the International Union for the Conservation of Nature and Natural Resources (IUCN) assessed the status of the Cook Inlet beluga whale in 2005 (Lowry et al, 2006). The IUCN determined that this population had a 71 percent probability of having a negative growth rate (in 2005) and met its criteria for critically endangered status.*

We offer the following regarding these considerations.

First, nothing in the biological or physical environment has changed since 2000 regarding the five factors or "threats" under ESA that would justify a change to the previous conclusion that unsustainable harvest was the only factor responsible for the decline in beluga abundance. The status of these five factors is discussed in Chapter 2, and our review concludes that an ESA listing is still unwarranted based on those factors individually and cumulatively.

Second, both the 2000 and current abundance estimates and calculations of decline and reproductive rates contain a number of assumptions that need correction, which we discuss below. The impacts of the significantly disproportionate harvest of reproductive adults prior to 1999 were not previously recognized. As a result, the original assumption that an increase would be evident in increased abundance estimates within a year of restricting harvest was flawed.

Growth within the population could not reasonably be expected until the breeding age component of the population stabilized, and this stabilization could not be expected for 5 to 7 years after unsustainable hunting ended. These issues are further discussed later in this chapter.

Third, the IUCN is a United Nations established organization to evaluate worldwide populations and is composed of selected scientists who generate assessments using criteria for certain status rankings that are not comparable to the ESA determinations. Because the IUCN calculations are based on different factors and are not subject to the agency scientific criteria for decisions required to be used in ESA, the IUCN assessment is a concern but has no bearing on an ESA listing decision. The June 22, 2000, determination clearly recognized the inappropriateness of using the IUCN assessment (38779): "

> *Although the IUCN criteria are appropriate to identify species that may need conservation measures, they do not include the full range of factors that are included in the ESA; therefore, they are not appropriate for a determination of the status of a stock under the ESA.*

In preparing this 2007 proposed rule, the Service considered its update of the earlier Status Review and the 2006 petition to list under ESA. The "Summary" in the proposed rule (19854) concluded "*the Cook Inlet beluga whale constitutes a distinct population segment (DPS) that is in danger of extinction throughout its range*" based on the findings from the November 2006 Status Review and consideration of the ESA factors affecting this species. The State provides information and analyses that were not considered by the Service in reaching this conclusion. Although the November 2006 Status Review overall provides a fairly comprehensive review of information on the Cook Inlet stock of beluga whales, the 2007 proposed rule reflects omissions, errors, and unsubstantiated interpretations. We note that some include incorrect facts or unresolved comments that were provided by the State and public on the earlier draft Status Review and draft conservation plan.

The State concludes that, upon review of these comments, the Service must determine that no information on the population status has been acquired subsequent to the June 22, 2000, determination to justify a change in the Service's previous decision that an ESA listing is not warranted at this time. The 2000 assumptions for predicting a recovery were too optimistic (discussed below), but the conclusion of the 2000 rule was sound.

The 2007 proposed rule and its underlying Status Review discuss and request comments on the following topics:

1. Scientific and Commercial Information Regarding Population Abundance and Trends
2. Population Modeling
3. "Species" Identification under ESA as a Distinct Population Segment
4. Geographic Range of the Species
5. Extinction Risk Analysis

In the remainder of this chapter, the State provides additional information and analyses regarding the above topics:

1. Scientific and Commercial Information Regarding Population Abundance and Trends

According to the 2007 proposed rule (19855), "*comprehensive, systematic aerial surveys on beluga whales in Cook Inlet began in 1993.*" Also, according to the proposed rule (19856) the population estimates prior to 1994 (i.e., 1979 and 1993) are unreliable because of "*differences in survey methods and analytical techniques prior to the 1994 survey.*" Based on the 1994-1998 surveys, the 2007 rule (19855) concludes: "*These surveys documented a decline in abundance of nearly 50 percent between 1994 and 1998, from an estimate of 652 whales to 347 whales (Hobbs et al., 2000).*" The latter estimated decline in abundance is the "*best available scientific and commercial information*" for that period of time. However, the 2007 proposed rule and the 2006 Status Review use three calculations in the analyses of Cook Inlet stock of beluga whales that need adjustments prior to being relied upon for the 2007 decision concerning the Cook Inlet beluga whale population status.

A. One of the calculations that needs correction involves inappropriate use of the 1979 estimate to establish carrying capacity, which used in the proposed rule (19856): "*indicates a 77 percent decline in 27 years, but with unspecified confidence.*"

While we appreciate the qualification that the estimate has "unspecified confidence," we suggest the use of the 1979 figure should not be relied upon and is misleading in depicting trends. Elsewhere the 2007 proposed rule (19855) confirms that there was no reliable abundance survey conducted prior to 1994.

One estimate of historical abundance is based on: "*Portions of Cook Inlet surveyed during 1979 resulted in an abundance estimate of 1,293 beluga whales (Calkins, 1989).* The 1979 beluga estimate (often rounded to 1300) should not be used for purposes of establishing either Cook Inlet carrying capacity or an assessment of trends of the Cook Inlet stock of beluga whales. The May 31, 2000, final rule (34596-34597), which determined the stock is depleted under MMPA, provided extensive discussion on a proposed range of figures (653-1300) that could all be deemed at that time to be the best available scientific information upon which to establish the historic abundance and carrying capacity, depending upon correction factors. For example, Calkins (1984) proposed using a correction factor of 2.7 for the 1979 count, which was the correction factor developed for beluga surveys in Bristol Bay where water, weather, and physical features differ from that in Cook Inlet.

While all of the figures and information from long-time residents and State surveys used to project historical abundance do provide valuable snippets of information, none are reliable estimates of carrying capacity because other factors, e.g., habitat, prey abundance, and predation, are not similarly analyzed for reliable historic information. Depending upon one's assumptions, carrying capacity was probably under 1000 for most years, but it could have just as easily been well over 1300 in other years. Even if the Cook Inlet population was 1300 in the late 1970s, that number may greatly exceed today's carrying capacity. Information available through NOAA involvement in assessing other populations throughout the south central and western coast of

Alaska indicate significant changes in water temperature, marine mammals, and prey populations occurred during this same period in the late 1970s. Likewise, fisheries management by the State beginning in the 1960s stabilized fish returns so there were less cyclic highs and lows which may be related to historical accounts of beluga population oscillations.

Population modeling that uses the 1979 estimate to establish historic abundance and set a carrying capacity ("K") for Cook Inlet should not be viewed as the "*best available scientific and commercial information.*" The underlying counts of 200-500 beluga whales conducted by the Department can be cautiously compared to others from the 1960s through the early 1980s (May 31, 2000 rule, p. 34596) in order to evaluate trends. The Department estimated the carrying capacity to be less than 1,000 during that time period. Better estimates of carrying capacity need to be calculated based on an ever-growing set of available data for the Cook Inlet area. This includes recognition that the carrying capacity of Cook Inlet may vary seasonally and may include areas outside of Cook Inlet as the population increases.

The uncertainty of the single data point from 1979 and other back-calculated estimates is reflected in the April 6, 2004, final rule (17978) decision by the Administrative Law Judge, derived during considerations by the Assistant Administrator in hearings on Alaska Native take that established the carrying capacity as follows:

> *(2) Carrying Capacity. Based on the evidence adduced at the hearing, NMFS would need a number of years of annual abundance estimates to accurately determine the carrying capacity of CI beluga whales with any reliable degree of certainty. However, NMFS believes the estimate of carrying capacity presented in the EIS is reasonable for interim management purposes.*

Those management purposes after the moratorium and depleted listing under MMPA were to regulate subsistence harvests that slowed, but did not preclude, recovery of the population to reach a desired population level. **The carrying capacity calculation served that purpose but is a misleading data point for demonstrating statistical trends, such as the "*77 percent decline*" stated in the proposed rule.**

B. Another calculation that needs reconsideration involves the assumption that the surveys in 1994-1998 can be treated equally in making population estimates as the surveys conducted after the moratorium on hunting.

Although the 1994-1998 estimates of abundance were sufficient to demonstrate a significant decline, the subsequent estimates would not be expected to reveal a rebound during the first generation after the moratorium. The increase in hunting in the early 1990s primarily targeted large (older) white (reproductively mature) adults that are easy to see from shore and boats. The surveys conducted in the first years after the moratorium, which also primarily count white, reproductively mature whales, count a disproportionately smaller part of the population because of the difficulty seeing the younger whales that also have higher mortality. After the moratorium, the harder to see dark or grey immature whales made up a greater portion of the significantly reduced population for several years. **Some adjustments may have been made to calculations of count estimates and several runs of the models attempted to speculate what**

this proportion of immature whales might be, but these adjustments are based on varying assumptions with no means to verify the resulting estimates.

C. Another calculation that needs correction involves the reliance on the 2000 Status Review's expected growth rate increase of 2 to 6 percent beginning in 1999.

A determination of which year's population estimates will be used as a starting point to calculate trends of the population after the legislated hunting moratorium on May 21, 1999, is a particularly important and largely overlooked consideration. According to the final May 2000 rule issuing the depleted finding (34592), the Status Review "*clearly shows that the harvest from 1994 through 1998, the period when reliable abundance estimates were available, was sufficient to account for the decline.*" The State concurred with this conclusion reached through cooperative assessments begun in 1998. In fact, based on these cooperative assessments, the State petitioned the Service on January 21, 1999, to designate this stock as depleted under the Marine Mammal Protection Act.

As described in "B" above, the surveys conducted in the first years after the moratorium counted a disproportionately smaller part of the population because of the difficulty seeing the younger whales and their lower survival. After approximately 50 percent of the estimated population was killed in 4 years and the majority of those were reproductive adults, the younger generation should not have been expected to be reflected in count estimates in the first few years after the moratorium. Although the proposed rule (19855) explains a number of factors that were considered and modeled in the 2006 Status Review, it was too optimistic to calculate the recovery would have been expected as early as 1999. **In fact, given that the moratorium took effect in 1999 and the previous four years' calves likely had a low survival rate, an expected growth rate increase might not even be expected for one full generation. This is consistent with the result of Litzky (2001) indicating that it would take 5 to 7 years to begin recovery.**

Based on the calculation problems discussed in "B" and "C" above and the lower survival of young whales considered in the various modeling exercises, we should not have expected to see a recovery reflected in increased counts until approximately 2005 (6^{th} year after the moratorium). The anticipated recovery will be evident if continued increases in the count estimates occur in successive years beginning in 2005, not beginning in 1999. Therefore, the abundance estimates and regression analysis used in the Status Review and public presentations during the comment period inappropriately demonstrate a decline (4.1%) because the calculation starts with 1999 and does not account for the high likelihood of undercounting immature and hard to count whales, which experience lower survival rates than adults, for a generation before reproductively mature whales begin to make up an increasing portion of the population.

Additional Rate of Growth Consideration

The April 6, 2004, final rule (17978), which adopted the recommendations of the Administrative Law Judge regarding establishing harvest quotas for Native Alaskans, provided specific guidance to the Service in evaluating the rate of growth of the population, as follows:

> *(3) Intrinsic Rate of Growth (Rmax). Rmax is the maximum net productivity rate of CI beluga whales on an annual basis. Rmax is derived by subtracting natural mortality from the gross annual reproduction rate. NMFS determined that 4 percent, amounting to 10 to 12 marine mammals added to the population on an annual basis, is reasonable for cetacean populations similar in size to the CI beluga whales. However, Rmax for CI beluga whales will be reassessed as new data become available.*

The Service's calculation of a 4 percent rate of growth exceeds the Department's conservative estimate of 2 percent rate of growth. However, the Service negotiated a harvest that more closely approximates 1/2 percent per year. If one to two beluga whales were harvested by Native Alaskans annually (5 were harvested over the past 8 years) and predation totaled the predicted one beluga per year (projected in the 2007 proposed rule), the population would slowly recover as predicted by the Department. But this recovery for the first generation after the moratorium would not be at the 2 to 6 percent predicted by the 2000 Status Review, reflected in the 2000 rule, and assumed for the modeling.

2. Population Modeling

The methodology used to estimate abundance and trend in the Status Review is well-thought out and rigorous, but a number of adjustments are needed in the assumptions for the models. The population viability analysis (PVA) approach used by Hobbs et al. is sophisticated, but highly parameterized. As such, the authors were forced to borrow several data inputs from adjacent beluga populations, which is a common modeling practice but is not Cook Inlet data. The models assumed the harvest was targeted at adults only and they accounted for lags in maturation time by using an age-structured model. The authors reference Litzky (2001), whose results indicate that the adult to juvenile ratio takes 5-7 years to recover.

The bottom line is that the structure and incorporation of uncertainty of modeling was adequate, but the assumptions used and interpretations made relative to the timing of recovery are not, for the following reasons:

- Used insufficient time during the recovery period (1999+) to assess the true trajectory of the population
- Risk of extinction in the near term (50 years) for all reasonable models was zero, indicating high uncertainty in the trajectory of the population
- Listing decision is missing an assessment of the risk of making a determination that listing is not warranted at this time; a new petition could be filed or the Service could initiate its own review in a few years when more reliable information about the recovery trajectory, based on current survey techniques, is available

The model incorporates a time lag between the reduction in mature animals in the population during the period of high harvest (1994-1998) and the potential recovery of the population from these removals. However, the assessment of extinction risk does not take into account the possibility that the time period after harvest was virtually eliminated (1999-2006) was insufficient to detect the end of the lag period (or conversely the beginning of the recovery

period). Specifically, the Status Review indicates that a recovery of 2% to 6% per year was anticipated during 1999-2005 as a result of curtailed hunting. Given the population dynamics of belugas and the modeling work done in the Status Review, we disagree that an increase in abundance of 2% to 6% during 1999-2005 would be anticipated even if the population was recovering from the harvests of 1994-1998.

The period of hunting removed a significant number of mature animals from the population that likely limited recruitment in succeeding years. It also may have resulted in loss of calves up to 14 months of age whose mothers were killed. **It is more likely and is demonstrated in one of the papers cited in the Status Review (Litzky, 2001) that we might first observe a consistent recovery in the proportion of mature belugas by 2004 (Fig 2.8 of Litzky 2001) and that the cumulative probability of observing recovery increases to >80% by 2007-2009 (Fig 2.9 of Litzky 2001)**. A recovery in the proportion of mature belugas would be a portent of recovery, with recovery of abundance coming later as recruitment increases.

The aforementioned observations combined with the outcomes of models of extinction risk in the Status Review indicate that a determination is premature. We suggest that a sensitivity analysis and risk assessment be made that weighs acting on listing now against the additional risk to the population by waiting for maturity and abundance data in the next 2-3 years that could significantly change the outcome of the risk of extinction analysis. **There is some indication from the Status Review that waiting a few years for these additional data will not increase risk of extinction because the estimated risk for the most plausible models was zero (0) at 50 years** (Table 6 of the Status Review).

3. "Species" Identification under ESA as a Distinct Population Segment within All or a Significant Portion of its Range

Approximately 100,000 beluga whales inhabit the waters off the Alaska coast. They are separated into five mostly distinct populations or stocks based on summering areas. All of these populations are classified as *Delphinapterus leucas*. No subspecies designations have ever been published.

Molecular genetics studies have shown Cook Inlet stock of beluga whales have different mitochondrial DNA (mtDNA) haplotype frequencies than the other four beluga stocks identified in Alaska. However, mtDNA haplotype frequency differences indicate limited gene flow for females only. Even though the Cook Inlet stock of beluga whales appears to be spatially isolated from other stocks, this is not really known because tagging studies are very limited and seasonal ranges and movements are not well characterized.

Male mediated gene flow in beluga whales demonstrates substantial exchange among stocks once thought to be discrete based solely upon mtDNA data (Brown Gladden et al. 1999).

2000 rule: DPS justification

Under the federal Endangered Species Act of 1973, "species" was originally defined to include "*any subspecies of fish or wildlife or plants and any other group of fish or wildlife of the same*

species or smaller taxa in common spatial arrangement that interbreed when mature." Amendments in 1978 resulted in the language in which a "species" was defined to include "*any subspecies of fish or wildlife or plants, and* ***any distinct population segment*** *of any species of vertebrate fish or wildlife which interbreeds when mature*" (emphasis added). Based on the 1978 amendment, the Service and the Fish and Wildlife Service developed a policy regarding the recognition of a distinct population segment under the federal ESA. The Cook Inlet stock of beluga whale was designated a Distinct Population Segment (DPS) by the Service in 2000, based on the joint Service and Fish and Wildlife Service policy that was in effect at that time, which considered three elements: (1) population discreteness, (2) population significance, and (3) conservation status of the population. Subsequent to 2000, the criteria for federal designation of a DPS have evolved due to court decisions, several solicitor interpretations and policy revisions, largely resulting from guidance in recent court decisions.

The Service's determination that an ESA listing was unwarranted in 2000 included a justification for their opinion that the Cook Inlet stock of beluga whales should be considered a DPS, citing O'Corry-Crowe at al. (1997). This position is echoed in the 2006 Status Review and other publications without further analysis or applying current standards and policies.

Scientific problems with the 2000 DPS finding

Because mtDNA only reflects female ancestry and gene flow, it is not the best marker to quantify gene flow and exchange of individuals among populations over time. Nuclear markers (e.g., allozymes, microsatellites, minisatellites, SNPs, etc.) are bi-parentally inherited and offer a more complete picture of gene flow among populations over generational time scales. Numerous publications document that matriarchal lineages identified with mtDNA mask population connectivity (male gene flow). In species that exhibit strong female philopatry, male-mediated gene flow is arguably the most important factor in maintaining genetic continuity among populations.

The Service has conducted numerous status reviews of other candidate species that incorporated evidence from nuclear DNA studies; absence of nuclear DNA data is a fatal flaw in the status review of beluga whales. However, even if further analysis of nuclear DNR data show allele frequency differences, this would not necessarily mean the Cook Inlet stock is a DPS because criteria to designate DPS are subjective.

The State shares trust responsibility with the Service for the sustainability of beluga whales in Alaska. During the public comment period, the Department requested the original genetic data used for the various genetic interpretations contained in the 2006 Status Review upon which the 2007 proposed rule is based. To date, that information has not been provided. Additional comment will be provided based on any additional analyses derived once those data are provided by the Service. We also understand that the Service has acquired additional information from nuclear DNA studies that was not discussed in the Status Review or proposed rule, which we will also address when the data are available.

Current DPS standards

Based on the recent Court of Appeals decision regarding application of the joint Service and Fish and Wildlife Service DPS policy to the Washington gray squirrel, Northwest Ecosystem Alliance

v. U.S., 475 F.3d 1136 (9th Cir. 2007) and the March 16, 2007, Interior Solicitor guidance on the meaning of "*In danger of extinction throughout all or a significant portion of its range*" (although not the same agency, federal interpretation of the same law should be consistent), two separate standards must be met to be considered a DPS: 1) discreteness, and 2) significance. Geographic isolation can, by itself, satisfy the discreteness factor, but it does not resolve the significance factor.

Significance of the population segment to the species to which it belongs offers considerable room for debate and involves a number of non-exclusive factors. Loss of a geographically isolated peripheral population of a species, "*even where it would result in a serious reduction in the range of the species*," may not be "*of biological and ecological significance to the taxon as a whole.*" 475 F.3d at 1146-49. Similarly, even clear genetic differences between populations may not be significant where genetic makeup does not differ "*markedly*" from that in other populations. 475 F.3d at 1149-50. Congress directed (SR 151, 96th Congress, 1st session) that the authority to list DPS is to be used "*sparingly*" while encouraging the conservation of genetic diversity.

The National Marine Fisheries Service and U.S. Fish and Wildlife Service will consider available scientific evidence of the discrete population segment's importance to the taxon to which it belongs. This consideration may include, but is not limited to, the following:

A. Persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,
B. Evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon,
C. 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, or
D. Evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Both agencies also argue that, because precise circumstances are likely to vary considerably from case to case, it is not possible to describe prospectively all the classes of information that might bear on the biological and ecological importance of a discrete population segment.

The Cook Inlet stock of beluga whales is relatively isolated, does not markedly differ from other belugas more abundant elsewhere, and is likely a remnant stock on the southern edge of its range. As such, the stock is not critical to the survival of the species and, contrary to opinions expressed in Service documents, does not occur in an ecologically unusual or unique setting compared to the other estuarine and bay habitat occupied by the other stocks along the Alaskan coast during summer. Consequently, we conclude that the loss of the population would not result in a "significant gap" in the range of the taxon. Clearly, Cook Inlet is not a "significant portion of the range" for the beluga whale, based on the March 16, 2007, Solicitor guidance.

We detect a disturbing trend of preferential designation of DPS for ESA listings in Alaska. The eastern and western Alaska stocks of Steller sea lion, the western Alaska stock of sea otter, and

now the Cook Inlet stock of beluga whale have all had DPS designated and are either listed or proposed for listing under ESA. In each case, genetic distinctness is claimed in the proposed rules without acknowledgement that this is subjective. Because geographic separation (without genetic differentiation) may be sufficient to designate DPS, this may seem like an academic argument, but it is not. The subjective declaration of genetic distinctness should be openly acknowledged to meet the standard of presentation of the best science in ESA considerations.

4. Geographic Range of the Species

The May 31, 2000, rule (34597) identified the range of this stock, as follows:

> *§216.15* ***Depleted Species***
>
> *(g) Cook Inlet, Alaska, stock of beluga whales (Delphinapterus leucas). The stock includes all beluga whales occurring in waters of the Gulf of Alaska north of 58° North latitude including, but not limited to, Cook Inlet, Kamishak Bay, Chinitna Bay, Tuxedni Bay, Prince William Sound, Yakutat Bay, Shelikof Strait, and off Kodiak Island and freshwater tributaries to these waters.*

We understand that the Service may change this definition in the final rule. The sources cited in this proposed rule reference numerous mixed claims of geographic range of this stock. The 2007 proposed rule states (19856) the Service intends to exclude the Yakutat pod even though it is related to the Cook Inlet stock. While we believe that these belugas have the potential to contribute to the Cook Inlet stock, we agree that, if a decision to list is made at this time, based on available information it would be inappropriate to include this widely dispersed pod or any others that periodically are observed outside of Cook Inlet in the listing. One viewpoint is that the Cook Inlet population is a remnant or widely-dispersed population separated from the other Alaska stocks as the ice retreated. Others theorize that the Alaska beluga stocks winter together, and the Cook Inlet beluga whales could travel that far because publications indicate beluga travel many hundreds of miles. The current lack of observation in lower Cook Inlet may be a factor of less traffic in winter compared to summer. These questions need to be addressed through further research and monitoring. The 2007 proposed rule (19857) concludes that the proposed ESA listing only applies to beluga whales found in Cook Inlet and not those found outside of the Inlet in the Gulf of Alaska. There is no discussion of how a listing will affect Section 7 consultation requirements when the population expands and theoretically increases dispersals and movements throughout the Gulf coastline.

5. Extinction Risk Analysis

A Population Viability Analysis (PVA) conducted by the Service indicates a "high probability" (26%) of extinction in 100 years, based on 'behavior' of a population of less than 500 whales. A separate analysis by Dan Goodman for the Marine Mammal Commission indicates that for 1999-2005, the probability that the population is declining is 71.2% and the estimated rate of decline is 3.74%. We suggest that both of these analyses of probability are based on assumptions that need

revision to reflect 2007 data and to eliminate the 1999 and 2000 data, when the population was declining directly due to the overharvest effects on calf survival.

We have a number of general comments regarding the modeling aspects of the PVA and the related information in the Status Review.

- A detailed discussion of the assumptions used in developing and conducting the modeling, including justification of the assumptions, the ramifications of the assumptions with respect to the results, and the consequences of violating the assumptions is needed, including a sensitivity analysis. In particular, the catastrophic loss assumption is excessively high, with no basis in historical evidence, and that estimate alone significantly influences the extinction risk analysis. The modeling includes uncertainty in the inputs, which provides the numerous population trajectories. If the uncertainty around each input was modeled correctly, then a sensitivity analysis is superfluous. A list of inputs and their respective modeled distributions are needed in order to assess this need.

- The analyses provide good documentation of the behavior of the models, but how well these results imitate the dynamics of the Cook Inlet stock of beluga whales, especially in the distant future, might be a function of the assumptions associated with the models.

- A very clear discussion of these assumptions would be invaluable in assessing how reasonably the simulations approximate reality.

- The Status Review does not adequately address the potential impact of an age distribution skewed toward juveniles as a result of the high mortality of adults from the 1994-1998 subsistence harvest. The modeling work addresses this issue in part, but the proposed rule does not explain it. The population assessment's attempt to estimate age distribution from images obtained on the videos during surveys, in which young whales are hard to see.

- The risk analysis in the 2006 Status Review (and Goodman's review[1] of 1999-2005) is based on a population trajectory determined from the abundance data. However, the abundance data from 1999-2005 would be expected to indicate a negative population trajectory because the population would still be recovering from high harvests of mature animals during 1994-1998. Population modeling in the Status Review and a review of recovery timing by Litzky (2001) indicate that the beluga population would not show the first signs of recovery (i.e., an increase in the proportion of mature animals in the

[1] Dan Goodman submitted an updated review on July 27, 2007, which reiterates that the population is declining and adds that more years of data (2003-2006) have reduced the uncertainty about the decline. However, Goodman also attempts a simple count-based PVA on the adult data and deaths due to hunting without considering the age structure of the population and the lag between adulthood and subsequent recruitment. This is not a defensible analysis and is probably why the Service uses a more complex demographic model in the Status Review. Goodman's 2007 paper also has an error in the abundance table (Table A1. 1999 datum should be 367, not 967). The Goodman review also ignores the question of how much change in adult abundance in the near term (next 2-3 years) is necessary to change the outlook from a decline to an increase in the rate of change.

> population) until at least 2004 and the probability of observing an increase in the proportion of mature animals would not exceed 80% until sometime between 2007 and 2009. A recovery in the proportion of mature belugas would be a portent of recovery, with increases in abundance coming later as recruitment increases.

We suggest that a sensitivity analysis and risk assessment be made that weighs the risk of making a determination that listing is not warranted at this time, recognizing that better data regarding population abundance and trajectory will be available within a few years and that a new petition for listing could be submitted, or the Service could reinitiate review on its own initiative at that time. Maturity and abundance data that will be available in the next three to five years could significantly change the outcome of any risk of extinction analysis. There is some indication from the Status Review that waiting a few years for these additional data will not increase risk of extinction because the estimated risk for the most plausible models was zero (0) at 50 years (Table 6 of the Status Review).

Chapter 2
Biological or Other Information Regarding Threats to the Species

This chapter provides information and analyses to supplement or correct information considered by the National Marine Fisheries Service (Service) in the 2007 proposed rule and contained in the underlying November 2006 Status Review. Through the regulatory process, the Service is required to determine whether a species is likely to be in danger or threatened with extinction because of any one or a combination of the following factors (19857):

(1) The present or threatened destruction, modification, or curtailment of its habitat or range;
(2) Overutilization for commercial, recreational, scientific, or educational purposes;
(3) Disease or predation;
(4) The inadequacy of existing regulatory mechanisms; or
(5) Other natural or manmade factors affecting its continued existence.

The State of Alaska (State) agrees with the Service's conclusion in the proposed rule (19858) and in its supporting materials that factor "***(2) overutilization***" is not contributing to either the current status or potential endangered status of Cook Inlet beluga whales. Unregulated harvest contributed to the low population level in 1998. Indications are that the population has stabilized since harvest was regulated, and full recovery is expected (See Chapter 1).

The Service expresses concern that overutilization could occur if commercial and recreational whale watching increases in the future. This same concern was expressed in the 2000 final rule determining that the stock of whales is not endangered; however, no water-based whale watching occurred then or now in fresh or marine waters of upper Cook Inlet. Anyone conducting commercial day-use activities on State waters is required to register their activities. According to the Alaska Department of Natural Resources, no companies have registered commercial whale watching activities within State waters in upper Cook Inlet since the regulation became effective. According to the Alaska Department of Fish and Game, permits are also required for commercial activities within Special Designated Areas, and no permits for whale watching have been requested within State Refuges or State Critical Habitat Areas in upper Cook Inlet (See Chapter 3 for map and further discussion).

Regarding **the other four factors listed above,** the Service, after taking into account conservation efforts, concludes in the proposed rule (19860):

> *. . . that the Cook Inlet beluga whale is in danger of extinction throughout all of its range because of: present or threatened destruction, modification or curtailment of habitat or range; the inadequacy of existing regulatory mechanisms (largely the past absence of regulations on subsistence harvests); disease and/or predation (further predation by killer whales can be shown to have a significant impact on survival); and other natural and manmade factors affecting its continued existence (effects of past subsistence removals).*

We disagree, as addressed for each of the remaining four factors below.

Factor *"(1) The present or threatened destruction, modification, or curtailment of its habitat or range"*

The Service's conclusion in the proposed rule (19858) is correct that:

> *No information exists that beluga habitat has been modified or curtailed to an extent that it is likely to have caused the population declines observed within Cook Inlet.*

Based on this conclusion and the supporting information, the Service should determine that listing the Cook Inlet stock of beluga whales as endangered is not warranted at this time.

As described in the Service's proposed rule and Status Review, the current habitat conditions have been relatively constant since the large scale developments of the 1970s. Since the 1970s, the State and federal agencies implemented additional regulatory measures, including land use plans and implementing regulations, oil spill contingency plans, and restrictive permitting conditions for developments and for other public activities in order to increase protection of the marine and freshwater habitat. This land stewardship is codified, implemented, and enforced by a number of federal, state, and local agencies. These protective regulatory mechanisms are particularly evident in State permitting requirements designed to protect water quantity and quality that is fundamentally important to the habitat for healthy salmon populations, which in turn serve as primary prey for beluga whales. Although the proposed rule concludes there have been no impacts to the Cook Inlet habitat since the 2000 decision that a listing was not warranted, the proposed rule fails to acknowledge that these important and comprehensive regulatory measures will continue to provide environmental protection so that ongoing and future developments and activities do not affect beluga whale habitat.

As quoted above, the proposed rule recognizes growth and development which have occurred to date did not contribute to beluga whale population declines, but the Service speculates that (19858) *"concern is warranted for the continued development within and along upper Cook Inlet and the cumulative effects on important beluga habitat."* Concern is always present, which is why we regulate the developments for both present and cumulative effects, but that does not provide sufficient basis for a prediction of endangerment so long as the comprehensive regulatory measures continue in effect.

The proposed rule (19858) describes four developments currently under consideration for construction in Upper Cook Inlet *"which may have adverse consequences"* and two *"ongoing activities that may impact this habitat"* (oil and gas activities and developments and industrial discharges or pollutant spills). The Service applies its extinction risk assessment (See State comments in Chapter 1) and, without evaluating improvements since 2000 leading to the existing regulatory mechanisms applicable to these developments and activities, concludes: *"Therefore, threatened destruction and modification of Cook Inlet beluga whale DPS habitat contributes to the proposed endangered status."* No reasonable basis is provided to assume that these developments, either individually or cumulatively, will destroy or modify the habitat. This conclusion is an uncharacteristic deviation away from the factual assessment contained in the proposed rule, which recognizes past activities did not contribute to the beluga population

declines in the 1990s. This deviation toward an unsubstantiated projection that future and ongoing activities would contribute to increases in mortality despite continued habitat management measures is scientifically unfounded.

The State provides information in subsequent chapters on current beluga habitat and concludes there are no scientific data that indicate "present or threatened" impacts on essential features of beluga habitat will occur due to the two ongoing and four proposed developments described in the proposed rule. There are no scientific or commercial data or any other rational basis for concluding that present or future habitat conditions are slowing the recovery of beluga or will result in cumulative impacts that affect its continued existence. To the contrary, today's habitat protection standards are no less effective than past standards, and in some cases are superior, resulting in restoration of Cook Inlet habitat.

Factor "*(3) Disease and/or predation*"

The proposed rule's conclusion (19858) below is not based on supporting scientific information or substantive analyses:

> *. . . the Cook Inlet beluga whale is in danger of extinction throughout all of its range because of. . .* ***disease and/or predation (further predation by killer whales can be shown to have a significant impact on survival)*** (emphasis added)

We provide comments on each of these two factors separately then combined. Regarding disease, the following additional conclusion in the proposed rule (19858) contradicts the conclusion above:

> *Despite the considerable pathology that has been done on belugas, nothing indicates that the occurrence of diseases or parasites has had a measurable impact on their survival and health. Therefore, diseases and parasites are not known to be factors that have led to the current status of the Cook Inlet beluga whale DPS.*

Information in the draft conservation plan, status assessment, proposed rule, or other sources supports that conclusion. This supports the Service making a determination that an ESA listing based on disease is unwarranted at this time.

Regarding predation, the following two statements in the proposed rule (19858), taken together, also contradict the conclusion above that the whale is in danger of extinction because of predation:

> *The best available information does not allow us to accurately quantify the mortality level due to killer whale predation or its effect on the DPS.*
>
> *While disease and predation occur in the Cook Inlet beluga population and may affect reproduction and survival,* ***neither appears to be a likely contributor to the observed decline.*** (emphasis added)

The Service's statement that predation did not contribute to the decline in Cook Inlet stock of beluga is substantiated by analysis of killer whale movements and observed predation.

In contrast, the 2007 proposed rule (19858) makes a contradictory projection that "*the loss of more than one beluga whale annually could impede recovery, particularly* ***if total mortality due to predation*** *would be near the recruitment level in the DPS.*" (emphasis added) The recruitment level is projected to be 2 to 6 percent depending upon the model used, or 10-12 beluga whales. **There is no similar projection that the estimated take by killer whales of one beluga whale per year has increased or would be likely to increase ten-fold.**

Furthermore, it stands to reason that, if predation did not contribute to the decline caused by subsistence harvests that approximated roughly 50% of the population and was not subsequently found to be a factor for listing in 2000, then a significant increase in predation would have to occur for predation to contribute comparably to further declines and to the probability of extinction. Although the proposed rule asserts that "*further predation by killer whales can be shown to have a significant impact on survival,*" no scientific information or reasonable claim is provided to support that statement or to predict that past predation rates (estimated by the Service as one per year) will change or have changed since publication of the final determination that listing under ESA was not warranted in 2000.

Despite the lack of supporting information that predation is impeding recovery of the Cook Inlet stock of beluga whale, we recognize that predation by killer whales is a factor for which additional information is highly desirable. The State proposes significantly increased cooperative studies of predation and movements of killer whales be prioritized in the final Conservation Plan.

Regarding both disease and predation, the proposed rule concludes the following contradictory statement (19858) with no supporting substantive information or analyses that disease and predation are factors contributing to the probability of extinction:

> *However, the present low population abundance and the gregarious* [no definition] *nature of beluga whales predispose the population to significant consequences from disease and predation, which contributes to the probability of extinction, and, therefore to the proposed classification as endangered under the ESA.*

The latter theoretical assertion does not constitute a finding based on best available scientific and commercial data. The same highly theoretical assertion, that "*significant consequences* [could result] *from disease and predation,*" could be applied to populations of any species at any level anywhere in the world. Given that diseases or parasites occur at levels significantly lower in the Cook Inlet stock than in other beluga stock around the world, the Service's application of this factor to justify an ESA classification is both arbitrary and unreasonable. Given that migrating killer whales that prey on beluga infrequently occur in Cook Inlet, the Service's application of this factor is likewise unsubstantiated and arbitrary.

Factor *"(4) The inadequacy of existing regulatory mechanisms"*

The lack of control of the unsustainable subsistence harvest that occurred prior to 1999 was the single contributing factor to the decline of the Cook Inlet stock of beluga whale. Subsequently, regulatory mechanisms contributed to stabilizing the population and continue to be effective in controlling the harvest. Thus, the decision in the final rule in 2000, that a listing is unwarranted, should be the same conclusion reached in the 2007 proposed rule. The State disagrees with the incongruous new conclusion in the 2007 proposed rule (19858-19859) that a lack of past controls endangers the whale:

> *. . . the Cook Inlet beluga whale is in danger of extinction throughout all of its range because of. . .* ***the inadequacy of existing regulatory mechanisms (largely the past absence of regulations on subsistence harvests)*** (emphasis added)

This lack of existing regulatory mechanisms was not found to be a factor, so the Service's 2000 determination was that an ESA listing was unwarranted; this likewise is not a factor today.

The proposed conclusion that Cook Inlet beluga whale is in danger of extinction is based upon the claim that the population is continuing to decline and that there is some statistical possibility that the population is too small to be sustainable. As explained in Chapter 1, the best available scientific and commercial data does not support this claim. Future harvests are controlled by existing regulatory mechanisms (co-management agreements) that were imposed to end prior unsustainably high harvests. These mechanisms are adequate to provide for rebuilding and prevent harvests from triggering further beluga declines. Additional mechanisms are discussed further as part of conservation efforts proposed in Chapter 3. Therefore, while the lack of regulatory mechanisms contributed to the decline of the Cook Inlet stock of beluga whale in the 1990s, effective regulatory mechanisms were implemented prior to publication of the 2000 rule. The stock is not currently in danger of extinction due to this factor.

Factor *"(5) Other natural or manmade factors affecting its continued existence"*

Although the State concurs that past subsistence hunting levels, in combination with natural mortality from stranding events and other causes, was unsustainable and significantly reduced the population prior to the 2000 rule, that rule concluded that an ESA listing is unwarranted. The State finds no substantive evidence to support the contradictory conclusion in the 2007 proposed rule (19859), which states:

> *. . . the Cook Inlet beluga whale is in danger of extinction throughout all of its range because of. . .* ***other natural and manmade factors affecting its continued existence (effects of past subsistence removals)*** (emphasis added)

The Service discusses two components of this category: "*Impacts of Past Subsistence Harvest Efforts*" and "*Impacts of Stranding Events.*" Regarding the stranding events, we agree with the Service's conclusion that "*mass stranding events are not believed to be a factor that has caused, or had a significant role in, the decline of the Cook Inlet beluga whale DPS.*" Because the unsustainable harvest was not curtailed until 1999, we concur that harvests contributed to the

decline. However, few belugas have been hunted since 1999, and we disagree that the harvest prior to 1999 "*must be considered as a factor in the proposed classification of the Cook Inlet beluga whale DPS as endangered.*" **This conclusion contradicts the conclusion reached in the 2000 final rule that the population was not endangered and that a listing was not warranted based on this factor or any other of the factors. That 2000 determination was based on the same information.** There are no scientific or commercial data supporting a change from that conclusion.

Prey Populations

During the public comment period, several individuals speculated that perhaps there is a lack of salmon to support a recovering beluga whale population. In the proposed rule and Status Review, the Service evaluates prey status and dismisses this as a potential factor. However, because this issue was raised we are providing the following summary of the status of Cook Inlet salmon stocks to further substantiate that this is not a factor:

Upper Cook Inlet Overall: The status of salmon stocks in Upper Cook Inlet (UCI) has been, and remains, very optimistic. Since the mid-1990s, Cook Inlet salmon management plans have become more tightly restrictive of commercial fishing and remain very restrictive compared to management in the 1980s. In the last 15 years, harvests ranged from 1.8 to 10.5 million fish, with a 10 year average of 3.7 million fish. The run strength of one species will affect how the Department manages harvests of another species. For example, if a poor run of Chinook salmon occurs in one year, harvests of other species, no matter their run strength, will be reduced due to conservation efforts.

Sockeye Salmon: Sockeye salmon are the most abundant species in UCI. Their harvests have ranged from 1.2 to 9.1 million (record year) in the last 15 years, with an average harvest of 3.2 million fish in the last 10 years. Runs were strong through the early 1990s until 1998. From 1998 to 2001, runs were weaker but generally sufficient to meet escapement goals. Since 2001, runs have rebounded. See Table below. Sockeye salmon runs, when compared decade by decade, have been stable and consistent since 1980.

Decade	Esc[a]	Harvest	Total Run
1970-1979		1,136,304	1,675,929
1980-1989	1,181,250	4,360,213	5,997,673
1990-1999	1,208,899	3,812,910	5,566,874
2000-2006	1,634,007	3,107,936	5,481,415

Pink Salmon: Pink salmon runs in UCI are even-year dominant, with odd year average harvests typically less than 1/7th of even-year harvests. Assessments are based largely on commercial fish reports, recreational fishing success, and limited escapement monitoring. Pink salmon are counted as part of programs designed to enumerate Chinook, sockeye, and coho salmon. In general, pink salmon stocks in UCI are maintaining their even-year dominance and continue to return in numbers that reveal that there are no obvious problems with the stock. As an example, the 2006 pink salmon harvest of 404,000 was approximately 50,000 fish greater than the average from the previous five even-year harvests (10 year history).

Chum Salmon: Chum salmon production had a decade of mediocre runs beginning in the mid-1980s, in part due to impacts from fall flooding in the Susitna River Basin in 1986. Chum salmon stocks throughout Southcentral Alaska have mirrored Susitna River chum salmon production, both revealing reductions in abundance from the mid-1980s to the mid-1990s. Beginning in 1995, an improvement in chum salmon production was observed in many areas of Southcentral Alaska, including UCI. Chum salmon runs from 2000 to 2004 were much improved from those realized during the 1990s. The 2002 escapement counts of chum salmon in Susitna River tributary weirs were the highest ever observed for these systems, while the 2001 chum salmon escapement in the Little Susitna River was the second largest ever observed. Therefore, although there is a limited amount of information available for assessing chum salmon stocks in UCI, there are no obvious concerns at this time.

Coho Salmon: UCI's coho salmon stocks generally benefited from excellent production throughout most of the 1980s and early 1990s. However, coho salmon runs in 1997 and 1999 were viewed as mediocre. The 2000 run appeared to be much improved with the 2001 run being even stronger yet, and finally the 2002 run being exceptional, perhaps even a record run. Because coho salmon are strongly dominated by a 4-year cycle, the returns from the 1997 and 1999 brood years occurred primarily in 2001 and 2003. The 2003 run, while not exceptionally strong, still produced escapements nearly three times the level of the 1999 brood year. Since 1997, the drainage-wide coho salmon smolt emigrations have stabilized and coho salmon runs have also stabilized. Since 2000, Kenai River adult coho salmon runs have been considered good to excellent.

Chinook Salmon: UCI Chinook salmon stocks are relatively stable. The Kenai and Kasilof rivers contain both early and late-run Chinook salmon that support major sport fisheries. The Kenai River stocks are popular with anglers due to ease of access, commercial enterprises to support anglers, and large size of fish in the returns. Both returns are harvested to an unkown degree in a marine recreational fishery in Lower Cook Inlet and late-run fish are also harvested in marine commercial fisheries. Recent escapements for the Kenai stocks have met or exceeded spawning escapement needs over the past three years. Kasilof early-run Chinook salmon originate primarily in Crooked Creek and are supplemented by a Department hatchery program. Naturally produced Chinook salmon from this system have met or exceeded spawning escapement needs recently. Late-run Kasilof Chinook salmon support a developing sport fishery and are harvested in the mixed stock marine sport and commercial fisheries to an unknown degree. Ongoing Department research indicates that inriver sport fishery exploitation is relatively low in comparison to spawning population size. An escapement goal has not been determined for this stock due to insufficient data.

Conclusion

The Service's conclusion that the Cook Inlet stock of beluga whales is in danger of extinction throughout all of its range based on the above factors is not supported by the information described in the proposed rule (19858-19859) and in its supporting sources. **In fact, the information provided in the 2007 proposed rule and 2006 Status Review overwhelmingly supports reaching the opposite conclusion for each of these factors, consistent with the 2000**

conclusion that a listing is not warranted. The Service appears to be proposing to reverse its earlier determination that a listing is unwarranted. This new determination is based entirely on unsupported population modeling predictions of a continued decline (Chapter 1) and on unsubstantiated speculation of possible increases in "threats" described above. We find no basis for a conclusion that the above factors or the theoretical possibility that a combination of these factors currently places the Cook Inlet stock of beluga whales in danger of extinction. We urge the Service to reconsider these hypothetical and arbitrary conclusions and affirm its previous finding that a listing under ESA is not warranted at this time.

Chapter 3
Effectiveness of Ongoing and Planned Conservation Efforts by States or Local Entities

The State of Alaska (State) provides information in this chapter as requested by the proposed rule (19861), consistent with the Service's March 28, 2003, Policy for Evaluating Conservation Efforts (PECE) (68 FR 15100). The proposed rule (19859) described the policy by which the Service must consider efforts by the State, political subdivisions of the State, Native American tribes and organizations, local governments, and private organizations to protect species when considering an Endangered Species Act (ESA) listing:

> *The PECE provides guidance on evaluating current protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, state and local governments, tribal governments, businesses, organizations, and individuals) that have not yet been implemented or have been implemented but have not yet demonstrated effectiveness. The PECE establishes two basic criteria for evaluating current conservation efforts: (1) the certainty that the conservation efforts will be implemented, and (2) the certainty that the efforts will be effective. The PECE provides specific factors under these two basic criteria that direct the analysis of adequacy and efficacy of existing conservation efforts.*

We address the ongoing and planned protective efforts by numerous entities according to the PECE criteria and their effectiveness in two categories below. We urge the National Marine Fisheries Service (Service) to cooperatively pursue implementation of multi-entity Cook Inlet beluga conservation efforts. Through these ongoing and planned efforts, the State, other agencies, non-government organizations, and public propose to cooperatively pursue and provide increased funding that enables the Service and other entities to continue implementation of important cooperative measures toward research and management of beluga whales and their habitat. This would provide greater benefit for the Cook Inlet stock of beluga whales than would be possible through a recovery plan following an ESA listing, particularly since no known factor is affecting current population numbers.

(1) Funding and Finalization of the Service's Planned Conservation Plan

Background

On May 31, 2000, (65 FR 121), the Service published a final determination that the Cook Inlet stock of beluga whales was depleted as defined in the Marine Mammal Protection Act (MMPA). In that final rule, the Service committed to completing a conservation plan:

> *A conservation plan will be prepared unless it would not promote the conservation of the stock.* (34592)
>
> ***NMFS will prepare a conservation plan as quickly as limited resources allow.*** *Initial conservation efforts will not, however, be delayed until such a plan is final.* (34595)
> (emphasis added)

On April 6, 2004, (69 FR 66), the Service published a final rule governing the taking of Cook Inlet beluga whales by Alaska Natives for subsistence purposes and implemented stipulations agreed to in the record of hearing before Administrative Law Judge McKenna (March 29, 2002) and subsequent negotiations. One of the comments on the draft rule urged the Service to implement a conservation plan to address additional issues such as education and enforcement. The Service responded (17976):

> *NMFS also intends to develop a conservation plan for these whales. NMFS agrees that education and enforcement are necessary and intends for these elements to be part of a conservation plan.*

On March 16, 2005, (70 FR 50), the Service published a notice of availability of a draft Conservation Plan (nearly five years after published intent to quickly prepare a plan). No coordination with the State occurred in the development of that plan. However, the Service acknowledged such coordination is needed (12854):

> *The goals and objectives of the draft Plan can be achieved only if a long-term commitment is made to support the respective actions recommended herein.* ***The shared resources and cooperative involvement*** *of federal, state, and local governments, industry, academia, non-governmental organizations, Alaska Natives, and other invested individuals* ***will be required throughout the recovery period.*** (emphasis added)

The Department provided comments on May 16, 2005, to the Service to improve the Plan, including recommending additional studies and pointing out errors in the modeling and other calculations. The Department emphasized:

> *"****the Plan should be revised and finalized promptly****. ...The possibility that CI belugas could be listed under the ESA further emphasizes the need to implement the Plan's conservation strategy and proactively pursue actions to promote recovery."*

Instead of coordinating with federal, state, and local governments and others to cooperatively complete and implement the conservation plan, on March 24, 2006, the Service published (71 FR 57) a Notice of request for information to prepare an updated status review *"to determine if this group of beluga whales should be listed as an endangered or threatened species."* The Governor and Department signed a response on May 24, 2006, opposing a listing and urging additional scientific information be acquired. Between 2004 and 2007, the Service received repeated requests from the State and three municipal governments to be allowed opportunities to contribute to the plan and studies. In late June 2007, we learned that the Service was about to publish a final Plan. No opportunity had been provided for the State, other federal agencies, boroughs, universities, or others to engage in design and coordination of possible research since publication of the 2005 Draft Plan. We appreciate that the State was recently given an opportunity to provide additional input on the final Plan, and we believe the Service should prepare a coordinated plan with all affected entities as was visualized in the 2000 and 2005 rules. Cooperative efforts with other researchers, governments, and non-government entities would provide more financial and staffing support to acquire information on beluga whales, their habitat, and factors that contribute to their sustainability than the Service's solo efforts.

Conservation Plan

To date, the following deficiencies are neither addressed in the 2005 Draft Conservation Plan nor in subsequent efforts by the Service:

- Need cooperation of all stakeholders and shared resources in the development of a Plan, including the State, federal agencies, boroughs, academia, and non-government entities.
- Need an implementation strategy; i.e., who will investigate what, monitor, and evaluate progress, identify sources of funding, develop cost-sharing and leveraging of funds.
- Need a multi-disciplinary team, such as the workshop that was held in March 1999, to discuss, develop, and prioritize objectives and studies to address the wide range of scientific information that is not available.
- Need to address education and enforcement (as promised above), hydrology and other physical changes occurring in the Inlet due to geologic and other physical parameters, and many other aspects missing.

The draft plan and ongoing research conducted by the Service appear to largely focus on the interests of its own scientists and those that have independent funding. Recent research on biological and physical characteristics of the Inlet was ignored in the 2007 proposed rule. This leads us to conclude that the Service is not considering the best available scientific and commercial data. No mention is made of recent research conducted in Upper Cook Inlet to identify individual whales to provide information on age structure and numbers or on fish forage studies.

Conclusion

The Service needs to immediately pursue cooperative effort with the government and non-government agencies to improve funding and other resources toward the completion of identified needs. We urge the above list be addressed and a cooperative effort completed for a final Plan as soon as possible. We also object to the following conclusion the Service published in the 2007 proposed rule:

> *We support all conservation efforts currently in effect; however, these efforts lack the certainty of implementation and effectiveness so as to have removed or reduced threats to Cook Inlet belugas. In developing our final listing determination, we will consider the best available information concerning these conservation efforts and any other protective efforts by states or local entities for which we have information (See description of PECE above).*

We provide the following information that illustrates the State has implemented significant and effective conservation efforts.

(2) Ongoing and Planned Conservation Efforts by States and Local Entities

The following discussion of ongoing and planned conservation by states and local entities covers land and water habitat stewardship, management plans, regulatory mechanisms, fish and wildlife management, and regulatory mechanisms.

Habitat

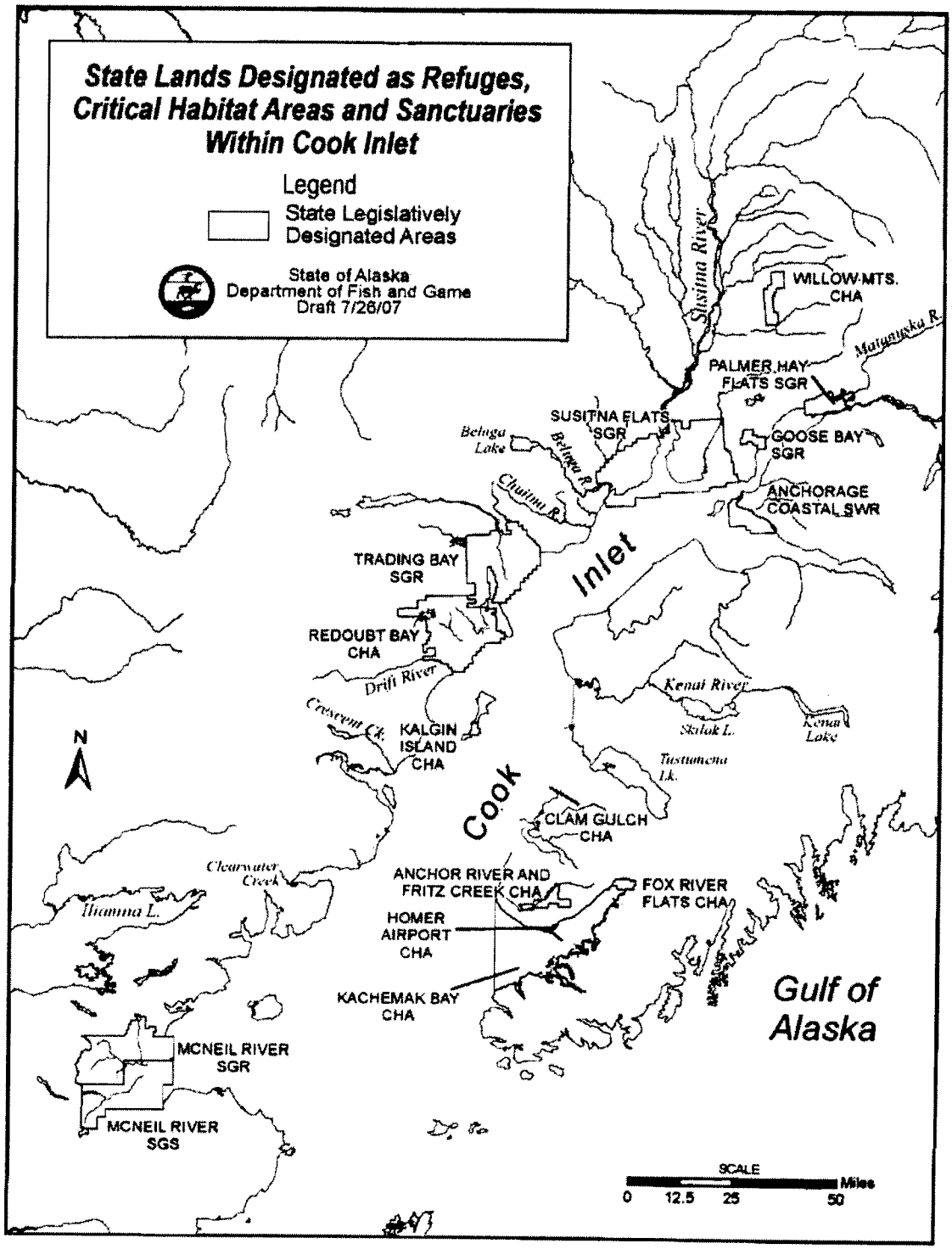
There is no scientific evidence to tie the decline of the Cook Inlet population of beluga whales to the destruction or modification of habitat (See further discussion of habitat "threats" in Chapter 2). During the 1994-1998 documented decline of beluga whales, there was no corresponding evidence of detrimental changes in habitat. The changes in habitat use by beluga whales appeared to relate largely to the decline in numbers, concentrating these social whales on selective habitat. The Wildlife Society recognized during the Alaska Center for the Environment suit (petition for the State to list beluga as endangered under State law) in 2003 that "*Physical habitat for Cook Inlet belugas is largely intact,*" and the Audubon Society noted no habitat problems for whales. No activities or developments have occurred since that time that would change the habitat within Cook Inlet.

Over 15 million acres of protected land in and around Cook Inlet helps to preserve good whale habitat. The habitat in Cook Inlet supports healthy populations of fish on which beluga whales prey, as evidenced by salmon returns to the river systems draining into Cook Inlet that continue to annually produce record numbers. These protected lands comprise State game refuges and critical habitats, special legislated management areas of the Upper Kenai and Recreational Rivers (Susitna), Chugach National Forest, Chugach State Park, and Katmai National Park and Preserve. (See Map in Overview) The State established through special legislative action 15 State game refuges and critical habitat areas, which provide protection for significant portions of the important beluga feeding areas in river mouths and in some areas out to three miles from Mean High Tide. Many of these State special land management areas were established nearly 30 years ago. (See Map and Table below)

All of these special land (and water) management areas have special management legislation limiting land use management activities, and most have detailed management plans in effect and that are effective in protecting habitat. In addition to land management plans, the State comprehensively regulates activities that occur throughout the Cook Inlet watershed that potentially affect water quality and quantity. Below are detailed examples of some of these management guidelines, regulations, and permit stipulations which are implemented by the Alaska Department of Environmental Conservation, Alaska Department of Natural Resources, and Alaska Department of Fish and Game as part of the State's role in habitat protection measures.

ALASKA DEPARTMENT OF FISH AND GAME'S ROLE IN HABITAT PROTECTION

In addition to its many responsibilities for sustainability of fish and wildlife on all lands and waters in the State, the Alaska Department of Fish and Game (ADF&G) manages State lands designated as Refuges, Critical Habitat Areas and Sanctuaries within Cook Inlet.


State Lands Designated as Refuges, Critical Habitat Areas and Sanctuaries Within Cook Inlet
Legend
State Legislatively Designated Areas
State of Alaska
Department of Fish and Game
Draft 7/26/07
Susitna River
WILLOW MTS. CHA
Matanuska R.
PALMER HAY FLATS SGR
SUSITNA FLATS SGR
Beluga Lake
Beluga R.
GOOSE BAY SGR
Chuitna R.
ANCHORAGE COASTAL SWR
TRADING BAY SGR
Inlet
REDOUBT BAY CHA
Drift River
Crescent Cr.
KALGIN ISLAND CHA
Kenai River
Skilak L.
Kenai Lake
Tustumena Lk.
N
Cook
CLAM GULCH CHA
Clearwater Creek
Iliamna L.
ANCHOR RIVER AND FRITZ CREEK CHA
FOX RIVER FLATS CHA
HOMER AIRPORT CHA
KACHEMAK BAY CHA
Gulf of Alaska
MCNEIL RIVER SGR
MCNEIL RIVER SGS
SCALE
Miles
0 12.5 25 50

Alaska Special Areas: Refuges, Sanctuaries and Critical Habitat Areas within the Cook Inlet Drainage, managed by ADF&G and the status of current management plans.

Name of Special Area	Date Established	Management Plan Required by Statute		Date of Management Plan
		Yes	No	
State Game Refuges				
Anchorage Coastal Wildlife Refuge	1971/1988	AS 16.20.031 (b)		1991
Goose Bay State Game Refuge	1975		No	
McNeil River State Game Refuge	1993		No	1995 (w/McNeil River State Game Sanctuary)
Palmer Hay Flats State Game Refuge	1975/1985		No	1986 2002
Susitna Flats State Game Refuge	1976		No	1988
Trading Bay State Game Refuge	1976		No	1994 (w/Redoubt Bay Critical Habitat Area)
State Game Sanctuaries				
McNeil River State Game Sanctuary	1967/1993		No	1996 (w/McNeil River State Game Refuge)
Fish & Game Critical Habitat Areas				
Anchor River and Fritz Creek Critical Habitat Area	1985	AS 16.20.605 (d)		1989
Clam Gulch Critical Habitat Area	1976		No	
Fox River Flats Critical Habitat Area	1972		No	1993
Homer Airport Critical Habitat Area	1996		No	
Kachemak Bay Critical Habitat Area	1974		No	1993
Kalgin Island Critical Habitat Area	1972		No	
Redoubt Bay Critical Habitat Area	1989		No	1994 (w/Trading Bay State Game Refuge)
Willow Mountain Critical Habitat Area	1989	AS 16.20.620 (b)		

The ADF&G special area management plans are available at:
http://www.wildlife.alaska.gov/index.cfm?adfg=refuge.main

The ADF&G participates with other State agencies in **Oil Spill Contingency Plans**. The Alaska Department of Environmental Conservation (ADEC) requires all vessels transporting oil and hazardous substances within the State of Alaska to have a contingency plan in the event of a spill. Each operator is required to follow the ADEC format as described in 18 AAC 75, Article 4 which is located at the following link: http://www.dec.state.ak.us/spar/statutes_regs.htm#regs75

In addition to industry contingency plans, ADEC and other agencies, including ADF&G, formalized regional plans to ensure consistency. Cook Inlet has its own regional plan entitled 'The Cook Inlet Subarea Contingency Plan for oil and hazardous substance spills and releases'. This regional plan is located at : http://www.akrrt.org/CIplan/CookInletSCP.shtml. The industry contingency plans are a way that ADEC can ensure that the company is prepared and thinking in advance before they travel in Alaska waters. ADF&G reviews relevant industry plans with a focus on the protection of fish and wildlife.

Below is the "Unified Plan and Subarea Contingency Plan Description" of the regional plans, quoted from the Cook Inlet Subarea Contingency Plan:

UNIFIED PLAN & SUBAREA CONTINGENCY PLAN DESCRIPTIONS

The Cook Inlet Subarea Contingency Plan is a supplement to the *Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases* (commonly referred to as the Unified Plan). The Unified and the Subarea Contingency Plans represent a coordinated and cooperative effort by government agencies and were written jointly by the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the Alaska Department of Environmental Conservation. The Oil Pollution Act of 1990 (OPA 90) requires the USCG and the USEPA to prepare oil spill response plans for the State of Alaska, which is designated as an entire planning region under federal guidelines. Alaska statute requires the ADEC to prepare a state-wide master plan addressing oil and hazardous substance discharges. The Unified Plan meets these federal (National Contingency Plan and OPA 90) requirements for regional and area planning, as well as State planning requirements.

OPA 90 requires the development of Area Contingency Plans for the inland and coastal zones of each federal region. For the Alaska region, there are three Coast Guard Captain of the Port zones and one inland zone. The three Captain of the Port zones are: 1) Southeast, which covers all of Southeast Alaska; 2) Prince William Sound, which covers the Prince William Sound area; and 3) Western Alaska, which includes the rest of coastal Alaska from Cook Inlet out the Aleutians and north to the Beaufort Sea and the Canadian border. The inland zone is subdivided into two sectors: 1) the North Slope oil production area and the Trans-Alaska Pipeline System (TAPS) and 2) all other areas inland from the coastal zones.

Alaska statute divides the state into ten regions for oil and hazardous substance spill planning and preparedness. The USCG and the USEPA joined with the ADEC to use these ten regions for area planning instead of the federal planning divisions since this would facilitate unified planning for the State of Alaska and prove more practical as well (for example, the huge COTP Western Alaska planning area is replaced by seven more manageable divisions). Because the State of Alaska is called a planning "region" under federal planning guidelines and to avoid confusion with the other federal term, "area contingency plans," these ten subordinate planning regions of the State are called "subareas" in the context of the Unified Plan.

The Unified Plan contains information applicable to pollution response within the entire State of Alaska and meets the pollution response contingency planning requirements applicable to the federal and State governments. The plan provides broad policy guidance and describes the strategy for a coordinated federal, State and local response to a discharge, or substantial threat of discharge, of oil and/or a release of a hazardous substance within the boundaries of Alaska and its surrounding waters.

Under both federal and State law, the responsible party for an oil or hazardous substance incident is required to report the incident and mount a response effort to contain and cleanup the release. The federal and State governments mandate response plans for oil tank vessels and facilities that have stringent spill response requirements. If the responsible party fails to respond adequately or if no responsible party can be identified, then the federal and State governments will rely on the Unified Plan and the appropriate Subarea Contingency Plan for response protocols and guidance.

Whereas the Unified Plan contains general information for response efforts taking place anywhere in the State of Alaska, the Subarea Contingency Plan (SCP) concentrates on issues and provisions specific to its particular subarea. The Cook Inlet SCP focuses on the Cook Inlet region of the State. The boundaries of this subarea are described in the Background Section of this plan. The Cook Inlet SCP provides information specific to the area, including emergency response phone numbers, available response equipment and other resources, specific response guidelines, and information on hazardous substance presence and sensitive areas protection.

Alaska State statute mandates a public review of all new plans, an annual departmental review of these plans, and another public review whenever the plans are significantly revised. The ADEC offers a public review of these plans for a period of 30 to 60 days during which verbal and written comments are accepted. During this comment period, several public meetings are held at locations appropriate for the plan being reviewed. The federal government does not require public review for any of its plans, though the USCG and the USEPA, as part of the Alaska unified planning process, do cooperate with the State of Alaska and participate in the public review process.

Neither the federal nor the State government maintains a formal approval process for these plans. The Unified Plan and the SCPs are presented to the Alaska State Emergency Response Commission and the Alaska Regional Response Team (ARRT) for review and comment. The ARRT's concurrence is also part of the process for plan promulgation. Final promulgation of the plan is accomplished once the three plan holders – the USCG, the USEPA and the State of Alaska – sign the letter of promulgation.

Source: Cook Inlet SCP July 1997, page vii, Change 1, May 2004

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION ROLE IN HABITAT PROTECTION

The following provides an overview of the Alaska Department of Environmental Conservation (ADEC) environmental monitoring and permitting in the Cook Inlet region.

The ADEC mission involves the permitting and authorization of actions relating to oil and gas development, oil spill prevention and response, pollutant discharges, and other activities affecting the waters of Cook Inlet. The agency's permitting and regulatory actions provide thorough habitat protections, and ADEC's water related permits and authorizations typically also involve the Environmental Protection Agency (EPA). Thus, our discussions include information and reference to EPA documents.

ADEC's responsibilities to address potential "threats" identified by the Service
The Service identified specific potential threats to Cook Inlet beluga whale habitat in the April 20, 2007, Federal Register notice of the proposed rule, including:

- Development of the Beluga Coal Mine
- Oil and gas exploration, development and production
- Oil spills
- Seafood processing
- Ship ballast
- Municipal wastewater treatment systems (Point Woronzoff and others)
- Urban runoff

Information provided by ADEC below addresses the above "proposed threats" in the following categories:

1. Oil spill prevention and response
2. Discharges to the waters of Cook Inlet
3. Ballast water discharges
4. Municipal wastewater discharges

5. Industrial wastewater discharges
6. Non-point source pollution and impaired waters that flow to Cook Inlet
7. Water Quality Monitoring and Assessment

1. Oil Spill Prevention and Response

ADEC's Spill Prevention and Response Division's activities are specifically focused on oil spill prevention and assurance of adequate oil spill response. ADEC focuses its resources on the consequences of an oil spill, rather than predicting the probability of an oil spill occurring. It is the specific responsibility of ADEC to ensure that the environmental consequences of a discharge can be mitigated to a degree protective of human health and the environment by requiring regulated operators to be prepared to respond to and clean up oil spills under typical environmental conditions.

In 2003, the Minerals Management Service (MMS) produced a final EIS for oil and gas lease sales (191 & 199) in the Cook Inlet Planning area. An oil spill risk assessment was produced as part of that effort which indicated the proposed action in the lease sale (oil and gas development) would result in a 2% chance of one or more platform-based spills, 16% to 17% chance of one or more pipeline spills, and 17% to 19% chance of one or more spills total.

The population viability analysis (PVA) noted by the Service in the *2006-16, Status Review and Extinction Assessment of Cook Inlet Belugas* (November 2006 Status Review) discussed "potential catastrophic events," which included oil or toxic substance spills, failure of key fish runs, ice entrapments or disease /parasite introductions; these added 10-15% to the probability of extinction. It was not clear from the report and the included references what oil spill data set (if any) was used to come up with the 10-15% factor. Below are the data from the ADEC Spills Database for spill information from1996 through the present.

Summary of Spills to Cook Inlet, 1996-2006

	Crude Oil		Hazardous Substances		Non-Crude Oil		Annual Total	
Calendar Year	count	Gallons	Count	gallons	count	gallons	count	gallons
1996	6	649	12	268	22	1,192	40	2,109
1997	12	81	8	110	30	10,729	50	10,920
1998	12	446	15	1,136	30	338	57	1,920
1999	31	1,529	10	425	37	542	78	2,496
2000	6	34	13	674	15	458	34	1,166
2001	11	508	17	247	22	492	50	1,247
2002	12	697	11	3,742	28	265	51	4,704
2003	6	186	18	778	23	78	47	1,042
2004	4	115	17	1,293	20	273	41	1,681
2005	6	91	17	1,649	31	714	54	2,454
2006	1	1	5	44	7	55	13	100
10-yr Total	107	4,337	143	10,366	265	15,136	515	29,839
10-yr Average	11	434	14	1,037	27	1,514	52	2,984

2. Discharges to the waters of Cook Inlet

Cook Inlet is a tidal estuary with a northeast to southwest orientation. It is roughly 180 miles long and averages 60 miles wide. Water depths are typically 100 to 200 feet but can be up to 500 feet in channels near the Forelands (near the middle of Cook Inlet). The flow of Cook Inlet water is generally to the southwest. Discharged substances that are dissolved or remain in suspension generally will be transported out of Cook Inlet and into the Gulf of Alaska within about ten months. The concentration of suspended particulate matter in the water column of lower Cook Inlet ranges from 1 – 50 parts per million (ppm).

Cook Inlet is a relatively large tidal estuary with a sizable tidal range. The turbulence associated with strong tidal currents as well as common winds results in the vertical mixing of the waters. A relatively large volume of water and a large variety of naturally occurring inorganic and organic substances are transported into Cook Inlet by the streams and rivers and by currents from the Gulf of Alaska. The amounts of individual substances discharged into the Inlet appear to be quite variable. Substances transported into Cook Inlet that remain in suspension or dissolved in the water column are dispersed by tidal currents and winds. Mean annual freshwater input to Cook Inlet exceeds 18.5 trillion gallons or an annual average of 50.6 million gallons per day (gpd). According to the Service, the principal sources of pollution in the marine environment are as follows:

- Discharges from industrial activities that do not enter municipal treatment systems
- Discharges from municipal wastewater treatment systems
- Run-off from urban areas, mining operations, airports, military sites and agricultural areas.
- Accidental Spills or discharges of petroleum and other products.

There is also an additional natural source of pollution, which the Service does not discuss in depth: the discharge of toxic pollutions from volcanic activity. Since 1980, three volcanic eruptions have occurred in the Cook Inlet basin, resulting in widespread ash distribution, mudflows, and corrosive precipitation, all of which may have had a short term affect on Cook Inlet water quality. The three most active volcanoes are Mt. Redoubt, Mt. Spur, and Mt. Augustine.

Permitted Discharges

The permitted discharges to Cook Inlet can be summarized as follows:

Municipal wastewater discharges – 42 million gpd
Industrial wastewater discharges due to oil and gas development –
Production water – 7.36 million cubic meters = 5.33×10^6 gpd
Drilling cuttings and wash water – 21,300 gpd
Deck drainage – 25,100 gpd
Sanitary wastes – 6,100 gpd

Domestic wastes – 6,900 gpd
Desalination wastes – 20,100 gpd
Uncontaminated ballast water – 79,200 gpd
Uncontaminated bilge water – 7,900 gpd
Muds, cuttings, cement at sea floor – 174,400gpd
Noncontact cooling water – 800,000 gpd
Fire control system test water – 8,800 gpd
Source: ODCE for Cook Inlet NPDES permit (converted to gallons from cubic meters)

Industrial waste discharges due to seafood processing facilities
Cook Inlet Fish Processors – 10,600,000 lbs per year.
Source: DEC estimates based on annual reports submitted for NPDES permit coverage.

Suspended Solids Discharged in Cook Inlet (per year)

The following data on suspended sediments provide perspective on the overall affect of industrial and municipal activity on Cook Inlet. Percentages in parentheses are the comparison of estimated annual industrial/municipal output to the total estimated annual output produced by the three rivers noted:

Suspended sediments - Knik, Matanuska & Susitna Rivers = 36,343,000 tonnes
Suspended solids discharged from municipalities = 2,030 tonnes (0.005%)
Suspended solids discharged from refineries = 30 tonnes (0.00008%)
Suspended solids discharged oil & gas drilling fluids /cuttings = 930 tonnes (0.002%)
Note: "tonnes" refers to metric tons

The Service noted in their October 2000 Environmental Impact Statement (EIS):

It seems likely that over time a qualitative effect from municipal, commercial and industrial activities in the Inlet on the water quality and substrate may affect Cook Inlet beluga whales. However, NMFS cannot, at this time, translate that qualitative likelihood into a statement of impact on the beluga whale population, or to the health of beluga whales in the Inlet.....Accordingly, NMFS concludes that the cumulative impacts of activities other than subsistence harvest are minimal.

Minerals Management Service studies of Cook Inlet water quality (1996) found that levels of hydrocarbons in the water column were generally low and often less than the method detection limit.

Since 1999, produced water discharges have increased at some oil and gas facilities, have decreased at some, and have stopped discharging altogether at others. **It should also be noted that no new development or production facilities will be authorized to discharge produced water under EPA's proposed NPDES General Permit.**

3. Ballast Water Discharges

All vessels, foreign and domestic, trading in Cook Inlet waters are subject to mandatory federal ballast water exchange regulations (33 C.F.R. 151, Part D). These regulations require that the entire amount of ballast water loaded at the port of origin is exchanged with sea water during the voyage. The only exceptions in the regulations are for crude oil tankers in the coastwise trade and military vessels.

The sources for potential ballast water discharges to Cook Inlet waters are:

- Crude Oil Tankers
- Oil Product Tankers
- Liquified Natural Gas (LNG) Ships
- Non-tank vessels

The only two companies that currently have approved State contingency plans to bring crude oil or oil products into Cook Inlet waters aboard tanker ships are Union Oil Company of California (Chevron) and Tesoro Alaska. These two companies could theoretically discharge ballast water from the lower 48 into Cook Inlet waters, but commercial considerations and cargo routing make this scenario unlikely. One facility near Drift River on the west side of Cook Inlet is permitted by the EPA to treat ballast water from the tanker trade in Cook Inlet. Very little discharge has occurred in recent years from this facility.

4. Municipal Wastewater Discharges

There are a number of municipal wastewater facilities that have the potential to ultimately discharge into Cook Inlet. There are also a number of smaller community systems and sewage outfalls that have the potential to ultimately discharge into Cook Inlet. The following wastewater treatment facilities (WWTF) are permitted under ADEC's wastewater regulations (18 AAC 72):

- Anchorage Point Woronzof Asplund WWTF
- Girdwood WWTF
- Settlers Bay Village Subdivision WWTF
- Eagle River WWTF
- Palmer WWTF
- Homer WWTF
- Kenai WWTF
- Soldotna WWTF

The Municipality of Anchorage operates the Point Woronzof sewage treatment plant under a National Pollutant Discharge Elimination System (NPDES) permit from the Environmental Protection Agency (EPA). This permit was originally issued in 1998 and was good for five years. The permit has been extended administratively since 2003, and the EPA is currently in the process of renewing the permit. This sewage treatment plant has approval from the EPA to discharge primary treated sewage through a Clean Water Act Section 301(h) waiver. This discharge is addressed in State water quality standards through a site-specific standard for the Pt. Woronzof facility.

The Service noted in their 2006 Status Review that municipal wastewater discharges may also include "*emerging pollutants of concern*" (EPOCs), which include endocrine disruptors, pharmaceuticals, personal care products, and prions. Recent national studies (outside of Alaska) by the Environmental Chemistry Branch, Environmental Sciences Division of the EPA showed unexpected levels of prescription drugs in sewage discharges. These emerging pollutants are being studied by the EPA, in order to determine specific regulatory authorities under which these pollutants would be tested for. The EPA and Alaska water quality standards do not currently regulate these "*emerging pollutants of concern.*" However, there is no evidence of high levels of discharge of "*emerging pollutants of concern*" in Cook Inlet or of any impact from these or any other pollutant on the Cook Inlet stock of beluga whales.

5. Industrial Wastewater Discharges

Oil and gas development has taken place in Cook Inlet since 1957, and at present there are over 200 oil wells in production and three production plants on the shores of Cook Inlet. The majority of industrial wastewater discharges permitted by EPA and ADEC are associated with oil and gas facilities located in or adjacent to Cook Inlet. There are also a number of seafood processors who have discharges permitted by EPA and ADEC. The following oil and gas facilities are on platforms located in or immediately adjacent to Cook Inlet:

- Chevron Nikiski Refinery
- Tesoro Alaska Kenai Refinery
- Unocal Swanson River
- Unocal Trading Bay Production Facility
- Unocal Anna Platform
- Unocal Baker Platform
- Unocal Bruce Platform
- Unocal Dillon Platform
- Unocal King Salmon Platform
- Unocal Dolly Varden Platform
- Marathon Oil Spark Platform
- Phillips Tyonek Platform A
- Marathon Oil Spur Platform
- Unocal Granite Point Platform
- Unocal Grayling Platform
- Unocal Monopod Platform
- Unocal Steelhead Platform
- Forest Oil Osprey Platform
- Cook Inlet Pipeline Co. Drift River Facility

Much of the Cook Inlet oil and gas activity is permitted through the EPA's NPDES General Permit for oil and gas operations in Cook Inlet. The reissued general permit is also proposed to cover additional oil and gas leases that are located in nearby federal waters adjacent to Cape Douglas and the Barren Islands. The January 2006 *EPA Ocean Discharge Criteria Evaluation for the Cook Inlet NPDES Permit* report provides critical baseline information and updates

regarding water quality issues in Cook Inlet. The NPDES permit also includes data on existing approved mixing zones, the parameters in the mixing zones, as well as effluent water quality data. ADEC issued a Certificate of Reasonable Assurance (401 Certification) for this EPA NPDES permit on May 18, 2007, and this ADEC document will be released with the final NPDES permit.

6. Non-Point Source Pollution and Impaired Waters that Flow to Cook Inlet

There are a number of waters that flow into Cook Inlet that are considered impaired according to water quality regulations. The bulk of the impaired waters are listed due to non-point source pollution, including fecal coliform pollution associated with urban run-off or land development. The following waters adjacent to Cook Inlet are in the impaired water category:

Anchorage
Campbell Creek
Campbell Lake
Chester Creek
Fish Creek
Furrow Creek
Lake Hood/Spenard Lake
Jewel Lake
Little Campbell Creek
Little Rabbit Creek
Little Survival Creek
Ship Creek
University Lake
Westchester Lagoon
Cheney Lake

Wasilla
Cottonwood Creek

Palmer
Matanuska River

Eagle River
Eagle River

Kenai
Kenai River

Urban growth and development has the potential to increase the percentage of impervious surface coverage in the Cook Inlet drainage. The percentage of impervious surface coverage of lands can affect the ability to control non-point source pollution from reaching Cook Inlet. Site specific studies have been performed on the Kenai Peninsula and on the Chester Creek watershed in Anchorage regarding this issue, but a lack of data for surrounding areas and a poor match with nationwide urban stormwater data make it difficult to make any predictions on the effects of future development on non-point source discharges. There is no scientific information showing that any appreciable impacts on the Cook Inlet stock of beluga whale is likely from nonpoint source pollution.

The Eagle River Flats in Fort Richardson, near Anchorage are also listed as impaired due to the presence of white phosphorus due to sustained military munitions activity in the area. This impairment is not new, and there is no scientific information indicating any appreciable effect on the Cook Inlet stock of beluga whales.

Nonpoint source pollution in Cook Inlet has not significantly increased since 2000 and is subject to increasing storm water discharge control requirements.

7. Water Quality Monitoring and Assessment

The Clean Water Act (CWA) mandates that each state develop a program to monitor the quality of surface and groundwaters and prepare a report describing the water quality. The U.S. Environmental Protection Agency (EPA) then compiles and summarizes the information from all the state reports and sends this information to Congress. The process for developing information on the quality of the nation's water resources is contained in several sections of the CWA: Section 305(b) requires that the quality of all waterbodies be characterized; Section 303(d) requires that states list any waterbodies that do not meet water quality standards.

As part of these efforts, ADEC has been monitoring water quality levels for the Kenai River, which ultimately empties into Cook Inlet. In past years, hydrocarbon levels have been exceeded slightly for 1 to 2 days during peak river use in summer, attributable in part to the use of sport fishing boats with outboard engines. In the 2006 Integrated Report, the Kenai River was placed on the Category 5/Section 303(d) list of impaired waters for non-attainment of the petroleum hydrocarbons water quality standard. As part of this process, ADEC and other involved agencies will be developing a restoration plan for improving the water quality in the Kenai River. Regulatory actions have already been implemented in 2007 to reduce hydrocarbons from outboards on the Kenai River. In addition, ADEC also has water quality records of Kenai Peninsula streams, which includes data on temperature. Temperature of water bodies can have an affect on the fish reproduction, timing of fish runs and fish mortality.

In 2006, ADEC published a report *Alaska Monitoring and Assessment Program: The Condition of Southcentral Alaska's Bays and Estuaries Technical Report and Statistical Summary.* This report provides a regional survey of water quality, sediment and biological indicators. These can provide a baseline of the ecological condition of this region, which includes many sampling locations within Cook Inlet and surrounding areas. Metals, petroleum hydrocarbons, and other general water quality parameters were analyzed that may be useful in assessing potential impacts to Cook Inlet's beluga whales. No scientific information available to date demonstrates that water quality is having any appreciable affect on the Cook Inlet stock of beluga whales.

Other Potential Developments Affecting Cook Inlet

Plans were announced in 2006 regarding development of Cook Inlet's Beluga coal fields as part of the Chuitna Coal Project. This project is located 45 miles west of Anchorage and involves coal to liquids fuel technology. This project is currently in the preliminary permitting stages. In June 2006, the EPA released the Draft Scoping Document for a Supplemental Environmental Impact Statement (EIS). The effects of this proposed development will become clearer once the EIS process is completed and plan are solidified in anticipation of applying for a permits. There may be issues related to noise from construction, loading conveyors, and vessel traffic, that are not regulated by ADEC, but these impacts can be limited by other agencies under either direct authorities or through the ACMP program..

Fish Tissue Monitoring

ADEC has been involved in a fish tissue monitoring project, which included some sampling of fish in Cook Inlet. ADEC's Fish Tissue Testing Program was put into place to determine the safety of Alaskan seafood, including subsistence species. These fish tissue test results include fish that are eaten by beluga whales in Cook Inlet. Results from the program so far include tissue samples from 119 fish from Cook Inlet, with the following species sampled: pacific cod (6), pacific halibut (28), lingcod (18), walleye pollock (11), yelloweye rockfish (7), salmon (26), and spiny dogfish (1). Tissue samples were analyzed for arsenic, cadmium, chromium, nickel, lead, selenium, methylmercury, and total mercury. In almost every case, statewide average and median metal concentrations were higher than those for Cook Inlet. The only notable exception was yelloweye rockfish tissue, which had higher methylmercury and total mercury concentrations than the statewide average. Even in yelloweye rockfish, the higher methylmercury and total mercury concentrations were not significantly higher than the statewide average.

ADEC Summary

The EPA's March 2006 Environmental Assessment of Reissuance of NPDES Permit for Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters in Cook Inlet, Alaska noted the following in its discussion of threatened and endangered species:

> *Long-term minor adverse effects on threatened and endangered species would be expected from discharge from new sources with the implementation of the draft NPDES permit under Alternative 1 (Note: This was EPA's final permit preferred alternative). The effects discussed(in the analysis] apply equally to threatened and endangered species, i.e., the threatened and endangered species that occur in Cook Inlet are not likely to inhabit waters close to the permitted activities and are therefore unlikely to be affected by discharges from oil and gas facilities. Furthermore, with respect to water quality, the Final Environmental Impact Statement (FEIS) for the Cook Inlet Planning Area oil and gas lease sales concluded that the "potential effects from either or both sales would not cause any overall measurable degradation to Cook Inlet water quality" (MMS 2003).*

Similar conclusions can be made for other discharges to Cook Inlet. All discharges are subject to increasingly more stringent regulatory controls, significantly greater than those in place during the 1970s and 1980s when the majority of the development in Cook Inlet occurred. There is no scientific evidence showing any impacts on the Cook Inlet stock of beluga whales from water pollutants has occurred in the past and such impacts are even more unlikely under the more stringent standards now in place.

Alaska Department of Natural Resources Role in Habitat Protection

The following is a summary of the Alaska Department of Natural Resources' (DNR) regulatory authorities and a compilation of mitigation measures that pertain to beluga whales. This information is organized by administrative division, providing contact information.

OFFICE OF PROJECT MANAGEMENT & PERMITTING

The Office of Project Management and Permitting (OPMP) houses the Large Project Permitting section (LPP) and is tasked with responsibility and authority of administering Alaska's Coastal Management Program (ACMP).

Large Project Permitting

The LPP functions are found under AS 38.05.020(b)(9), which requires the Commissioner of DNR to coordinate permitting activities for all large resource development projects, and AS 27.05.010(b) which requires DNR to be the lead agency for permitting all large mine projects. LPP's goal is to ensure that all aspects of a large project are considered during a single review and approval process. The LPP is currently coordinating the permitting of mining, oil and gas, and transportation projects, including the Chuitna Coal Project in the Cook Inlet watershed.

LPP assigns a project manager to serve as the primary contact for a large project. The project manager coordinates the permitting activities of the state team assigned to work on the project. The Large Project Team is an interagency group, coordinated by LPP, to work cooperatively with project applicants and operators, federal resource agencies, and the Alaskan public to ensure that projects are designed, operated, and reclaimed in a manner consistent with the public interest. The project manager's primary responsibility is to ensure a coordinated process with minimum duplicity of efforts. This often involves tailoring the process to fit specific project needs.

The goal of the State's Large Project Team is to coordinate the timing and completion of the numerous permits. The team reviews all the complex technical documents generated during the process and provides coordinated comments. The team also coordinates stakeholder involvement and provides a single point of contact for the public. The team provides the public, agencies, and the applicant the opportunity to view the project as a whole.

The requirement for the federal authorizations usually triggers the requirement for an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). The State usually participates as a cooperating agency in the EIS process, and the team endeavors to dovetail the State's permitting process with the EIS process. For example, during the Pogo Mine process, the public Draft EIS included drafts of all the major State permits. This gave the public the opportunity to see how the State's management decisions could be implemented on the ground and enabled them to comment on the project as a whole.

The Large Project Team also coordinates, to the extent possible, with local governments. For example, the team has been working closely with the City and Borough of Juneau throughout the permitting and EIS process for the Kensington Mine. The City's Conditional Use Permits are critical authorizations for the mine and may place additional stipulations on the project.

Alaska Coastal Management Program

The ACMP facilitates the implementation of various beluga whale conservation measures at several distinct levels during land and resource planning processes, as well as at the level of individual project planning and development. Below is a bulleted list of these responsibilities of the Office of Project Management and Permitting (OPMP):

1. Pre-application assistance & meetings. The OPMP is tasked with arranging and scheduling meetings between a prospective developer and the agency personnel that would be reviewing, critiquing, and writing permits to authorize a given development project. These meetings provide an invaluable opportunity for industry to meet face-to-face with agency scientists and resource managers. Oftentimes beluga issues are brought to an applicant's attention at these meetings. Thus, when a developer is made aware of potential wildlife conflicts and/or potential adverse impacts of their planned project ahead of time, the finalized plan of operation or facility footprint is substantially modified before permit applications are even filed. At these meetings, prospective applicants are made aware, if they are not already, of the need to design and site facilities so as to be consistent with statewide standards and district enforceable policies. Applicants are also made aware of the (oftentimes) many distinct special-interest groups that need to be "kept in the loop" for the planning/approval process. This list typically includes subsistence oversight groups, Native Tribes, Native Councils, commercial or recreational fishing interests, environmental groups, etc.

2. Requirements/Standards for what review materials need be submitted. Applicants need to provide OPMP and review participants with:
   (1) completed Coastal Project Questionnaire;
   (2) map(s) identifying the location of the project and adjacent facilities, diagrams, technical data, and other relevant material;
   (3) description of any man-made structures or natural features that are at or near the project site;
   (4) an evaluation of how the proposed project is consistent with the state standards and with any applicable district enforceable policies, sufficient to support the consistency certification;

   These materials are of paramount importance in assisting agency personnel as well as the public review a given project for its potential impacts to coastal uses and resources. It is partially with these materials that a review participant can suggest alternative measures that will improve a proposed development project. Similarly, the requirement imposed by the coastal consistency review process for federal agencies to submit consistency evaluations along with draft plans (for example, OCS oil & gas leasing plans) enables a more thorough review and comment adjudication.

3. Public process/ public review. Most State and federal agency authorizations (permits) go through both public and agency review processes often coordinated by the OPMP. This fulfills many agencies responsibility for posting/distributing public notice. It also provides a key tool wherein US Fish and Wildlife Service, Alaska Department of Fish and Game, State agency biologists, the public, and the coastal district can raise attention to scientific, social, and/or environmental concerns relative to beluga habitats or beluga

population dynamics or health of a given proposed plan or project. Plan adoption and/or individual authorizations for a given project must, through the coastal consistency review process that is adjudicated by the OPMP, be deemed consistent with ACMP standards before said permit is issued or plan is adopted. Oftentimes the OPMP will have to negotiate and include specific alternative measures designed to minimize potentially adverse impacts to belugas into a project description before it can be deemed consistent and permits can be written.

4. Program Plans and District Enforceable Policies. The OPMP assists coastal districts develop and adopt Program Plans and District Enforceable Policies. According to statewide standards of the ACMP, as well as the local enforceable policies, the ACMP review process functions as a tool for adding restrictions or mitigating measures (in the form of Alternative Measures) to the authorizations that are issued.

5. Resolve Conflicts. The OPMP works to act as a facilitator to attempt to resolve conflicts among the resource agencies, an affected coastal resource district, &/or an applicant--before, during, or after a project is permitted.

6. Other. Where the specific aspects of an activity that would otherwise be subject to authorization by the ADEC are not subject to that department's authorization because the activity is either a federal activity or is located on federal land or the OCS, the ADEC can review, comment on, and/or add alternative measures to said activity ***only*** through the ACMP. Thus, the ACMP provides a very valuable role in its being the only venue for the State to comment on, allow, disallow or make modifications to certain federal actions or private activities located on federal land or the OCS. This leverage is of paramount importance in areas that also happen to be crucially important as habitat for belugas.

7. Statewide Standards. Specific statewide standards and enforceable policies that have bearing on conserving belugas and beluga habitat include:
   - **11 AAC 112.230. Energy facilities.** (a)(1) The siting and approval of major energy facilities by districts and state agencies must be based, to the extent practicable, to minimize adverse environmental and social effects while satisfying industrial requirements;
   - **11 AAC 112.230. Energy facilities.** (a)(2) The siting and approval of major energy facilities ... must be based, to the extent practicable, to be compatible with existing and subsequent adjacent uses and projected community needs;
   - **11 AAC 112.230. Energy facilities.** (a)(11) The siting and approval of major energy facilities ... must ... minimize the probability, along shipping routes, of spills or other forms of contamination that would affect fishing grounds, spawning grounds, & other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds...
   - **11 AAC 112.230. Energy facilities.** (a)(12) The siting and approval of major energy facilities ... must ... allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns;

- **11 AAC 112.230. Energy facilities.** (a)(13) Major energy facilities should be sited so that areas of particular ... environmental, or cultural value ... will be protected;
- **11 AAC 112.270. Subsistence.** (a) A project within a subsistence use area designated by the department or under 11 AAC 114.250(g) must avoid or minimize impacts to subsistence uses of coastal resources. (b) For a project within a subsistence use area designated under 11 AAC 114.250(g), the applicant shall submit an analysis or evaluation of reasonably foreseeable adverse impacts of the project on subsistence use as part of (1) a consistency review packet submitted under 11 AAC 110.215; and (2) a consistency evaluation under 15 C.F.R. 930.39, 15 C.F.R. 930.58, or 15 C.F.R. 930.76.
- **11 AAC 112.300. Habitats.** (b) (1) Offshore areas must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
- **11 AAC 112.300. Habitats.** (b) (2)(B) Estuaries must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
- **11 AAC 112.300. Habitats.** (b) (5)(A) Rocky islands and sea cliffs must be managed to avoid, minimize, or mitigate significant adverse impacts to habitat used by coastal species (5) rocky islands and sea cliffs must be managed to avoid, minimize, or mitigate significant adverse impacts to habitat used by coastal species;
- **11 AAC 112.300. Habitats.** (b) (6)(C) barrier islands and lagoons must be managed to avoid, minimize, or mitigate significant adverse impacts from activities that would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;

DIVISION OF OIL AND GAS

Background: oil and gas areawide leasing

The purpose of areawide leasing is to provide an established time each year that the State will offer for lease all available acreage within five geographical regions. In 1999 the Division of Oil and Gas prepared a best interest finding for the Cook Inlet region. The finding is in effect for 10 years. The Cook Inlet Areawide finding covers an area of approximately 4.2 million acres.

Prior to a sale, DNR issues a request for new information that has become available since the most recent finding for that sale area was written. Agencies and the public are given a comment period to provide new information. Based on information received, DNR will determine whether there is "substantial new information" that justifies a supplement to the finding. A supplement to the finding or a "decision of no substantial new information" is issued approximately 90 days prior to the sale. The final best interest finding for the Cook Inlet Areawide was issued on

January 20, 1999, and supplemented on May 20, 2000, February 18, 2004, and again on February 21, 2007.

The Best Interest Finding and Supplements are available on the Division's website: http://www.dog.dnr.state.ak.us/oil/products/publications/cookinlet/cookinlet.htm

In 1999, the Service identified 126 tracts in Cook Inlet that are, in the Service's opinion, important beluga whale habitat. DNR worked with the Service to develop mitigation measures that would allow oil and gas exploration, development and production to go forward, while still protecting beluga habitat. Nonetheless, as a result of litigation, leasing of the tracts identified by the Service was stayed by the Superior Court in Cook Inlet Keeper v Alaska, Case No. 3AN-99-3343CI.

A July 28, 2000, Superior Court Order affirmed the Cook Inlet Areawide 1999 Oil and Gas Lease Sale Final Best Interest Finding and Consistency Determination in all parts, exclusive of the Cook Inlet beluga whale population issues relative to 126 tracts that were remanded for additional consideration. The Service made recommendations that allowed for a resolution of the beluga tracts.

The Service recommendations addressed all Cook Inlet lease sale tracts. They segregated the tracts into three categories: Category One contained all tracts in Upper Cook Inlet that have the highest observed use by beluga whales, including nearshore areas along the west and north shoreline, Knik Arm, and Turnagain Arm; Category Two contained all other nearshore tracts which have also been identified as concentration areas during summer periods; and Category Three contained all other sales tracts.

NMFS recommended:

- oil and gas exploration and development (permanent or temporary) should not occur in Category One tracts, unless it occurs on upland tracts;
- leasing of Category Two tracts be conditioned such that no permanent surface entry or structures occurs (other than upland areas), and that all temporary activities and structures (e.g. exploration drilling) occur only between November 1 and April 1 of each year; and
- no specific conditions for Category Three tracts.

To address these recommendations, the following "Mitigation Measures" were added to the Best Interest Finding under the "Facilities and Structures" section:

> 32. No permanent offshore structures will be allowed, and temporary structures will be allowed only between November 1 and April 1 of each year, within the following tracts: 126, 127, 129 thru 132,161, 162,175, 177, 211, 218, 257, 301, 302, 373, 376, 377, and 384.
>
> 33. No offshore facilities will be allowed, both temporary and permanent, within the following tracts: 320 thru 334, 391 thru 409, 462, 464 thru 475, 485, 486, 493, 494, 497, 498, 522, 524 thru 537, 540, 541, 544, 547 thru 552, 559, 575 thru 577, 579, 581, 582, 585, 586, 590, 593, 594, 598, 616 thru 618, 620 thru 623, 627, 655 thru 658, and 662.

The Cook Inlet Areawide tract map is available online at:
http://www.dog.dnr.state.ak.us/oil/products/publications/cookinlet/ciaw2007/CI2007_Tractmap_Med_4%20Mb.pdf

In addition, the Service recommended that a Lessee Advisory concerning beluga whales be included in the Cook Inlet Areawide Oil and Gas Lease Sale Best Interest Finding, as quoted below.

> 9. Endangered and Threatened Species: The Lessee is advised that the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.) protects the following endangered or threatened species and candidate species for listing that may occur in the lease sale area:
>
> | Common Name | ESA Status |
> |---|---|
> | a. Fin whale | Endangered |
> | b. Sei whale | Endangered |
> | c. Steller sea lion (western stock) | Endangered |
> | d. Beluga whale (Cook Inlet stock) | Candidate |
> | e. Steller's eider (Alaska breeding population) | Threatened |
>
> The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) is the agency responsible for management of marine mammals with the exception of sea otters, polar bears and Pacific walrus that, in addition to migratory birds, are managed by the U.S. Fish and Wildlife Service (USFWS).
>
> NMFS and the USFWS have requested that the Lessee be further advised that:
>
> - Offshore seismic operations may result in the taking[1] of marine mammals. Such taking is prohibited by the Federal Marine Mammal Protection Act (MMPA), unless otherwise authorized. The incidental taking of marine mammals may be authorized under the MMPA, and each operator should discuss this matter with NMFS well in advance of any geophysical survey activity.
>
> - The USFWS has determined that oil and gas exploration and development activities within three miles of the eastern shore of Cook Inlet, from Clam Gulch to the southern bounds of the lease sale area, is likely to adversely affect[2] Steller's eiders. Each operator is advised to consult with the USFWS well in advance of any activities in this area.
>
> NMFS, USFWS, and ADF&G will continue annual monitoring efforts to further delineate the presence and distribution of species administered under the ESA and

[1] Under the MMPA, "take" means: harass, hunt, capture, collect, or kill attempt to harass, hunt, capture, or kill any marine mammal.
[2] Under the ESA, "take" means: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. "Harm" is further defined by USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. "Harass" is further defined by FWS as intentional or negligent actions that create the likelihood of injury to listed species to such extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering.

MMPA. The Lessee is advised to annually acquire updated information from these agencies.

In addition, lessees are required to implement oil spill prevention, control, and countermeasures plans and the use of explosives is restricted in marine waters:

Mitigation Measure 1
Oil and hazardous substance pollution control: In addition to addressing the prevention, detection, and cleanup of releases of oil, contingency plans (C-Plans) for oil and gas extraction operations should include, but not be limited to, methods for detecting, responding to, and controlling blowouts; the location and identification of oil spill cleanup equipment; the location and availability of suitable alternative drilling equipment; and a plan of operations to mobilize and drill a relief well.

Lessee Advisory 1
The use of explosives for seismic activities with a velocity of greater than 3,000 feet per second in marine waters is prohibited.

Permitting and Compliance Program

The Permitting and Compliance Unit within the Division of Oil and Gas approves Plans of Operation for activities on State oil and gas leases, geophysical exploration permits, and miscellaneous land use permits on all State lands and waters. Bonding requirements must be fulfilled prior to any activity. Geophysical exploration activities are governed by 11 AAC 96.

Plan of Operations applications are reviewed for compliance with stipulations and mitigation measures in the oil and gas lease. Most proposed activities in the coastal zone must meet the standards of the Alaska Coastal Management Program and go through a public comment period.

The Permitting and Compliance Unit also performs field inspections to see that operations are conducted in conformance with the terms and conditions contained in the approval.

DIVISION OF MINING, LAND AND WATER

The Division of Mining, Land and Water (DMLW) has the responsibility and authority to manage all commercial (excluding oil and gas exploration and development activities) and recreational use of State land and waters and resources on those lands. In Cook Inlet, Turnagain Arm, and Knik Arm, this includes the tidelands and submerged lands that have not been conveyed to the cities or boroughs. Although DMLW does not manage the navigable use of the marine waters, it does authorize docks, buoys, fiber optic cables, dredging, and other uses of the tide and submerged land.

The DMLW authority primarily comes from AS 38.05, AS 41.23, and AS 46.15. This DMLW authority is overlapped by the authority of the Division of Oil and Gas for oil and gas leasing and development and that of the Joint Pipeline Office for common carrier pipeline right of ways.

Land Management Plans

The DMLW is responsible for writing area plans and management plans for State lands. This is done through a public process to create the policy and guidance of how the lands will be managed. This process includes consideration of tide and submerged lands, sensitive habitats, and development needs.

Area plans provide management guidance to authorizations issued by DNR on the protection of fish and wildlife resources through two components: areawide policies and specific management units occupying State uplands or tidelands.

Areawide policies: The Kenai Area Plan applies ACMP requirements derived from District Plans as well as statewide ACMP standards for the protection of sensitive fish and wildlife, including tideland areas. In this case, the Kenai District Plan requires that "***uses and activities within or adjacent to coastal waters shall not interfere with migration or feeding of whales***." In addition, the Kenai Area Plan has the following mitigation policy, quoted below:

> **C. Mitigation.** The following mitigation policy will apply where coastal district mitigation policies are not in effect for state lands.
>
> 1. When authorizing the use or development of state lands, the Department of Natural Resources and the Department of Fish and Game will evaluate the requirements of the activity or development and the benefits or impacts it may have to habitat when determining stipulations or measures needed to protect fish and wildlife or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of this policy.
>
> 2. All land use activities should be conducted with appropriate planning and implementation to avoid or minimize adverse effects on fish and wildlife or their habitats.
>
> 3. The department will enforce stipulations and measures, and will require the responsible party to remedy any significant damage to fish and wildlife or their habitats that may occur as a direct result of the party's failure to comply with applicable law, regulations, or the conditions of the permit or lease.
>
> 4. When determining appropriate stipulations and measures, the department will apply, in order of priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also follow these steps.
>
> a. Avoid anticipated, significant adverse effects on fish and wildlife or their habitats through siting, timing, or other management options (see Table 2.3 for timing guidelines)

b. When significant adverse effects cannot be avoided by design, siting, timing, or other management options, the adverse effect of the use or development will be minimized.

c. If significant loss of fish and wildlife habitat occurs, the loss will be rectified, to the extent feasible and prudent, by repairing, rehabilitating, or restoring the affected area to a functional state.

d. DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps "a" through "c" cannot avoid substantial and irreversible loss of habitat. The Department of Fish and Game will clearly identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. Replacement or enhancement of similar habitats of the affected species in the same region is preferable. DNR will consider only those replacement and enhancement techniques that have either been proven to be, or are likely to be, effective and that will result in a benefit to the species impacted by the development.

Replacement or enhancement will only be required by DNR if it is determined to be in the best interest of the state either through the original Best Interest Finding process (AS 38.05.0335(e)) or through the permit review process. Replacement may include structural solutions such as creating spawning or rearing ponds for salmon, creating wetlands for waterfowl, or non-structural measures such as research or management of the species affected, legislative or administrative allocation of lands to a long-term level of habitat protection that is sufficiently greater than that which they would have otherwise received, or other management practices to increase habitat productivity.

Management units: The Turnagain Arm area is affected by the Kenai area plan and the Turnagain Arm management plan. The management intent for the tidelands from the management plan requires that these areas be retained in public ownership and managed for multiple uses, with a management emphasis of protecting recreational opportunities, the high scenic values of the Seward Highway corridor, and the protection of fish and wildlife habitat. The Kenai area plan identifies specific management requirements for tidelands within the Kenai Peninsula Borough in units 503 and 504. Both of these management units recognizes the importance of this area as a summer feeding area for Beluga whales and co-designate the tidelands as Habitat/Public Recreation. DNR must ensure, when issuing authorizations within Turnagain Arm, that sensitive habitats and fish/wildlife resources are maintained and, specifically, that the summer feeding area for Beluga whales are protected.

The Knik Arm area is not affected by an area plan. The Willow Subbasin, one of our first area plans, did not provide management intent or include specific management units for tidelands and submerged lands. This plan is currently being updated and will include this information when finalized. The revision process should take over a year and once completed, DNR will have specific management requirements for this resource which will provide direction for the issuance of subsequent authorizations.

Land Use Authorizations

DMLW authorizes land uses through permits, leases, rights of way, sales, and other authorizations. All DMLW authorizations are granted in accordance with the plans or, if they deviate from the plan, a public process is conducted to allow an exception or amend the plan. These authorizations are to assure that any operation is conducted in a manner that will prevent unreasonable degradation of the land and water resources and that the management requirements of area plans are met. In addition, since these marine areas are in the coastal zone, authorizations must first be deemed consistent with the Alaska Coastal Management Program plans and enforceable policies. DMLW will consider these plans and place any restrictions or mitigating measures in the authorizations through stipulations to protect the social or environmental concerns, inclusive of critical habitats.

DMLW's statutes and regulations are fairly general and are non-specific regarding beluga related issues. For example, the authority for attaching stipulations to DMLW permits is 11 AAC 96.040 (b) "*Each permit is subject to any provisions the department determines necessary to assure compliance with this chapter, to minimize conflicts with other uses,* ***to minimize environmental impacts,*** *or otherwise to be in the interests of the state.*" Leasing statutes and regulations also do not have any specific language except under AS 38.05.073 where commercial recreation leasing plans **must consider fish, wildlife** and other resources affected by the specific recreation facilities. However, an overriding statute in AS 38.04.005(b) requires that DNR must consider natural resources and conditions present on the land and seek to **minimize the adverse effect of private settlement on wildlife, fishery**, mineral, timber, and other significant resources of the land when determining how to provide for maximum use of State land consistent with the public interest.

For surface coal activities authorized by DMLW, a fish and wildlife protection plan, under 11 AAC 90.081, must be developed to **prevent or minimize disturbance and adverse impacts on fish, wildlife, and related environmental values** to protect, enhance, or mitigate effects to threatened, endangered, or important species if they can reasonably be expected to be affected by the proposed activates. The plan must include protective measures to be used during active mining operations and enhancement measures to be used during the reclamation and post-mining phases to develop aquatic and/or terrestrial habitats.

Most all other authorizations go through public and agency review process where Alaska Department of Fish and Game, OHMP, ADEC, EPA, Army Corps of Engineers, or the U.S. Fish and Wildlife Service can bring attention to any environmental concerns about a proposed project. DMLW will then address those concerns when creating the authorization. If agencies identify specific habitat or species that would be directly impacted by the proposed project, DMLW will work with those agencies to develop mitigating measures that would be required of the permit applicant.

At present, most authorizations in this area contain no specific stipulations regarding belugas, but many contain some form of hazardous substance stipulations, such as these quoted below:

a) All fuel, petroleum and other toxic agents stored or utilized by the processing vessel must not be transferred while moored and must be contained or confined in a manner which would prevent any spillage from entering the adjacent water body.

b) The permittee shall take all reasonable precautions to prevent water pollution, erosion, or sediment on or in the vicinity of the permitted area. This includes, ensuring that the discharge of wastewater from the processing vessel shall be from a USCG-certified Type II [Marine Sanitation Devis] *MSD and that the anchor systems shall be free of oil, grease and other pollutants.*

c) Discharges of waste petroleum products or liquid wastes of any kind, not authorized under the EPA discharge permit AK-00586-8, is prohibited.

d) The Permittee is responsible for contacting the Department of Environmental Conservation (DEC) office for plan review and approval of their methods for sewage disposal and potable water.

e) The buoy and running lines shall be sited so as to avoid interference with navigation for the purpose of public use and enjoyment, existing fisheries, or other authorized uses.

OFFICE OF HABITAT MANAGEMENT AND PERMITING

Under its Title 41 authorities, the Office of Habitat Management and Permitting (OHMP) reviews proposed development activities to evaluate effects of that activity on fish passage and fish habitat. As needed, OHMP adds conditions to its permits to eliminate or minimize these effects. Maintaining fish passage and fish habitat helps protect fish populations, some of which may be utilized by beluga whales. OHMP biologists also review, comment, and suggest stipulations for the Division of Oil and Gas lease sales and ACMP reviews.

STATE PIPELINE COORDINATOR'S OFFICE

The State Pipeline Coordinator's Office (SPCO) administers pipelines authorized under AS 38.35, the Right-of-Way Leasing Act. Typically, right-of-way leases will contain conditions and stipulations to protect fish and wildlife resources; examples of each are included below. In addition, construction and operation activities associated with common carrier pipelines on the North Slope are governed by the ACMP process, which is described above.

Example of Lease Conditions (quoted below):

11. Mitigative, Preventive, and Abatement Activities Required (a) The LESSEE will, at its own expense in accordance with the terms of this LEASE and in the manner set forth in the appropriate plans and programs developed pursuant to Stipulation 2.5.1:
(1) maintain the LEASEHOLD and PIPELINE SYSTEM in good repair;
(2) promptly repair or remedy any damage to the LEASEHOLD; and
(3) promptly compensate for any damage to or destruction of property for which the LESSEE is liable, resulting from damage to or destruction of the LEASEHOLD or PIPELINE SYSTEM.

(b) The LESSEE shall prevent or, if the procedure, activity, event or condition already exists or has occurred, shall abate, as completely as practicable, using the BEST PRACTICABLE TECHNOLOGY AVAILABLE and in the manner set forth in the appropriate

plans and programs developed pursuant to Stipulation 2.5.1, any physical or mechanical procedure, activity, event or condition:

(1) that is susceptible to prevention or abatement;

(2) that arises out of, or could adversely affect, PIPELINE activities; and

(3) that causes or threatens to cause

(A) a hazard to the safety of workers or to the public health or safety (including but not limited to personal injury or loss of life with respect to any PERSON or PERSONS); or

(B) immediate, serious, or irreparable harm or damage to the environment (including but not limited to soil, sediments, water and air quality, areas of vegetation, fish or other wildlife populations or their habitats, or any other natural resource).

(c) Unless clearly inapplicable, the requirements and prohibitions imposed upon the LESSEE by this LEASE (including the Stipulations thereto) are also imposed upon the LESSEE's employees, and the LESSEE's agents and contractors and the employees of each of them. The LESSEE shall ensure compliance with this LEASE (including the Stipulations thereto) by its employees and by its agents and contractors, and the employees of each of them.

13. Orders and Notices (a) The COMMISSIONER may issue any order necessary to enforce or implement any provision of this LEASE. Before delivery of any such order, the COMMISSIONER shall confer with LESSEE, if practicable to do so, regarding the required action or actions included in the order. Any such order shall state in detail what is demanded of LESSEE and the reasons and basis for such demand.....

(i) In coordination with the FERC, and consistent with applicable State and Federal law, the COMMISSIONER may, by written order, require the LESSEE to make such modification of the PIPELINE SYSTEM as the COMMISSIONER determines is necessary to:

(1) protect or maintain stability of the foundation and other earth materials;

(2) protect or maintain integrity of the PIPELINE SYSTEM;

(3) control or prevent significant damage to the environment (including but not limited to soil, sediments, water and air quality, areas of vegetation, fish or other wildlife populations or their habitats, or any other natural resource); or

(4) remove hazards to public health and safety, including the activities of the LESSEE, the LESSEE's agents, and contractors, and the employees of each of them.

15. Temporary Suspension (a) The COMMISSIONER may, consistent with applicable State and Federal law, order the temporary suspension of any or all PIPELINE activities, if

(1) an immediate temporary suspension of the activity or the activities is necessary to protect:

(A) public health or safety (including but not limited to personal injury or loss of life with respect to any PERSON or PERSONS); or

(B) the environment from immediate, serious or irreparable harm or damage (including, but not limited to harm or damage to soil, sediments, water and air quality, areas of vegetation, fish or other wildlife population or their habitats, or any other natural resource); or

Additional Example of Lease Stipulations (quoted below):

2.5 DESIGN CRITERIA, Plans and Programs

2.5.1 The LESSEE shall submit DESIGN CRITERIA to the COMMISSIONER. The LESSEE shall also submit comprehensive plans and/or programs (including schedules where appropriate) which shall include but not be limited to the following:

(25) Human/Carnivore Interaction

Plan Purpose and Objective: This plan will provide design criteria and basic methodologies for various pipeline activities that will be used to minimize human/carnivore interactions and will describe the measures to be employed to provide employees with adequate training and knowledge to deal with the potential dangers associated with interactions between humans and bears and other carnivores.

Performance Standard: The LESSEE shall minimize the occurrence of human-carnivore interactions during pre-construction, CONSTRUCTION, operation and maintenance, and TERMINATION activities by taking measures to prevent interactions between humans and carnivores. This plan shall contain personnel safety guidelines developed in consultation with the Alaska Department of Fish and Game (hereinafter "ADF&G").

2.15.5.2Zones of Restricted Activities

2.15.5.2.1 Activities of the LESSEE in connection with CONSTRUCTION, operation, maintenance and TERMINATION of the PIPELINE SYSTEM in key fish and wildlife areas and in specific areas where threatened or endangered species of animals are found may be restricted by the COMMISSIONER during periods of fish and wildlife breeding, nesting, spawning, lambing and calving activity, over-wintering, and during major migrations of fish and wildlife. The COMMISSIONER shall provide the LESSEE written notice of such restrictive action. At least annually, and as far in advance of such restrictions as is possible, the COMMISSIONER shall furnish the LESSEE an updated list of those areas where such actions may be required, together with anticipated dates of restriction.

2.15.5.3Big Game Movements

2.15.5.3.1 The LESSEE shall design, construct and maintain both the buried and above ground sections of the PIPELINE so as to assure free passage and movement of big game animals.

DIVISION OF FORESTRY

The Alaska Forest Resources and Practices Act (FRPA, AS 41.17) governs how timber harvesting, reforestation, and timber access occur on state, private, and municipal land. Forest management standards on federal land must also meet or exceed the standards for State land established by the Act. The FRPA was originally adopted in 1978. Major revisions were adopted in 1990 to address riparian management on private land, enhance notification procedures for timber operations, reorganize the Board of Forestry, and establish enforcement procedures. Additional changes to the stream classification system and riparian management standards were adopted in 1999 for Region I (coastal Alaska) and in 2003 for Region III (interior Alaska). Review of the standards for Region II (southcentral Alaska) is in progress.

Purpose. The FRPA balances economic concerns for the timber industry with water quality and habitat protection needs. It protects fish habitat and water quality, ensures prompt reforestation,

and helps the timber and fishing industries provide long-term jobs. This framework provides certainty and credibility for landowners, operators, and the public.

Key provisions. The FRPA:

- Establishes a process for landowners to notify the State before beginning commercial timber operations. This is not a permit process. Tight timeframes are set for agency review of notifications, and timber operations can proceed if the agencies do not respond within the set time frame.
- Sets standards for forest management along waterbodies, including buffers, and provides flexibility to harvest valuable trees within buffers when it can be done without harming fish habitat or water quality. Harvest within buffers requires agency approval. Buffers are tailored to the conditions in each region.
- Sets standards to prevent erosion from roads and harvest areas into waterbodies.
- Requires reforestation except where land will be converted to another use, or where the harvest area is significantly composed of dead or dying trees.
- Provides one-stop shopping for forest operation compliance with state and federal clean water and coastal management standards.
- Authorizes DOF to enforce the Act through directives, stop work orders, and citations for violations.

Best management practices (BMPs). Regulations adopted under 11 AAC 95 also establish BMPs for road construction and maintenance, and for timber harvesting. These standards are designed to prevent adverse impacts to fish habitat and water quality from timber operations.

Regions and applicability. Alaska is divided into three forest practices regions. Region I covers coastal forests from Southeast Alaska through Prince William Sound, the eastern Kenai Peninsula, the Kodiak Archipelago, and parts of the Alaska Peninsula. Region II is the boreal forest south of the Alaska Range. Region III is the boreal forest in Interior Alaska.

The FRPA applies to commercial timber operations on forestland, including harvesting, road building, site preparation, thinning, and slash treatment operations on forestland. Operations must comply with the FRPA if they are larger than 10 acres in Region I or larger than 40 acres in Region II. In Region III, it applies to operations larger than 40 acres for forest landowners that own more than 160 acres in total. All commercial harvest operations that encompass or border surface waters or a riparian area also must comply with the Act, regardless of their size.

SUMMARY OF REGULATORY MECHANISM

Existing regulatory mechanisms for the protection of the Cook Inlet stock of beluga whales and its habitat are extensive. There is no scientific evidence that a failure of any of these mechanisms, other than the former lack of a mechanism to restrict harvest, contributed to the decline of the Cook Inlet stock of beluga whales. Likewise, there are no scientific data showing any of the increasingly more stringent mechanisms for conservation of the Cook Inlet stock of beluga or its habitat are inadequate for recovery of the stock from prior unsustainable harvest.

Chapter 4
Identification of Critical Habitat or Essential Physical and Biological Features for this Species

As defined in the Endangered Species Act (ESA), critical habitat includes geographic areas and features essential to the conservation of the species, which may require special management consideration or protection. This includes specific areas outside of the area presently occupied where such areas are essential to the conservation of the species. Therefore, in order to identify critical habitat or essential physical elements for the Cook Inlet stock of beluga whales, the Service must be able to identify their geographic range and features important to conservation. The 2007 proposed rule (19857) concludes "*the present range of the Cook Inlet beluga is limited to Cook Inlet waters north of a line from Cape Douglas to Cape Elizabeth.*" However, published literature documents beluga sightings throughout the Gulf of Alaska. The literature also addresses speculation of why the more recent sightings are primarily in upper and middle Cook Inlet. Previous tagging studies in Cook Inlet were very limited and the resulting movements may be limited because beluga whales tend to move in family units. With no current tagging studies and no studies across several family units, the information acquired on the geographic range of the Cook Inlet stock of beluga whales is of limited value in assessing which areas should be considered for critical habitat designation.

In our upcoming discussions with the National Marine Fisheries Service (Service), we will urge that a final conservation plan include additional research on whale movements. For example, we will propose additional tagging of the Bristol Bay stock of beluga whales that may occasionally disperse into the Gulf of Alaska based on current genetics analysis of the Cook Inlet whales. (See Chapters 1 and 3) We will also urge that acoustics research be carefully designed with multidisciplinary experts to identify beluga whale, orca, prey, and other species movements throughout the Inlet.

As described for the development of a final conservation plan (Chapter 3), the State of Alaska (State) urges that the Service establish a multidisciplinary team to convene a series of workshops whose goals are to identify studies than can address specific objectives for the acquisition of need information on the beluga whales and the essential features of their habitat. As written in the draft conservation plan, the Service places a heavy influence on the upper part of Cook Inlet without explaining why other areas are not important. It may be possible that belugas are affected by factors in the lower part of the Inlet, or even in the Gulf of Alaska, particularly in winter when they are feeding in deeper waters for resident fish and shellfish. Other federal agencies have considerable information on federal fisheries research and monitoring in the lower Inlet and outer waters that should be added to the data base. We recommend that the proposed habitat "GIS" coverage be expanded to include bathymetric information, hydrology, prey distribution, and geologic information for the whole inlet.

An evaluation of habitat must also consider that the geology and hydrology of Cook Inlet is dynamic. For example, the 1964 earth quake caused the Chickaloon Bay and other parts of Turnagain arm to rapidly subside but some areas appear to be slowly returning to its pre-quake

levels. The delta created by the sediments from the Susitna River is ever-changing in its form and water channels. These are all factors that could affect the physical habitat of the Cook Inlet stock of beluga whales. Many agencies and institutions have considerable data which need to be evaluated in addition to prey abundance, movements, and other factors. We conclude that the Service has not fully evaluated available scientific and commercial data and urge that a comprehensive and coordinated effort be implemented before any determinations of critical habitat are made. In Chapter 5, we also provide substantial information as requested in the 2007 proposed rule (19861) on the economic attributes within the Cook Inlet region that could be impacted by critical habitat designation. As part of that evaluation, pursuant to section 4(b)(2) of the ESA, we urge the Secretary of Commerce to consider the economic impacts of such a designation in Cook Inlet and exclude areas, which provide significant economic benefit to the State and region, from designation of critical habitat because there is no scientific information that such exclusion will result in extinction of the species.

Chapter 5
Examples of Economic or Other Relevant Impacts of Designation of Critical Habitat

The State of Alaska, as trustee of the fish and wildlife within Alaska's boundaries, shares with the Service the responsibility for continued survival and recovery of the Cook Inlet stock of beluga whales. Therefore, the beluga population's survival and recovery is of paramount importance to the State. As discussed in Chapters 1-3, the State finds no basis for the Service's proposal to list the Cook Inlet beluga whale DPS as endangered and concludes that existing regulatory mechanisms and management actions adequately assure that the habitat will be protected. Consequently, the State concludes that no critical habitat or primary constituent elements (PCE) should be designated. This conclusion is based on the lack of scientific or commercial information and analyses regarding the status of the population that would support an ESA listing. This conclusion is not based on the potential significant economic or other impacts that would accompany an ESA listing and critical habitat designation.

If, despite the lack of scientific basis, the Service lists the Cook Inlet stock of beluga whale under ESA, then the Service will evaluate critical habitat and PCE for possible designation. Chapter 5 provides the State's comments requested by the Service in the 2007 proposed rule (19861) related to the fifth ESA listing factor: "*(5) Economic or other relevant impacts of designation of critical habitat.*" This chapter also addresses the following statement and solicitation for information (19861):

> *The ESA directs the Secretary of Commerce to consider the economic impact of designating critical habitat, and under section 4(b)(2)* ***the Secretary may exclude any area from such designation if the benefits of exclusion outweigh those of inclusion,*** *provided that the exclusion will not result in the extinction of the species. We are considering proposal of critical habitat for the Cook Inlet beluga whale in a separate rulemaking. To assist us with that rulemaking,* ***we specifically request information on the economic attributes within the Cook Inlet region that could be impacted by critical habitat designation,*** *as well as identification of the PCEs or "essential features" of this habitat and to what extent those features may require special management considerations or protection.* (emphasis added)

Information regarding existing regulatory mechanisms which protect critical habitat and essential physical or biological features for the Cook Inlet stock of beluga whales are addressed in Chapter 3. Thus, this chapter addresses the current economic attributes of the Cook Inlet region and beyond that could be impacted by an ESA listing, the required ESA Section 7 consultation, and a critical habitat designation. If the Cook Inlet stock of beluga whale is listed as an endangered species under ESA, Section 9 "*prohibits certain activities that directly or indirectly affect*" the species by any individual, organization, or agency subject to United States jurisdiction (19860). The activities discussed below are examples of activities that directly or indirectly could be interpreted to affect the Cook Inlet stock of beluga whales.

Range of public activities potentially impacted:

Before identifying potential economic impacts or attributes affected by an ESA listing, the range of activities potentially involved must be identified. Under Section 7 of ESA, all federal agencies are required to consult with the Service to ensure that activities which the agencies authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify critical habitat. Examples include "*. . . permits and authorizations relating to coastal development (including seismic exploration), toxic waste and other pollutant discharges, Federal fishery management plans, and cooperative agreements for subsistence harvest.*" The proposed rule (19858) specifically references the following proposed developments and ongoing activities that are planned and permitted within Cook Inlet that could be impacted by a critical habitat designation:

> *(1) Major expansion to the Port of Anchorage, which requires filling more than 135 acres of intertidal and subtidal habitat, with increased in-water noise from pile driving, dredging, and expanded port operations; (2) Port McKenzie expansion as a commercial port facility directly across a narrow portion of upper Cook Inlet from the Port of Anchorage; (3) the proposed Knik Arm Bridge, which would increase in-water noise with both construction and operational activities and would occupy a portion of upper Cook Inlet that is presently undeveloped and provides important beluga feeding and other habitats; and (4) construction and operation of a large coal mine and marine terminal along the west side of upper Cook Inlet, near the Native Village of Tyonek. Ongoing activities that may impact this habitat include: (1) continued oil and gas exploration, development, and production; and (2) industrial activities that discharge or accidentally spill pollutants (e.g., petroleum, seafood processing, ship ballast, municipal wastewater treatment systems, runoff from urban, mining, and agricultural areas).*

The types of developments and activities impacted by a critical habitat designation may also include vessel traffic for subsistence, recreational, and commercial fishing on the rivers and in marine waters throughout the Cook Inlet watershed. Activities may also include military operations, state regulated timber and mining activities, air transportation into the airports and for access to remote sites, state management of fish species that are prey to beluga, shipping, cruise ships, and many other routine activities, perhaps reaching as far as upland wetland fill permits necessary for home construction.

The majority of the State's populous throughout the State depends upon the shipping into and transportation out of Anchorage, and over half of the state's population reside near or engage in the activities described above associated with the Cook Inlet watershed. **Identifying which activities could be affected by a critical habitat designation and then estimating the economic impact of additional permitting requirements and stipulations will require more comprehensive evaluation than is possible during this public comment period. Consequently, the State comments provide only examples and discuss the economics of select activities related to possible critical habitat designation. More detailed economic analysis will be necessary prior to any designation of critical habitat.**

Geographic range of habitat or PCE potentially designated:

A review of "*Habitat areas identified for CI beluga whales*" in Figure 5 of the 2005 draft Conservation Plan includes all of Cook Inlet (including Kachemak Bay) out to the Barrier Islands as the known range. (Other publications document beluga sightings on the south side of the Alaska Peninsula, around the coast of Kodiak Island, throughout Prince Williams Sound, and areas in the Gulf of Alaska) Based on the petition to list and testimony by the petitioners at public hearings, the Service will be pressured to list all of Cook Inlet as critical habitat and to list certain fish species as PCE. Although the Service recognizes that these activities and current habitat conditions did not contribute to the decline in the Cook Inlet stock of beluga whale, **an ESA listing may lead to a critical habitat designation. If a critical habitat designation includes the entire marine waters of Cook Inlet, it may also affect many activities occurring on land that potentially use fresh waters that run into the Inlet, thus affect the economies of all the communities surrounding the Inlet.** The potential economic impact of the beluga whale listing and critical habitat designation is difficult to assess and will largely depend on how a Beluga Recovery Plan is written, the nature and extent of the critical habitat designated, how the critical habitat designation impacts Section 7 consultation on existing permitting, and other regulatory mechanisms. This is difficult to predict since there is no identifiable cause for the recovery of the Cook Inlet stock of beluga whales being slower than was predicted by the Service.

Commercial activities or attributes within Cook Inlet watershed:

OIL AND GAS

Modern exploration in Cook Inlet began in 1955 when Richfield Oil Corporation began exploration on the Kenai Peninsula in the Swanson River area. Oil was discovered on July 23, 1957. This discovery began an oil rush in south central Alaska. Shortly after the Swanson River discovery, Standard Oil Company of California and Richfield formed a joint venture to explore for oil. Additional wells were drilled in the Swanson River area, and more onshore leases were taken on both sides of Cook Inlet. Several other oil companies moved in to participate in leasing and drilling activities on the Kenai Peninsula. By 1959, 187,000 barrels of crude oil were produced annually. The State's first competitive sale was held December 10, 1959, bringing the State more than $4 million in bonus bids. By 1960, further development of the Swanson River and Soldotna Creek Units raised annual oil production to 600,000 barrels. Five other Cook Inlet fields began production between 1965 and 1972. In 1962, Pan American Petroleum Corporation discovered the first offshore oil in Cook Inlet. This led to extensive exploration throughout the Cook Inlet region in the 1960s and 1970s. Chevron opened a refinery in 1963. The Tesoro refinery began operating in 1969. Cook Inlet production peaked at 83 million barrels per year in 1970 and declined to 7 million barrels per year in 2005.

More recently, the West McArthur River field began production in 1993 and Redoubt oil field in 2002. All Cook Inlet oil is currently shipped to the Tesoro refinery at Nikiski on the Kenai Peninsula. Oil from fields on the west side of Cook Inlet is transported by pipeline to the Drift River terminal then transported to Nikiski. Oil from the eastside fields is shipped by pipeline directly to the refinery. By year-end 2005, the Cook Inlet tallied more than 1.3 billion barrels of cumulative oil production, including about 11 million barrels of natural gas liquids.

Cook Inlet gas production began as a by-product of Swanson River oil development. As more oil and gas fields were discovered, nearby markets for the gas were developed in Anchorage and Kenai to supply space heat and electricity generation. In 1968 Unocal launched the ammonia-urea plant at Nikiski to take advantage of the abundance of cheap stranded natural gas. This plant was acquired in 2000 by Agrium Inc. of Calgary, Alberta. In 1969, Phillips and Marathon began operating the liquid natural gas (LNG) plant, also located at Nikiski.

LNG exports to Japan accounted for about a third of total Cook Inlet gas production. Total industrial use of Cook Inlet gas, including LNG exports, fertilizer manufacture, and oil field operations, has remained fairly constant at about 75 percent of total consumption since 1990. Cook Inlet natural gas production has remained relatively stable at an average of 203 Bcf per year from 2001 to 2005. In recent years, the steady increase in residential and commercial demand for space heating and electric power generation has been balanced by declines in oil field operations and reduced fertilizer production.

The history of Swanson River gas production differs from other Cook Inlet fields. Initially, gas was imported from other fields and injected into Swanson River to enhance oil recovery. In 1992, the operator began to "blow-down" the reservoir. In recent years, the Swanson River field became a major net gas producer in Cook Inlet and, since 2005, has been transformed into a federally approved gas storage facility with approximately 2 Bcf of annual storage capacity. The State approved two gas storage facilities in Cook Inlet in depleted reservoirs at Pretty Creek and Kenai Field, which contribute 0.7 and 6 Bcf, respectively, annual storage capacity to the Cook Inlet gas pipeline system.

The Cook Inlet sale area encompasses approximately 4 million acres divided into 815 tracts ranging in gross area from 640 to 5,760 acres. The sale area consists of state-owned uplands and tide and submerged lands lying between the cities of Houston to the north, Homer to the south, the Chugach and Kenai mountain ranges to the east, the Aleutian Range to the west, and within Cook Inlet. In this year's sale (May 24, 2007), 45 tracts were sold (213,120 acres) bringing in $2.3 million in bonus bids.

Cook Inlet oil production peaked at 230,000 barrels per day in 1970 and declined to 19,500 barrels per day in 2005. Oil production in Cook Inlet is expected to continue beyond 2025, including oil production from the Beaver Creek field and other non-state lands. Oil and gas exploration drilling since 2000 in Cook Inlet is driven by strong demand and rising prices for both oil and gas, coupled with decline in production from existing fields.

In summary, the majority of developments along the Inlet occurred in the 1960s and 1970s. While the population in the communities has grown, the additional oil and gas facilities and related developments throughout the Inlet have occurred at a slow pace and have been tightly regulated by the responsible state and federal agencies. This development occurred without impact to the beluga population. In 2001, gas reserves in south central Alaska were estimated to be at about a nine year supply. Over the past 6 years, there have been about 30 exploratory wells drilled in Cook Inlet compared with approximately 226 exploratory wells from 1955 through 1999. (See Table below) That approximate rate of exploration can be expected to increase over the next two decades, as the limitations on gas supply in Southcentral Alaska become more

severe. There are, however, no indications of a rapid and imminent increase in exploration. The economic value of that activity, in drilling alone, is roughly $200 - $300 million. Support services such as roads and facilities and other indirect and induced economic benefits to the area (primarily to the Kenai Peninsula) add much more.

Table: Oil and gas exploration wells and gas fields discoveries in Cook Inlet, 1955-2003.

Time Period	Number of exploratory wells drilled	Number of gas fields discovered	Success ratio (%)	Estimated ultimate recovery (Bcf)
1955-60	17	5	29.4	2,603.50
1961-65	42	9	21.4	3,575.23
1966-70	85	6	7.1	1,814.86
1971-75	29	1	3.4	10.86
1976-80	14	1	7.1	8.19
1981-85	13	0	0	0
1986-90	5	0	0	0
1991-95	11	2	18.2	139.78
1996-00	10	3	30.0	151.72
2001-03	14	1	7.1	100.00 (?)
Total	240	28	11.7	8,404.14

Source: "South-Central Alaska Natural Gas Study", June 2004, Prepared for the US Dept. of Energy, National Energy Technology Laboratory, Arctic Energy Office, Contract: DE-AM26-99FT40575

Chevron currently has a $200 million program to find new oil and gas in Cook Inlet. ConocoPhillips and Pioneer Natural resources are also active in Cook Inlet and optimistic about the prospects. Escopeta Oil contracted for a drilling rig to be approved for use in Cook Inlet in 2007 for both oil and gas exploration. The economic value with the renewed interest in Cook Inlet oil and gas will be substantial, especially to the Kenai Peninsula Borough.

It is uncertain how a beluga recovery plan may impact the economics for exploration and development of oil and gas in Cook Inlet. However, it has only been the recent spike in natural gas price that made the Inlet once again attractive for exploration. Additional costs associated with beluga recovery plan requirements and Section 7 consultation could curtail enthusiasm due to significant regulatory delays and increased costs.

COAL

The Cook Inlet – Susitna Coal Provence hosts significant coal resources and include the Beluga, Kenai, Matanuska, Susitna, and Yentna coal fields. There are numerous coal leases on the Beluga and Matanuska coal fields, but no active mining is occurring at this time. The Alaska Department of Natural Resources has issued several coal exploration and mine permits within these coal fields and is in the process of coordinating the permitting of one proposed coal mine.

Beluga Field

The Beluga field is one of Alaska's most accessible sources of steam coal. Potentially mineable coal occurs in the Capps (B1), Chuitna (B2), and Threemile (B3) districts within 6 to 25 miles of port sites on Cook Inlet. Several coal seams have been identified in the area east of the Chuitna River (Diamond Coal Co., 1986); and in the area west of the Chuitna River (Placer Dome, 1986).

The Chuitna Coal Project is a surface coal mining and export development located in the Beluga coal field of Southcentral Alaska, approximately 45 miles west of Anchorage, near Tyonek. The project is based on the development of a 300 million ton, ultra low sulfur, sub bituminous coal resource, the center of the mine pit will be approximately 12 miles from the coast of Cook Inlet. The project area is largely undeveloped except for a system of primitive roadways that remain as a result of previous oil and gas exploration and production and logging activities. The workforce to support operations is anticipated at 350 people from Anchorage and the Kenai Peninsula.

The proposed Project includes: a surface coal mine and associated support facilities (Chuitna Coal Mine); mine access road; coal transport conveyor; personnel housing; air strip facility (Chuitna Project Infrastructure); a logistic center; and coal export terminal (Ladd Landing Development). The coal export terminal is currently proposed to include a 10,000-foot trestle constructed into Cook Inlet for the purpose of loading ocean-going coal transport ships. The mine will be positioned in close proximity of the Chuitna River and Lone Creek. The Chuitna River is anticipated to be proposed for use for some of the mine's wastewater and will be regulated closely by several State entities to assure its quality is protected, particularly for anadromous fish habitat. PacRim Coal, the project applicant predicts a minimum 25-year mine life based on the proven reserves in one of three mining areas within the 20,571 acre coal lease area.

If beluga whales are listed under ESA and the proposed loading area is listed as critical habitat, this would likely delay and in other ways impact construction plans of the trestle due to the required Section 7 consultation. Such delays or additional stipulations, beyond the tightly regulated mechanisms already in place under state and federal authorities, will affect the project's construction and operational economics. At the present time, studies are being conducted in anticipation of steps to reduce hydrology and noise impacts from the trestle during construction and operation in order avoid impacts to beluga and other biological and physical features of the habitat. The total economic benefit to south central Alaska from this proposed project throughout its expected life is projected to be in the hundreds of millions of dollars.

Kenai Field
The Kenai Field contains three districts – the Kenai onshore, Kenai offshore, and Seldovia – Port Graham districts (K1, K2, & K3). Coals of the Beluga and Tyonek Formations underlie extensive areas of Cook Inlet, and it is estimated that 532 million short tons of coal occur in beds more than 20 feet thick to a depth of 10,000 feet.

Matanuska Field
This field is located in the Matanuska Valley of South Central Alaska near the head of Knik Arm, 50 miles NE of Anchorage. This field contains the Wishbone Hill district, the Chickaloon district, and the Anthracite Ridge District (M1, M2, & M3). The Wishbone hill district ranks second in historic coal production; 7 million short tons of bituminous coal were extracted for railroad, power plant, and domestic use prior to 1968 (Barnes & Payne, 1956). Rocky Mountain

Energy (1986) identified 17 million tons of surface mineable coal in the Western and Northeastern parts of the Wishbone hill district. The higher ranked coals of the Chickaloon and Anthracite Ridge districts have not been fully explored due to their structural complexity (Waring, 1936).

The Wishbone Hill Mine lies at the western end of the Wishbone Hill Coal district on the southwestern extent of Wishbone Hill approximately seven miles north of Palmer, Alaska. The project is based on the development of a 13 million ton, ultra low sulfur, bituminous coal resource. The project targets four main coal seam groups area proposed for mining utilizing a truck and shovel operation. The workforce to support operations is anticipated at 100 people from Anchorage and the Matanuska-Susitna Borough.

The Jonesville Coal Mine is located in the Matanuska Valley approximately two miles northwest of Sutton, Alaska, near the southeast portion of Wishbone Hill. Mining has been conducted in this area since about 1916, and portions of as many as six separate coal seams have been removed in the past by both underground and surface methods. The project consists primarily of a surface spoils re-mining operation targeting the refuse of the former Evan Jones coal washing facility. Most of the surface disturbance will be associated with the surface re-mining operation. Annual production of re-mined material is expected to range between 350,000 and 750,000 tons.

Susitna Field
The Susitna field contains two districts: the Susitna Flats district and the Little Susitna district. Extensive areas of coal that probably correlate with the Beluga or Sterling Formations of the Kenai Group underlie the Susitna Flats district. In the area north of the Castle Mountain fault, oil-well logs show seams up to 15 feet thick in 2,000 feet of Kenai Group rocks that overlie granitic basement. Just south of the Castle Mountain fault, a well log shows a total of 301 feet of coal in 37 seams in an 8,500 foot section of the Tyonek Formation. The test well did not reach basement (Conwell, Triplehorn, and Ferrell, 1982). The Susitna district has a potential resource of 14.7 million tones of coal that is borderline between high-volatile bituminous and subbituminious A (Barnes and Sokol, 1959).

Yentna Field
Coal seams exposed in the area north of the Beluga Field generally occur in the Conglomerate and Sandstone members of the Tyonek Formation (Reed & Nelson, 1980). Less well-known than the Beluga Field, the Yentna contains drill-proven reserves in the outlying Canyon Creek and Johnson Creek districts (Y1 & Y2). The identified resources, to a depth of 250 feet and with less than a 10: 1 waste/coal ratio, are greater than 500 million short tons in the combined districts.

PORT OF ANCHORAGE

The Port of Anchorage (POA) is a Commercial Strategic Seaport serving the majority of the residents, communities, and activities within the State of Alaska. Ninety percent of all consumer goods provided to eighty percent of the State's population (along the rail belt, Aleutians, Interior Alaska, Western Alaska, and the Arctic) transit through the port. The POA also handles consumer goods for all military installations in the State and supports the rapid military deployment of the US Army's Stryker Brigade Combat Team, Aviation Task Force, and

Airborne Brigade Combat Team. When the POA officially began operations in September 1961, 38,000 tons of cargo moved across its single berth in one year. In the years since, the POA has expanded to five berths and handles five million tons of cargo, generating more than $750 million for the State's economy.

The POA delivers jet fuel directly from the Port through pipelines to two military bases. In addition, the POA currently stages 100% of the exports of refined petroleum products from the State's largest refinery and facilitates petroleum deliveries from several smaller refineries in the State. The POA also handles delivery of approximately eighty percent of all fuel for the Ted Stevens Anchorage International Airport, the busiest cargo airfield in the United States (measured by landed weight).

The POA currently is undergoing a comprehensive expansion program to replace aging infrastructure and enhance its ability to serve the State of Alaska as a major marine cargo and cruise complex. This expansion includes creating and developing land; constructing advanced road and rail infrastructures; constructing longer and deeper dock spaces with the ability to accommodate today's larger ships; renovating and relocating existing dock structures and facilities; expanding gas and oil pipelines; and upgrading utility and communication infrastructure. Pre-expansion, the POA occupied 129 acres of land—approximately 120 acres of which serve as Port administration and tenant lease area—with the remaining approximately nine acres dedicated to road and circulation areas. Post-construction, the POA will have added 135 new acres of land, significantly increasing traffic movement throughout major industrial areas and in particular along the main arterial route supporting a combination of commercial, employee, and visitor traffic. The POA is fully operational without closure 365 days a year regardless of Alaska's harsh weather conditions.

The Port of Anchorage is the economic life line that serves the majority of Alaska. Any disruption of the Port's activities, would economically impact most, if not all, of the State of Alaska.

TOURISM

Current summer visitor volume estimates for the Kenai Peninsula total 439,000.[1] On average, visitors spend $934 per person while in Alaska, not including the cost of transportation to enter and exit the State. For the Kenai Peninsula region where visitors tend to spend an average of 5.3 nights, this amounts to a total of $419 million and includes money spent by air, cruise, and highway travelers. The following table illustrates estimated Kenai Peninsula average spending by visitors by transportation mode:

Total Estimated Visitor Expenditures in Kenai Pennisula Area (Millions of Dollars) Summer 2006 by Mode

	All Visitors	Air	Cruise	Highway /Ferry
Total in-state spending	$419	$247	$134	$38

Source: AVSP Summer 2006

[1] Alaska Visitor Statistic Program Summer of 2006 conducted by McDowell Group for the Department of Commerce, Community and Economic Development.

Tourism impacts will be immediately felt. Any water-based activity from cruise ships to boat tours and commercial sport fishing might be limited or curtailed depending on areas designated as critical habitat and how a beluga recovery plan is written. For example, in 2005 the Kenai Peninsula's taxable primary tourism sales totaled $84.2 million accounting for 10 percent of total taxable sales. (source: http://www.borough.kenai.ak.us).

Visitor Taxable Sales by Community in the Kenai Peninsula Borough, 2000 - 2005							
Year	Homer	Kenai	Seldovia	Seward	Soldotna	Other	Kenai Pen Borough Total
2000	$ 12,487,597	$ 4,827,106	$ 440,636	$ 19,561,615	$ 3,204,886	$ 27,178,838	$ 67,700,678
2001	$ 13,134,430	$ 5,090,686	$ 323,902	$ 19,560,607	$ 3,438,109	$ 26,947,338	$ 68,495,072
2002	$ 14,371,079	$ 4,699,916	$ 315,411	$ 20,304,667	$ 4,323,213	$ 26,900,296	$ 70,914,582
2003	$ 14,580,419	$ 4,520,163	$ 309,491	$ 20,358,596	$ 4,030,155	$ 27,290,295	$ 71,089,119
2004	$ 15,963,723	$ 4,693,265	$ 302,136	$ 21,557,817	$ 4,506,852	$ 30,665,855	$ 77,689,648
2005	$ 17,155,060	$ 5,067,795	$ 302,759	$ 23,867,140	$ 4,742,653	$ 33,136,577	$ 84,271,984
Source:http://www.borough.kenai.ak.us/Econ/1S_P%20data/VisitorIndustry/Sales.htm							

Additionally, visitor industry business licenses totaling 8,055 in 2005 and representing 25 percent of total borough-wide businesses, account for 2,060 jobs or twelve percent of borough employment.[2] An important tourism-based employment segment is the Kenai River registered guides. The number of registered guides increased rapidly during 1985 – 1997, from 171 to 400. The number of guides in 2005 was 407. These guides operate on waters within the Cook Inlet watershed that could be impacted by additional restrictions on their activities.

Additional information for communities throughout southcentral and the Cook Inlet watershed can be acquired from the following statewide tourism links:
Alaska Office of Tourism Development: http://www.commerce.state.ak.us/oed/toubus/home.cfm
Alaska Travel Industry Association: http://www.alaskatia.org/

SHORE FISHERIES AND AQUATIC FARMING

Shore fisheries authorized by the Alaska Department of Natural Resources (DNR) currently include approximately 345 leases, or lease applications, in Cook Inlet (including Kachemak Bay). During a fishery opening period, as determined by the Alaska Department of Fish and Game, set gillnets are suspended in the tide, harvested, and as the water ebbs the nets are removed from the tidelands to be cleaned and repaired. Some of the leases are for off-shore sites and must be tended by boat. Set net fishing activity occurs during the summer months of June through August. After fishing is completed, no gear or buoys remain on the tidelands. DNR collects approximately $103,500 per year in fees from these leases. We do not have specific information on the true economic impact of the fishery because the leases are only issued to one individual per site. Often the extended family or multiple families participate in fishing one lease site, so the economic benefit is spread substantially. This estimated ex-vessel value and other economic benefits of the commercial Cook Inlet set net fishery are discussed in greater depth in the commercial fishing section of this chapter.

Aquatic farming currently authorized by the Alaska Department of Natural Resources includes approximately 18 leases in Cook Inlet; all are in Kachemak Bay. DNR collects approximately $13,600 from the leases in Cook Inlet. One report estimates the total economic value of those

[2] http://www.borough.kenai.ak.us/Econ/1S_P%20data/VisitorIndustry/Earnings.htm

leases at approximately $414,000. The distribution of these leases within the larger Kachemak Bay is: 3 in Kachemak Bay itself, 4 in Jakalof Bay, 2 in Kasitsna Bay, 3 in Peterson Bay, and 6 in Halibut Cove. They range in size from .23 to 28.6 acres, with the median being 1.95 acres. The sites are primarily for suspended oyster growth on gear comprised of vertical leads attached to buoys and mesh baskets in which the oysters grow. These are suspended in the water column and should not lay on the bottom of the ocean floor.

TRANSMISSION LINES AND PIPELINES

Approximately 22 transmission lines and oil and gas pipelines are permitted by DNR on tide and submerged lands in Cook Inlet. Most all of these rights of way were issued just after statehood in the 1960s and 1970s. These lines are either buried or laid on the submerged lands and since covered by mud. DNR expects to receive more applications for relocation or maintenance of existing facilities, construction of new facilities for new oil and gas discoveries, alternative energy projects (such as Fire Island wind generators), and tidal power generators in Cook Inlet. No new oil or gas discoveries have been announced, but there is renewed exploration activity in Cook Inlet. At present there is only one test tidal power project near Point MacKenzie on Matanuska-Susitna Borough tidelands. If that project is successful, there is a chance to see more tidal generators placed in Cook Inlet. The placement of the array of generators depends on many factors including tidal energy, substrate conditions, ice flows, navigation obstructions, and fishery considerations. The only impact from the proposed Fire Island wind farm would be the submerged power cable to the mainland.

OTHER FACILITIES

The Agrium Facility

The Agrium facility on the Kenai Peninsula could see significant expansion in the near future, which will likely involve expanded tidelands facilities, including a coal unloading facility. Agrium has a long history in Alaska, with its roots in Cominco Fertilizers Ltd which dates back to 1931.

The Kenai plant is located on the east side of Cook Inlet on the Kenai Peninsula and boasts a tidewater terminal. Products are shipped from this facility by ocean-going vessels to many parts of the world including South Korea, Mexico, and Taiwan. Kenai produces anhydrous ammonia and urea. Annual urea capacity is 640,000 tons and net ammonia capacity is approximately 280,000 tons. Kenai Storage Facility can store 73,000 tons of ammonia and 118,000 tons of dry product. Shipping is primarily by water; however, some product is shipped by truck to local agricultural and industrial markets. Agrium employs about 150 people; the employees remain on the payroll over the winter.

Port MacKenzie

Port MacKenzie is strategically placed as an area for commercial and industrial expansion adjacent to Anchorage. The Port is the only south central port site not constrained by urbanization. The 14 square miles of uplands are dedicated solely for commercial/industrial development. A ferry, bridge, and railroad spur are all programmed for Port MacKenzie. The ferry is scheduled to start operating between Anchorage and Port MacKenzie in summer 2007. Current business includes 'NPI, LLC,' an exporter of wood chips that invested $3 million in the

Deep-Draft Dock and $20 million in a new road, commodities storage pad, conveyor system, and equipment. The Deep-Draft Dock's total project costs were approximately $15.4 million; aside from the creation of new jobs in the Matanuska-Susitna Borough, the project is estimated to produce $220,000 to 600,000 in annual wharfage and dockage fees.

The ferry terminal building at Port Mackenzie was completed in October 2006, ahead of schedule. The terminal is a 7,000 square feet, two-story facility. Funding for the construction of the terminal was acquired from a Federal Transit Administration grant, and the total cost of the project was approximately $4.5 million.

Port MacKenzie consists of a 500' bulkhead barge dock at -20' mean lower low water (MLLW), a 1,200' long deep-draft dock at -60' MLLW, and 8,940 acres (14 square miles) of adjacent uplands which are available for commercial lease. There is also a filter rock ramp adjacent to the south wingwall which is useable two hours before high tide until two hours after high tide for vessels with ramps. This allows for heavy equipment to be driven on/off the dock. The dock has a gravel surface with a load capacity of 1,000 lbs. /sq ft. The deep-draft dock is equipped with a 5' wide conveyor system capable of loading bulk commodities at 2,000 tons/hour.

Cook Inlet Ferry System
This is currently in the planning/build out stage. The ferry is now under construction. Two docks are being planned for upper Cook Inlet. Permits are in place for the Knik side, the Municipality of Anchorage has yet to issue permits for the Anchorage landing. Total investment for the project is $44.8 million. The two planned docks could be affected if Cook Inlet beluga whales are listed under ESA.

Knik Arm Bridge Crossing
The Knik Arm Bridge and Toll Authority (KABTA), was established by the Alaska Legislature in 2003 to construct a bridge across the Knik Arm of Cook Inlet to link Anchorage to the Matanuska-Susitna Borough. To date, efforts to build the bridge have cost $33 million, and another $10 million is budgeted for 2007. KABATA hopes to have the bridge operational by 2010. The Federal Highway Administration has not released an environmental impact statement for the project, which KABATA completed on February 6. The fate of the proposed bridge could be affected if Cook Inlet beluga whales are listed under ESA.

MUNICIPAL WASTEWATER DISCHARGES

Since the early 1980s, Anchorage Water and Wastewater Utility (AWWU) of the Municipality of Anchorage has operated under a waiver of Section 301(h) of the Clean Water Act, allowing AWWU to discharge wastewater without secondary treatment. This waiver was given in recognition of the high mixing capacity of the tidal flats in the discharge zone, the limited number (<20) of permitted industrial discharges in AWWU's service area, and regular toxicity tests demonstrating a lack of harm to marine wildlife.

Kenai and Homer have both primary and secondary treatment facilities in place, so it is fair to state that those communities would **not** face the same level of prospective financial burden as Anchorage if an upgrade were required. Currently, AWWU of the Municipality of Anchorage is in good standing with the EPA. In spite of the track record, an ESA listing of beluga whale

would increase operational costs to rate payers due to the imposition of stricter wastewater discharge standards. A potential worst case scenario would result if the facilities permit were not reauthorized. Facility upgrades to comply with new standards could cost AWWU utility rate payers $400 - $600 million.

The following additional information is excerpted from correspondence by Craig Woolard, Ph.D., P.E., Treatment Division Director, Anchorage Water and Wastewater Utility:

> *. . .the Asplund facility which has operated since October, 1985 under a Clean Water Act 301(h) waiver which permits discharge of primary treated effluent to Cook Inlet.*
>
> *In order to operate under a 301(h) waiver, AWWU conducts extensive monitoring of our treatment facility and Cook Inlet to verify that our activities are not impacting the environment. These monitoring requirements are over and above those normally placed on conventional secondary treatment plants to insure the receiving body of water is not degraded. Our monitoring activities are too numerous to mention in total here but include:*
>
> - *Influent, effluent and sludge monitoring for conventional compounds (biochemical oxygen demand, total suspended solids, fecal coliform bacteria) and toxic pollutants and pesticides (126 priority pollutants that include metals and cyanide) and organics.*
> - *Receiving water quality monitoring to determine effluent plume dispersion and compliance with water quality standards.*
> - *Biological and sediment monitoring to measure toxicity of the effluent to standard test species, sediment quality, the concentration of bacteria in the Inlet, and the bioaccumulation of effluent constituents in local species (e.g., algae, salmon and cod).*
>
> *AWWU also administers an Industrial Pretreatment Program to enforce the MOA sewer ordinance and prevent local industries from discharging wastes that could impact treatment performance or Cook Inlet water quality. AWWU also supports a non-industrial source control program that partially funds the MOA hazardous waste collection facilities to prevent the introduction of harmful wastes into the sewer system.*
>
> *The monitoring data show that over the last 20 years, the performance of the Asplund facility has been excellent. This facility has been operated to meet effluent limits and requirements specified in the NPDES permit and 301(h) Waiver. In fact, the Asplund treatment process achieves removal rates that are much higher than typical primary treatment facilities. The discharge itself contains very low concentrations of metals or organic materials and meets discharge requirements and water quality standards. In addition, Knik Arm provides rapid mixing and dispersion of wastewater discharged by the Asplund facility into the marine waters off Point Woronzof. As a result, our monitoring in Knik Arm has found no evidence of any significant impact of the discharge on the water quality of Cook Inlet or Cook Inlet beluga whales.*
>
> *NMFS concurred with this assessment as part of our 2000 permit renewal. As part of the permitting process, EPA prepared a biological evaluation of site-specific water quality*

criteria for the Point Woronzof Area and concluded that that conventional pollutant and metals discharges allowed by the NPDES permit were not likely to adversely affect beluga whales. NMFS concurred with this determination in 2000.

In addition, EPA also conducted an Essential Fish Habitat Assessment as part of the permit renewal process and concluded that issuance of our discharge permit was not likely to adversely impact any essential fish habitat in the vicinity of the discharge. Again, NMFS concurred with these findings in 2000.

MINING

The Cook Inlet watershed includes all or portions of 11 mining districts with past production greater than 2 million troy ounces of gold; more than 143 million tons of sand and gravel and more than 9.5 million tons of rock in the past 25 years; 40,000 tons of metallurgical-grade chromium ore; and significant silver, copper, antimony, and coal. Total past production value of these commodities at current commodity prices exceeds $2.5 billion.

The area of the Cook Inlet watershed is richly endowed with mineral resources. There are over 1,500 known mineral occurrences in the Cook Inlet watershed tabulated in the Alaska Resource Data Files (ARDF) (http://ardf.wr.usgs.gov/). These mineral occurrences are about evenly split between placer gold and metallic lode sites. Significant gold, silver, copper, zinc, lead, nickel, platinum, chromium, tin, and antimony occurrences are known in the area, and these commodities are being aggressively explored by international mining companies in this region. In the past 5 years, mining companies have spent more than $27.5 million exploring for minerals in the south central region of Alaska. More than 10,186 mining claims and mining leases cover State and federal lands within the Cook Inlet watershed. Significant recent mineral discoveries, such as the Whistler copper-molybdenum-gold-silver prospect near Rainy Pass, the Lucky Shot gold prospect in the Willow Creek mining district, and the Golden Zone gold-silver-copper property near the Chulitna River, may be developed in the near future. The area's excellent infrastructure and proximity to a large workforce have and will continue to attract mineral exploration for the foreseeable future.

Currently, there are no large mines operating around Cook Inlet. However, there are a large number of mineral occurrences around the Inlet, particularly along the eastern flank of the Alaska Range. The Pebble prospect is the obvious prospect for a large mine in the foreseeable future. A number of companies are exploring in the area north and west of Iliamna near the Pebble prospect. On the other side of Cook Inlet, there is a chromite deposit at Red Mountain, on the southern end of the Kenai Peninsula. There is presently no activity on the deposit, but it has been mined in the past and could be developed in the future. The deposit is on Cook Inlet Region Inc. (CIRI) land. Full Metal Minerals is doing development drilling on the old Lucky Shot gold mine on upper Willow Creek in the Talkeetna Mountains, with a good possibility of developing that prospect into a working mine again. The Lucky Shot will likely be a small operation, and farther away from Cook Inlet. This deposit is small but has good values and could become a mine in the future. The Johnson River prospect is on CIRI land.

Currently no shoreline or offshore mining activities occur around Cook Inlet. Hemis Gold is beginning an offshore sampling program in the Anchor Point area this year.

The Pebble Project

The Alaska Department of Commerce, Community and Regional Development recently did an evaluation of the economics of a base case mining operation at the Pebble prospect. The base case considered that the mine would be developed as a combination underground and open pit operation with milling at site. Mineral concentrates would be shipped by pipeline to Cook Inlet to a port located near Williamsport.

It is anticipated that typical operation of Pebble, although not yet proposed by the operator, would involve mining 80,300,000 tons of ore annually. Development costs would be in the order of $4 billion for this typical scenario and employ several thousand persons, many from the immediate area. Direct operating employment would be in the order of 3,500 persons on a full time basis. Other elements of the base (typical) case would be:

- Power would be provided from the Kenai Peninsula
- Concentrates would be shipped worldwide for smelting and metals recovery
- Tailings from the milling operation at site would be placed in a tailings pond (lake) to prevent oxidizing and mobilizing sulfides and metals
- Cost of labor was assumed to be 40% of the total operating cost for the operations; wages would average $85,000 annually plus 35% burden and benefits
- The base case operating cost was calculated to be $12.50 per ton milled.

Operation of the property would have a significantly positive economic impact to southwest Alaska and the State. The results of preliminary tax calculations indicated that the mine would pay average annual revenues as follows:

- Municipal taxes of $23.3 M
- Total state revenues of $141.1 M (mining license and income taxes, production royalty and claim lease payments.

The project would contribute to indirect employment of a certain percentage, probably equal to or exceeding the direct employment at the operation. This would add at least another 3,500 jobs to the immediate area and the State. Fairbanks Gold's Ft. Knox property is estimated to contribute $180 million per year to the economy of Fairbanks and vicinity; the Pebble project would be several orders of magnitude larger than Ft. Knox suggesting a tremendous economic influence. This economic boost could easily be in the order of $500 million annually.

TIMBER

Approximately 39,203 acres of state, private, and borough land could be harvested for timber over the next 20 years within the Cook Inlet watershed. A summary of these harvests is shown below.

PROJECTED TIMBER HARVEST ACTIVITY IN COOK INLET WATERSHED **39,203 acres**

Division of Forestry estimates of likely timber harvest activity in the Cook Inlet watershed, 2007-2027. Actual harvests will depend on market demand and forest management decisions by the landowners.

		Total within 5 years (2007-2011)				Total within 5-20 years (2012-2027)			
		State	Other	Total	Notes	State	Other	Total	Notes
High Probability	Mat-Su	1,000	1,500	2,500	Small sales to local mills on state, Native, and Borough land; plus land use conversions on other private land; limited harvesting for chips	3,000	1,000	4,000	Small sales to local mills
	Kenai Peninsula	2,500		2,500	Ongoing sales of spruce beetle-killed timber	1,500		1,500	
	W.Side Cook Inlet	0	0	0					
Moderate Probability	Mat-Su	2,800	500	3,300	Additional harvesting for chips or pellets – 2800 acres State sales, 1000 ac Borough sales, approx. 1500 ac in Native sales+ private land use conversions	7,000-12,000	200-400	700-1200	Additional harvesting for chips or pellets
	Kenai Peninsula	7,000	2,000-5,000	9,000-14,000	Additional harvesting for pellets				
Low Probability	Tyonek		5,000	5,000	Harvesting for chips on Native and Mental Health land in Tyonek area		see notes		Harvests could occur on Tyonek land if harvest is not complete in first 5 years
	Tuxedni Bay		2,400	2,400	Native land at Crescent River				
	Kalgin Island	1,100		1,100					
	S. Kenai Pen.					500-1,000			Native land Seldovia to Port Chatham
	Jakolof Bay					500			Mental Health Land/Native land
	W. Side Cook Inlet					2,000			Native land

FISHERIES

The statutory responsibility of the Alaska Department of Fish and Game is to protect, maintain, and improve the fish, shellfish, and aquatic plant resources of the State, consistent with the sustained yield principle for the maximum benefit of the economy and the people of Alaska. The following comments address examples of the economic impact of designating critical habitat aspect of a proposed listing under ESA.

The Alaska Department of Fish and Game manages all fish stocks for sustained yield under the mandate of the Alaska Constitution and manages salmon according to the regulatory policy for the management of sustainable salmon fisheries, 5 AAC 39.222, which is based in part on the goal of ensuring "***conservation of the salmon and the salmon's required marine and aquatic habitats.***"

- **SUBSISTENCE FISHERIES**

Most of the waters of the Cook Inlet Management Area are within the Anchorage-MatSu-Kenai Nonsubsistence Area as established by the Joint Boards of Fisheries and Game (5 AAC 99.015(3)). Subsistence fisheries are not authorized within these nonsubsistence areas. Non-commercial harvesting opportunities are provided under sport and personal use fishing regulations.

Cook Inlet waters outside the nonsubsistence area include the Tyonek Subdistrict and the western portion of the Susitna River drainage in Upper Cook Inlet, plus those waters north of Point Bede which are west of a line from the eastern most point of Jakolof Bay north of the westernmost point of Hesketh Island including Jakolof Bay and south of a line west of Hesketh Island and the waters south of Point Bede which are west of the easternmost point of Rocky Bay, which are in Lower Cook Inlet. These are areas where the Joint Board found subsistence fishing and hunting to be a principal characteristic of the economy, culture, and way of life, the standard established by Alaska statute (AS 16.05.258(c)) to identify areas where subsistence hunting and fishing will be permitted.

Cook Inlet communities outside the nonsubsistence area include Skwentna (population 111 in 2000), Alexander (population 39), Tyonek (population 193), Seldovia (population 430), Port Graham (population 171), and Nanwalek (population 177). These communities have economic attributes directly linked to decisions regarding management of the subsistence fisheries and related access to those fisheries.

Outside the nonsubsistence area, the Alaska Board of Fisheries is required to identify fish stocks with customary and traditional uses and adopt regulations that provide a reasonable opportunity for subsistence uses of those stocks. If the harvestable surplus for any fish stock with customary and traditional uses is not sufficient to provide opportunities for all consumptive uses, non-subsistence uses must be restricted or eliminated before restricting subsistence fishing opportunities (AS 16.05.258). All Alaska residents are eligible to participate in authorized subsistence fisheries.

The Alaska Board of Fisheries has adopted regulations for 4 subsistence salmon fisheries in the Cook Inlet Area. Brief descriptions follow. For more detail, see Fall et al. 2007.

1. Port Graham and Koyuktolik Subdistricts. This subsistence setnet salmon fishery is located along the southern shore of outer Kachemak Bay in the Port Graham and Koyuktolik subdistricts of the Southern District and, beginning in 2002, the Port Chatham and Wind Bay subdistricts. Two Alaska Native communities, Nanwalek and Port Graham, are located in the Port Graham Subdistrict, and residents of these communities are the primary participants in the fishery. The recent (2001 to 2005) annual harvest for this fishery was 8,000 salmon (Table S1). For a detailed description of this subsistence fishery and other subsistence harvests and uses in Nanwalek and Port Graham, see Stanek (1985).

2. Seldovia Subsistence Salmon Fishery. This setnet fishery is located on the south side of Kachemak Bay in the vicinity of the community of Seldovia in the Southern District of the Lower Cook Inlet Area. It targets Chinook salmon runs passing through lower Cook Inlet and a separate enhanced Chinook run returning to Seldovia Bay. Coho salmon are targeted in a fall fishery. Most participants in the fishery live in Seldovia. The recent (2001 – 2005) annual harvest in this fishery was 342 salmon (Table S2).

3. Tyonek Subdistrict Subsistence Salmon Fishery. This subsistence setnet fishery is located in the Tyonek Subdistrict of the Northern District of upper Cook Inlet. The subdistrict includes the area from one mile south of the mouth of the Chuitna River south to the eastern-most part of

Granite Point and from the mean high tide to the mean lower low tide. Most fishery participants live in Tyonek. From 2001 through 2005, the average annual harvest in the fishery was 1,346 salmon, mostly Chinook salmon (Table S3). For a detailed discussion of this fishery and other subsistence uses at Tyonek, see Fall et al. (1984).

4. Upper Yentna River Subsistence Fish Wheel Fishery. This is a subsistence fish wheel fishery that began in 1996 as a personal use fishery and was reclassified as a subsistence fishery by the Board of Fisheries beginning in 1998. It is located in the main stem of the Yentna River from its confluence with Martin Creek upstream to its confluence with the Skwentna River. Legal gear includes a fish wheel with a live box. Over half the participants are residents of the Skwentna area. From 2001 through 2005, the average annual harvest was 553 salmon (Table S4).

References:

Fall, James A., Dan J. Foster, and Ronald T. Stanek. 1984. The Use of Fish and Wildlife Resources in Tyonek, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 105. Juneau.

Fall, James A., Dave Caylor, Michael Turek, Caroline Brown, James Magdanz, Tracie Krauthoefer, Jeannie Heltzel, and David Koster. 2007. Alaska Subsistence Salmon Fisheries 2005 Annual Report. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 318. Juneau.

Stanek, Ronald T. 1985. Patterns of Wild Resource Use in English Bay and Port Graham, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 104. Juneau.

Table S1. Historic Subsistence Salmon Harvests, Port Graham and Koyuktolik Subdistricts, 1981-2005.

	PERMITS		REPORTED SALMON HARVEST					
YEAR	ISSUED	RETURNED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL
1981		57	138	2,670	825	177	874	4,684
1982		61	124	2,354	1,493	220	2,932	7,123
1983		46	67	2,480	471	95	187	3,300
1984		24	45	3,262	510	6	673	4,496
1985		24	146	1,177	621	26	345	2,315
1986		44	125	647	481	14	1,062	2,329
1987		55	21	901	914	114	714	2,664
1988		48	104	1,021	844	110	1,756	3,835
1989		44	51	157	1,155	74	1,495	2,932
1990		60	265	1,162	1,417	151	2,960	5,955
1991		63	163	688	2,053	221	4,587	7,712
1992		71	200	535	1,150	236	1,421	3,542
1993		56	277	1,148	913	257	2,663	5,258
1994		70	300	830	1,370	504	1,979	4,983
1995		87	585	1,795	538	376	1,273	4,567
1996		75	310	1,744	939	276	749	4,018
1997		26	202	325	203	153	511	1,394
1998		19	169	289	243	240	459	1,400
1999		74	485	3,157	1,747	1,104	2,023	8,516
2000		67	259	4,664	1,831	953	1,606	9,313
2001		49	133	1,085	1,295	228	1,454	4,195
2002		79	346	10,620	1,057	488	1,831	14,342
2003		52	465	5,534	1,006	532	1,572	9,109
2004		80	312	3,525	1,303	213	1,600	6,953
2005		68	292	2,126	1,193	180	1,608	5,399
5-Year Average		66	310	4,578	1,171	328	1,613	8,000
10-Year Average		59	297	3,307	1,082	437	1,341	6,464
All Years Average		56	223	2,156	1,023	278	1,533	5,213

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, 2006.

Table S2. Historic Subsistence Salmon Harvests, Seldovia Fishery, 1996-2005.

	PERMITS		ESTIMATED SALMON HARVEST					
YEAR	ISSUED	RETURNED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL
1996	43	42	51	9	0	0	0	60
1997	20	17	52	22	0	0	0	74
1998	22	20	143	65	0	8	0	216
1999	16	16	136	130	0	38	0	304
2000	22	22	179	252	0	16	0	447
2001	19	16	149	142	0	0	0	290
2002	20	20	124	234	13	11	31	413
2003	18	15	117	290	2	66	22	496
2004	14	12	102	69	5	18	65	258
2005	18	16	53	74	14	11	100	251
5-Year Average	18	16	109	162	7	21	43	342
All Years Average	21	20	110	129	3	17	22	281

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, 2006.

Table S3. Historic Subsistence Salmon Harvests, Tyonek Subdistrict, 1980-2005

	PERMITS		REPORTED SALMON HARVEST					
YEAR	ISSUED	RETURNED	CHINOOK	SOCKEYE	COHO	CHUM	PINK	TOTAL
1980	67		1,757	235	0	0	0	1,992
1981	70		2,002	269	64	32	15	2,382
1982	69		1,590	310	113	4	14	2,031
1983	75		2,665	187	59	6	0	2,917
1984	75		2,200	266	79	23	3	2,571
1985	76		1,472	164	91	10	0	1,737
1986	65		1,676	203	223	46	50	2,198
1987	64	61	1,610	166	149	24	10	1,959
1988	47	42	1,587	91	253	12	8	1,951
1989	49	47	1,250	85	115	1	0	1,451
1990	42	37	781	66	352	12	20	1,231
1991	57	54	902	20	58	0	0	980
1992	57	44	907	75	234	19	7	1,242
1993	62	54	1,370	57	77	17	19	1,540
1994	58	49	770	85	101	22	0	978
1995	70	55	1,317	45	153	15	0	1,530
1996	73	49	1,039	68	137	7	21	1,272
1997	70	42	639	101	137	8	0	885
1998	74	49	1,027	163	64	2	1	1,257
1999	77	54	1,230	144	94	11	32	1,511
2000	60	59	1,157	63	87	0	6	1,313
2001	84	58	976	172	49	6	4	1,207
2002	101	71	1,080	209	115	4	9	1,417
2003	87	74	1,183	111	44	10	7	1,355
2004	97	75	1,345	93	130	0	0	1,568
2005	78	66	982	61	139	2	0	1,184
5-Year Average	89	69	1,113	129	95	4	4	1,346
10-Year Average	80	60	1,066	119	100	5	8	1,297
All Years Average	69	55	1,327	135	120	11	9	1,602

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, 2006.

Table S4. Historic Subsistence and Personal Use Salmon Harvest, Upper Yentna Fishery, 1996-2005.[1]

	PERMITS		ESTIMATED SALMON HARVEST					
YEAR	ISSUED	RETURNED	CHINOOK[2]	SOCKEYE	COHO	CHUM	PINK	TOTAL
1996	17	17	0	242	46	51	115	454
1997	24	21	0	549	83	10	30	672
1998	21	18	0	495	113	15	30	653
1999	18	16	0	516	48	13	18	595
2000	19	19	0	379	92	7	4	482
2001	16	15	0	545	50	4	10	608
2002	25	22	0	454	133	31	14	632
2003	19	15	0	553	67	8	2	630
2004	21	19	0	441	146	3	36	625
2005	18	17	0	177	42	25	24	268
5-Year Average	20	18	0	434	87	14	17	553
All Years Average	20	18	0	435	82	17	28	562

[1] This fishery was classified as personal use in 1996 and 1997; it has been a subsistence fishery since 1998.
[2] Regulations prohibit the retention of chinook salmon in this fishery (5 AAC 01.593).

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, 2006.

- **RECREATIONAL AND PERSONAL USE FISHERIES**

The following three marine sport and personal use fisheries are examples of the broad attributes of sustainable managed fishing effort and harvest in Cook Inlet. Additional information regarding guides and businesses involved in these fisheries may be available from the required guide/charter registration and logbook program. The fisheries and descriptions are:

1. Turnagain Arm hooligan personal use dipnet fishery open only to Alaska residents, occurs in upper Turnagain Arm and Twentymile River from mid-May to late June. Fishing effort and harvest information is available in the Statewide Harvest Survey reports and recent Anchorage Area Management Report.

2. Central Cook Inlet marine recreational fishery primarily targets halibut and Chinook salmon, some coho salmon; occurs from mid-May through August, with most effort mid-May through July. Most boats launch from Deep Creek and Anchor River on the Kenai Peninsula, with some effort occurring by fishermen launching at Homer. Guides/charters and area businesses (Kasilof south to Anchor Point and to some degree Homer) are dependent on these fisheries. Effort and harvest information is in the Statewide Harvest Survey reports and recent North Kenai Peninsula Area Management Report.

3. Lower Cook Inlet marine recreational fishery primarily targets halibut and Chinook salmon, some rockfish; occurs nearly year-round with most effort May-August targeting mostly halibut, though some Chinook effort, and lower levels of effort September-April targeting feeder

Chinook. Most fishermen launch from Homer and Seldovia. Guide/charters and area businesses in Homer/Kachemak Bay are dependent on these fisheries. Effort and harvest information is in the Statewide Harvest Survey reports, recent Lower Cook Inlet Area Management Report, and Groundfish Area Management Report.

The salmon personal use fishery primarily occurs at the mouth of the Kenai and Kasilof rivers, with set net personal use fishery in marine waters near the mouth of the Kasilof. The fishery takes place from mid-June to mid-August, with most effort from late-June to end of July. Guiding is minor, but businesses in the Kenai, Soldotna, and Kasilof area are intensively involved. Effort and harvest information is in recent Upper Kenai Peninsula Area Management Reports and an report by Reimer and Sigurdsson.

The last study the Alaska Department of Fish and Game contracted to provide an estimate of the economic impact of sport fishing activities within the Cook Inlet region was published in 1999 for the 1993 fishing year. The estimates contained within the report are based on data that is now over a decade old, so the economic estimates contained in the report are likely underestimates of the current economic impact of fishing activities. The report is available at http://www.iser.uaa.alaska.edu/ResourceStudies/sportfishing.htm. Updated estimates of the economic impact of sport fishing specific to the Cook Inlet region will be available in December 2008, as part of a new study contracted by the Department in February 2007.

In March 2006, the University of Alaska Institute of Social and Economic Research (ISER) published a report under contract with the Kenai River Sport Fishing Association, which focused on estimating the economic benefits of sport fishing, personal use, and commercial fishing in Upper Cook Inlet. The economic estimates in the report were developed by aggregating available information from a variety of sources (including the Department's 1993 economic study) to produce updated estimates based upon several economic assumptions (KRSA 2006). The National Marine Fisheries Services (NMFS) has also conducted several recent economic studies within south central Alaska and Cook Inlet, focusing on recreational saltwater fisheries. The economic estimates associated with sport fishing in Alaska produced by these and other studies, along with the methodology used, scope of work, are summarized in a historical spreadsheet prepared by Department staff below. A summary of the available economic impact of just salmon sport fishing in the south central region and for Upper Cook Inlet waters in 1993 and 2003 is noted in the following table below (KRSA 2006)

Economic Contribution	1993[1]	2003[2]
A. Total Expenditures[3] (milllions $)		
Southcentral Alaska	338	415
Upper Cook Inlet salmon	N/A	246
B. Total Payroll[4] (milllions $)		
Southcentral region	139	171
Upper Cook Inlet salmon	N/A	95
C. Average Annual Jobs[5]		
Southcentral region	6,100	6,100
Upper Cook Inlet salmon	N/A	3,400
D. Net Economic Value[6] (milllions $)		
Upper Cook Inlet salmon	86	104
E. Total Net Economic Value[7]		
Upper Cook Inlet salmon	N/A	350

[1] Source: ISER 1999

[2] Source: ISER 2006

[3] Direct expenditures by anglers for costs related to sport and personal use fishing

[4] Total wages and salaries generated by direct and indirect spending arising out of sport fishing activity.

[5] Total average annual (full time equivalent) jobs created by direct and indirect effects of sport fishing expenditures.

[6] collective economic gain attributable to residents and nonresidents measured as the monetary value that participants place on the benefits they receive from fishing over and above the cost of going fishing

[7] total direct spending (expenditures plus net economic value for residents and non-residents

The Department maintains a current database of the number of license sport fishing guides and guide businesses in the Guide Licensing Database. In 2006, the following counts of sport fishing guide business for Cook Inlet (by water type) were available:

685 = the total number of licensed guide businesses in communities around Cook Inlet in 2006
295 = the total number of licensed guide businesses that operated in saltwater in 2006[a]
358 = the total number of licensed guide that operated in freshwater in 2006[b]

[a] some guided businesses based in one community may actually operate in non-Cook Inlet saltwaters (i.e., North Gulf Coast or Prince William Sound)

[b] I did not analyze what fishery/what freshwaters these businesses fished in and thus the count may include business that operate in non-Cook Inlet based freshwater fisheries.

Detailed lists of the guide businesses by community and water type are available from the ADF&G Guide Licensing Database as well.

The following references provide additional information on Economics of Sport Fishing in Alaska. Although several address sport fishing economics in parts of Alaska outside of Cook

Inlet, the methodology and information sources should be helpful to any analysis conducted on economic attributes of sport fishing.

1. ADF&G Guide License Database, 2006. Summary data provided by K. Brogdon.

2. Coughenower, D. D. 1986. Homer, Alaska Charter Fishing Industry Study. University of Alaska Marine Advisory Program, Marine Advisory Bulletin #22.

3. Haley, S.; Berman, M.; Goldsmith, S.; Hill, A., and Kim, H. 1999. *Economics of Sport Fishing in Alaska.* (Institute of Social and Economic Research, University of Alaska Anchorage). Prepared for the Alaska Dept. of Fish and Game. (copy available from UAA: http://www.iser.uaa.alaska.edu/ResourceStudies/sportfishing.htm
   **NOTE Department disclaimer in beginning of report and executive summary

4. Jones and Stokes, Inc & ASK Marketing and Research Group. 1991. *Southeast Alaska Sport Fishing Economic Study.* Prepared for the Alaska Dept of Fish and Game. (full text .pdf)

5. Jones and Stokes, Inc. 1987. *Juneau Area Sport Fishing Economic Study.* Prepared for the Alaska Dept of Fish and Game. (full text .pdf)

6. Jones and Stokes, Inc. 1987. *Southcentral Alaska Sport Fishing Economic Study.* Prepared for the Alaska Dept of Fish and Game. (full text .pdf)

7. Kenai River Sportfishing Association (KSRA). 2006. Economic Values of Sport, Personal Use and Commercial Salmon Fishing in Upper Cook Inlet. March 2006

8. Lee, S. T.; Herrmann, M.; Wedin, I.; Criddle, K.; Hamel, C., and Greenberg, J. (Alaska Fisheries Science Center, NMFS), 1999. Summary of Angler Survey of Saltwater Sport Fishing off the Kenai Peninsula, Alaska
   http://www.afsc.noaa.gov/refm/Socioeconomics/current_research.htm

Selected Economic Studies of Alaska Sport Fisheries: Statewide and regional economic impact and value estimates

			Economic Impact Estimates (Statewide)						Southcentral Alaska -- (Region II)						Sub- Regional Economic Impact & Value Estimates: Cook Inlet (or Lower, Central or Upper Cook Inlet)						
Study Year	Study	(year $)	Type of Expenditure(s)	Total Expenditures	Retail Sales	Earnings (payroll)	Jobs[a]	Total Economic	Total Expenditures	Retail Sales	Earnings (payroll)	Jobs[a]	Total Economic	NEV	Total Expenditures	Retail Sales	Earnings (payroll)	Jobs[a]	Total Economic	NEV	Referenced Page(s)
2006	Economic value of Bristol Bay wild salmon watersheds	2005 $	Total local resident																		Exec Summary p15-25
			Total non-local (AK) resident																		
			Total non resident																		
			Total (all anglers)																		
2003	Economic Value of Sport, Personal Use, and Commercial Salmon Fishing in Upper Cook Inlet	2003 $	Recreational salmon fishing (UCI)												$246,000,000	$290,000,000	$95,000,000	3,400	$350,000,000	$104,000,000	p15
			All Recreational fishing (Southcentral)						$415,000,000	$532,000,000	$171,000,000	6,300									p?
2003	National FWHAR Survey--ASA analysis	2003 $	Total (Statewide)	$562,000,000	$640,167,515	$259,556,537	12,065	$1,046,796,782													
2001[b]	National FWHAR Survey--ASA analysis	2001 $	Total (Statewide)	$537,355,000	$587,028,597	$238,013,311	11,064	$939,821,921													link on ADFG site to ASA
1997	Linking sport fishing trip attributes, participation decisions, and regional economic impacts in Lower and Central Cook Inlet	1997 $	Avg. daily expenditures for marine fishing only (halibut/salmon): local residents (Ken. Penin. Borough) non-local AK residents non-residents												$28,500/day (halibut/marine salmon only)						link on ADFG site to ASA
1996[c]	National FWHAR Survey--USFWS	2001 $	Total (Statewide)	$495,717,000	not provided	not provided	not provided	not provided													
1996	Duffield, Neher, Merritt (2003) (Reg III only)	1996 $	Total (Reg III & 5 sub regions)																	$28,809,984	15 p. 179 table 13.6
1993-1994	ISER Statewide Study[d]	1993 $	Total resident	$340,952,485	$351,131,867	$127,173,159	5,524		$241,371,583	$261,933,586	$92,180,137	3955		$73,036,617							[illegible]
			Total nonresident	$198,664,560	$286,316,293	$83,234,558	3,712		$137,528,436	$195,935,594	$58,430,077	2628		$63,822,928							Tables 4.2 & 4.4 for econ impact, statewide, resident, and by region
			Total (Statewide & 4 Regions)	$539,617,045	$637,248,160	$209,307,717	9,236		$378,900,019	$467,869,180	$150,610,214	6,575	not provided	$136,859,545							p 3-5, Table 5.1 (total NEV), p5-4
1991[c]	National FWHAR Survey--USFWS	2001 $	Total (Statewide)	$311,589,000																	15
1988	Jones and Stokes Southeast Study	1988 $	Resident																		Table 8-1, 7-24
			Non-resident																		Table 8-1, 7-24
			Total																		Table 8-1, 7-24
1986	Jones and Stokes Southcentral Study	1986 $	Resident						$71,163,000					$246,391,000							4-2, Table 4.1
			Non-resident						$52,892,000					$30,385,000							4-2, Table 4.1
			Total						$127,055,000	---	$65,276,000	2,849		$276,776,000							4-15, Table 4.10

[a] Direct and indirect jobs (full-time equivalents)

[b] The basis for arriving at these totals is not identified in the sources cited

- **COMMERCIAL FISHING**

According to the Alaska Department of Commerce, Community and Economic Development, the economic impacts and economic attributes involving the Alaska Department of Fish and Game's closely regulated and sustainable management of commercial salmon fishing in Cook Inlet would be significant. For example, the combined salmon harvests of Upper and Lower Cook Inlet range between three and six million total salmon in any given year. In the Upper Cook Inlet, this includes the valuable sockeye salmon, which in 2006 were worth $12.3 million or about 90% of the total ex-vessel value to fishermen. In 2006, Upper Cook Inlet total salmon ex-vessel harvest was worth $13.72 million. Lower Cook Inlet total ex-vessel harvest last year was worth $1.9 million. Total Cook Inlet salmon (ex-vessel) value was $15.6 million, just slightly above the recent 5-year average:

5-Year Average Harvest Value: $14.7 million
5-Year Average Permits Fished: 982
5-year Average Harvest (# of salmon): 5.3 million

The ex-vessel value does not include the significant multiplicative effect of the economic activity generated by commercial fishing operations in the region. This role supports retail for groceries and supplies in the communities, employment and business in seafood processing, the portion of the salmon prices that is automatically contributed to communities for schools and other infrastructure, transportation for fishermen and fish, service providers, fuel, housing, etc.

Details of the economics and attributes of the commercial fisheries follow:

Historically, commercial fishing activity has occurred in Cook Inlet well before Statehood in 1959. The first documented report of commercial fishing began in the 1880s and continues today. The commercial fishing industry located in Cook Inlet contributes significantly to the overall economy of the South Central region of the state.

Salmon fishing comprises the majority of the harvest and value of present day commercial fishing activity in Cook Inlet. During the most recent ten years (1997–2006) over 286 million pounds of salmon have been processed in Cook Inlet for a combined exvessel value of nearly $189 million dollars. During 2006 alone, 481 salmon set gillnet permits, 396 salmon drift gillnet permits and 24 salmon purse seine permits fished.

The Pacific cod and herring fisheries represent two additional commercial fisheries in Cook Inlet. Pacific cod fisheries in Alaska are managed by both the federal and state governments. State-managed fisheries for Pacific cod began in 1997 and are distinct from the parallel fisheries. Parallel fisheries for Pacific cod occur in state waters at the same time as the federal fisheries in Cook Inlet and harvest against the federal total allowable biological catch. State-managed Pacific cod fisheries allow only pot and jig gear types to harvest against a fixed portion of the total allowable biological catch that is allocated to the State fisheries.

The Pacific cod fishing fleet has decreased from 167 vessels with a harvest of 4.1 million fish in 1997 to 56 vessels with a harvest of 2 million fish in 2006.

Limited commercial herring fishing activity occurs in Cook Inlet. There has not been a directed herring purse seine opening since 1998. On average, about one dozen permits participate annually in the herring roe gillnet fishery.

The Cook Inlet area is subdivided into the Upper Cook Inlet (UCI) and Lower Cook Inlet (LCI) management areas.

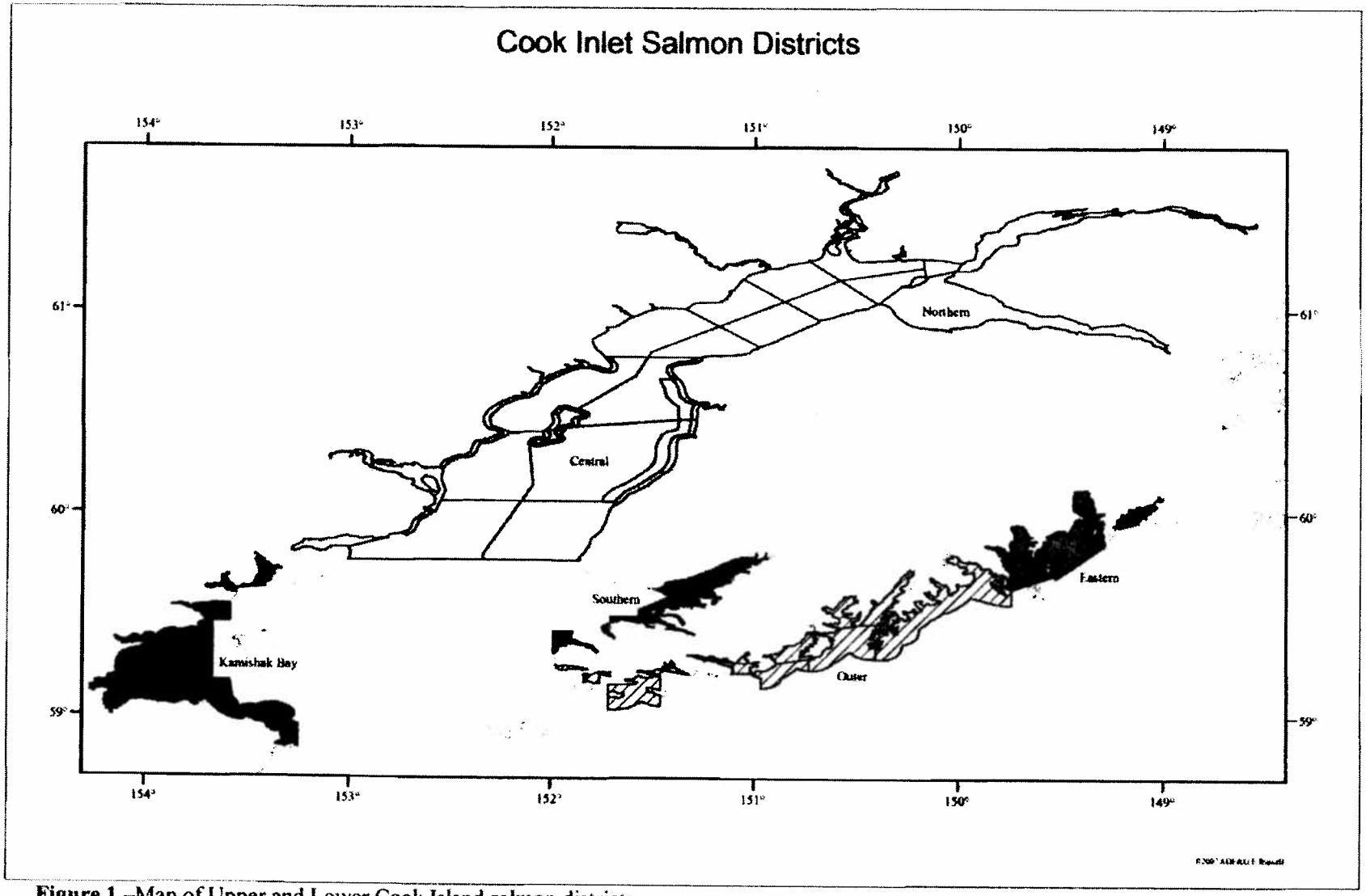


Figure 1.–Map of Upper and Lower Cook Island salmon districts.

UPPER COOK INLET

The UCI management area consists of that portion of Cook Inlet north of the latitude of Anchor Point and is divided into the Central and Northern Districts (Figure 2). The Central District is approximately 75 miles long, averages 32 miles in width, and is further subdivided into six subdistricts. The Northern District is 50 miles long, averages 20 miles in width and is divided into two subdistricts. At present, 5 species of Pacific salmon (*Oncorhynchus*) and Pacific herring (*Clupea harengus pallasi*) represents the majority of commercial harvest in UCI.

SALMON

Since the inception of a commercial fishery in 1882, many gear types, including fish traps, gillnets, and seines, have been employed with varying degrees of success to harvest salmon in UCI. Currently, set (fixed) gillnets are the only gear permitted in the Northern District, while both set and drift gillnets are used in the Central District. The use of seine gear is restricted to the Chinitna Bay Subdistrict, where they are employed sporadically. Drift gillnets have accounted for approximately 50% of the average annual salmon harvest since 1966, with set gillnets harvesting virtually all of the remainder.

Table 1.–Upper Cook Inlet, Northern District, Set Gillnet Harvest and Exvessel Value, 1997–2006 (Fish Ticket Database).

Year	Landed Pounds	Exvessel Value
1997	1,023,976	$749,036
1998	717,594	$621,326
1999	605,787	$617,550
2000	908,498	$584,791
2001	670,772	$329,274
2002	642,698	$241,633
2003	498,564	$265,412
2004	502,437	$275,424
2005	398,463	$305,822
2006	276,322	$280,135

Table 2.–Upper Cook Inlet, Central Drift and Set Gillnet Harvest and Exvessel Values, 1997-2006 (Fish Ticket Database).

Year	Landed Pounds	Exvessel Value
1997	28,785,455	$28,130,959
1998	10,110,898	$8,024,097
1999	17,466,194	$21,637,725
2000	10,831,508	$8,125,889
2001	12,102,197	$7,418,666
2002	23,065,366	$11,050,202
2003	22,107,296	$13,829,443
2004	34,597,003	$21,985,901
2005	34,204,671	$31,285,685
2006	14,710,139	$13,546,652

HERRING

Commercial herring fishing began in UCI in 1973 with a modest harvest of bait-quality fish along the east side of the Central District and expanded in the late 1970s to include small-scale sac roe fisheries in Chinitna and Tuxedni bays. In 1988, significant decreases in herring abundance were observed in Tuxedni Bay, as well as a shift towards older age class herring, resulting in the closure of Tuxedni Bay to commercial herring fishing prior to the 1992 season. In Chinitna Bay and along the eastside beaches, similar declines began to materialize after the 1990 season.

In 1998 the Upper Subdistrict of the Central District and the Eastern Subdistrict of the Northern District were opened to commercial herring fishing to assess the status of the herring population. The herring fisheries on the west side of Cook Inlet remained closed until the status of the east side stocks was determined.

The Central District Herring Recovery Management Plan, which became active prior to the 1999 season, limited herring fishing in UCI to the waters of the Upper, Western, and Chinitna Bay Subdistricts. In the Upper Subdistrict, fishing for herring is not allowed within 600 feet of the mean high tide mark on the Kenai Peninsula to reduce the interception of salmon. The management plan was amended by the Board of Fisheries (BOF) prior to the 2002 fishing season, extending the closing date for the fishery an additional 11 days to May 31.

In 2001, samples of herring were collected in Chinitna and Tuxedni Bays. Age, sex, and size distribution of the samples revealed that the years of closed fishing in these areas had resulted in an increase of younger fish being recruited into the population. As a result of these analyses, and in accordance with the herring management plan, the commercial fishery was reopened in 2002 in both the Chinitna Bay and Western Subdistricts. The management plan allowed for a very conservative harvest quota, not to exceed 40 and 50 tons, respectively. There has been very little participation in either fishery since they were reopened. However, there has been limited food/bait harvest in the Central District in 1999, and from 2002 through 2004.

Because the glacial waters of UCI preclude the use of aerial surveys to estimate the biomass of herring stocks, management of these fisheries has departed from the standard techniques employed in the more traditional herring fisheries. Gillnets are the only legal gear for herring in UCI, with set gillnets being used almost exclusively. This gear type is significantly less efficient at capturing herring than purse seines. Moreover, conservative guideline harvest levels have been set, which provide for a low-level commercial fishery on these stocks. In the Upper Subdistrict, harvests are generally concentrated in the Clam Gulch area, with very little or no participation in either the Western Subdistrict (Tuxedni Bay), Chinitna Bay, or Kalgin Island subdistricts.

Table 3.–Upper Cook Inlet, herring harvest by fishery, 1997–2006 (from Area Management Reports) Harvest (tons).

Year	Upper Subdistrict	Chinitna Bay	Tuxedni Bay	Kalgin Island	Total
1997	-	-	-	not open	-
1998	19.5	-	-	not open	19.5
1999	10.4	-	-	not open	10.4
2000	14.7	-	-	not open	14.7
2001	9.9	-	-	not open	9.9
2002	16.2	1.9	0	not open	18.1
2003	3.7	0	0	not open	3.7
2004	6.7	0.1	0	not open	6.8
2005	17.1	0.2	0	0	17.3
2006	14.4	0	0	0	14.4

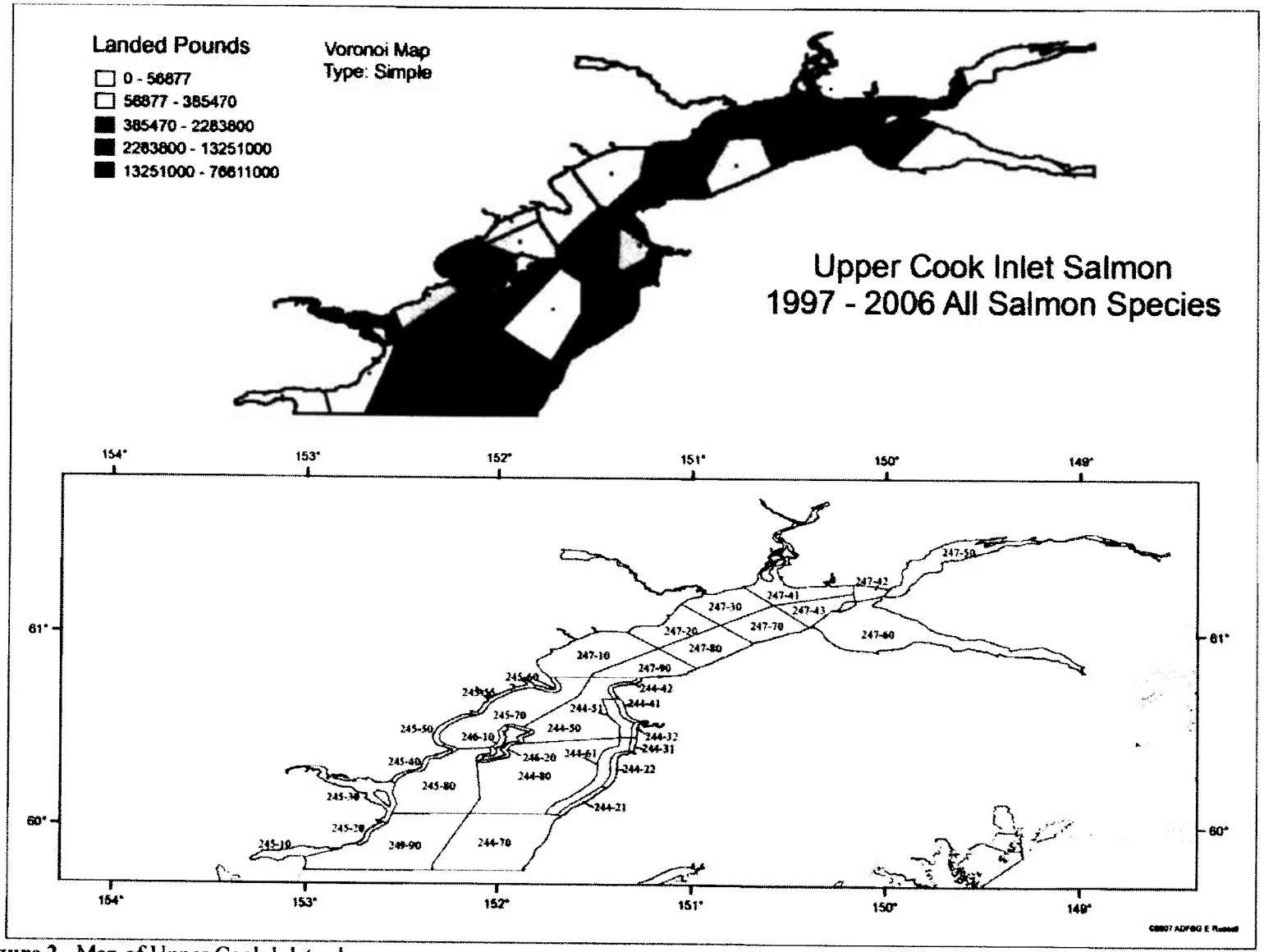


Figure 2.–Map of Upper Cook Inlet salmon.

LOWER COOK INLET

The Lower Cook Inlet (LCI) management area, comprised of all waters west of the longitude of Cape Fairfield, north of the latitude of Cape Douglas, and south of the latitude of Anchor Point, is divided into five commercial salmon fishing districts (Figure 3). The Barren Islands District is the only fishing district where no salmon fishing occurs, with the remaining four districts (Southern, Outer, Eastern, and Kamishak Bay) separated into approximately 40 subdistricts and sections to facilitate management of discrete stocks of salmon.

SALMON

Chinook and coho salmon are not normally commercially important species. However, the set gillnet fleet comprises the majority of the Chinook salmon catch. While sockeye salmon harvests are experiencing lower than average harvests in recent years, pink (the dominant salmon species in numbers of fish) and chum salmon harvests are higher than average. Participation levels in the salmon set net fishery remain low, while participation levels in the purse seine fleet show a slight increase in recent years.

Table 4.–Lower Cook Inlet, Common Property Purse Seine Salmon Harvest and Exvessel Values, 1997–2006 (from Area Management Reports).

Year	Landed Pounds	Exvessel Value
1997	1,617,995	$805,657
1998	2,851,252	$1,051,642
1999	2,272,343	$1,968,502
2000	2,384,579	$984,217
2001	1,893,655	$715,855
2002	4,800,041	$738,127
2003	3,547,954	$1,430,798
2004	2,351,568	$699,856
2005	1,944,024	$738,082
2006	5,630,979	$1,356,471

Table 5.–Lower Cook Inlet Set Gillnet Salmon Harvest and Exvessel Values, 1997–2006 (from Area Management Reports).

Year	Landed Pounds	Exvessel Value
1997	683,965	$368,041
1998	294,248	$198,051
1999	229,596	$314,989
2000	298,197	$211,065
2001	268,525	$155,937
2002	377,832	$223,203
2003	581,860	$389,717
2004	132,445	$145,887
2005	120,675	$137,718
2006	170,473	$179,602

Table 6.–Lower Cook Inlet, Hatchery (Purse Seine & Weir) Salmon Harvest and Exvessel Values, 1997–2006 (from Area Management Reports).

Year	Landed Pounds	Exvessel Value
1997	7,688,209	$1,233,686
1998	2,858,569	$737,860
1999	2,714,379	$732,350
2000	2,844,575	$576,936
2001	1,597,130	$358,159
2002	3,399,702	$386,890
2003	2,246,126	$361,024
2004	8,694,295	$402,629
2005	7,668,315	$732,809
2006	1,277,477	$375,903

Table 7.–Lower Cook Inlet, Derby Salmon Harvest and Exvessel Values, 1997-2006 (from Area Management Reports).

Year	Landed Pounds	Exvessel Value
1997	19,517	$14,052
1998	22,993	$14,945
1999	11,607	$7,545
2000	21,959	$14,273
2001	18,318	$7,877
2002	24,293	$10,446
2003	26,751	$10,700
2004	35,999	$18,000
2005	31,124	$18,052
2006	15,920	$10,348

HERRING

Since 1973, the majority of LCI sac roe herring harvest and effort has occurred within the Kamishak Bay District. With the exception of a test fishery in 1999, there has been no directed commercial herring fishery since 1998 because the spawning biomass has been below the threshold of 6,000 set before a commercial sac roe harvest can be considered for Kamishak Bay.

PACIFIC COD

Historically, the Cook Inlet area commercial Pacific cod fishery was managed via emergency order to coincide with seasons in the adjacent federal Central Gulf of Alaska area (CGOA). The Cook Inlet Pacific Cod Management Plan (5 AAC 28.367), first effective in 1997, defines two seasons, a "parallel season" and a "state waters season." Similar to historical seasons, the parallel season is set by emergency order to coincide with the federal CGOA fishery for Pacific cod with respect to season dates and allowable gears—provided those gear types are legal for state waters. The state waters season occurs 24 hours after the parallel season closes, but with allowable gear types restricted to pot or jig (mechanical or hand) and with an annual allocation equal to 3.75% of the federal CGOA allowable biological catch. Season dates for these fisheries are shown in Table 9.

Annual Pacific cod harvests in the Cook Inlet Area have declined sharply since 1999 due primarily to a shift of longline effort from Cook Inlet to the Kodiak management area. Since 2002, overall harvest has remained somewhat stable at between 2.0 million and 2.5 million pounds, primarily from pot gear. The number of vessels in the pot fishery has ranged from 25 in 1999 to 10 from 2001 to 2003. The 2007 harvest is expected to be comparable to recent years.

Table 8.–Cook Inlet Area commercial Pacific cod harvest by gear type and estimated exvessel values, 1997–2006.

Year	Vessels	Landings	Jig/troll	Pot	Longline	Net Gear	Harvest	Value ($)
1997	167	943	599,309	1,391,096	2,049,394	72,354	4,112,154	1,105,001
1998	143	825	230,662	1,071,615	1,900,375	211,406	3,414,058	810,160
1999	141	786	148,560	2,372,352	2,171,877	8,296	4,701,085	1,724,949
2000	110	748	15,235	1,906,201	815,742		2,737,178	1,105,020
2001	94	452	19,428	1,190,021	301,654		1,511,103	586,390
2002	72	543	19,560	1,618,622	582,635		2,220,817	732,505
2003	56	442	429,684	1,318,484	126,168		1,874,336	693,504
2004	77	423	326,538	2,146,023	27,143		2,499,704	811,610
2005	53	352	90,769	2,394,737	25,720		2,511,226	790,939
2006	56	319	1,406	1,996,728	70,507		2,068,642	883,230

Note: Totals include at-sea discards.

Table 9.–Cook Inlet Area Pacific cod season dates, 1997–2006.

Year	Dates and Times[a]	Season and Gears
1997	January 1-March 11; October 2-26	Parallel seasons
	April 4-October 2; October 26-December 31	State season jigs
	April 4-7; June 15-October 2; October 26-December 31	State season pots
1998	January 1-March 1; October 5-9	Parallel seasons
	March 17-October 5; October 9-December 31	State seasons jigs
	March 17-April 7; June 15-October 5; October 9-December 31	State seasons pots
1999	January 1-March 14; September 1-October 5	Parallel seasons
	March 21-September 1, October 5-December 31	State seasons jigs
	March 21-May 1; June 15-September 1; October 5-December 31	State seasons pots
2000	January 1-March 4	Parallel season
	March 5-December 31	State season jigs
	March 5-May 1; June 15-December 31	State season pots
2001	January 1-February 26	Parallel season, longline gear
	January 1-March 4	Parallel season, pot/jig gears
	March 5-December 31	State season jigs
	March 5-May 1; June 15-December 31	State season pots
2002	January 1-March 9	Parallel season
	March 10-December 31	State season jigs
	March 10-May 1; June 15-August 5; September 1-December 31	State seasons pots
2003	January 1-February 9, bycatch till September 9 then closed to retention	Parallel season
	Februrary 10-December 8 (5:00 pm)	State season jigs
	February 10-27 (5:00 pm), September 1-December 8 (5:00 pm)	State seasons pots
2004	January 1-31	Parallel season
	February 1-December 31	State season jigs
	February 1-23 (5:00 pm); September 1-December 31	State seasons pots
2005	January 1-26	Parallel season
	January 27-December 31	State season jigs
	January 27-May 1; June 15-December 31	State seasons pots
2006	January 1-February 28; October 2-December 31	Parallel seasons
	March 1-October 2	State season jigs
	March 1-May 1, June 15-October 2	State seasons pots

[a] All season openings and closures occurred at 12:00 noon unless otherwise noted.

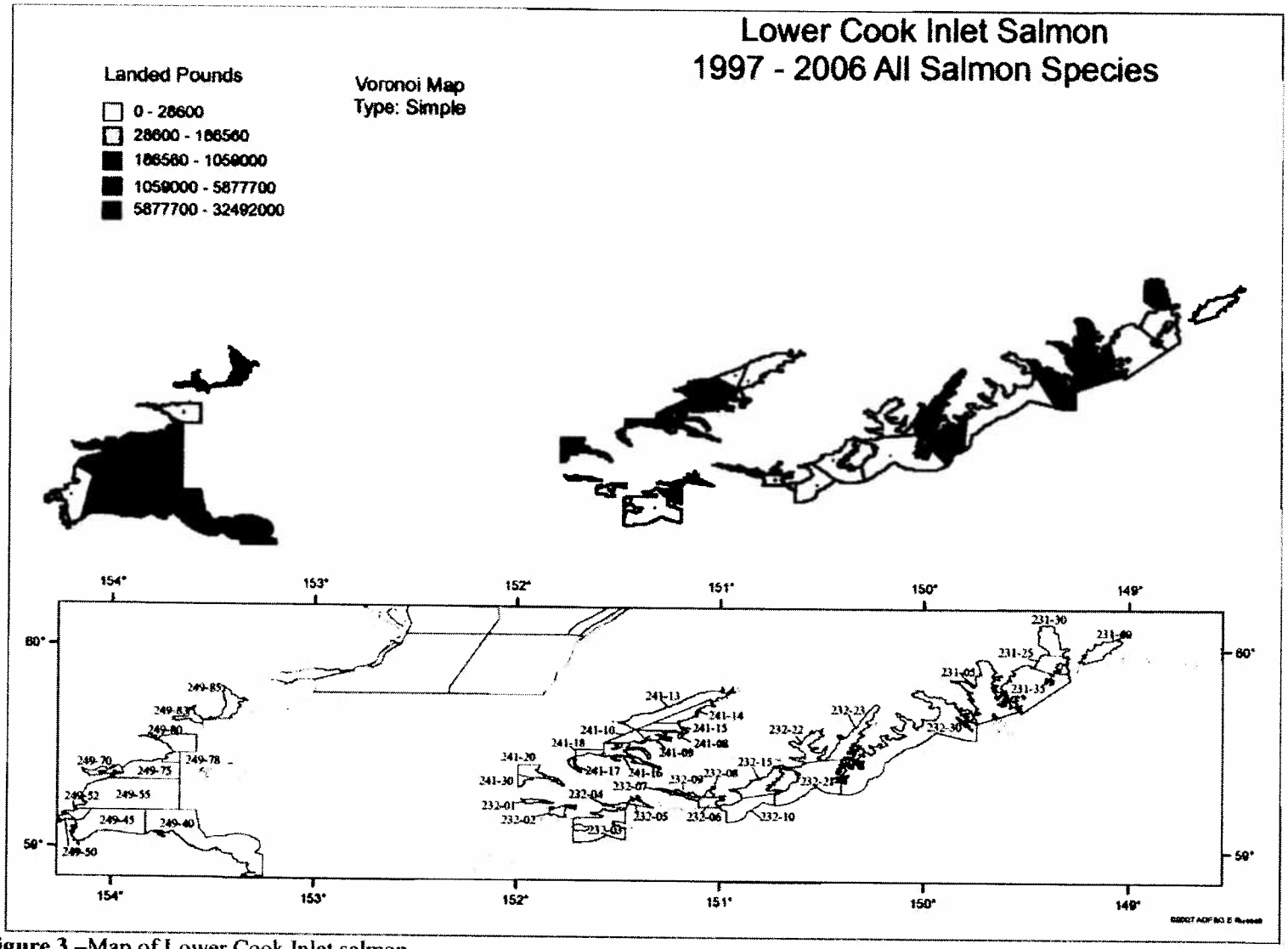


Figure 3.–Map of Lower Cook Inlet salmon.

FISHING SEASONS

Fishing seasons vary in Cook Inlet. In the salmon fisheries, the drift gillnet season in open from late June through August; the set gillnet season is from June through September and the purse seine season is from June through August.

The herring fishery is usually open from mid-April through mid-May. The Lower Cook Inlet has not had a directed commercial herring opening since 1998.

The Cook Inlet commercial Pacific cod season is comprised of three to four opening periods represented by allowable gear type and management plan. The parallel season (concurrent with federal season) is from January through March and the state waters fishery is open intermittently from February through December.

COMMERCIAL FISHERIES IMPACT

Commercial fishing processors operating in Cook Inlet reported total combined fishery purchases of $449 million dollars between 1997 and 2006. The first wholesale value alone accounts for over $1 billion dollars in sales between 1997 and 2005 (ADF&G COAR Database). Curtailment of commercial fishing due to adoption of a critical habitat designation may result in a depressed commercial fishing industry economy.

The Department concurs with the Service's finding: "*There is no indication at this time that competition with commercial fishing operations is having any significant or measurable effect on CI beluga whales*" (Draft Conservation Plan for the Cook Inlet Beluga Whale, U.S. Department of Commerce and NOAA, March 16, 2005). Based on this finding, designated important commercial and recreational fishing areas and fishing support facilities within Cook Inlet should be excluded from any designation of critical habitat. Economic benefits of exclusion outweigh any marginal benefit that might accrue from such designation.

CONCLUSION

As illustrated by the examples of various economic activities in Cook Inlet described above, it will be difficult to determine the economic impact that a listing of Cook Inlet beluga whales or any PCE or critical habitat may have. The industries and communities that engage in activities in and around Cook Inlet are just now assessing the possible ramifications of a beluga listing under ESA. If the whales are listed under ESA, it would certainly change the economic landscape of Southcentral Alaska and most likely have an impact through out the State.

We urge the Service to carefully consider the many activities in the Cook Inlet watershed and the many effective steps that have been effectively and proactively implemented to eliminate or reduce impacts on the beluga whales and their habitat, and thereby mitigate the decline of beluga whales in the 1990s. The Port of Anchorage currently has an operational plan in place designed to minimize the Port's impact on beluga whale's activities. Exploration companies are seeking ways to minimize disturbing operations that could be detrimental to the beluga's free range. We must continue to employ means of conducting business in and around Cook Inlet that will assure the coexistence of commerce and the beluga whale population.

SSLKP COMMENT 8-20-07

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

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August 20, 2007

Kaja Brix, Assistant Regional Administrator
Protected Resources Division, Alaska Region
National Marine Fisheries Service
National Oceanic and Atmospheric Association
Attn: Ellen Walsh
P.O. Box 21668
Juneau, AK 99802

Dear Ms. Brix:

Please find the enclosed State of Alaska comments to the May 2007 Draft Revised Recovery Plan for the western and eastern distinct population segments of Steller sea lions.

The state has reviewed the draft revised plan and offers several recommendations to improve it for the benefit of both Steller sea lions and the residents of Alaska. Specifically, the four most important issues for the state are: (1) revising the recovery criteria, (2) increasing the priority and expediting implementation of critical habitat reevaluation, (3) eliminating the requirement to maintain current rather than appropriate mitigation measures, and (4) eliminating the requirement for the State of Alaska to prepare a habitat conservation plan.

The state has a constitutional responsibility to assure sustainability of fish and wildlife and a long history of successfully carrying out this responsibility. We are also committed to strengthening the health of the state's coastal communities dependent on the long term vitality of its marine resources. Our department is not a member of the public and, as the trustee for fish and wildlife in the state, shares responsibility with your agency for maintaining sustainable populations of Steller sea lions. The state listened closely to the National Marine Fisheries Service presentations at the recent North Pacific Fishery Management Council meeting. We also heard from the NPFMC's Scientific and Statistical Committee, members of industry and conservation groups and our comments reflect that input. I strongly encourage you to consider each of our comments, as they are provided in a spirit of cooperation and resolution in hope of bringing closure to this process. We look forward to publication of a recovery plan designed to promote the recovery of the Steller sea lion in a balanced and considered manner.

Sincerely,

Denby S. Lloyd
Commissioner

Enclosures

Attachment 1
Alaska Department of Fish and Game comments to the National Marine Fisheries Service on the May 2007 Draft Revised Steller Sea Lion Recovery Plan

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The State of Alaska has reviewed the May 2007 Draft Revised Steller Sea Lion Recovery Plan and offers several recommendations to improve the Recovery Plan so that both Steller sea lions (SSLs) and the residents of Alaska may benefit. The National Marine Fisheries Service (NFMS or agency) heard the level of concern expressed at the special August 2007 North Pacific Fishery Management Council (NPFMC or Council) meeting regarding the perception of bias in the draft plan. We believe that concern over such bias and insufficient consideration of competing hypotheses undermines the credibility of the scientific process in the North Pacific. The State recommends that NMFS revise the draft Recovery Plan to address those concerns and the comments of others in a balanced and considered manner.

Our specific comments are as follows:

1. Sharpen the focus on impediments to recovery rather than causes of the decline.

There still remains much uncertainty about the causes of the steep decline of the wDPS population of Steller sea lions, and the State appreciates that further understanding of the causes of the decline may not be forthcoming; thus, focus should be placed on understanding current impediments to recovery. As recognized by the Recovery Team, a convergence of events including widespread shooting of Steller sea lions, high incidental takes, subsistence takes, killer whale predation, ocean regime shift and commercial fishing may have acted together to cause the steep declines through the 1980s. Overall, during the 1990s the rate of population decline lessened and seems to be increasing since 2000. While it is useful to recount the likely causes associated with the decline, recognized experts cannot resolve the competing hypotheses that either describe the causes of the decline or those associated with slow recovery. Engaging in a lengthy debate about the causes of the decline and dismissing or degrading some hypotheses to elevate the drafters' preferred hypotheses rather than adopting the Recovery Team's multifactor hypothesis is not consistent with good public policy. Further, it distracts the focus from the current threats to recovery, which may be factors quite different than those causing the decline.

For example, in Section 3 of the Recovery Plan the focus should be a discussion of the potential threats to recovery of the species. Instead, the narrative focuses on a narrow view of the decline. This section is sometimes argumentative and unbalanced as it selectively dismisses some hypotheses based on their inability to solely account for the cause of the decline. This logic is then applied to the assessment of threats to recovery. For instance, on page 89, the Recovery Plan identifies 20% as the natural mortality rate of Steller sea lions. It then applies the estimated killer whale predation rate within one small region to the entire population. The determination is then made that killer whale predation is a small percentage of the Steller sea lion mortality *before* their decline and that therefore killer whale predation *alone* was not the cause of the decline; based on

these assumptions and extrapolations which have little relation to whether killer whale predation may now impede recovery, the Recovery Plan finds killer whale predation is not a *Potentially High* threat to recovery.

The selective elimination of some competing hypotheses that are still strongly supported by some members of the scientific community is troubling in that it results in a default hypothesis that appears to be the drafters' preferred choice. By sequentially eliminating or downgrading other hypotheses (e.g., killer whales, shooting, subsistence, climate change, trawl bycatch) as the sole cause of the decline, the drafters determine, by default, that the cause must be fishing. The analysis then concludes that any changes in fishing regulations from the status quo will "appreciably diminish" the chance for recovery of sea lions. This analysis is flawed; it is designed to reach a predetermined and incorrect conclusion, ignoring the wide range of factors that may have interacted to result in the decline of the Steller sea lion.

Considering the current lack of scientific consensus, the Recovery Plan should focus on the cumulative impacts as they exist today. This approach provides a focus for further research and management that adapts to likely threats. If food availability is a viable hypothesis, then it should be dealt with evenly. Whether nutritional stress results from a changing climate and resulting changed ecosystem, or from localized depletion from fishing that impacts the segment of the stock at risk, the uncertainty should be fairly and fully evaluated. Likewise, the potential impact of killer whale predation needs to be examined based on available empirical and modeling information, including the concept of a predator pit (density dependent/density independent predation effects) from which sea lions are having trouble climbing out.

To properly refocus on the threats to recovery rather than the causes of the decline, the State recommends that the next revision of the Recovery Plan include the following:

- Factors responsible for the decline may not be identical to the factors limiting growth of the wDPS at this time. Further discussion of how multiple factors may be impacting the population and how the multiplicity of effects may be operating differently across the range of the population is warranted. Informal sequential dismissal of hypotheses as presented in the current draft is unacceptable.

- An example of how to sharpen the focus on current threats would be the inclusion of a Threats Assessment Table that evaluates threats to reproduction and natality using the same format as was used in Table IV-1 on page 120. For instance, toxic substances, heavy metals, diseases (such as *Chlamydia*), parasitism and killer whale predation of pups at rookeries are all recognized as possible threats to recovery associated with the reproductive rates of adult females and survivability of pups; but may not be significant threats to the entire population. Such an assessment will help focus and balance the development of recovery criteria, and an appropriate implementation plan that could, for example, assist in securing handling permits of adult females.

2. The Recovery Plan would benefit from a more objective assessment in determining threats to recovery of the species and the current health of the stock.

The Recovery Plan must acknowledge the full breadth of uncertainty and all substantiated viewpoints on threats to the wDPS recovery. The NMFS Recovery Plan does not adequately consider aspects of nutrition, health of the stock, the current impact of predation, or carrying capacity. Once all unresolved areas have been identified and presented, effort towards reducing uncertainty can be better focused.

Three areas in particular must be reevaluated: presentation of the improved health of the wDPS, the threat assessment for killer whale predation, and issues of unresolved carrying capacity.

Health of the wDPS

The Revised Recovery Plan does an inadequate job of describing the current positive status of the wDPS. Specifically, the survey data since 2000 indicates the population has an average increasing trend of 3% annually (Fritz and Stinchcomb, 2005), and that the body condition and survivability of adult females and pups (Rea et al., 1998a & 2003; Davis et al.,1996; Adams, 2000) and juveniles (Fadley et al., 2005) demonstrate no signs of nutritional stress. Further, researchers found no difference in Steller sea lion milk composition (Davis et al., 1996; Adams, 2000), and no difference in maternal attendance patterns or foraging trip duration (Brandon, 2000; Milette and Trites, 2003; Andrews et al., 2002) between the eastern and western DPS of Steller sea lions. All these studies suggest that adult females at rookeries did not have difficulty finding prey during the summer. Futhermore, no apparent difference was observed between average winter attendance cycles of females from declining western DPS haul-out populations (Marmot Island and Cape St. Elias) and increasing eastern DPS haul-out populations (Timbered Island) (Trites et al., 2006b).

A side-by-side comparison of the 2006 and 2007 Recovery Plan documents indicate changes that appear to reflect a selective bias in the later document. The changes between the documents cannot be attributed to NMFS responding to the 2006 comments by reviewers, because most all of these were set aside to be addressed in the next BiOp. An example of apparent bias is evident through a comparison of conclusions. The May 2006 Draft Recovery Plan (page 215) states, "The general conclusion from these physiological studies comparing the eastern and western DPS during the 1990s has been that nutritional stress was not evident in adult females or pups." However, in the most recent version (May 2007, Page 40), this statement has been modified by drafters with the insertion of the word "acute" in front of nutritional stress. This slight addition changed the meaning, potentially implying that evidence for "chronic" nutritional stress does exist despite the strong weight of evidence that it does not. The concern over this significant change is that it provides a spring board in support of a modeling exercise based on the demographics of Marmot Island (Holmes et al., *in review*). This modeling exercise anticipates a down-turn in future reproduction rates, extrapolates it to the entire wDPS population, and links the anticipated down-turn to lingering chronic nutritional stress based on other modeling

exercises (Holmes and York 2003; Fay, 2004). While the State is concerned the plan seems to accept chronic nutritional stress when the evidence does not exist, this does not imply that we do not support focused research which would help determine if chronic stress is impacting reproductive aged animals, and thus population viability. Nutritional stress continues as a leading hypothesis to describe slowed sea lion recovery, but the plan must evenly evaluate all potential causes such as fisheries, changing forage base due to climate change, or inter-specific competition.

In describing environmental variability as a cause for nutritional stress, the drafters selectively dismiss many of the diet studies that would lend support to environmental causes of nutritional stress. This action implies that competition for prey with fisheries is the only plausible threat to recovery of the wDPS population of Steller sea lions. In doing so, this undermines their own *Potentially High* rating for environmental variability as a threat to recovery as presented in the May 2007 Revised Recovery Plan.

The agency drafters give this approach more weight than actual field tests and studies cited above to justify conclusions that nutritional stress, caused by competition for prey, is the greatest threat to recovery. This approach dismisses the conclusions of the National Research Council (2003), the nation's most prestigious science panel, which concluded that top-down predation rather than bottom-up nutritional stress was the more likely cause of the decline. It also contradicts the weight-of-evidence approach used by the Steller Sea Lion Recovery Team. Unable to find consensus because of continued uncertainty, the team identified both approaches as *Potentially High* threats to Steller sea lion recovery, recognizing that there might be multiple causes. In its assessment of evidence on nutritional stress and the elimination of killer whale predation as a *Potentially High* threat, the May 2007 revised draft seems to depart from a reasonable weight-of-evidence approach.

Killer Whale Predation

When the National Marine Fisheries Service took possession of the Steller Sea Lion Recovery Plan from the Recovery Team, agency drafters significantly rewrote the section on killer whale predation (pages 82-90 and 114) and concluded that killer whale predation should be downgraded from a *Potentially High* threat to a *Medium* threat. We are told this change was made based on public comment and new research. However, no support of reducing the threat of killer whale predation is found in the agency's response to public comments. Recent research does not seem to support such a critical shift in thinking. Rather, there is still significant scientific support for an alternative hypothesis.

The Recovery Plan does not present an objective description of research on killer whale predation. Instead, the drafters' presentation discredits work that supports predation as a significant impediment to recovery. The narrative seems combative in pitting recent work done by Maniscalco et al. (2007), "Assessing Killer Whale Predation on Steller Sea Lions from Field Observations in Kenai Fjords," against the published work of Williams et al. (2004), "Killer Appetites: Assessing the Role of Predators in Ecological Communities."

Maniscalco et al. (2007) report on predation of transient killer whales in the Kenai Fjords and on Chiswell Island; the work of Williams et al. (2004) was based on data collected from the Aleutian Islands. The methods used in the two papers differ considerably, as do the regions and populations of killer whales. Nonetheless, the narrative in this section of the NMFS Recovery Plan seems to apply findings in the Mansicalco paper to findings in the Williams paper, and determines Williams is incorrect. In doing so, it specifically ignores strong admonition in the Maniscalco et al. (2007) paper stating, "Caution should be emphasized if comparing these results to other times and areas because the activity budgets and feeding rates of these killer whales may vary during times when not observed in our region. Furthermore, the specialization in predation behavior by this group of transient whales should not be extrapolated across transient populations, nor would it be appropriate to extrapolate their effect on Steller sea lion populations to other regions because of differing behaviors between transient groups." Maniscalco recognized that killer whale pods select prey differently and in differing preferences based upon learned pod behavior; and that pod predation impacts differ greatly from different pods within an area and between areas. This must be considered when attempting to use results from skin isotope samples from particular years, areas, or pods and expand these results to the larger population of killer whales.

The drafters of the May 2007 Recovery Plan ignore these cautionary caveats. Instead, they seem to apply the resting and foraging times of Kenai Fjord and Chiswell Island killer whales studied in the Maniscalco paper to the Williams energetic model and claim the Williams work to be incorrect. They state that the Williams paper predicts 170 transient whales would have been required to cause the SSL decline in that region; when in fact the Williams paper estimates fewer than 40 could have caused the decline. The plan also fails to recognize that recent killer whale survey data on the BSAI indicates a dramatic increase in the estimated number of transient killer whales in that region. It has increased from 170 transient killer whales used in the Williams et al. paper to an updated estimate of 314 in the Recovery Plan to 370 by Dr. Paul Wade in a presentation at the August 2007 NPFMC Scientific and Statistical Committee (SSC) session, which should heighten rather than diminish concerns about killer whale predation. Based on this misapplication and estimation error, the May 2007 Recovery Plan dismisses killer whale predation as the single cause of the decline and uses this reasoning to reduce its potential threat to recovery.

Interestingly, the authors of this section ignore another paper written by Maniscalco et al. (2005) on "Reproductive Performance and Pup Mortality in Steller Sea Lions." This paper also uses breeding, birth and pup mortality observed from the remote video camera at Chiswell Island. Based on video camera observations, pup mortality in three of four years was over 20%. In one year, 10 of 12 mortality events were due to killer whale predation. In another study, also generated from observations at Chiswell Island, Matkin et al., (2005 - Errata) estimated that annual killer whale predation in the Kenai Fjords region was 8.5%, which "is not insubstantial and may impact recovery." These observations of predation events, though not cited in the Recovery Plan, seem to support the agency's own conclusion on page 114 that killer whale predation "is perhaps the largest single source of Steller sea lion mortality." Based on this conclusion, it is puzzling

that the Recovery Plan downgrades the threat of killer whale predation from *Potentially High* to *Medium*.

It is important to note that the observed reproductive performance rate at Chiswell Island as reported in this paper (Maniscalco et al., 2005) is 82.5%, well above the 64% reproductive rate predicted in the Holmes et al. (*in press*) natality study done at Marmot Island. However, just as the reproductive performance results from Chiswell Island should not be extrapolated to test a modeling effort on Marmot Island; neither should the killer whale predation events and caloric usage based on foraging time be extrapolated from Chiswell Island to the Aleutian Islands. Similarly, the reproductive rates at Marmot Island as predicted by Holmes et al. *(in press)* should not be extrapolated to the rest of the wDPS Steller sea lion population without field research (see page 17 for further discussion).

Holmes et al. (*in press*) assumes there are natality problems (low pup/non-pup counts) because pups are missing during some years when the high resolution photography used in aerial surveys is examined. The constant video monitoring and field observations at Chiswell do not corroborate these findings. Instead, they show that storm waves and killer whale predation mortality often occur within the first months. This is because first time mothers take less optimal places on rookeries, where waves wash pups away. Also, mothers that have both pups and last year's still-nursing juveniles are less attentive to their pups and may lose them to storm waves or killer whale predation (Dr. Atkinson, June SSLMC meeting). It may be possible that similar dynamics could have caused the reduced pup population observed during the single aerial fly-over and reported at the Holmes et al. rookeries. Photography will only show that the pups are not there; not that they were eaten by killer whales or washed away. Field observation and video studies are needed on these larger rookeries to validate the Holmes hypothesis.

Lastly, the Council and SSC requested the literature that describes density dependent/density independent effects of predation be considered in respect to killer whales depressing recovery response at low SSL population levels. This evaluation is not presented in the revised killer whale section and should be included as an important factor in determining the potential threat of killer whale predation on the recovery of Steller sea lions in the wDPS.

In sum, there is little evidence to support a downgrading of the threat assessment of killer whale predation from *Potentially High* to *Medium*. Such a downgrading is premature and does not show support for important research that would likely reduce uncertainty. Further, it disproportionately inflates the impact of other speculative threats to recovery of this species.

Carrying Capacity and Recovery Criteria

It is recognized that carrying capacity may be a factor in the slow recovery of the wDPS. During a June 2007 discussion regarding the Holmes et al. natality hypothesis with the Steller sea lion mitigation committee (SSLMC), Dr. Demaster described his concern with

carrying capacity. To paraphrase, Demaster stated that something in the environment is causing an increasing mortality and changing vital rates. He speculated that Steller sea lions are acting like a population above carrying capacity. The fact that NMFS has recognized limited carrying capacity as an actual possibility affecting Steller sea lions means they also understand, under that alternative, there is the possibility that the current population level may be close to equilibrium.

A delisting criterion requiring approximately 107,000 animals as a specific goal in the Recovery Plan is fine if the carrying capacity remains the same for this species as it was in the early 1970s. The problem is there has been a large shift in the ecosystem since that time. The removal of 2,784,400 metric tons of Pacific Ocean Perch and other red rockfish [1960-1977 (Balsiger et al., 1984)] in conjunction with the depleted or reduced state of humpback, Minke and fin whales, would have released significant forage into the ecosystem when climates were cold and conducive to SSL production (Maschner, 2007). The 1977 regime shift from cold to warm climate also greatly changed the ecosystem and caused a dramatic increase in pollock and cod stocks. Survey trawl samples went from all red (shrimp/crab 1970-78) to red with brown (shrimp with few cod and pollock 1979-83) to all brown (groundfish only - post 1983). Many large whales that feed on herring and other forage needed by Steller sea lions for a balanced diet have started to rebuild and compete for food. Lastly, since the 1960s, the North Pacific Ocean has also become a fished ecosystem. Societal needs for a healthy fishery resource may, in conjunction with the return of large whales that prey on forage fish and expanding gadid and flatfish populations (particularly Arrowtooth flounder in the Gulf of Alaska and now in the Bering Sea) compete directly with Steller sea lions. It has also likely changed the forage base for Steller sea lions and may have lowered the carrying capacity for the wDPS.

The Recovery Plan in several areas of the document only mentions these factors in passing comments and does not provide an assessment of the possible magnitude of this competitive nutritional limitation to Steller sea lions. The Endangered Species Act (ESA) was enacted to prevent species from going extinct, not to try to maintain populations at levels beyond carrying capacity. Since we do not know for certain what the current carrying capacity is for the wDPS of SSLs, setting a 30-year target at 107,000 animals could be an unreasonable benchmark until the science can provide clearer insight. The large shift to the ecosystem may have been of greater dimension, since harbor seals, wDPS SSL, fur seals all declined through the 1980s, and some into the 1990s, west of 140° longitude. While east of that divide the eDPS SSL, California sea lions, elephant seals, and harbor seals increased dramatically. These concurrent population changes in pinnipeds east and west of that latitude point less to anthropogenic impacts than to oceanic factors as the main driving force.

A need for rebuilding within the available carrying capacity was considered in developing a recovery plan for the Rocky Mountain gray wolf. Rather than choosing a number within the range of historically high levels of the population, the U.S. Fish and Wildlife Service addressed ESA rebuilding and establishment of Critical Habitat for the gray wolf, recognizing their habitat had been modified by man. This was a societal

decision: one that recognized a reduction in carrying capacity, yet set forth a recovery plan that assures the wolf population will not go extinct.

As found in a U.S. Fish and Wildlife Service (2007) publication on the gray wolf ESA listing:

> Question 3: "Does this mean the U.S. Fish & Wildlife Service will require wolf packs to be maintained throughout all the states of Montana, Idaho, and Wyoming?"
>
> Answer 3: "The recovery goals only mandate that each state maintain at least 10 breeding pairs and at least 100 wolves per state, within the general area currently occupied by wolf packs. There are many parts of Montana, Idaho and Wyoming where once-historic wolf habitat has been so modified by human use that it can no longer support wolf packs. The state fish and game agencies will regulate human-caused mortality so that in many parts of those states wolf packs will never form. The Service fully recognizes that wolves cannot occupy their entire historic range, and supports limiting wolf distribution to suitable habitat as long as recovery is not threatened." *(Source: http://www.fws.gov/mountain-prairie/species/mammals/wolf/NRMQA.pdf)*

In conclusion, there are many unknowns and competing viewpoints on the factors affecting the health of the wDPS and threats to their recovery at this time. Based on concerns raised in this section, the State recommends the following:

- The status and health of the SSLs have improved. The Recovery Plan must clearly state and describe the current positive status of the wDPS population trend, the overall good body condition, and survivability based on the volume of work cited in the Recovery Plan.

- The Recovery Plan should discuss the fact that while the 3% annual increase in the wDPS population is below the 12% default rate for pinnipeds used in the Marine Mammal Protection Act, it is statistically similar to the trend of the eDPS which is recommended for delisting.

- Increase the priority of Recovery Action 2.6.2 (assess competition for prey with sympatric consumers) from priority 3 to 2a. If nutritional stress is a leading hypothesis in understanding the wDPS recovery, the impact of competition for prey with sympatric consumers on the ability of the population to forage must be evaluated.

- Return the threat assessment of killer whale predation to *Potentially High.*

- Increase priority of the study of transient killer whale foraging habits, mobility and nutritional requirements to better quantify predation impacts by specific pods on regional Steller sea lion populations.

- Include citations of literature that describe density dependent/density independent effects of predation and an evaluation of this issue as it relates to killer whale predation on the current wDPS Steller sea lion population size and its recovery.

- The agency should reduce its over-reliance on modeling exercises and be cautious in the extrapolation of localized or species-specific modeling exercises to the whole Steller sea lion population.

- Increase the priority of the Recovery Action 2.4.2 "Examine the influence of ecosystem variability on non-commercial prey species as an index to sea lion carrying capacity" from level 3 to 2a. (Implying that "non-commercial" is a non-federally managed species, commercial or not.)

- The State concurs with the SSC that the process for reevaluating the recovery criteria should be developed in the Recovery Plan and implementation plan.

3. The NMFS should re-evaluate the wDPS SSL recovery criteria so that the criteria are more consistent with those of other ESA listed species.

The Council hired Dr. Tom Loughlin to prepare a report that would compare recovery criteria proposed for the wDPS of Steller sea lions with eleven other ESA listed species. While the report provided detailed recovery criteria requirements for each species in its appendix, it made only generalized comparisons in the text and tables. Dr. Loughlin was asked to compare the use of PVAs, population growth, sub-area requirements and evaluate whether sufficient rationale was used in development of those criteria. A basic "yes" or "no" format was used in making these comparisons. The Recovery Plan would benefit greatly if this information were presented in a single table. ADF&G has attempted to develop such a detailed table (Attachment 2) that provides Loughlin report information. The table is used here to make the following observations:

> The population of wDPS SSL, including the Russian component, is 60,000 animals. The proposed demographic performance requirements for downlisting this population include: (1) a statistically significant average increase in the U.S. non-pup population over 15 years (1.5 generations) to increase it from 44,000 to 55,000; (2) increasing trends in 5 of 7 sub-regions (including Russia); (3) no declines in any 2 adjacent sub-areas; and (4) consistent increased population trends.
>
> The proposed demographic performance requirements for delisting the SSL wDPS include: (1) a 3% average population increase over 30 years (3 generations); (2) increasing trends in 5 of 7 regions (including Russia); (3) no declines in any 2 adjacent sub-areas; and (4) no decline of more than 50% in any single region.

None of the other listed species included in the report required an average population increase over three generations, as is required for delisting of the wDPS SSL.

The highest generational performance rate for other listed species was the Puget Sound killer whale with a current population of only 90 animals. It requires a 2.3% annual average population growth over 1 generation (14 years) with normal pod structure for downlisting and a 2.3% annual average increase for 2 generations for delisting. It has no other demographic performance requirements.

The North Atlantic right whale, with an estimated population of 300 animals, has recovery criteria requiring a 2% annual average population increase for 35 years or the probability of extinction less than 1 in 100 years. There are no other demographic performance requirements for downlisting. The population would no longer be considered threatened when the probability of becoming endangered is less than 10% percent in a minimum of 10 and maximum of 25 years. There are no additional delisting criteria specified in this report.

The fin whale population (150,000 animals) must remain stable for 1.5 generations or 26 years for downlisting, or a probability of extinction less than 1% in 100 years in each ocean basin for downlisting.

The threatened sea otter requires only that its current population of 3,090 animals remain stable over a three year period to be delisted. There are no other demographic performance requirements.

The threatened Rocky Mountain gray wolf plan requires that a population of 300 wolves be reached, including 30 breeding pairs. No time period is identified. There are no other demographic performance requirements. It is currently proposed for delisting.

Of the ten endangered or threatened species only four plans: the Hawaiian monk seal (population 1,300), the grizzly bear (1,400), the spectacled eider (1,700 pairs) and the manatee (3,276) include any regional performance requirements.

The Hawaiian monk seal (population of 1,300 animals) is required to reach a population of 2,900 animals, have a population of more than 100 animals in five of the six regions, and have a Main Hawaiian Islands population above 500 animals. Also, population growth must not be negative in 2 areas.

The criteria for the Yellowstone grizzly bear require that 16 of 18 segments be occupied by females with young from a running six year sum and that the total population include a minimum of 15 females with cubs over a running six year average.

> The threatened spectacled eider population in the Yukon-Kuskokwim Delta, North Slope, and Arctic Russia regions is estimated to be 1,700 breeding pairs. This population will be considered recovered when each of those three populations is considered stable or increasing for ten years and there are a minimum of 6,000 pairs or there are 10,000 pairs for 3 years or 25,000 pairs in 1 year.

Despite a population of 45,000 animals (60,000 if the Russian population is included), the demographic performance requirements proposed for downlisting and delisting of the wDPS SSL are, by contrast to these other listed species, both singularly and cumulatively more demanding than any of the other species included in the Loughlin report. This includes endangered species with populations less than 1,000 animals and one population, the Puget Sound killer whale, with less than 100 animals that requires an annual average population increase of 2.3% over two generations for delisting of the species. Justification for the complex recovery criteria developed for this SSL population is not provided in the Recovery Plan. The State requests development of recovery criteria more consistent with those provided for other protected populations.

Though recovery criteria for other species seem to include one or two demographic goals, including the eDPS with a single demographic goal, the wDPS has several. The agency appears inconsistent in their treatment of sub-region demographic performance criteria. Specifically, in its response to comments, the agency disagrees with comments that the eDPS should not be delisted because the population had not been divided into sub-regions (as has the wDPS) and that populations in California remain at high risk of extinction. The agency responded that the Steller sea lions breeding and residing in southern California did not represent "a significant portion of the range of the eastern DPS... largely because they live at the southern extent of the eastern DPS range and populations often fluctuate most at ends of their ranges. Also, there is evidence that the eastern DPS has moved northward. Splitting the eastern DPS into sub-areas would not alter the fact that populations in all other areas besides California have either increased steadily or been stable for an extended period of time." Yet in response to a comment on the necessity of the demographic criteria for wDPS that prohibits delisting if a decline of more than 50% occurs in any single sub-area occurs, the agency responds, "This criterion prevents loss of a significant portion of the range of the wDPS, which is a requirement of the ESA."

While the eDPS is not divided into any sub-regions, the wDPS is divided into seven sub-regions. The western Aleutian Island sub-region has only three rookeries. If the population of those three rookeries, which does not seem to represent "a significant portion of the range" as required by the ESA, were to decline more than 50% then the current criteria would prohibit delisting even if the overall population achieved an annual average population increase of 3% or more for three generations. To further complicate sub-regional requirements placed on the wDPS, it has been documented that the wDPS is moving eastward as the eDPS seems to be moving northward. This uneven treatment is strengthened since geneticists are proposing that the Asian population is a separate stock.

This would make the western Aleutians the western edge of the wDPS distribution, as is California to the eDPS.

Based on the demographic performance criteria for other species and to the eDPS, the wDPS criteria, by comparison, seem unreasonably conservative, and almost punitive. The State believes that the demographic performance requirements seem designed to prohibit downlisting and delisting even after the species is well recovered by any other standard.

Additionally, the State is requesting that NMFS use the existing status review and the new information from research to rewrite the criteria as we suggest, so they are more on par and consistent with other listed ESA species. The recovery criteria are likely to be in place and guiding management decisions for a number of years, and the criteria are unlikely to be revised until after the next status review – so we recommend bringing some consistency to these criteria now. Because the SSL listing was based on population trajectory rather than a problem with absolute numbers, and because there are significant indications that carrying capacity may be reduced, we also recommend building flexibility into the recovery plan to deal with the possibility that the population may stabilize at a new carrying capacity.

The State recommends the following changes in recovery criteria:

- The Russian population should be excluded from all recovery criteria including the use of two adjacent areas as a population performance requirement. No other ESA delisting criteria include an international segment of an ESA population that requires foreign action without an international agreement or treaty to assure such protection. While whale species and the spectacled eider populations overlap into international and foreign waters, protection of those species in regions outside the U.S. are agreed to and enforced with international treaties and agreements. No such agreements exist to enforce protection of Steller sea lions in Russian waters, and thus a number of the Recovery Criteria might not be met which would stop downlisting or delisting due to activities in Russia. Without a formal international conservation agreement, responsibility for the Russian portion of the wDPS should be eliminated from the next revision of the Recovery Plan.

- The State suggests the wDPS of the SSL be considered for reclassification to threatened when: (1) the population for the U.S. region has increased at an annual growth rate of 1% per year for 15 years, based on counts of non-pups (i.e., juveniles and adults); or (2) the population reaches 55,000 animals; or (3) if the population remains stable for 20 years; or (4) if the population remains stable and research demonstrates that the population is at carrying capacity.

- The State suggests the wDPS of the SSL be considered for delisting when: (1) the population for the U.S. region has increased at an annual growth rate of 1% per year for 30 years, or 2.5% for 15 years, or 5% for 10 years, based on counts of non-pups (i.e., juveniles and adults); or (2) if the population remains stable for 40

years; or (3) if the population remains stable for 10 years and research demonstrates that the population is at carrying capacity.

- Recovery criteria should be recognized as provisional, contingent upon a reassessment of whether the wDPS is in fact distinct from the eDPS, and contingent on more focused exploration of whether the wDPS is or is not at a new carrying capacity.

The State believes the downlisting/delisting criteria recommended above are more consistent with those for other ESA listed species recovery criteria and IUCN (International Union for Conservation of Nature and Natural Resources) Species Survival Commission guidelines.

4. The State recommends reconsideration of recovery actions that require an adaptive management experimental design and maintenance of current mitigation measures.

The Recovery Plan designates the design and implementation of an adaptive management plan (Task 2.6.8) with a 2a priority rating which identifies it as "(2) An action that must be taken to prevent a significant decline in species population/habitat quality or some other significant impact short of extinction and (a) Actions that should either be taken first, or are of primary importance." The State is concerned that this task, as defined, is seemingly impossible to accomplish without incurring great costs and potentially disenfranchising fishing participants and coastal communities. Its purpose and scope remain ill defined and likely too large of scale, requiring "design and implementation of an adaptive management program to distinguish between the effects of fisheries, climate change, and predation of the western Steller sea lion." And as noted on page 161 of the Recovery Plan, "field experiments in the open ocean at this spatial scale have not been attempted before . . . ."

The failure of a population to recover is generally because it fails to reproduce at a rate that exceeds general mortality in the population. Since 2000, surveys show that population levels are increasing overall and vital rates of adults and juveniles indicate good body condition and survivability. However, recent modeling efforts using the Marmot Island population near Kodiak raise concern that lower reproduction and natality rates may occur in the future and threaten the current positive population trend. It is unknown whether nutritional stress, pup mortality from killer whale predation, storm surges, or a combination of effects may impede reproductive and natality rates. It also remains unknown whether competition from fisheries or other species for prey or environmental variability is the cause of nutritional stress. For this reason, NMFS and others have recommended that an adaptive management experimental design be developed to test the hypothesis that competition for prey with commercial fisheries is the cause of nutritional stress. But this is not enough, an adaptive management program should be more clearly defined and include research approaches designed to determine the mechanism through which resource limitation might impact vital rates of Steller sea lions. A more explicit explanation of the purpose of this adaptive management approach and indication of what results might prove unequivocal is warranted. A description of the

appropriate monitoring of controlled and uncontrolled areas, including surveys before and after fishing in all areas would alleviate concern that a large-scale design such as the previously proposed "red/green" study is intended. This proposed action should be specifically modified to take a more discrete and localized approach to mitigate as much as possible unnecessary impacts to fishermen and fishing communities. It should also be recognized that the adaptive management approach is largely precluded by the requirement for current fishery mitigation regulations (50 CFR 679) to remain in place until the species is recovered. Further, these regulations are focused on the entire population, so the likelihood of unequivocal results seems slim.

Instead of a large-scale experimental design, the agency should modify this proposal so that it relies on a more localized design and requires that appropriate rather than current mitigation measures be maintained until the species is recovered. In this way, the Recovery Plan can best adapt to updated scientific information and test the competition for prey with fisheries hypothesis without unduly disenfranchising fishermen and fishing communities dependent on those fisheries. More importantly, it can appropriately focus on the segment of the SSL population considered most at risk. To better promote the protection of adult females and new born pups, for instance, mitigation measures might be redesigned to protect rookeries where reproduction or natality rates are in decline. Or if field studies indicate a specific fishery is not negatively affecting prey fields, mitigation measures should be adjusted appropriately. Under current regulations, appropriate adjustments or discrete experimental designs in areas that are currently closed are prohibited from occurring.

Setting current regulations into the Recovery Plan eliminates flexibility in adjusting regulations to allow adaptive management actions. While "appropriate regulations" could encompass the existing regulations, citing the current regulations as a recovery action does not allow variation to mitigate or conduct scientific assessment. In the Section 7 consultation context, the courts have been reluctant to allow much variation from what is laid out in a Recovery Plan, looking at the plan as evidence of what the agencies must do to carry out their responsibilities for the conservation as well as the survival of the species and requiring the agencies to justify any departure. If the Recovery Plan calls for maintaining a specific action (such as 50 CFR 679 mitigation measures), any change in course is likely to result in litigation. Although the agency might be able to justify some deviation from current mitigation measures to allow adaptive management, its ability to do so would be uncertain and any attempt to do so would be difficult.

Further, as generalist, multiple-central-place foragers known to target prey (at least in part) during dense seasonal prey aggregations, SSLs likely have several foraging options that are not captured by the fixed, year-round Critical Habitat definition required by ESA. Recovery tasks in the Recovery Plan should investigate whether declines in local prey abundance or changes in prey distribution will cause negative impacts on SSL survival, considering that SSLs are able to successfully move to new haulouts by 2 months of age where similar prey at higher density or other prey types are available.

While Critical Habitat must be maintained and is relatively inflexible in scope, except through regulatory adjustment of boundaries, mitigation measures and consideration of whether an action will adversely modify critical habitat, should be flexible enough to allow the use of the best available scientific and commercial information and should consider the type of usage made of critical habitat by SSLs. Relative vulnerability of SSLs to indirect or direct disturbance during different phases of at-sea activity should be assessed if possible (i.e., does human disturbance within SSL travel routes to offshore foraging grounds have similar impact on SSL foraging as disturbance within the foraging grounds?).

Although fully recognized as a very difficult endeavor, an adaptive management approach to research will be critical to clarifying the uncertainty of Steller sea lion response to potentially depleted food resources (either from environmental variability or from competition with fisheries or other species). Although the ultimate goal of these long term studies are to establish linkages between experimental manipulation of prey fields and the population dynamics of Steller sea lions at nearby rookery and haulout locations, concurrent research on the short term physiological responses of sea lions to these experimental manipulations should be considered as part of the overall program. Several techniques for determining body condition and for tracking changes in diet and movement have been well established in captive and free-ranging studies on Steller sea lions over the past 10-20 years. In addition to being important monitoring tools to track health of a delisted population, these techniques can significantly increase the value of the adaptive management approach in providing insight into the mechanism by which experimental changes in the prey fields might affect Steller sea lion population vital rates. For instance, if it is hypothesized that long term or repeated depletion of a prey field close to an occupied Steller sea lion rookery will significantly decrease the reproductive potential of adult female sea lions at that location, the mechanism through which this change in vital rate (measured over the time scale of year(s)) operates is a decrease in body condition of the adult female that would prevent her from supporting a nursing juvenile and the healthy development of a fetus, simultaneously. This change in body condition would be measurable over the time scale of days to months. Alternatively, these tasks could also demonstrate if females were receiving adequate nutrition from other non-groundfish species (Table 3.21 – Chapter 4, Draft 2006 BiOp).

To insure that the recovery actions are science driven, cost-effective and well focused on results, the State recommends the following:

- The adaptive management program should be more clearly defined and include research approaches designed to determine the mechanism through which resource limitation might impact vital rates of Steller sea lions. We recommend that the North Pacific Research Board be requested to sponsor a symposium to convene a multidisciplinary group of experts to further explore the adaptive management approach and to build upon previous work on the statistical design of such a program that could utilize a multiple hypothesis modeling approach to secure unequivocal results while minimizing the impacts to fishermen and fishing

communities.

- Do not require maintenance of current regulatory mitigation measures as an action item in the Recovery Plan; this eliminates flexibility to adjust regulations to address new information and implement adaptive management actions. Require "appropriate regulations" which may include important components of the existing regulations. The recovery action that requires maintaining current mitigation measures for all segments of the population is almost certainly overly restrictive (when pregnant females and newborn pups may be the segment of the population of most concern) and should be eliminated. At the very least, this action item should be rewritten to specifically allow deviation from current mitigation measures in at least three situations: (1) where equally protective measures are implemented, (2) to allow study of adaptive management actions which will be evaluated for effectiveness on a periodic basis, and (3) to implement adaptive management measures which have been demonstrated to be effective. As written the current action item requiring maintenance of current mitigation measures would not allow a well-grounded, science-driven process allowing adaptive response to the best scientific information available.

5. We recommend that a heightened priority should be given to redesignation of Critical Habitat.

The term Critical Habitat is defined in the ESA (16 U.S.C. 153) to mean, "Those physical or biological features (I) essential to the conservation of the species and (II) which may require special management consideration or protection." The ESA also states, "Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species."

Critical Habitat was designated in 1993 as a precautionary measure in face of the precipitous decline of SSLs by unknown factors. Foraging areas were determined based on platform-of-opportunity sightings by observers aboard fishing vessels, incidental catch data of Steller sea lions by fishing vessels and early foraging studies. It is not surprising that, based on the platform-of-opportunity information available at the time, critical habitat overlapped with fishing grounds.

Critical Habitat designations for SSLs in the wDPS (excluding the several 'marine foraging areas') are circular buffers of identical fixed radius around major terrestrial rookeries and haulouts. These were based on limited studies of SSL foraging. Circular critical habitat relies on the assumption that SSLs have an equal probability of foraging in any direction from the haulout, and that SSL foraging radius is similar across their range. These are not realistic assumptions, although we acknowledge they followed the precautionary principle and used best-available data at the time they were designated. Efforts proposed by the Recovery Plan to determine preferred SSL foraging habitat features and nearshore SSL activity patterns should be used to reshape these critical habitats.

Significant new information is now available about life history patterns and timing of rookery and haul-out use, vulnerable segments of the population, and foraging activities based on telemetry tracking of animals and other studies. However, the agency dismisses high priority given to redesignation of Critical Habitat in its response to comments and assigns it a priority 3, the lowest priority level in the implementation plan. Development of appropriate Critical Habitat designations based on all available information is needed. Considering the agency's heightened interest in adverse modification to Critical Habitat that may impede recovery of the species, focusing only on avoidance of jeopardy is inappropriate. Further, the Recovery Plan and response to comments often refers to testing the "efficacy" of mitigation measures in reducing fishing in Critical Habitat. Experimental designs measuring fishery impacts in areas that include those not critical to the survival and recovery of the species are not useful.

In view of the above, and the fact that the state waters are the most impacted by these archaic designations, the State recommends redesignation of Critical Habitat (Recovery Action 2.1) from the lowest priority (level 3), to a priority of 2a, and that such redesignation be undertaken as soon as possible.

6. Revise comments and research priorities in the Recovery Plan that unnecessarily undermine the exceptional management of fisheries in waters off the coast of Alaska.

The State of Alaska has been a strong advocate for precautionary management of both state and federal fisheries off its coast. Fisheries in Alaska are widely recognized as among the best managed fisheries in the world. Nonetheless, the Steller Sea Lion Recovery Plan on pages 102 and 103 and the agency's response to comments seem to question current management strategies, implying ecosystem overfishing (Recovery Action 2.6.7). Specifically, it seems to question maximum sustainable yield (MSY) management, the F40 harvest strategy and the current ecosystem approach to calculating prey for Steller sea lions as part of the natural mortality calculations made in determining allowable harvest levels of groundfish species (i.e., harvest strategy is only calculated on the spawning portion of the population). It also ignores other important ecosystem approaches to management including the optimum yield (OY) caps, harvest control rules, bycatch caps and prohibition of targeting on forage fish that all contribute to a precautionary management approach that leaves more fish in the ocean than recommended as Acceptable Biological Catch limits.

The agency's sustainable fisheries staff have investigated and incorporated ecosystem considerations and specific analysis of food web relationships in a multi-species population analysis of the Eastern Bering Sea (Livingston et al., 2000), comparison of ecosystem food web models (Aydin et al., 2002), inclusion of predation mortality in GOA stock assessments (Hollowed et al., 2000) as well as inclusion of ecosystem indicators in annual stock assessment documents. Finally, it is well recognized that a fixed OY cap and other mechanisms cited above are unique and highly precautionary mechanisms that further limit overall removals from the ocean. In short, management of North Pacific fisheries is on the leading edge of ecosystem management, including food-

web relations and this should be properly acknowledged rather than undermined in the Recovery Plan.

Based on the agency's own participation in the management of what is widely recognized as the best managed fisheries in the world, it seems inappropriate that the drafters from the same agency undermine those efforts in this Recovery Plan by failing to acknowledge these precautionary measures and implying that current harvest strategies are inadequate. This is a further example of the Recovery Plan casting its net too far.

In view of the above, the State recommends the following:

- The paragraphs questioning current MSY management of the federal fisheries in the North Pacific on pages 102 and 103 should be modified to acknowledge current management efforts to protect food-web relationships.

- Eliminate the paragraph in Recovery Action 2.6.6 that discusses the need to account for ecosystem needs when setting Acceptable Biological Catch (ABC).

- Lower priority should be given to Recovery Action 2.6.7, now tagged as a priority 2b, which seeks to overhaul how prey needs are incorporated into stock assessment models and harvest strategies. There are currently no overfished groundfish stocks in the North Pacific and because of the OY cap and other mechanisms, significant amounts of harvestable biomass are left in the water for consumption by predators, including SSL. Further, there is not yet strong evidence of nutritional stress.

7. Prioritize the development of a focused implementation plan with research objectives that are likely to reduce uncertainty surrounding the threats to recovery.

Coastal communities and fishing participants have shouldered costly mitigation measures as a result of continued uncertainty about the cause of the decline and threats to recovery of the wDPS of Steller sea lions. The federal government has committed approximately $120 million in research money to reduce that uncertainty. The Revised Recovery Plan has developed an implementation schedule with an estimated price tag of $430 million. Significant funds will be used to conduct research aimed at reducing the uncertainty over threats to recovery of the wDPS. However, research funds are limited and a very disciplined approach should be taken to develop a meaningful implementation program that is well-targeted to understanding and mitigating the threats to recovery of the species. A focused, cost-conscious and results-oriented approach should be exercised in its development.

While it seems necessary and appropriate to design a research plan that seeks to reduce uncertainty, those experiments should be focused and well controlled, able to produce meaningful results and adapt to new information in a timely fashion.

The State recommends the following:

- NMFS should reconsider the top priority ranking for Recovery Action 1.1.1 (estimate trends for pups and non-pups via aerial surveys), and downgrade this priority activity to 2a. The definition provided for a priority 1 action in the May 2007 draft document is "An action that must be taken to prevent extinction or to prevent the species from declining irreversibly in the foreseeable future." Although close monitoring of population trends through aerial survey is acknowledged as one of the highest research priorities that will enable sound management decisions to address this goal, it is not per se an action necessary to prevent extinction. Estimation of population trends and accompanying research into estimate of vital rates (through mark resight techniques utilized during field observations or remote video work), particularly in the CGOA rookeries, should be considered amongst the top priorities within the 2a category. Without an indication of what vital rate is changing to create a change in population trajectory, there still remains significant uncertainty on the potential causes of population change that would restrict implementation of appropriate conservation measures. Expanded vital rates research has been limited to a few locations in the wDPS and should be broadened to allow differences between rookeries across the range to be assessed, leading to finer-scale understanding of SSL population responses to management decisions.

- We encourage NMFS to elevate Recovery Action 1.5 (develop an implementation plan) to priority 1. With significant volumes of new data available it is important to mobilize a team of experts to integrate new insights into the planning and implementation of a focused, cost effective, results-oriented research plan. The team should include experts outside the agency and be conducted as part of a transparent process, perhaps through the North Pacific Research Board. We also encourage elevation of Task 3.5.1 (Coordinate research efforts to reduce potential for unnecessary or duplicative research) to priority 2a. This is a requirement of all MMPA/ESA research permits. Currently the majority of coordination effort is undertaken by individual researchers, however a designated NMFS research coordinator would greatly facilitate these efforts.

- NMFS must ensure that new and emerging research and analytical techniques are applied to all aspects of Steller sea lion recovery research. New technique development and implementation must receive high priority within tier 2a to identify new approaches to close data gaps that currently generate high uncertainty. One area of research to which this is very applicable is in the determination of vital rates such as reproductive rate. Specialized mark-recapture techniques recently adapted for vital rates research on Steller sea lions in the eDPS should be applied to the wDPS in a broad fashion where sufficient numbers of branded adult females are available to assess reproductive rates at multiple rookery locations. Although this technique for the direct assessment of rates of reproduction is currently being utilized at some locations in the wDPS, support should be provided for this application to broaden it to include all sites where

sufficient numbers of females are available. This would allow potential differences between rookeries across the range to be assessed and compared/contrasted to model predictions developed from data collected in the Gulf of Alaska (Holmes et al., *in press*). The expansion of this technique may also permit comparisons in rookery usage/rookery fidelity which may provide insight on the plasticity of adult female responses to localized adverse modification of habitat or other threats. Other specific examples would be the development and utilization of new capture techniques that would allow study of older and larger animals, application of improved statistical techniques that address the limitations of foraging behavior data and new laboratory methods for analysis of diet composition such as fatty acid signature analysis, stable isotope analysis and DNA analysis of scats to identify prey remains.

- The Recovery Plan should consider density dependent effects in all aspects of ecosystem research. We recommend that the implementation plan seek out opportunities to investigate the carrying capacity of the ecosystem to support Steller sea lions, potentially through Task 2.4.3 (distinguish how natural and anthropogenic factors influence marine ecosystem dynamics and subsequent sea lion population dynamics). There is a long time series of data available for eDPS population trends, combined with recent intensive focused research in vital rates, foraging ecology, growth and body condition of juvenile Steller sea lions (and to a lesser extent adult females in the 1990s) during a period when this population has been increasing in size and expanding breeding rookery locations. There is preliminary evidence that this population is being impacted by density dependent effects [such as lower growth rates of pups (Fadely et al., 2004) and higher incidence of parasites in pups (Beckmen et al., 2005) compared to wDPS pups]. This may provide research opportunities to investigate the carrying capacity of the ecosystem to support Steller sea lions, and to more fully understand changes to Steller sea lion demographics when the system is at carrying capacity for this species. It should be considered that the carrying capacity for the wDPS may be different than that of the eDPS, leaving one to question whether it is realistic to assume that the wDPS could attain a similar rate of population increase to that recently documented for the eDPS (or conversely if it should be much higher for a marine mammal population that is below its carrying capacity).

- Priority should be focused on the study of adult breeding female Steller sea lions to assess the hypothesized decrease in reproductive success in wDPS. A significant remaining data gap is the ability to efficiently capture and measure body condition of animals older than 3 years of age, and most importantly to be able to determine physiological condition of breeding age females to assess whether chronic under-nutrition is evident and potentially impacting reproductive success. Highest priority within tier 2a should be given to tasks related to (1) the development of capture techniques, (2) targeted research on the foraging ecology and physiological condition of adult females, and (3) removal of MMPA permitting impediments. This includes high priority for telemetry tracking of adult females and increased observation of adult females with pups at rookery

sites through the use of remote video equipment (such as used at Chiswell Island – see pages 5 and 6 for discussion) or some other means, as well as to securing permits that will allow increased handling of adult females to determine the possible effects of nutritional stress, disease, contaminants or other impacts normally associated with reduced fecundity.

- Telemetry based foraging ecology efforts needed to redefine critical habitat and to describe offshore foraging grounds of SSLs must have strong coordination among agencies through a NMFS Steller sea lion recovery research coordinator. Use of the extensive, existing telemetry data to improve critical habitat and foraging ecology descriptions should be a high priority. Advanced statistical modeling of this large, multi-agency data set should integrate movements, diving behavior, oceanographic features likely to concentrate prey and known prey patterns. Any future foraging behavior work should be well-integrated with (or at least well-informed by) prey distribution studies, and involve fisheries biologists, oceanographers and marine mammal biologists from the start. We concur with other reviews that future telemetry deployments should provide finer-resolution and/or new types of data useful for better inferring foraging and other activities at sea. Future telemetry-based foraging ecology efforts must have strong leadership and coordination among all agencies involved to ensure that appropriate hypotheses are tested, data are collected in compatible fashion and duplication is eliminated. The proliferation of telemetry studies prompted by the 2001 Steller Sea Lion Research Initiative was not well-coordinated beforehand due to the administrative requirements of the funding cycle, and the few after-the-fact joint analyses have been hampered by differing sampling protocols driven by different priorities of the agencies involved. Sufficient funding to achieve these goals, including funding of a research coordinator position must be identified as a priority.

- Research on physiological diving ability should be focused to improve bioenergetics models. While energetics research certainly has merit as a linkage between foraging cost and survival, the limited utility of further research into physiological diving ability (Recovery Action 2.5.1) warrants its lower priority assigned by the Recovery Plan. The definition of physiological diving ability is unclear: is it the ability of SSLs to make individual dives, or the overall ability of SSLs to sustain all foraging activities over time (swimming, diving, prey capture and processing)? In the latter case, the proposed foraging energetics study (2.5.2) would better meet this research need and indeed be more relevant to assessing the impact of prey depletion and distribution on SSL survival. An important criterion to apply might be: are direct and indirect adverse effects on prey distribution and abundance likely to force SSLs to make longer and deeper individual dives to find prey deeper in the water column (physiological diving capability), or will these adverse effects instead force SSLs to spend more time off the haulout, searching across the seascape for more dispersed prey patches, necessitating longer foraging trips, a larger proportion of time spent underwater, and a greater number of search dives (foraging energetics)?

- Because recovery actions will help direct funding, care must be taken that other research activities not defined as "actions" do not take priority. For example, increased stranding network activity must consider the potential disturbance of biosampling dead SSLs on rookeries and should discourage individual SSL rehabilitation attempts. From the Recovery Plan we understand the purpose of a 'functional stranding network' to be purely a method to obtain samples from moribund or dead SSLs. Care must be taken to ensure that increased surveillance by a stranding network will not inadvertently lead to a dilution of recovery effort and research caused by attempts to rehabilitate individual sick or stranded SSLs.

- The agency should give higher priority to field studies such as those developed by the Fisheries Interaction Team. According to the literature review of Steller sea lion research commissioned by the North Pacific Fishery Management Council, only three field studies were developed to test the affects of fishing on the local abundance of prey available to Steller sea lions. These three experiments were designed and implemented by the Fisheries Interaction Team to test the hypothesis that Atka mackerel, cod and pollock fisheries caused "localized depletion" of prey thus impeding the foraging success of Steller sea lions. While the pollock and Atka mackerel studies were inconclusive and require further study, the cod localized depletion study (Conners et al., 2004) results were clear; "In each of the three years, the nonparametric statistical test has overwhelmingly indicated no difference between sites in the trawled and untrawled areas." Rather than providing an objective accounting of the field test results, the drafters of the Revised Recovery Plan attempt to discredit this field study that refutes application of the localized depletion modeling exercise based on Atka mackerel to the cod fishery. Instead, the drafters rely on a cod modeling exercise (Fritz and Brown, 2005) based on catch data during the post spawning period when cod normally disaggregate. This persistent preference for modeling exercises over actual field tests of localized depletion should be re-evaluated.

- Recovery Action 2.6.9 "Prepare a habitat conservation plan under Section 10 of the ESA for fisheries authorizes by the State of Alaska" should be eliminated or reprioritized as a priority 3 action. State fisheries management is conducted pursuant to a constitutional sustained yield mandate for all natural resources, including SSL, and reflect numerous conservation measures despite the lack of a federally approved HCP. Nearshore fisheries are also managed in close consultation with the NPFMC and NMFS with the Alaska Board of Fisheries meeting periodically with the North Pacific Fisheries Management Council to discuss areas of mutual concern and with the Department of Fish and Game sharing fisheries data with NMFS. Any incidental take of marine mammals, including SSL, in the State near shore fisheries can be addressed under the provisions of the Marine Mammal Protection Act (MMPA), which includes provisions allowing incidental take of endangered species to be authorized also allowing the Secretary to develop take reduction plans. There is no evidence to indicate that State nearshore fisheries are causing any significant impact to SSL,

much less impacts such that action in the State fisheries "must be taken to prevent a significant decline in species population/habitat quality or some other significant impact short of extinction" or to prevent the species from declining irreversibly in the foreseeable future." In fact, current data indicates that despite the lack of a State Habitat Conservation Plan (HCP), SSL numbers are increasing. Therefore it is clear that a priority 2a ranking is inappropriate. Further, making a State HCP a required element might set the plan up for failure. The State has explored the possibility of implementing HCPs in the past, and has not ruled the possibility out, but has not yet been convinced that a federally approved HCP would offer any benefit to the recovery of the SSL or that it is a feasible option given the constant need for flexibility and rapid change within state fisheries. Conservation measures recommended by the Recovery Plan in relation to state regulated fisheries, if any, should either be optional, or be based on implementation of Section 7 of the ESA and on incidental take permitting and take reduction planning under the MMPA. Such measures should consider the seasonal use of rookeries, haulouts and active foraging areas in Alaska and be designed to provide protection of foraging areas shown to be ecologically important to Steller sea lions (e.g., areas identified through aerial survey or satellite telemetry) around rookeries (and haulouts) during the times of year that those locations are occupied.

Conclusion:

It is important to remember that based on the precipitous wDPS SSL decline of the 1980s and the high degree of uncertainty surrounding its causes, a highly precautionary and broad-brush approach was taken when designing Critical Habitat, fishery mitigation measures, and the agency's early attempt to develop an adaptive management scheme. Since that time the wDPS SSL population has stopped its decline and is increasing overall. Further, after spending approximately $120 million, we have gained knowledge to better inform development of Critical Habitat, fishery mitigation measures and a focused adaptive management experimental design. Unfortunately, the revised Recovery Plan proposes the opposite by designating the lowest priority to Critical Habitat, requiring the current rather than appropriate management and mitigation measures, and failing to provide guidance for the development of effective adaptive management experimental design.

Despite the new available science, uncertainty and competing hypotheses concerning threats to recovery remain. Multiple competing factors should be carefully considered and the variation of the strength of these factors across the range of the population must be recognized. A focused implementation plan with clear research objectives is an important component to resolving uncertainty regarding the threats to recovery. We look forward to publication of recovery and implementation plans that are designed to promote the recovery of the Steller sea lion in a balanced and considered manner.

Attachment 2. ADF&G

Comparative Demographic Recovery Criteria of Western DPS Steller Sea Lion and other ESA Species

Compiled from the "Review and Comparison of Recovery Criteria in the 2006 Draft Revised Steller Sea Lion Recovery Plan" (Loughlin, 2007)

SPECIES	NUMBER - STATUS	DOWNLISTING CRITERIA			DELISTING CRITERIA			
Western distinct population segment of Steller sea lions	60,000 - Endangered	U.S. population shows statistically significant increase for 15 yrs & slow increasing pop trend	Trends in non-pups in at least 5 of 7 subareas, including Russia, are stable or increasing	Any two adjacent regions cannot show a decline	U.S. population of non-pups must show an average annual increase of 3.5% for 3 generations (30 years)	Trends in non-pups in 5 of 7 regions are stable or increasing at 3% annually	The population trend in any two adjacent sub-regions cannot decline significantly	The population in any single sub-region cannot decline more than 50%
Monk seal	1,300 - Endangered	Population to exceed 2,900	5 of 6 sub-population are above 100 and Main Hawaiian Islands population above 500	Population growth not negative in two areas	Delisting criteria not included in this report			
Fin whale	150,000 - Endangered	Population to remain stable or increase for 1.5 generation	OR a probability of extinction less than 1% in 100 yrs in each ocean		Probability of extinction less than 10% in 10-25 years	Delisting criteria may be incomplete in this report		
Puget Sound killer whale	90 - Endangered	2.3% annual population increase for 1 generation	Pod population & social structure normal		2.3% annual population increase for 2 generations	Pod population & social structure normal	Delisting criteria may be incomplete in this report	
North Atlantic right whale	300 - Endangered	2% annual population increase for 35 years	Other threats not limiting growth – no whaling	OR probability of extinction less than 1% in100 yrs	Delisting criteria not included in this report			
Gray whale	20,000 - Delisted				Population increased to pre-exploitation level of 20,000			
Southern sea otter	3,090 - Threatened				Average population exceeds 3,090 for 3 years			
Manatee	3,276 - Endangered	Annual growth rate is zero or above	Females with calf at 40% - & human impacts controlled	4 regions with annual adult survival of 90%	Delisting criteria not included in this report			
Yellowstone grizzly bear	1,400 - Delisted				All 6 recovery zone populations must be recovered for delisting	Yellowstone zone requires 15 females with cubs for 6 years and within 10 miles of zone	16 of 18 segments occupied by females with young	
Spectacled eider	1,700 pairs - Threatened				Each of 3 regional populations is increasing for 10 yrs	AND a minimum estimated population at least 6,000 breeding prs	OR 10,000 pairs for 3 years	OR 25,000 pairs for 1 year
Rocky Mountain gray wolf	30 pairs - Proposed for delisting				Over 300 wolves in three states	30 breeding pairs		

Note: Though not included in the Loughlin report, the demographic recovery criteria for eastern distinct population segment of Steller sea lions is an annual average increase of 3% over 30 years. There are no subarea requirements. The agency is recommending that population for delisting.

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF FISH AND GAME

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August 24, 2007

Doug Mecum, Acting Administrator
National Marine Fisheries Service, Alaska Region
National Oceanic and Atmospheric Administration
P. O. Box 21668
Juneau, AK 99802

Dear Mr. ~~Mecum~~: Doug :

Thank you for providing an opportunity to review the April 2007 internal draft of a final conservation plan prepared by the National Marine Fisheries Service (NMFS) for the Cook Inlet stock of beluga whales. I particularly appreciate your recent efforts to recognize that our department is not a member of the public and, as the trustee for wildlife in the State of Alaska (State), shares responsibility with your agency for assuring maintenance of sustainable populations of beluga whales. Until your recent efforts, the State had not been included in the development of the cooperative conservation plan and was only provided one opportunity also afforded the public to review the 2005 draft plan. I hope that you will continue to encourage your agency to fully involve our significant interests and expertise in all aspects of the conservation of these whales and others species.

Enclosed are detailed comments intended to provide constructive recommendations to improve the final plan. The comments address multidisciplinary studies, prioritization of those studies, funding, and implementation of the Recovery Program. The plan needs to be comprehensively updated to address comments your agency received on the 2005 draft and to incorporate recent research on beluga as well as other biological and physical characteristics of the habitat.

We believe that the most important change needed involves improved coordination with the State and other entities to finalize and cooperatively implement a conservation plan for the Cook Inlet stock of beluga whales. NMFS committed in the 2000 rule to pursue such action with the State, other agencies, non-government organizations, and the public. The lack of progress during the intervening seven years needs should be corrected in order to involve all of those entities, to increase funding, and to implement interdisciplinary research and management of the beluga whales and their habitat.

In order to immediately pursue progress, I propose that NMFS and the State enter into a cooperative agreement to jointly develop and implement a conservation plan for Cook Inlet beluga whales. We would jointly establish the necessary multidisciplinary team under the umbrella of that cooperative agreement. Participation would include government, university, and

entities in the area that desire a role in the development, funding, and implementation of the conservation plan. Through this cooperative agreement between our agencies, NMFS would continue to implement its agreements with the Native participants and retain your responsibility under the Marine Mammal Protection Act.

In order to initiate this cooperative agreement and identify the multidisciplinary team to finalize, fund, and implement a conservation plan, I urge we pursue this effort at your earliest convenience.

Sincerely,

Denby S. Lloyd
Commissioner

Enclosures: Attachment 1 (page 3) – Summary of Major Comments
Attachment 2 (page 4) – General Comments
Attachment 3 (page 10) – Comments on Specific Sections of the Plan
Attachment 4 (page 39) – Conclusion

cc: Kaja Brix, Assistant Regional Administrator, Resources Protection, NMFS
Mike Nizich, Deputy Chief of Staff, Office of the Governor

ATTACHMENT 1: SUMMARY OF MAJOR COMMENTS

- **The plan's development by National Marine Fisheries Service (NMFS) lacks transparency; NMFS did not include involvement of the State of Alaska and others with interests and responsibilities related to beluga whales.** In several locations the plan states that it will require the shared resources and cooperation of at least eight specific stakeholders, but there is no description of whether any of these groups participated in the development of the plan. Other than an opportunity to review the 2005 draft plan and this internal final plan, no coordination in development of the plan occurred with the State of Alaska (State). The plan fails to recognize the State's trust responsibility for all wildlife and shared responsibility with NMFS for sustainable management of Cook Inlet beluga whales. We recommend that NMFS enter into a cooperative agreement with the Alaska Department of Fish and Game (ADF&G) to develop a comprehensive conservation plan that includes specific language to describe all parties with responsibilities and interests in the conservation of Cook Inlet beluga whales and to describe any participation of such entities in the development of the plan.

- **The plan does not identify an implementation strategy or who will fill the various roles required of a directed research and conservation program.** The plan needs to identify what entities may be asked to investigate the Objectives (listed in section IV) and what group(s) will recruit the investigators, conduct peer review of studies' designs, monitor progress, and evaluate results. The plan also needs to identify potential sources of funding and expertise, including potential for cost-sharing, matches, and potential leveraging of funds. We recommend including a matrix that indicates what funding entities and sources may be available to assist with each Objective and that identifies the purview, mission statements, roles, responsibilities, commitments, timelines, and involvement of each entity.

- **The Recovery Program section of the plan does not appear to have been developed with input or consideration from a multidisciplinary team.** The plan states in several places that recovery of beluga whales will require use of the best available science. Many of the challenges identified in the plan are multidisciplinary in nature (fisheries, conservation biology, climate change, hydrology, bathymetric, bioenergetics, genetics, population biology, harvest management, resource development, etc.). However, a multidisciplinary team was not used to identify and prioritize the elements in the Recovery Program section, and we thus question how the best available science and knowledge can be present at the outset. We recommend that NMFS convene a workshop(s) in which an independent facilitator leads a multidisciplinary team through discussion and prioritization of Objectives and studies to achieve them. This would improve the Recovery Program, while providing the participation and transparency requested above. This exercise and subsequent revision of the Recovery Program section will also capture other important revisions described in this review.

Overall, the internal final conservation plan is out of date, incomplete, and serves the scientific interests of some researchers without addressing the full range of environmental attributes potentially affecting beluga whales and their habitat. We strongly urge that NMFS enter into an agreement with the State to cooperatively revise the plan through a multidisciplinary team that identifies implementation strategies and measures to meet objectives. The above summarized comments are explained in more detail in the remainder of this document.

despite the following claim in the plan, this necessary coordinated involvement has yet to occur (p. ii): "*NMFS has attempted to fully involve all parties with special interests and positions with respect to these whales, including Cook Inlet area local governments, Alaska Native tribes and villages, oil and gas industry, shipping interests, recreational users, tourism groups, environmental organizations, State of Alaska, and other federal agencies.*" As written, that statement is simply not true although its intent is laudable.

f. Role of Participants: Once that involvement has occurred or is underway, we recommend that specific language be added to the final plan that describes all those parties with responsibilities and interests and their respective participation in the development of the final plan.

2. **The plan does not identify an implementation strategy or which entities will fill which role in a directed research and conservation program.**

The internal final version of the conservation plan identifies the ultimate goal (recovery to a population size of 780 whales in 25 years) and the specific studies needed. However, the Recovery Strategy and Program do not provide a road map explaining how that goal and identification of studies was made, or by whom. Similarly, there is no 'road map' for its implementation, management, and evaluation. Such an implementation strategy needs to be clearly identified, justified, and explained. Participants and criteria for evaluation of implementation efforts must be identified for each step, including how groups with the appropriate expertise will be recruited and /or who will be selected to conduct the work, and what funding strategies (including matches, fundraising, etc.) will be used for seeding the initial work and for leveraging it to future studies. Such considerations are important parts of other recent plans developed in Alaska (e.g., Skilbred 2003, AYK SSI 2007) and should be addressed in this one.

One example of this lack of justification and identification is found on page 83 where the plan states that NMFS will "encourage more monitoring of anadromous fish runs." The plan does not indicate why this additional monitoring is desired, who would do the encouraging of whom, who would provide the funds and manpower, what monitoring methodology is used, who would evaluate the results, and what criteria would be used to determine if some response to the monitoring results is needed. Anadromous fish returns to Cook Inlet are consistently higher now than in previous decades and are closely managed by the State of Alaska under management plans adopted by the Alaska Board of Fisheries and Alaska Department of Fish and Game. We believe that more monitoring may not be necessary because sustainable management of fish escapements into the river systems ensures that salmon runs will be plentiful enough to sustain the projected doubling of beluga whale numbers.

Recommendations for identification of implementation strategies and participant roles:

a. Once the suite of recommended studies is selected, provide a summary of the major roles identified as necessary for implementation, management, and evaluation of those studies.

4. **The degree of revision to incorporate feedback from the 2005 draft plan is unclear, and available updated information is missing.**

According to the plan, NMFS received 115 comments letters and suggestions on the 2005 draft plan regarding editorial and formatting changes that were generally accepted. However, the plan neither indicates the extent to which comments were received on the content, priorities, and approaches of the draft plan nor the extent to which these were considered in the final plan. The plan states (page 7) that substantive review comments were addressed and summarized in an issue of the Federal Register (no cite). These need to be described in the final plan. Furthermore, the State's substantive comments on the draft plan and on the 2006 Status Review are not addressed in this version of the plan. Lastly, the two years separation reduces the accessibility of the review comments and how they were addressed; that lack of availability weakens the plan.

Recommendations to clarify revisions and update information:

a. Summarize comments received on the content, priorities, and approaches of the draft plan and indicate how these were considered in the final plan.

b. Include a summary and address substantive comments as an appendix within the final plan.

5. **The plan describes the need to be *"appropriate, comprehensive, adaptive, and effective"* but does not prescribe either internal or external evaluation of these criteria.**

The plan provides a self-assessment of these useful criteria, but should replace it with objective and measurable assessment methods developed and conducted by an external team that includes members familiar with conservation and research plans relevant to this one.

Recommendation to establish criteria and evaluation team:

Assign an external review team to evaluate these four criteria, and if appropriate, develop objective and measurable methods to evaluate each of the criteria. The team should include other responsible agencies, interdisciplinary experts, and peers outside of local regional NMFS offices.

6. **Revise the plan to reduce the focus on documenting prior internal NMFS progress.**

The plan needs to be revised to reduce the focus on the limited role of NMFS in the past few years. The conservation plan needs to add descriptions of other agencies' and entities' progress and to increase the emphasis on future strategies and role of NMFS and others.

Recommendations to document progress by all participants in achieving strategies:

Recommendations to improve scope of research and relevant conservation work:

a. Include a brief description of beluga whales outside of Cook Inlet (including outside of Alaska) and whether or not assessments, management, and conservation of these populations has yielded any information useful to this plan.

b. Include references for other conservation and research plans for other species.

c. Conduct a literature search of relevant work in Cook Inlet and either cite in the document or include as an appendix (i.e., replace current appendix devoted exclusively to NMFS publications).

pp. 2-3, Habitat Requirements and Limiting Factors. This section fails to accurately address the scientific information available in the literature and varying theories on when recovery would occur after harvests stopped and the whale population returned to a normal ratio of mature and immature whales.

Recent satellite telemetry studies have provided important insights on those regions within Cook Inlet that may represent important habitat, yet data from those studies are from a limited number of whales in a depressed population. As a toothed whale, the capacity and utilization of echolocation by beluga whales is very extensive. It is used for communication, foraging, and navigation. Recent acoustics studies indicate that sounds measured in Cook Inlet likely have only a minor effect on belugas. However, the study did not address geophysical seismic activity a source of sound that has the potential to harass or harm belugas. We are aware that recent evaluations were done on seismic activity that need to be included. The plan also includes information on factors for which there is less uncertainty and appear, based on current knowledge, to have negligible impacts on beluga whales, such as incidental take from fisheries, competition for food from fisheries, and pollution.

p. 3, paragraph 1. The discussions in the plan regarding subsistence harvests are deficient in content and analysis and contribute to potentially flawed conclusions regarding causes for the decline and current population levels of beluga whales in Cook Inlet. This problem then directly affects the suppositions about factors affecting future population recovery. For example:

(1) The first sentence needs additional language (underlined) as follows: "*The documented decline of the cook Inlet Beluga whale population during the mid-1990s could be explained by the potentially high estimates of subsistence harvest removals at a level that this small population could not sustain.*" While not logically incorrect as written in the plan, this modification is necessary to reflect that the data for the mid-1990s is in fact an estimated range, not a certain count, and that this conclusion is based on the high end of the estimates, or the worst case scenario, for those years.

(2) Starting with "*These harvest reductions*" on lines 4 through 8, these sentences conclude that subsistence harvests cannot be the only factor limiting the recovery of beluga, which interestingly, should be substantiated by the Subsistence section on page 46. (See also comments Conclusion on page 114.) To be more accurate, we would recast this wording, as follows: "With the exception of estimated harvest and associated mortality from the mid-1990s, overall subsistence harvest at generally low levels during the past 50 years does not appear to be a limiting factor to recovery of Cook Inlet beluga whale populations."

p. 3, Recovery Strategy; p. 3, Recovery Goals and Objectives.

(1) The establishment of a population goal of 780 whales as a recovered stock is based on recalculations of the 1979 estimated population. However, no information is available upon which to calculate carrying capacity of Cook Inlet today or "*Optimum Sustainable Population*" of this stock. We urge NMFS to address scientific consensus on both of these figures through a team of scientists that evaluate the habitat condition, prey, predation, and other limiting factors, as well as independently look at historic counts and information on other populations.

(2) There needs to be clear responsibilities and criteria for determining the validity or impact of "*identified threats*." A number of subjective decisions are included in the decision process, which need to be better defined in the plan and a team specified to assess their impact.

B. Description and Taxonomy (pp. 8-9)

p. 9, paragraph 2.
(1) This section needs to reference literature concerning the widely dispersed historic sightings of beluga whale all around Kodiak Island, along the Alaska Peninsula, throughout Prince William Sound, and all the way to Tacoma, Washington.
(2) We disagree that the single 1997 genetics study is conclusive that the Cook Inlet beluga stock has been isolated for a long period of time for a number of reasons. The same data set can be easily explained by founder effects or genetic bottlenecks. The mtDNA methodology has inherent limitations and the original sample sizes are small. Recent genetics samples and updated analysis need to be evaluated and incorporated in this discussion. We've also suggested that NMFS allow samples to be processed in the ADF&G or Auke Bay laboratories.

C. Life History (pp. 11-14)

pp. 11 and 13. This discussion needs to specify that these life history data are not for Cook Inlet beluga whales. The discussion could be substantively improved by explaining information on other populations that may or may not be applicable to this population.

p. 11, paragraph 2. "*7-10 calves*" per lifespan should be referred to as net reproductive rate, not "*maximum expectancy*." Combine paragraphs 1 and 2 in order to remove redundancy and inconsistencies between the paragraphs.

p. 13, paragraphs 1-2. Since age and growth studies using tooth structure by Vos did not speculate about the growth layer group (GLG)/year relationship, how were age estimates obtained from this dataset? We understand that it has subsequently been determined that one GLG is equal to one year so all of his graphs are equivalent to ages, but this needs to be clear in the text.

pp. 13-14, Feeding Behavior. This discussion should more clearly summarize information available on the level of feeding that occurs outside of the summer period, including that information stated in discussion under "*E. Valuable Habitat*" (pp. 28-35). In particular, what dive behavior data are available, e.g., how many whales, which areas and seasons, and what analyses have been conducted on these data? Further, this discussion should summarize feeding behavior information from other beluga populations across the Arctic for comparison purposes. The substantial uncertainty regarding what level of feeding occurs during the non-summer period, and where feeding occurs, is a major limitation in assessing the relative importance of the possible threat of nutritional stress and determining essential habitats.

This discussion also needs to be updated to reflect recent research and observations. The statements concerning beluga behavior and fish availability need to be modified to reflect factual findings and documented observations. The description of fish returns needs to be updated with current department data, particularly for eulachon and herring.

Paragraph 2 states "*stomachs of beluga whales harvested from the Susitna area in spring have been filled with eulachon*" but cites unpublished NMFS data from 1998. These data need to be presented in tabular form to provide an indication of sample size, variety of prey (or lack

adults and surviving calves might exhibit different behavior than prior to the decline. This section also fails to note that the infrequent observations of beluga in the lower Inlet and in outer waters during winter may also be due to the limited observations by vessel and air traffic that occurs during that season compared to other seasons. Was there any attempt at a census or systematic observations? What information is available from winter fisheries or other marine mammal surveys in recent years?

This section includes the following two statements: (1) *"Feeding also occurs in the deeper mid to upper Inlet"*, and (2) *"Dive behavior indicates they make deeper dives in these areas, plausibly to feed (NMML, unpublished)."* This section also indicates (page 30) that winter prey resources are not as rich as summer prey, and that one whale found on April 1, 2003 had thinner blubber than beach cast whales found in summer. Information in this section both implies and directly states (page 33, 2nd paragraph) that the non-summer period is when belugas may be feeding in deeper waters in the mid to upper Cook Inlet on prey that is not as rich as summer prey. All of the above information is related to feeding and should be included in section I.C. above to provide a more thorough understanding of the feeding behavior of Cook Inlet beluga whales, including those areas where they feed.

A list of data is presented (pp. 30-31) from which habitat use is ascertained, and statements are made that certain areas are *"particularly important"* and then habitat is designated into Type 1, 2, or 3. Prior to the subsequent text describing each of these three habitat types, the rationale for why Type 1 habitat is *"the most sensitive"* and what is meant by *"habitat function"* should be clearly presented, rather than as currently located at the end of this section. The rationale appears to be based primarily on the extensive use and concentration of belugas in Habitat 1. Although the importance of health, survival, and recovery are mentioned (page 30), these parameters (and recruitment of juveniles) should be addressed more thoroughly, recognizing the relative minimal amount of available data. In particular, the text in this section implies that the habitats used by belugas during the non-summer period may be very important to maintain adequate nutritional status, especially for calves and juvenile whales that represent the cohorts required for recruitment. Thus, how '*important and sensitive*' are the habitats used during the non-summer period compared to the summer period? This question needs to be addressed, especially where the plan states (page 51): *"Any diminishment in the ability of beluga whales to reach or utilize feeding habitat, or any reductions in the amount of prey available, may impact the energetics of these animals and delay recovery."*

A more complete summary of known or potential changes in the prey-base in the last 15–20 years should be included in the plan. For example, there is a reference to a pike invasion that has affected salmon and eulachon but no details are presented. There is no mention of herring, which may also be seasonally important prey.

Available information on how oceanographic conditions may influence forage fish communities in Cook Inlet (e.g., Abookire, A. A., and J. F. Piatt. 2005. Oceanographic conditions structure forage fishes into lipid-rich and lipid-poor communities in lower Cook Inlet, Alaska, USA. Marine Ecology Progress Series. 287:229-240) should be considered, both in assessing 'important and sensitive' habitats for belugas. Further, research on oceanographic conditions

However, available information on beluga movements, strandings, and other observations has not been similarly updated. The concluding paragraphs theorize habitat usage that has no scientific basis and hypothesize impacts on belugas that appear to be purely conjecture. Published information is available on the Department's website and from recent contracted studies that provide substantiated information on food prey species and beluga activities. Earlier discussions in the plan hypothesize that use of lower Cook Inlet was previously due to population size, but these discussions theorize that food sources in the lower Inlet may be important to overwintering of the current population. This whole section would greatly benefit from multidisciplinary involvement and peer review.

pp. 34, first full paragraph. The conclusion states: *"Type 1 habitat is the most sensitive, due to its intensive beluga use, and preservation of Type 1 habitat is a goal of this Plan."* Would conservation of Type 2 (winter) habitat be just as or more critical as conservation of Type 1 habitat (summer), if whales feeding in the winter are doing so during a time of reduced prey-availability, low body condition, and high energy expenditure? This lack of scientific evaluation reflects a narrow interpretation throughout the plan of the impacts of human activities in the upper Cook Inlet without any information on other biological or physical characteristics; e.g., water temperatures, sediment deposit patterns, winter food prey populations, changes in habitat in mid or lower Inlet.

p. 35, Figure. 9. The location of habitat types has changed from that identified in the 2005 draft plan. While we might agree with re-assignment of Type 1, 2, and 3 habitat areas from 2005 draft plan to 2007 plan, we question why, in Lower Cook Inlet, coastal habitat is no longer prioritized over open water habitat? What is the justification for this change?

F. Abundance and Trends (pp. 36-39)

We would like to see presentation of the model with predictions of projected population growth under different conditions and management actions (as was presented in the 2005 draft plan, p. 21). It would be useful to compare actual abundance estimates from 2005 and 2006 aerial surveys with predictions made from models presented in the 2005 draft plan.

p. 36, paragraph 1. Klinkhart and participants in the 1963 and 1964 surveys are still residents of southcentral or their methodology may be documented in the State's historic files, so we suggest that the survey methodology may be available.

pp. 36-37. This section is highly biased toward one modeling scenario. As described in the State's August 3, 2007, comments on the proposed ESA listing, other population factors should be considered in calculating the population. We also continue to object to using the untested correction factor suggested by Calkins for the 1979 survey of Cook Inlet to determine historic abundance or carrying-capacity. This section would benefit from updating since the 2005 and a peer review by other biometricians with population modeling expertise.

pp. 37-38, carryover paragraph. The theoretical genetic conclusions are out of date. Furthermore, there is no recognition that other species with smaller populations have been brought back to sustainable levels without insurmountable loss of genetic variation.

lands, but no readily available information is presented on water temperatures, water levels, salinity, hydrology, bathymetry, weather patterns, satellite photos of structure, or other physical characteristics.

p. 45, paragraph 1. Why is "*available prey*" regarding salmon harvests included in the discussion of climate change in this section; food prey is discussed at length on pages 51-53? If "*available prey*" is retained in this section, it needs to be updated because the discussion only addresses salmon harvest through 2002 (and also does not address the more important data for salmon run strength or escapement). We offer the following updated information to improve the discussion if retained in this location and pages 49-53 in the plan:

Since the mid-1990s, Cook Inlet salmon management plans have been increasingly restrictive of commercial fishing and remain very restrictive compared to management in the 1980s. In the last 15 years, harvests ranged from 1.8 to 10.5 million fish, with a 10 year average (through 2006) of 3.7 million fish. The run strength of one species will affect how the Department manages harvests of another species. For example, if a poor run of Chinook salmon occurs in one year, harvests of other species, no matter their run strength, will be reduced due to conservation efforts. In other words, the availability of salmon as prey for beluga would remain unaffected unless all five species were significantly reduced one year. Therefore the run strength is more important than the harvest numbers in considering prey availability for beluga whales.

Sockeye Salmon: Sockeye salmon are the most abundant species in upper Cook Inlet, with harvests that ranged from 1.2 to 9.1 million (record year) in the last 15 years, and an average harvest of 3.2 million fish in the last 10 years. Runs were strong through the early 1990s until 1998. From 1998 to 2001, runs were weaker but generally sufficient to meet escapement goals. Since 2001, runs have rebounded. Sockeye salmon runs, when compared decade by decade, have been stable and consistent since 1980.

Decade	Esc[a]	Harvest	Total Run
1970-1979		1,136,304	1,675,929
1980-1989	1,181,250	4,360,213	5,997,673
1990-1999	1,208,899	3,812,910	5,566,874
2000-2006	1,634,007	3,107,936	5,481,415

Pink Salmon: Pink salmon runs in upper Cook Inlet are even-year dominant, with odd year average harvests typically less than $1/7^{th}$ of even-year harvests. Assessments are based largely on commercial fish reports, recreational fishing success, and limited escapement monitoring. Pink salmon are counted as part of programs designed to enumerate Chinook, sockeye, and coho salmon. In general, pink salmon stocks in upper Cook Inlet are maintaining their even-year dominance and continue to return in numbers that reveal that there are no obvious problems with the stock. As an example, the 2006 pink salmon harvest of 404,000 was approximately 50,000 fish greater than the average from the previous five even-year harvests (10 year history).

Chum Salmon: Chum salmon production had a decade of mediocre runs beginning in the mid-1980s, in part due to impacts from fall flooding in the Susitna River Basin in 1986. Chum salmon stocks throughout south central Alaska have mirrored Susitna River chum salmon production, both revealing reductions in abundance from the mid-1980s to the mid-1990s. Beginning in 1995, chum salmon production improved in many areas of south central Alaska, including upper Cook Inlet. Chum salmon runs from 2000 to 2004 were much improved from

1987-1993, there was no numerical trend in harvest data and that the average annual harvest levels remained relatively consistent and low.

In contrast, the draft plan reliance on the highest harvest/takes estimates from the mid-1990s implies that, not only was considerable harvest a characteristic of all past subsistence use, but the highest harvest estimates from the mid-1990s may more accurately characterize other years as well. In fact, there are significant questions about those data from the mid-1990s because the numbers in the "struck and lost" category are proportionately much higher than expected or otherwise documented by other studies in this region. Additionally, without incorporating other published assessments for a broader timeframe, the emphasis on the mid-1990s results in a limited explanation that attributes subsistence harvest as the only cause of recent beluga population decline in Cook Inlet.

No explanation of the patterns of subsistence use and harvest: Subsistence uses are characterized by patterns that can be associated with temporal, geographical, social, cultural, and other factors. However, the plan fails to include any reference to patterns found in the literature otherwise cited. In so doing, it portrays a one-dimensional picture of subsistence and then only in the seven year period (1993-1999) as noted above. In contrast, several patterns influenced harvests in the past century in response to changing patterns that included: local big game resource abundance; road and motorized vehicle access; in-migration of traditional beluga hunters from other regions; harvest laws and regulations; markets for customary trade (cash sale); and knowledge transfer to younger hunters. Relevant information should be incorporated from sources already cited in the plan. In so doing, the overall pattern of local subsistence users' harvest becomes apparent as an ongoing activity that remained largely stable at low estimated numbers for several decades (Stanek 1994). Of less quantitative accuracy and of greater potential variability is the annual harvest and long-term patterns of non-local hunters who either seasonally traveled to hunt or moved into the Cook Inlet area for at least some hunting seasons.

No explanation about derivation and limitations of the information presented: The draft plan's presentation of harvest data for only those years 1993-1999 is not only limited to a fraction of information available, but also offers only minimal context for understanding data limitations, accuracy, or comparability. In contrast, the summary table of Mahoney and Shelden provides a useful snapshot of background information and caveats about each data source, capturing significant concerns or characteristics that may limit direct comparisons of certain data. Of particular concern in the plan are the data for 1995-1998 in which estimates for the portion of animals "struck and lost" become equal to or greater than animals harvested, but no explanation is provided. The methodological change that occurred in 1995 may or may not have led to more accurate estimates of mortality. However, the large range for the "struck and lost" estimates for those years appears inconsistent with the longer-known pattern of hunter-caused mortality, unless some rational explanation is provided.

These concerns should be used as a guide to substantially revising this section and corresponding references in the **Executive Summary** (described for page 3 above), **Recovery Plan** (described for page 96 below), and **Conclusions** (described for page 114 below). In this section, pages 46-47, the following specific examples need correction:

The following sweeping statement (line 6) is offered without specific facts: "*The effect of past harvest practices on the Cook Inlet beluga whale population is significant.*" Instead, the effect of past practices should reference specific practices during specific periods of time, the degree of directed commercial harvest, context, and limitations of the mid-1990 data.

ingestion were higher (~5,000 mg/kg/day) than what would be found in the environment, but little is known about the effects of long-term chronic exposure of lower concentrations in wild animals. Studies comparing health parameters of the Cook Inlet beluga whale populations with other healthy populations could address whether exposure to ethylene glycol is an issue.

pp. 58-60, Ballast Water. This information has not been updated since the 2004 US Coast Guard regulations were established to recognize additional testing, regulations, and related information.

pp. 60-62, Eagle River Flats. While the discussion of pollution from Eagle River Flats is a good addition, it needs to be updated to reflect results of current tests. We also suggest expanding the discussion to include possible direct effects, if any, from artillery at the weapons range.

d. Vessel Traffic

pp. 62-63. NMFS makes numerous assertions regarding concern over vessel traffic based on size and speed. Sources for these assertions need to be cited. Numbers of different types of vessels, seasons of use, areas of use, and actual numbers need to be included as much as possible. Instead, the discussion focuses on certain types of craft, noises, concern for strikes, and harassment in five paragraphs with no data on use and relationship to beluga whale movements, or differences between where these uses occur in the various areas of Cook Inlet. This section needs to be largely rewritten and expanded to include less negative discussion of certain types of vessels and more data on the uses themselves.

In addition, no mention is made of existing regulations on vessel use in relation to wildlife. For example, it is illegal under both state and federal regulations to harass or chase wildlife, so while there may be some concern for harassment, the discussion does not explain either the regulations or their enforcement.

e. Tourism and Whale Watching

pp. 63-64. The discussion expresses concern if commercial and recreational whale watching increase in the future. This same concern was expressed in the 2000 final rule determining that the stock of whales is not endangered; however, no water-based whale watching occurred then or now in fresh or marine waters of upper Cook Inlet. Anyone conducting commercial day-use activities on State waters is required to register their activities. According to the Alaska Department of Natural Resources, no companies have registered commercial whale watching activities within State waters in upper Cook Inlet since the regulation became effective. According to the Alaska Department of Fish and Game, permits are also required for commercial activities within Special Designated Areas, and no permits for whale watching have been requested within State Refuges or State Critical Habitat Areas in upper Cook Inlet.

f. Development

pp. 64-65. Statements such as "*a quick look at existing development indicates that essentially most beluga habitat in Cook Inlet remains intact*" are imprecise and unscientific. What type of analysis was used to determine habitat is intact? How much habitat? How is "*intact*" defined; e.g., structurally, functionally?

true, the Alaska Department of Fish and Game manages its areas under management plans and regulations that are far more restrictive of uses to protect that habitat than NMFS recognizes. (See ADF&G website.)

i. Research

p. 70. This section needs to be expanded to accurately portray methodology and recent research conducted and planned by all agencies and entities for beluga whales, prey species, and habitat. Perhaps a factual description of permits issued under the MMPA in recent years would improve this discussion and its relevance.

j. Poaching and Illegal Harassment

pp. 70-71. The discussion states that there have been several incidences of reported harassment of Cook Inlet beluga whales during the years. Please provide more details on types and frequency of harassment over time, and to the extent possible analyze whether the harassment is driven by increases in the human population of the area or by other factors. Does NMFS have a reason to believe that there is a currently increasing trend or that harassment is or is likely to become a conservation threat in the future? At the recent public hearings, some testified either on the record or in later discussions that they are aware that young people used to "target shoot" at the beluga whales when they are feeding near them during fishing or recreational activities. Has NMFS considered trying to evaluate how much this activity actually occurred and whether it is still occurring?

G. 3. Threat Assessment Matrix

pp. 71-72, Table 4. Threat Assessment Matrix. The discussion needs to explain how each priority rating was assigned. The "*Threat*" levels do not appear to be additive across rows. Further, the rankings do not appear to reflect the factual information discussed in the preceding pages.

We object to the rankings given to "incidental take" and "reduction of prey" resulting from Commercial Fishing. Nothing in the text provides information that would support either "threat" being ranked as occurring at all, let alone overall rankings of medium and high priority. The high rankings of the probability of occurrence given to reduction in prey is completely unsubstantiated; similarly, although commercial fishing is seasonal, there is no basis for assuming season impacts based on available data from recent years.

H. Conservation Measures

pp. 73-75. No mention is made of the conservation measures also taken by the State of Alaska including protection of large portions of Cook Inlet in State critical habitat areas. The State petitioned NMFS to find the Cook Inlet stock of beluga whales as depleted as the important first step for NMFS to be able to regulate harvest.

p. 74, paragraph 6. The only genetics work published to date is a single 1997 genetics study that is inconclusive as to whether the stock has been isolated or not. The same data set can be easily

- An interdisciplinary team from both within and outside of Cook Inlet, including experienced research planners, needs to be identified in order to effectively assure each portion of the strategy is thought through using the best available science, techniques, and evaluation by experts. Convene this team in a series of workshops, whose goals are to identify: (1) objectives, (2) studies that can be used to address these objectives, (3) opportunities for integration of these studies, and (4) a resulting set of priorities. These workshops should be led by an independent facilitator.

- This section needs to explain what relevant recovery strategies have been used by other initiatives that are relevant to this one, and include an explanation of whether or not elements of other plans will be adopted.

This section is a recap of material already provided in "I. Background," and our comments on that section apply here. We recommend replacing this discussion with a description of how section II was developed, how the Goals and Objectives in section III were developed, and how the Recovery Program in section IV will be implemented. In section IV, for example, who specifically will conduct the work, organize, manage, and assess these groups, and how will funding be accomplished? If these are not yet known, state that also in the Strategy discussion.

Three explanations are provided (page 76) for why the Cook Inlet beluga whale population is not demonstrating recovery. A fourth explanation is simply that the growth rate originally projected was inaccurate – i.e., the current monitoring is accurate (Explanation 1), nothing is artificially suppressing recruitment (Explanation 2), and there are no unexpected removals of animals from the population (Explanation 3). Given the information gaps in biology and ecology of Cook Inlet beluga whales, it seems entirely possible that the population dynamics models used to generate expected growth rates several years ago may have simply overestimated some parameters in the model used to project population increase.

Paragraph 5 begins "*There is no obvious answer for the lack of recovery....*" This contradicts the prior page, in which three potential explanations were described in detail. We recommend eliminating this sentence to avoid confusion.

III – RECOVERY GOALS AND CRITERIA

As with Section II above, the majority of information described on pages 78-79 was presented in section "*I. Background,*" and our related comments have already been discussed in Major Comments and General Comments at the beginning of this review. Section III is largely an explanation of legal requirements and chronology of actions related to MMPA and ESA.

- We strongly urge that a multidisciplinary team evaluate the population information and historic abundance levels, in order to gain agreement on the population goals.

- This section also needs to be updated and revised to reflect recent research, publication of the 2006 Status Review, and recent survey estimates.

- Change each second-order heading to clearly identify the information need being addressed by the study. Save the methods (e.g., II-f, "analyze stomach contents") for the methods section within that study.

- The linkage among Objectives and the various studies needs to be indicated, either in tabular or graphical form.

- Identify which studies are the highest priority in the immediate, medium, and long-term time scales. E.g., are the most important studies those that provide the inputs needed to model population size and change because these are how success will ultimately be measured? Or is the identification of threats to the population more important because the population cannot grow until they are corrected? Several studies specify sample sizes that would seem too small to answer the questions posed by the study.

  Page 80 states that priorities have been established and states that financial concerns will determine which actions may be implemented. The priority of the different studies recommended in section IV, however, is not described (either in absolute terms or relative to one another). Are all of these equivalent in priority, or are some more important than others? Who will decide which ones are done first, and by what decision model?

pp. 81-85. I-a, -b, -c and II-a, -c, and -d are general information needs that are proposed to be addressed with a specific study that is then described in detail. II-e (stomach contents analysis) and II-f (fatty acid analysis), by contrast, are really just 2 different techniques used to describe diet and/or model bioenergetics. We recommend restructuring all of the proposed studies so that each second-order heading is an equivalent level or hierarchy.

p. 81, Objective I. We suggest changing the title from "*track*" to "*monitor.*"

p. 81, Objective 1.a. Survey Abundance. As recommended by the IUCN for studies of cetaceans living in fresh/estuarine waters, consider using passive acoustic techniques "as an alternative, or adjunct, to visual survey methods normally used for assessing freshwater cetacean abundance" (Reeves et al. 2003) to examine distribution and abundance of Cook Inlet beluga whales.

p. 82, Objective 1-c states that satellite transmitters will be placed on 4 beluga whales each year to quantify dive behavior in at least 4 different classes of whales (2 age classes, 2 genders). One tag per animal class per year (at most) will not provide correction factors for that entire class when conducting surveys. We also question the use of only these same four tags to provide dive time differences in different tide stages, currents, etc. that would be representative. At a minimum, it would seem that dozens of tagged animals would be needed to detect differences with a reasonable amount of statistical power.

p. 83, Objective II a. We support the proposal to collaborate with co-management partners, our department, and other interested parties. Such a broad scale undertaking as characterization of habitat and prey base can only be successful if it is a collaborative effort.

The "Methods" are over simplistic: "*carrying capacity will be estimated... by comparing current habitat used, relative to total habitat available.*" Carrying capacity (K) cannot be estimated by amount of available habitat alone, prey base must also be factored in.

p. 86-7, Objective II g. Analyze prey base. We identified a number of problems regarding proposed prey studies on Cook Inlet beluga whales described throughout the plan. For any prey study to help address the issue of why Cook Inlet beluga whales are declining (which NMFS assumes and we dispute), the results would need to be of a quantitative nature. Whether or not beluga whales feed on a given prey and knowing the biomass of a few prey populations does little to answer the question of whether or not prey is limited. It will also do little to further decision making regarding conservation issues because it will not answer questions regarding whether prey is limited. Tracking changes in the entire prey base (including salmon, eulachon, walleye Pollock, invertebrates, etc...) in tandem with careful estimates of diet composition (proportion by weight of each prey species in the diet of belugas) for ten years would begin to address the question of whether beluga diets change as a function of fishery effects on their prey. The key ecological phenomenon and question is exploitative competition. If people and belugas use the same resources, and if people use enough to limit availability of that prey to belugas, then this negative relationship may be enough to impact beluga whale production.

Exploitative competition is nearly impossible to demonstrate in natural environments. Most peer reviewed articles claiming such definitive demonstrations almost always involve sessile organisms such as plants or invertebrates or species amenable to field experimentation. It requires estimating availability of all prey and then which prey were selected by both predators (beluga whales and humans in this case). Getting at availability would be arduous and extremely expensive in Cook Inlet. For instance, ADF&G only enumerates salmon runs for selected streams. To fully estimate all salmon returning to the hundreds of streams and rivers in Cook Inlet would require an inlet-wide mark-recapture study at an extremely high cost. Costs of estimating biomass of all other prey species would further accumulate quickly.

But even assuming prey availability was tractable, prey use by beluga is problematic. Sample sizes for diet composition estimation will be a function of variability across individuals, and as a rough guess would require a sample size of at least 25 animals. If direct stomach content analysis of stranded whales is the approach, odds are against reaching minimum sample sizes. Furthermore, their diet no doubt changes with time of year, and repeating such a sample several times per year is unlikely. Although the question of exploitative competition is pertinent—the answer will be difficult if not impossible to ascertain via a traditional comprehensive prey study. A better approach is to look for signals of exploitative competition. Limited prey would manifest in slowed growth and reduced condition. This procedure would require tissue samples, which would provide not only an index of condition, but also an estimate of diet composition based on fatty acid signatures. Still, repeated sample sets throughout the year may be an issue. Not finding reduced condition would cast doubt on fishery effects as a causal factor, but reduced condition alone would only suggest something is limiting prey availability. Due to this limitation, fishery effects will be difficult to demonstrate definitively.

The previous paragraph assumes a predator-prey study with an Inlet-wide spatial scale and annual temporal scale. If the spatial-temporal scale were confined to areas where belugas are found when prey such as salmon or eulachon are concentrated, then prey use may be assumed and not measured. Or at least, diets would likely be more homogenous across individuals, and thus fewer whales would have to be surveyed to confirm prey usage. If condition estimates can then be correlated with an index of prey abundance for that area and time, which is in turn, a function of exploitation, then perhaps fishery effects can be demonstrated. But only one predator-prey data pair will be available per year, and even the simplest model will require at least five points to begin to tell the story. Without purposefully

"splitting" of groups instead of recognizing the inherent subjectivity of designation of groups below the species level. We propose that the State collaborate on the beluga genetic studies, including the lab work, data analyses, and writing. ADF&G has a state-of-the-art genetics lab with which to do the analyses and collaborates with other geneticists in analyses of population structure and mating systems.

The genetic studies will provide interesting information, but it is not clear what will be done with the results that will aid management or conservation of Cook Inlet beluga whales. An important component is the use of genetics to estimate the historic population size; this is another way to estimate what "K" was and what a "recovered" population might be. The study descriptions state that genetic information is "*essential;*" we suggest that genetic data are interesting but probably not essential. This should be addressed by NMFS before the studies are approved. The sampling of enough whales to allow a good genetic study should be critically evaluated, including determining whether capture and biopsy sampling will stress or kill whales. The risk and benefit of such an enterprise in a small population needs assessment.

p. 94 Objective IV. a. Stranding. When presenting stranding data throughout the plan, we strongly suggest separating live and dead stranding data to avoid confusion and potentially conflicting numbers in the plan.

pp. 94-95, Objective IV.b This section needs a map of orca sightings and a discussion of how these data are collected.

The predation by killer whales study justification states that killer whale sightings in upper Cook Inlet have increased. Is there evidence that the number of killer whales has increased? Has there been an increase in the number of sightings due to a better system of reporting? Numbers have increased since when, and at what order of magnitude? Because predation is the one limiting factor that could have the most immediate affect on population recovery, we suggest that this study be revised from "*document mortality of belugas resulting from killer whale attacks*" to a more systematic survey of all of Cook Inlet and tagging studies of orcas found in the Inlet. While expensive, we suggest that other work involving other marine mammal species may provide opportunities for sharing study costs and tasks.

p. 95. Objective IV d. Habitat capacity and environmental change. The budget is for $100,000, yet this topic was listed as " C-low priority" in Table 4, p. 72. This again illustrates that it is not clear how priorities in Table 4 are reflected in Objectives of Recovery Program and Recovery Action Outline (and budget estimates).

p. 96, Objective IV e. Subsistence harvest (regulations) The "*Background*" section repeats the language on page 45, which needs substantial revision and described above. The revised section should then replace this paragraph.

p. 97, Objective IV g. Commercial fishing regulations. The objective and methods described in this study reflect a poor understanding of state fishing regulations, management plans, and in-season actions. It is not at all apparent what could be accomplished for $5K per year of a person's salary. Will this objective, or a related one, attempt to quantify biomass of fish (beluga prey) removed by fisheries? Upon what basis would this person justify asking the State to "*expand its sonar counters and escapement surveys for upper Cook Inlet,*" since the fish returns

Based on recent aerial surveys and satellite tagging studies, the distribution of Cook Inlet beluga whales appears to be concentrated in the upper reaches of Cook Inlet, throughout the year, with less time in the lower Cook Inlet compared to previous years when the abundance of belugas was substantially higher. Yet, the data supporting this shift in distribution are based on surveys conducted primarily during summer and a relatively small number (n=4) of belugas that were initially tagged in the upper Cook Inlet and monitored throughout the winter. Predation by transient killer whales has been identified as one factor that may be impeding population growth and recovery. The information available on the distribution and abundance of killer whales, including distinction among ecotypes, is limited, and an increase of such information would help assess the potential impact of killer whale predation on Cook Inlet beluga whales.

Passive acoustic recording instruments have successfully been used in marine environments to record ambient noise levels and calls of marine mammals. The use of acoustic instruments in Cook Inlet will present substantial challenges due to harsh environmental conditions, particularly severe tidal flow and sedimentation that have the potential to damage the instruments and reduce the probability of retrieving them, and, ambient noise levels that may mask both marine mammal calls and sound from anthropogenic activities. Thus, the first year of this project would consist of (1) designing and testing the performance of an acoustic recording package in Puget Sound where environmental conditions are similar to Cook Inlet, yet monitoring and modifications can more easily be conducted, and (2) deployment of acoustic instruments on existing permanent structures (e.g., idle oil drill platform) to eliminate, or at least substantially reduce, impacts on the instruments such that ambient noise levels can be recorded.

Based on the results of work in the first year, acoustics instruments will be designed and deployed in locations within Cook Inlet in a manner considered to hold the greatest potential for retrieval and obtaining desired acoustics data. Specifically, acoustics instruments will be deployed within Cook Inlet to record beluga whale calls throughout the year, and thus the capacity to increase the understanding of their seasonal distribution. The instruments also have the potential to record information on ambient noise levels from natural sources, such as ice and currents from extreme tidal fluctuation, and anthropogenic activities such as shipping and pile driving. Further, the instruments have the potential to obtain information available on the distribution and abundance of killer whales within Cook Inlet.

Project Objectives: The first phase of this project has two primary objectives: (1) Record and analyze ambient noise levels from both 'natural' and anthropogenic sources in Cook Inlet, by deploying acoustic instruments on idle drilling platforms; and (2) Design and test the performance of acoustic recording instruments moored in Puget Sound, Washington, in locations with substantial currents and tides. The purpose of the first objective is to obtain some acoustic data from Cook Inlet without the numerous challenges associated with deploying acoustic instruments in the open water with severe currents. The purpose of the second objective is to deploy acoustic instruments on

in boater's handbooks and fishing regulations booklets. Several of these studies indicate a component of education, signage, and enforcement. We suggest that those be reviewed as a consolidated project of outreach, education and enforcement for efficient use of personnel and materials, as listed in Objective V (p. 107).

p. 108. Joint research and collaborative programs. This position should be used to organize workshops and convene a multidisciplinary Technical Advisory Panel of scientists and agency experts to develop, review, and evaluate revisions to the conservation plan. As a first priority, the coordination should use the team to revise Sections 2, 3, and 4, with special attention to priorities, funding needs and funding opportunities. Include ways to measure success. Consider following the example of the Hawaiian Monk Seal Recovery Team and have the conservation/recover team lead by experts other than the NMFS AKR research team.

VI. CONCLUSION

p. 114, 2nd paragraph, 1st sentence: We suggest rewording the following statement: "*NMFS has taken action to reduce the subsistence harvest of belugas, which has been seen as the largest single impediment to recovery*" to more closely align with the language in the Executive Summary. For example, it could say "*....has been seen as a potential impediment to recovery, and is the one source of mortality that can be directly managed.*"

VII. LITERATURE CITED

The current draft plan cites Stanek's 1993 draft final report for NMFS, but instead should cite the final version which was published in 1994 as a Division of Subsistence Technical Paper No. 232, as follows:

> Stanek, R.T. 1994. The Subsistence Use of Beluga Whale in Cook Inlet by Alaska Natives, 1993. Technical Paper No. 232. (Final Report for Year Two, Subsistence Study and Monitor System (No. 50ABNF200055) "Subsistence Research and Monitoring of Beluga Whale, Bristol Bay and Cook Inlet") Alaska Department of Fish and Game, Division of Subsistence. 24 pp.

We suggest that the following improvements be made.

- Update with 2006 and 2007 literature, including Goetz et al 2007, and several recent project reports on Cook Inlet Development and Beluga Whales listed by NMFS on http://www.fakr.noaa.gov/protectedresources/whales/beluga/development.htm.

- We urge the NMFS to read the following publications and incorporate their results into the plan:

  NMFS. 2005. Proposed Conservation Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle Washington. 183 pp.

ATTACHMENT 4: CONCLUSION

We appreciate this opportunity to provide additional input on the final Plan. However, we believe NMFS should enter into a cooperative agreement with the State to coordinate a cooperative, multi-disciplinary plan with all affected entities as was visualized in the 2000 and 2005 rules. Cooperative efforts with other researchers, governments, and non-government entities would provide more financial and staffing support to acquire information on beluga whales, their habitat, and factors that contribute to their sustainability than NMFS solo efforts.

In summary, the following deficiencies need to be corrected in the internal final conservation plan before it is finalized:

- Need cooperation of all stakeholders and shared resources in the development of a plan, including the State, federal agencies, boroughs, academia, and non-government entities.
- Need an implementation strategy; i.e., who will investigate what, monitor, and evaluate progress, identify sources of funding, develop cost-sharing and leveraging of funds.
- Need a multi-disciplinary team, such as the workshop that was held in March 1999, to discuss, develop, and prioritize objectives and studies to address the wide range of scientific information that is not available.
- Need to address education and enforcement, hydrology and other physical changes occurring in the entire Cook Inlet due to geologic and other physical parameters, and many other components of the environment.

The draft plan and ongoing research conducted by the Service appear to largely focus on the interests of its own scientists and those that have independent funding. Recent research on biological and physical characteristics of the Inlet was ignored in the 2007 proposed rule. This leads us to conclude that the Service is not considering the best available scientific and commercial data. Only limited recognition is made of recent research conducted in upper Cook Inlet to identify individual whales to provide information on age structure and numbers or on fish forage studies.

NMFS needs to immediately pursue a cooperative effort with the government and non-government agencies to improve funding and other resources toward the completion of identified needs. We urge the above list be addressed and a cooperative effort be initiated to complete a final conservation plan as soon as possible.

STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

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August 24, 2007

Doug Mecum, Acting Administrator
National Marine Fisheries Service, Alaska Region
National Oceanic and Atmospheric Administration
P. O. Box 21668
Juneau, AK 99802

Dear Mr. ~~Mecum~~: Doug :

Thank you for providing an opportunity to review the April 2007 internal draft of a final conservation plan prepared by the National Marine Fisheries Service (NMFS) for the Cook Inlet stock of beluga whales. I particularly appreciate your recent efforts to recognize that our department is not a member of the public and, as the trustee for wildlife in the State of Alaska (State), shares responsibility with your agency for assuring maintenance of sustainable populations of beluga whales. Until your recent efforts, the State had not been included in the development of the cooperative conservation plan and was only provided one opportunity also afforded the public to review the 2005 draft plan. I hope that you will continue to encourage your agency to fully involve our significant interests and expertise in all aspects of the conservation of these whales and others species.

Enclosed are detailed comments intended to provide constructive recommendations to improve the final plan. The comments address multidisciplinary studies, prioritization of those studies, funding, and implementation of the Recovery Program. The plan needs to be comprehensively updated to address comments your agency received on the 2005 draft and to incorporate recent research on beluga as well as other biological and physical characteristics of the habitat.

We believe that the most important change needed involves improved coordination with the State and other entities to finalize and cooperatively implement a conservation plan for the Cook Inlet stock of beluga whales. NMFS committed in the 2000 rule to pursue such action with the State, other agencies, non-government organizations, and the public. The lack of progress during the intervening seven years needs should be corrected in order to involve all of those entities, to increase funding, and to implement interdisciplinary research and management of the beluga whales and their habitat.

In order to immediately pursue progress, I propose that NMFS and the State enter into a cooperative agreement to jointly develop and implement a conservation plan for Cook Inlet beluga whales. We would jointly establish the necessary multidisciplinary team under the umbrella of that cooperative agreement. Participation would include government, university, and

entities in the area that desire a role in the development, funding, and implementation of the conservation plan. Through this cooperative agreement between our agencies, NMFS would continue to implement its agreements with the Native participants and retain your responsibility under the Marine Mammal Protection Act.

In order to initiate this cooperative agreement and identify the multidisciplinary team to finalize, fund, and implement a conservation plan, I urge we pursue this effort at your earliest convenience.

Sincerely,

Denby S. Lloyd
Commissioner

Enclosures: Attachment 1 (page 3) – Summary of Major Comments
Attachment 2 (page 4) – General Comments
Attachment 3 (page 10) – Comments on Specific Sections of the Plan
Attachment 4 (page 39) – Conclusion

cc: Kaja Brix, Assistant Regional Administrator, Resources Protection, NMFS
Mike Nizich, Deputy Chief of Staff, Office of the Governor

ATTACHMENT 1: SUMMARY OF MAJOR COMMENTS

- **The plan's development by National Marine Fisheries Service (NMFS) lacks transparency; NMFS did not include involvement of the State of Alaska and others with interests and responsibilities related to beluga whales.** In several locations the plan states that it will require the shared resources and cooperation of at least eight specific stakeholders, but there is no description of whether any of these groups participated in the development of the plan. Other than an opportunity to review the 2005 draft plan and this internal final plan, no coordination in development of the plan occurred with the State of Alaska (State). The plan fails to recognize the State's trust responsibility for all wildlife and shared responsibility with NMFS for sustainable management of Cook Inlet beluga whales. We recommend that NMFS enter into a cooperative agreement with the Alaska Department of Fish and Game (ADF&G) to develop a comprehensive conservation plan that includes specific language to describe all parties with responsibilities and interests in the conservation of Cook Inlet beluga whales and to describe any participation of such entities in the development of the plan.

- **The plan does not identify an implementation strategy or who will fill the various roles required of a directed research and conservation program.** The plan needs to identify what entities may be asked to investigate the Objectives (listed in section IV) and what group(s) will recruit the investigators, conduct peer review of studies' designs, monitor progress, and evaluate results. The plan also needs to identify potential sources of funding and expertise, including potential for cost-sharing, matches, and potential leveraging of funds. We recommend including a matrix that indicates what funding entities and sources may be available to assist with each Objective and that identifies the purview, mission statements, roles, responsibilities, commitments, timelines, and involvement of each entity.

- **The Recovery Program section of the plan does not appear to have been developed with input or consideration from a multidisciplinary team.** The plan states in several places that recovery of beluga whales will require use of the best available science. Many of the challenges identified in the plan are multidisciplinary in nature (fisheries, conservation biology, climate change, hydrology, bathymetric, bioenergetics, genetics, population biology, harvest management, resource development, etc.). However, a multidisciplinary team was not used to identify and prioritize the elements in the Recovery Program section, and we thus question how the best available science and knowledge can be present at the outset. We recommend that NMFS convene a workshop(s) in which an independent facilitator leads a multidisciplinary team through discussion and prioritization of Objectives and studies to achieve them. This would improve the Recovery Program, while providing the participation and transparency requested above. This exercise and subsequent revision of the Recovery Program section will also capture other important revisions described in this review.

Overall, the internal final conservation plan is out of date, incomplete, and serves the scientific interests of some researchers without addressing the full range of environmental attributes potentially affecting beluga whales and their habitat. We strongly urge that NMFS enter into an agreement with the State to cooperatively revise the plan through a multidisciplinary team that identifies implementation strategies and measures to meet objectives. The above summarized comments are explained in more detail in the remainder of this document.

despite the following claim in the plan, this necessary coordinated involvement has yet to occur (p. ii): "*NMFS has attempted to fully involve all parties with special interests and positions with respect to these whales, including Cook Inlet area local governments, Alaska Native tribes and villages, oil and gas industry, shipping interests, recreational users, tourism groups, environmental organizations, State of Alaska, and other federal agencies.*" As written, that statement is simply not true although its intent is laudable.

f. Role of Participants: Once that involvement has occurred or is underway, we recommend that specific language be added to the final plan that describes all those parties with responsibilities and interests and their respective participation in the development of the final plan.

2. **The plan does not identify an implementation strategy or which entities will fill which role in a directed research and conservation program.**

The internal final version of the conservation plan identifies the ultimate goal (recovery to a population size of 780 whales in 25 years) and the specific studies needed. However, the Recovery Strategy and Program do not provide a road map explaining how that goal and identification of studies was made, or by whom. Similarly, there is no 'road map' for its implementation, management, and evaluation. Such an implementation strategy needs to be clearly identified, justified, and explained. Participants and criteria for evaluation of implementation efforts must be identified for each step, including how groups with the appropriate expertise will be recruited and /or who will be selected to conduct the work, and what funding strategies (including matches, fundraising, etc.) will be used for seeding the initial work and for leveraging it to future studies. Such considerations are important parts of other recent plans developed in Alaska (e.g., Skilbred 2003, AYK SSI 2007) and should be addressed in this one.

One example of this lack of justification and identification is found on page 83 where the plan states that NMFS will "encourage more monitoring of anadromous fish runs." The plan does not indicate why this additional monitoring is desired, who would do the encouraging of whom, who would provide the funds and manpower, what monitoring methodology is used, who would evaluate the results, and what criteria would be used to determine if some response to the monitoring results is needed. Anadromous fish returns to Cook Inlet are consistently higher now than in previous decades and are closely managed by the State of Alaska under management plans adopted by the Alaska Board of Fisheries and Alaska Department of Fish and Game. We believe that more monitoring may not be necessary because sustainable management of fish escapements into the river systems ensures that salmon runs will be plentiful enough to sustain the projected doubling of beluga whale numbers.

Recommendations for identification of implementation strategies and participant roles:

a. Once the suite of recommended studies is selected, provide a summary of the major roles identified as necessary for implementation, management, and evaluation of those studies.

4. **The degree of revision to incorporate feedback from the 2005 draft plan is unclear, and available updated information is missing.**

According to the plan, NMFS received 115 comments letters and suggestions on the 2005 draft plan regarding editorial and formatting changes that were generally accepted. However, the plan neither indicates the extent to which comments were received on the content, priorities, and approaches of the draft plan nor the extent to which these were considered in the final plan. The plan states (page 7) that substantive review comments were addressed and summarized in an issue of the Federal Register (no cite). These need to be described in the final plan. Furthermore, the State's substantive comments on the draft plan and on the 2006 Status Review are not addressed in this version of the plan. Lastly, the two years separation reduces the accessibility of the review comments and how they were addressed; that lack of availability weakens the plan.

Recommendations to clarify revisions and update information:

a. Summarize comments received on the content, priorities, and approaches of the draft plan and indicate how these were considered in the final plan.

b. Include a summary and address substantive comments as an appendix within the final plan.

5. **The plan describes the need to be *"appropriate, comprehensive, adaptive, and effective"* but does not prescribe either internal or external evaluation of these criteria.**

The plan provides a self-assessment of these useful criteria, but should replace it with objective and measurable assessment methods developed and conducted by an external team that includes members familiar with conservation and research plans relevant to this one.

Recommendation to establish criteria and evaluation team:

Assign an external review team to evaluate these four criteria, and if appropriate, develop objective and measurable methods to evaluate each of the criteria. The team should include other responsible agencies, interdisciplinary experts, and peers outside of local regional NMFS offices.

6. **Revise the plan to reduce the focus on documenting prior internal NMFS progress.**

The plan needs to be revised to reduce the focus on the limited role of NMFS in the past few years. The conservation plan needs to add descriptions of other agencies' and entities' progress and to increase the emphasis on future strategies and role of NMFS and others.

Recommendations to document progress by all participants in achieving strategies:

Recommendations to improve scope of research and relevant conservation work:

a. Include a brief description of beluga whales outside of Cook Inlet (including outside of Alaska) and whether or not assessments, management, and conservation of these populations has yielded any information useful to this plan.

b. Include references for other conservation and research plans for other species.

c. Conduct a literature search of relevant work in Cook Inlet and either cite in the document or include as an appendix (i.e., replace current appendix devoted exclusively to NMFS publications).

pp. 2-3, Habitat Requirements and Limiting Factors. This section fails to accurately address the scientific information available in the literature and varying theories on when recovery would occur after harvests stopped and the whale population returned to a normal ratio of mature and immature whales.

Recent satellite telemetry studies have provided important insights on those regions within Cook Inlet that may represent important habitat, yet data from those studies are from a limited number of whales in a depressed population. As a toothed whale, the capacity and utilization of echolocation by beluga whales is very extensive. It is used for communication, foraging, and navigation. Recent acoustics studies indicate that sounds measured in Cook Inlet likely have only a minor effect on belugas. However, the study did not address geophysical seismic activity a source of sound that has the potential to harass or harm belugas. We are aware that recent evaluations were done on seismic activity that need to be included. The plan also includes information on factors for which there is less uncertainty and appear, based on current knowledge, to have negligible impacts on beluga whales, such as incidental take from fisheries, competition for food from fisheries, and pollution.

p. 3, paragraph 1. The discussions in the plan regarding subsistence harvests are deficient in content and analysis and contribute to potentially flawed conclusions regarding causes for the decline and current population levels of beluga whales in Cook Inlet. This problem then directly affects the suppositions about factors affecting future population recovery. For example:

(1) The first sentence needs additional language (underlined) as follows: "*The documented decline of the cook Inlet Beluga whale population during the mid-1990s could be explained by the potentially high estimates of subsistence harvest removals at a level that this small population could not sustain.*" While not logically incorrect as written in the plan, this modification is necessary to reflect that the data for the mid-1990s is in fact an estimated range, not a certain count, and that this conclusion is based on the high end of the estimates, or the worst case scenario, for those years.

(2) Starting with "*These harvest reductions*" on lines 4 through 8, these sentences conclude that subsistence harvests cannot be the only factor limiting the recovery of beluga, which interestingly, should be substantiated by the Subsistence section on page 46. (See also comments Conclusion on page 114.) To be more accurate, we would recast this wording, as follows: "With the exception of estimated harvest and associated mortality from the mid-1990s, overall subsistence harvest at generally low levels during the past 50 years does not appear to be a limiting factor to recovery of Cook Inlet beluga whale populations."

p. 3, Recovery Strategy; p. 3, Recovery Goals and Objectives.

(1) The establishment of a population goal of 780 whales as a recovered stock is based on recalculations of the 1979 estimated population. However, no information is available upon which to calculate carrying capacity of Cook Inlet today or "*Optimum Sustainable Population*" of this stock. We urge NMFS to address scientific consensus on both of these figures through a team of scientists that evaluate the habitat condition, prey, predation, and other limiting factors, as well as independently look at historic counts and information on other populations.

(2) There needs to be clear responsibilities and criteria for determining the validity or impact of "*identified threats*." A number of subjective decisions are included in the decision process, which need to be better defined in the plan and a team specified to assess their impact.

B. Description and Taxonomy (pp. 8-9)

p. 9, paragraph 2.
(1) This section needs to reference literature concerning the widely dispersed historic sightings of beluga whale all around Kodiak Island, along the Alaska Peninsula, throughout Prince William Sound, and all the way to Tacoma, Washington.
(2) We disagree that the single 1997 genetics study is conclusive that the Cook Inlet beluga stock has been isolated for a long period of time for a number of reasons. The same data set can be easily explained by founder effects or genetic bottlenecks. The mtDNA methodology has inherent limitations and the original sample sizes are small. Recent genetics samples and updated analysis need to be evaluated and incorporated in this discussion. We've also suggested that NMFS allow samples to be processed in the ADF&G or Auke Bay laboratories.

C. Life History (pp. 11-14)

pp. 11 and 13. This discussion needs to specify that these life history data are not for Cook Inlet beluga whales. The discussion could be substantively improved by explaining information on other populations that may or may not be applicable to this population.

p. 11, paragraph 2. "*7-10 calves*" per lifespan should be referred to as net reproductive rate, not "*maximum expectancy*." Combine paragraphs 1 and 2 in order to remove redundancy and inconsistencies between the paragraphs.

p. 13, paragraphs 1-2. Since age and growth studies using tooth structure by Vos did not speculate about the growth layer group (GLG)/year relationship, how were age estimates obtained from this dataset? We understand that it has subsequently been determined that one GLG is equal to one year so all of his graphs are equivalent to ages, but this needs to be clear in the text.

pp. 13-14, Feeding Behavior. This discussion should more clearly summarize information available on the level of feeding that occurs outside of the summer period, including that information stated in discussion under "*E. Valuable Habitat*" (pp. 28-35). In particular, what dive behavior data are available, e.g., how many whales, which areas and seasons, and what analyses have been conducted on these data? Further, this discussion should summarize feeding behavior information from other beluga populations across the Arctic for comparison purposes. The substantial uncertainty regarding what level of feeding occurs during the non-summer period, and where feeding occurs, is a major limitation in assessing the relative importance of the possible threat of nutritional stress and determining essential habitats.

This discussion also needs to be updated to reflect recent research and observations. The statements concerning beluga behavior and fish availability need to be modified to reflect factual findings and documented observations. The description of fish returns needs to be updated with current department data, particularly for eulachon and herring.

Paragraph 2 states "*stomachs of beluga whales harvested from the Susitna area in spring have been filled with eulachon*" but cites unpublished NMFS data from 1998. These data need to be presented in tabular form to provide an indication of sample size, variety of prey (or lack

adults and surviving calves might exhibit different behavior than prior to the decline. This section also fails to note that the infrequent observations of beluga in the lower Inlet and in outer waters during winter may also be due to the limited observations by vessel and air traffic that occurs during that season compared to other seasons. Was there any attempt at a census or systematic observations? What information is available from winter fisheries or other marine mammal surveys in recent years?

This section includes the following two statements: (1) *"Feeding also occurs in the deeper mid to upper Inlet"*, and (2) *"Dive behavior indicates they make deeper dives in these areas, plausibly to feed (NMML, unpublished)."* This section also indicates (page 30) that winter prey resources are not as rich as summer prey, and that one whale found on April 1, 2003 had thinner blubber than beach cast whales found in summer. Information in this section both implies and directly states (page 33, 2nd paragraph) that the non-summer period is when belugas may be feeding in deeper waters in the mid to upper Cook Inlet on prey that is not as rich as summer prey. All of the above information is related to feeding and should be included in section I.C. above to provide a more thorough understanding of the feeding behavior of Cook Inlet beluga whales, including those areas where they feed.

A list of data is presented (pp. 30-31) from which habitat use is ascertained, and statements are made that certain areas are *"particularly important"* and then habitat is designated into Type 1, 2, or 3. Prior to the subsequent text describing each of these three habitat types, the rationale for why Type 1 habitat is *"the most sensitive"* and what is meant by *"habitat function"* should be clearly presented, rather than as currently located at the end of this section. The rationale appears to be based primarily on the extensive use and concentration of belugas in Habitat 1. Although the importance of health, survival, and recovery are mentioned (page 30), these parameters (and recruitment of juveniles) should be addressed more thoroughly, recognizing the relative minimal amount of available data. In particular, the text in this section implies that the habitats used by belugas during the non-summer period may be very important to maintain adequate nutritional status, especially for calves and juvenile whales that represent the cohorts required for recruitment. Thus, how '*important and sensitive*' are the habitats used during the non-summer period compared to the summer period? This question needs to be addressed, especially where the plan states (page 51): *"Any diminishment in the ability of beluga whales to reach or utilize feeding habitat, or any reductions in the amount of prey available, may impact the energetics of these animals and delay recovery."*

A more complete summary of known or potential changes in the prey-base in the last 15–20 years should be included in the plan. For example, there is a reference to a pike invasion that has affected salmon and eulachon but no details are presented. There is no mention of herring, which may also be seasonally important prey.

Available information on how oceanographic conditions may influence forage fish communities in Cook Inlet (e.g., Abookire, A. A., and J. F. Piatt. 2005. Oceanographic conditions structure forage fishes into lipid-rich and lipid-poor communities in lower Cook Inlet, Alaska, USA. Marine Ecology Progress Series. 287:229-240) should be considered, both in assessing 'important and sensitive' habitats for belugas. Further, research on oceanographic conditions

However, available information on beluga movements, strandings, and other observations has not been similarly updated. The concluding paragraphs theorize habitat usage that has no scientific basis and hypothesize impacts on belugas that appear to be purely conjecture. Published information is available on the Department's website and from recent contracted studies that provide substantiated information on food prey species and beluga activities. Earlier discussions in the plan hypothesize that use of lower Cook Inlet was previously due to population size, but these discussions theorize that food sources in the lower Inlet may be important to overwintering of the current population. This whole section would greatly benefit from multidisciplinary involvement and peer review.

pp. 34, first full paragraph. The conclusion states: *"Type 1 habitat is the most sensitive, due to its intensive beluga use, and preservation of Type 1 habitat is a goal of this Plan."* Would conservation of Type 2 (winter) habitat be just as or more critical as conservation of Type 1 habitat (summer), if whales feeding in the winter are doing so during a time of reduced prey-availability, low body condition, and high energy expenditure? This lack of scientific evaluation reflects a narrow interpretation throughout the plan of the impacts of human activities in the upper Cook Inlet without any information on other biological or physical characteristics; e.g., water temperatures, sediment deposit patterns, winter food prey populations, changes in habitat in mid or lower Inlet.

p. 35, Figure. 9. The location of habitat types has changed from that identified in the 2005 draft plan. While we might agree with re-assignment of Type 1, 2, and 3 habitat areas from 2005 draft plan to 2007 plan, we question why, in Lower Cook Inlet, coastal habitat is no longer prioritized over open water habitat? What is the justification for this change?

F. Abundance and Trends (pp. 36-39)

We would like to see presentation of the model with predictions of projected population growth under different conditions and management actions (as was presented in the 2005 draft plan, p. 21). It would be useful to compare actual abundance estimates from 2005 and 2006 aerial surveys with predictions made from models presented in the 2005 draft plan.

p. 36, paragraph 1. Klinkhart and participants in the 1963 and 1964 surveys are still residents of southcentral or their methodology may be documented in the State's historic files, so we suggest that the survey methodology may be available.

pp. 36-37. This section is highly biased toward one modeling scenario. As described in the State's August 3, 2007, comments on the proposed ESA listing, other population factors should be considered in calculating the population. We also continue to object to using the untested correction factor suggested by Calkins for the 1979 survey of Cook Inlet to determine historic abundance or carrying-capacity. This section would benefit from updating since the 2005 and a peer review by other biometricians with population modeling expertise.

pp. 37-38, carryover paragraph. The theoretical genetic conclusions are out of date. Furthermore, there is no recognition that other species with smaller populations have been brought back to sustainable levels without insurmountable loss of genetic variation.

lands, but no readily available information is presented on water temperatures, water levels, salinity, hydrology, bathymetry, weather patterns, satellite photos of structure, or other physical characteristics.

p. 45, paragraph 1. Why is "*available prey*" regarding salmon harvests included in the discussion of climate change in this section; food prey is discussed at length on pages 51-53? If "*available prey*" is retained in this section, it needs to be updated because the discussion only addresses salmon harvest through 2002 (and also does not address the more important data for salmon run strength or escapement). We offer the following updated information to improve the discussion if retained in this location and pages 49-53 in the plan:

Since the mid-1990s, Cook Inlet salmon management plans have been increasingly restrictive of commercial fishing and remain very restrictive compared to management in the 1980s. In the last 15 years, harvests ranged from 1.8 to 10.5 million fish, with a 10 year average (through 2006) of 3.7 million fish. The run strength of one species will affect how the Department manages harvests of another species. For example, if a poor run of Chinook salmon occurs in one year, harvests of other species, no matter their run strength, will be reduced due to conservation efforts. In other words, the availability of salmon as prey for beluga would remain unaffected unless all five species were significantly reduced one year. Therefore the run strength is more important than the harvest numbers in considering prey availability for beluga whales.

Sockeye Salmon: Sockeye salmon are the most abundant species in upper Cook Inlet, with harvests that ranged from 1.2 to 9.1 million (record year) in the last 15 years, and an average harvest of 3.2 million fish in the last 10 years. Runs were strong through the early 1990s until 1998. From 1998 to 2001, runs were weaker but generally sufficient to meet escapement goals. Since 2001, runs have rebounded. Sockeye salmon runs, when compared decade by decade, have been stable and consistent since 1980.

Decade	Esc[a]	Harvest	Total Run
1970-1979		1,136,304	1,675,929
1980-1989	1,181,250	4,360,213	5,997,673
1990-1999	1,208,899	3,812,910	5,566,874
2000-2006	1,634,007	3,107,936	5,481,415

Pink Salmon: Pink salmon runs in upper Cook Inlet are even-year dominant, with odd year average harvests typically less than $1/7^{th}$ of even-year harvests. Assessments are based largely on commercial fish reports, recreational fishing success, and limited escapement monitoring. Pink salmon are counted as part of programs designed to enumerate Chinook, sockeye, and coho salmon. In general, pink salmon stocks in upper Cook Inlet are maintaining their even-year dominance and continue to return in numbers that reveal that there are no obvious problems with the stock. As an example, the 2006 pink salmon harvest of 404,000 was approximately 50,000 fish greater than the average from the previous five even-year harvests (10 year history).

Chum Salmon: Chum salmon production had a decade of mediocre runs beginning in the mid-1980s, in part due to impacts from fall flooding in the Susitna River Basin in 1986. Chum salmon stocks throughout south central Alaska have mirrored Susitna River chum salmon production, both revealing reductions in abundance from the mid-1980s to the mid-1990s. Beginning in 1995, chum salmon production improved in many areas of south central Alaska, including upper Cook Inlet. Chum salmon runs from 2000 to 2004 were much improved from

1987-1993, there was no numerical trend in harvest data and that the average annual harvest levels remained relatively consistent and low.

In contrast, the draft plan reliance on the highest harvest/takes estimates from the mid-1990s implies that, not only was considerable harvest a characteristic of all past subsistence use, but the highest harvest estimates from the mid-1990s may more accurately characterize other years as well. In fact, there are significant questions about those data from the mid-1990s because the numbers in the "struck and lost" category are proportionately much higher than expected or otherwise documented by other studies in this region. Additionally, without incorporating other published assessments for a broader timeframe, the emphasis on the mid-1990s results in a limited explanation that attributes subsistence harvest as the only cause of recent beluga population decline in Cook Inlet.

No explanation of the patterns of subsistence use and harvest: Subsistence uses are characterized by patterns that can be associated with temporal, geographical, social, cultural, and other factors. However, the plan fails to include any reference to patterns found in the literature otherwise cited. In so doing, it portrays a one-dimensional picture of subsistence and then only in the seven year period (1993-1999) as noted above. In contrast, several patterns influenced harvests in the past century in response to changing patterns that included: local big game resource abundance; road and motorized vehicle access; in-migration of traditional beluga hunters from other regions; harvest laws and regulations; markets for customary trade (cash sale); and knowledge transfer to younger hunters. Relevant information should be incorporated from sources already cited in the plan. In so doing, the overall pattern of local subsistence users' harvest becomes apparent as an ongoing activity that remained largely stable at low estimated numbers for several decades (Stanek 1994). Of less quantitative accuracy and of greater potential variability is the annual harvest and long-term patterns of non-local hunters who either seasonally traveled to hunt or moved into the Cook Inlet area for at least some hunting seasons.

No explanation about derivation and limitations of the information presented: The draft plan's presentation of harvest data for only those years 1993-1999 is not only limited to a fraction of information available, but also offers only minimal context for understanding data limitations, accuracy, or comparability. In contrast, the summary table of Mahoney and Shelden provides a useful snapshot of background information and caveats about each data source, capturing significant concerns or characteristics that may limit direct comparisons of certain data. Of particular concern in the plan are the data for 1995-1998 in which estimates for the portion of animals "struck and lost" become equal to or greater than animals harvested, but no explanation is provided. The methodological change that occurred in 1995 may or may not have led to more accurate estimates of mortality. However, the large range for the "struck and lost" estimates for those years appears inconsistent with the longer-known pattern of hunter-caused mortality, unless some rational explanation is provided.

These concerns should be used as a guide to substantially revising this section and corresponding references in the **Executive Summary** (described for page 3 above), **Recovery Plan** (described for page 96 below), and **Conclusions** (described for page 114 below). In this section, pages 46-47, the following specific examples need correction:

The following sweeping statement (line 6) is offered without specific facts: "*The effect of past harvest practices on the Cook Inlet beluga whale population is significant.*" Instead, the effect of past practices should reference specific practices during specific periods of time, the degree of directed commercial harvest, context, and limitations of the mid-1990 data.

ingestion were higher (~5,000 mg/kg/day) than what would be found in the environment, but little is known about the effects of long-term chronic exposure of lower concentrations in wild animals. Studies comparing health parameters of the Cook Inlet beluga whale populations with other healthy populations could address whether exposure to ethylene glycol is an issue.

pp. 58-60, Ballast Water. This information has not been updated since the 2004 US Coast Guard regulations were established to recognize additional testing, regulations, and related information.

pp. 60-62, Eagle River Flats. While the discussion of pollution from Eagle River Flats is a good addition, it needs to be updated to reflect results of current tests. We also suggest expanding the discussion to include possible direct effects, if any, from artillery at the weapons range.

d. Vessel Traffic

pp. 62-63. NMFS makes numerous assertions regarding concern over vessel traffic based on size and speed. Sources for these assertions need to be cited. Numbers of different types of vessels, seasons of use, areas of use, and actual numbers need to be included as much as possible. Instead, the discussion focuses on certain types of craft, noises, concern for strikes, and harassment in five paragraphs with no data on use and relationship to beluga whale movements, or differences between where these uses occur in the various areas of Cook Inlet. This section needs to be largely rewritten and expanded to include less negative discussion of certain types of vessels and more data on the uses themselves.

In addition, no mention is made of existing regulations on vessel use in relation to wildlife. For example, it is illegal under both state and federal regulations to harass or chase wildlife, so while there may be some concern for harassment, the discussion does not explain either the regulations or their enforcement.

e. Tourism and Whale Watching

pp. 63-64. The discussion expresses concern if commercial and recreational whale watching increase in the future. This same concern was expressed in the 2000 final rule determining that the stock of whales is not endangered; however, no water-based whale watching occurred then or now in fresh or marine waters of upper Cook Inlet. Anyone conducting commercial day-use activities on State waters is required to register their activities. According to the Alaska Department of Natural Resources, no companies have registered commercial whale watching activities within State waters in upper Cook Inlet since the regulation became effective. According to the Alaska Department of Fish and Game, permits are also required for commercial activities within Special Designated Areas, and no permits for whale watching have been requested within State Refuges or State Critical Habitat Areas in upper Cook Inlet.

f. Development

pp. 64-65. Statements such as "*a quick look at existing development indicates that essentially most beluga habitat in Cook Inlet remains intact*" are imprecise and unscientific. What type of analysis was used to determine habitat is intact? How much habitat? How is "*intact*" defined; e.g., structurally, functionally?

true, the Alaska Department of Fish and Game manages its areas under management plans and regulations that are far more restrictive of uses to protect that habitat than NMFS recognizes. (See ADF&G website.)

i. Research

p. 70. This section needs to be expanded to accurately portray methodology and recent research conducted and planned by all agencies and entities for beluga whales, prey species, and habitat. Perhaps a factual description of permits issued under the MMPA in recent years would improve this discussion and its relevance.

j. Poaching and Illegal Harassment

pp. 70-71. The discussion states that there have been several incidences of reported harassment of Cook Inlet beluga whales during the years. Please provide more details on types and frequency of harassment over time, and to the extent possible analyze whether the harassment is driven by increases in the human population of the area or by other factors. Does NMFS have a reason to believe that there is a currently increasing trend or that harassment is or is likely to become a conservation threat in the future? At the recent public hearings, some testified either on the record or in later discussions that they are aware that young people used to "target shoot" at the beluga whales when they are feeding near them during fishing or recreational activities. Has NMFS considered trying to evaluate how much this activity actually occurred and whether it is still occurring?

G. 3. Threat Assessment Matrix

pp. 71-72, Table 4. Threat Assessment Matrix. The discussion needs to explain how each priority rating was assigned. The "*Threat*" levels do not appear to be additive across rows. Further, the rankings do not appear to reflect the factual information discussed in the preceding pages.

We object to the rankings given to "incidental take" and "reduction of prey" resulting from Commercial Fishing. Nothing in the text provides information that would support either "threat" being ranked as occurring at all, let alone overall rankings of medium and high priority. The high rankings of the probability of occurrence given to reduction in prey is completely unsubstantiated; similarly, although commercial fishing is seasonal, there is no basis for assuming season impacts based on available data from recent years.

H. Conservation Measures

pp. 73-75. No mention is made of the conservation measures also taken by the State of Alaska including protection of large portions of Cook Inlet in State critical habitat areas. The State petitioned NMFS to find the Cook Inlet stock of beluga whales as depleted as the important first step for NMFS to be able to regulate harvest.

p. 74, paragraph 6. The only genetics work published to date is a single 1997 genetics study that is inconclusive as to whether the stock has been isolated or not. The same data set can be easily

- An interdisciplinary team from both within and outside of Cook Inlet, including experienced research planners, needs to be identified in order to effectively assure each portion of the strategy is thought through using the best available science, techniques, and evaluation by experts. Convene this team in a series of workshops, whose goals are to identify: (1) objectives, (2) studies that can be used to address these objectives, (3) opportunities for integration of these studies, and (4) a resulting set of priorities. These workshops should be led by an independent facilitator.

- This section needs to explain what relevant recovery strategies have been used by other initiatives that are relevant to this one, and include an explanation of whether or not elements of other plans will be adopted.

This section is a recap of material already provided in "I. Background," and our comments on that section apply here. We recommend replacing this discussion with a description of how section II was developed, how the Goals and Objectives in section III were developed, and how the Recovery Program in section IV will be implemented. In section IV, for example, who specifically will conduct the work, organize, manage, and assess these groups, and how will funding be accomplished? If these are not yet known, state that also in the Strategy discussion.

Three explanations are provided (page 76) for why the Cook Inlet beluga whale population is not demonstrating recovery. A fourth explanation is simply that the growth rate originally projected was inaccurate – i.e., the current monitoring is accurate (Explanation 1), nothing is artificially suppressing recruitment (Explanation 2), and there are no unexpected removals of animals from the population (Explanation 3). Given the information gaps in biology and ecology of Cook Inlet beluga whales, it seems entirely possible that the population dynamics models used to generate expected growth rates several years ago may have simply overestimated some parameters in the model used to project population increase.

Paragraph 5 begins "*There is no obvious answer for the lack of recovery....*" This contradicts the prior page, in which three potential explanations were described in detail. We recommend eliminating this sentence to avoid confusion.

III – RECOVERY GOALS AND CRITERIA

As with Section II above, the majority of information described on pages 78-79 was presented in section "*I. Background,*" and our related comments have already been discussed in Major Comments and General Comments at the beginning of this review. Section III is largely an explanation of legal requirements and chronology of actions related to MMPA and ESA.

- We strongly urge that a multidisciplinary team evaluate the population information and historic abundance levels, in order to gain agreement on the population goals.

- This section also needs to be updated and revised to reflect recent research, publication of the 2006 Status Review, and recent survey estimates.

- Change each second-order heading to clearly identify the information need being addressed by the study. Save the methods (e.g., II-f, "analyze stomach contents") for the methods section within that study.

- The linkage among Objectives and the various studies needs to be indicated, either in tabular or graphical form.

- Identify which studies are the highest priority in the immediate, medium, and long-term time scales. E.g., are the most important studies those that provide the inputs needed to model population size and change because these are how success will ultimately be measured? Or is the identification of threats to the population more important because the population cannot grow until they are corrected? Several studies specify sample sizes that would seem too small to answer the questions posed by the study.

  Page 80 states that priorities have been established and states that financial concerns will determine which actions may be implemented. The priority of the different studies recommended in section IV, however, is not described (either in absolute terms or relative to one another). Are all of these equivalent in priority, or are some more important than others? Who will decide which ones are done first, and by what decision model?

pp. 81-85. I-a, -b, -c and II-a, -c, and -d are general information needs that are proposed to be addressed with a specific study that is then described in detail. II-e (stomach contents analysis) and II-f (fatty acid analysis), by contrast, are really just 2 different techniques used to describe diet and/or model bioenergetics. We recommend restructuring all of the proposed studies so that each second-order heading is an equivalent level or hierarchy.

p. 81, Objective I. We suggest changing the title from "*track*" to "*monitor.*"

p. 81, Objective 1.a. Survey Abundance. As recommended by the IUCN for studies of cetaceans living in fresh/estuarine waters, consider using passive acoustic techniques "as an alternative, or adjunct, to visual survey methods normally used for assessing freshwater cetacean abundance" (Reeves et al. 2003) to examine distribution and abundance of Cook Inlet beluga whales.

p. 82, Objective 1-c states that satellite transmitters will be placed on 4 beluga whales each year to quantify dive behavior in at least 4 different classes of whales (2 age classes, 2 genders). One tag per animal class per year (at most) will not provide correction factors for that entire class when conducting surveys. We also question the use of only these same four tags to provide dive time differences in different tide stages, currents, etc. that would be representative. At a minimum, it would seem that dozens of tagged animals would be needed to detect differences with a reasonable amount of statistical power.

p. 83, Objective II a. We support the proposal to collaborate with co-management partners, our department, and other interested parties. Such a broad scale undertaking as characterization of habitat and prey base can only be successful if it is a collaborative effort.

The "Methods" are over simplistic: "*carrying capacity will be estimated... by comparing current habitat used, relative to total habitat available.*" Carrying capacity (K) cannot be estimated by amount of available habitat alone, prey base must also be factored in.

p. 86-7, Objective II g. Analyze prey base. We identified a number of problems regarding proposed prey studies on Cook Inlet beluga whales described throughout the plan. For any prey study to help address the issue of why Cook Inlet beluga whales are declining (which NMFS assumes and we dispute), the results would need to be of a quantitative nature. Whether or not beluga whales feed on a given prey and knowing the biomass of a few prey populations does little to answer the question of whether or not prey is limited. It will also do little to further decision making regarding conservation issues because it will not answer questions regarding whether prey is limited. Tracking changes in the entire prey base (including salmon, eulachon, walleye Pollock, invertebrates, etc...) in tandem with careful estimates of diet composition (proportion by weight of each prey species in the diet of belugas) for ten years would begin to address the question of whether beluga diets change as a function of fishery effects on their prey. The key ecological phenomenon and question is exploitative competition. If people and belugas use the same resources, and if people use enough to limit availability of that prey to belugas, then this negative relationship may be enough to impact beluga whale production.

Exploitative competition is nearly impossible to demonstrate in natural environments. Most peer reviewed articles claiming such definitive demonstrations almost always involve sessile organisms such as plants or invertebrates or species amenable to field experimentation. It requires estimating availability of all prey and then which prey were selected by both predators (beluga whales and humans in this case). Getting at availability would be arduous and extremely expensive in Cook Inlet. For instance, ADF&G only enumerates salmon runs for selected streams. To fully estimate all salmon returning to the hundreds of streams and rivers in Cook Inlet would require an inlet-wide mark-recapture study at an extremely high cost. Costs of estimating biomass of all other prey species would further accumulate quickly.

But even assuming prey availability was tractable, prey use by beluga is problematic. Sample sizes for diet composition estimation will be a function of variability across individuals, and as a rough guess would require a sample size of at least 25 animals. If direct stomach content analysis of stranded whales is the approach, odds are against reaching minimum sample sizes. Furthermore, their diet no doubt changes with time of year, and repeating such a sample several times per year is unlikely. Although the question of exploitative competition is pertinent—the answer will be difficult if not impossible to ascertain via a traditional comprehensive prey study. A better approach is to look for signals of exploitative competition. Limited prey would manifest in slowed growth and reduced condition. This procedure would require tissue samples, which would provide not only an index of condition, but also an estimate of diet composition based on fatty acid signatures. Still, repeated sample sets throughout the year may be an issue. Not finding reduced condition would cast doubt on fishery effects as a causal factor, but reduced condition alone would only suggest something is limiting prey availability. Due to this limitation, fishery effects will be difficult to demonstrate definitively.

The previous paragraph assumes a predator-prey study with an Inlet-wide spatial scale and annual temporal scale. If the spatial-temporal scale were confined to areas where belugas are found when prey such as salmon or eulachon are concentrated, then prey use may be assumed and not measured. Or at least, diets would likely be more homogenous across individuals, and thus fewer whales would have to be surveyed to confirm prey usage. If condition estimates can then be correlated with an index of prey abundance for that area and time, which is in turn, a function of exploitation, then perhaps fishery effects can be demonstrated. But only one predator-prey data pair will be available per year, and even the simplest model will require at least five points to begin to tell the story. Without purposefully

"splitting" of groups instead of recognizing the inherent subjectivity of designation of groups below the species level. We propose that the State collaborate on the beluga genetic studies, including the lab work, data analyses, and writing. ADF&G has a state-of-the-art genetics lab with which to do the analyses and collaborates with other geneticists in analyses of population structure and mating systems.

The genetic studies will provide interesting information, but it is not clear what will be done with the results that will aid management or conservation of Cook Inlet beluga whales. An important component is the use of genetics to estimate the historic population size; this is another way to estimate what "K" was and what a "recovered" population might be. The study descriptions state that genetic information is "*essential;*" we suggest that genetic data are interesting but probably not essential. This should be addressed by NMFS before the studies are approved. The sampling of enough whales to allow a good genetic study should be critically evaluated, including determining whether capture and biopsy sampling will stress or kill whales. The risk and benefit of such an enterprise in a small population needs assessment.

p. 94 Objective IV. a. Stranding. When presenting stranding data throughout the plan, we strongly suggest separating live and dead stranding data to avoid confusion and potentially conflicting numbers in the plan.

pp. 94-95, Objective IV.b This section needs a map of orca sightings and a discussion of how these data are collected.

The predation by killer whales study justification states that killer whale sightings in upper Cook Inlet have increased. Is there evidence that the number of killer whales has increased? Has there been an increase in the number of sightings due to a better system of reporting? Numbers have increased since when, and at what order of magnitude? Because predation is the one limiting factor that could have the most immediate affect on population recovery, we suggest that this study be revised from "*document mortality of belugas resulting from killer whale attacks*" to a more systematic survey of all of Cook Inlet and tagging studies of orcas found in the Inlet. While expensive, we suggest that other work involving other marine mammal species may provide opportunities for sharing study costs and tasks.

p. 95. Objective IV d. Habitat capacity and environmental change. The budget is for $100,000, yet this topic was listed as " C-low priority" in Table 4, p. 72. This again illustrates that it is not clear how priorities in Table 4 are reflected in Objectives of Recovery Program and Recovery Action Outline (and budget estimates).

p. 96, Objective IV e. Subsistence harvest (regulations) The "*Background*" section repeats the language on page 45, which needs substantial revision and described above. The revised section should then replace this paragraph.

p. 97, Objective IV g. Commercial fishing regulations. The objective and methods described in this study reflect a poor understanding of state fishing regulations, management plans, and in-season actions. It is not at all apparent what could be accomplished for $5K per year of a person's salary. Will this objective, or a related one, attempt to quantify biomass of fish (beluga prey) removed by fisheries? Upon what basis would this person justify asking the State to "*expand its sonar counters and escapement surveys for upper Cook Inlet,*" since the fish returns

Based on recent aerial surveys and satellite tagging studies, the distribution of Cook Inlet beluga whales appears to be concentrated in the upper reaches of Cook Inlet, throughout the year, with less time in the lower Cook Inlet compared to previous years when the abundance of belugas was substantially higher. Yet, the data supporting this shift in distribution are based on surveys conducted primarily during summer and a relatively small number (n=4) of belugas that were initially tagged in the upper Cook Inlet and monitored throughout the winter. Predation by transient killer whales has been identified as one factor that may be impeding population growth and recovery. The information available on the distribution and abundance of killer whales, including distinction among ecotypes, is limited, and an increase of such information would help assess the potential impact of killer whale predation on Cook Inlet beluga whales.

Passive acoustic recording instruments have successfully been used in marine environments to record ambient noise levels and calls of marine mammals. The use of acoustic instruments in Cook Inlet will present substantial challenges due to harsh environmental conditions, particularly severe tidal flow and sedimentation that have the potential to damage the instruments and reduce the probability of retrieving them, and, ambient noise levels that may mask both marine mammal calls and sound from anthropogenic activities. Thus, the first year of this project would consist of (1) designing and testing the performance of an acoustic recording package in Puget Sound where environmental conditions are similar to Cook Inlet, yet monitoring and modifications can more easily be conducted, and (2) deployment of acoustic instruments on existing permanent structures (e.g., idle oil drill platform) to eliminate, or at least substantially reduce, impacts on the instruments such that ambient noise levels can be recorded.

Based on the results of work in the first year, acoustics instruments will be designed and deployed in locations within Cook Inlet in a manner considered to hold the greatest potential for retrieval and obtaining desired acoustics data. Specifically, acoustics instruments will be deployed within Cook Inlet to record beluga whale calls throughout the year, and thus the capacity to increase the understanding of their seasonal distribution. The instruments also have the potential to record information on ambient noise levels from natural sources, such as ice and currents from extreme tidal fluctuation, and anthropogenic activities such as shipping and pile driving. Further, the instruments have the potential to obtain information available on the distribution and abundance of killer whales within Cook Inlet.

Project Objectives: The first phase of this project has two primary objectives: (1) Record and analyze ambient noise levels from both 'natural' and anthropogenic sources in Cook Inlet, by deploying acoustic instruments on idle drilling platforms; and (2) Design and test the performance of acoustic recording instruments moored in Puget Sound, Washington, in locations with substantial currents and tides. The purpose of the first objective is to obtain some acoustic data from Cook Inlet without the numerous challenges associated with deploying acoustic instruments in the open water with severe currents. The purpose of the second objective is to deploy acoustic instruments on

in boater's handbooks and fishing regulations booklets. Several of these studies indicate a component of education, signage, and enforcement. We suggest that those be reviewed as a consolidated project of outreach, education and enforcement for efficient use of personnel and materials, as listed in Objective V (p. 107).

p. 108. Joint research and collaborative programs. This position should be used to organize workshops and convene a multidisciplinary Technical Advisory Panel of scientists and agency experts to develop, review, and evaluate revisions to the conservation plan. As a first priority, the coordination should use the team to revise Sections 2, 3, and 4, with special attention to priorities, funding needs and funding opportunities. Include ways to measure success. Consider following the example of the Hawaiian Monk Seal Recovery Team and have the conservation/recover team lead by experts other than the NMFS AKR research team.

VI. CONCLUSION

p. 114, 2nd paragraph, 1st sentence: We suggest rewording the following statement: "*NMFS has taken action to reduce the subsistence harvest of belugas, which has been seen as the largest single impediment to recovery*" to more closely align with the language in the Executive Summary. For example, it could say "*....has been seen as a potential impediment to recovery, and is the one source of mortality that can be directly managed.*"

VII. LITERATURE CITED

The current draft plan cites Stanek's 1993 draft final report for NMFS, but instead should cite the final version which was published in 1994 as a Division of Subsistence Technical Paper No. 232, as follows:

> Stanek, R.T. 1994. The Subsistence Use of Beluga Whale in Cook Inlet by Alaska Natives, 1993. Technical Paper No. 232. (Final Report for Year Two, Subsistence Study and Monitor System (No. 50ABNF200055) "Subsistence Research and Monitoring of Beluga Whale, Bristol Bay and Cook Inlet") Alaska Department of Fish and Game, Division of Subsistence. 24 pp.

We suggest that the following improvements be made.

- Update with 2006 and 2007 literature, including Goetz et al 2007, and several recent project reports on Cook Inlet Development and Beluga Whales listed by NMFS on http://www.fakr.noaa.gov/protectedresources/whales/beluga/development.htm.

- We urge the NMFS to read the following publications and incorporate their results into the plan:

  NMFS. 2005. Proposed Conservation Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle Washington. 183 pp.

ATTACHMENT 4: CONCLUSION

We appreciate this opportunity to provide additional input on the final Plan. However, we believe NMFS should enter into a cooperative agreement with the State to coordinate a cooperative, multi-disciplinary plan with all affected entities as was visualized in the 2000 and 2005 rules. Cooperative efforts with other researchers, governments, and non-government entities would provide more financial and staffing support to acquire information on beluga whales, their habitat, and factors that contribute to their sustainability than NMFS solo efforts.

In summary, the following deficiencies need to be corrected in the internal final conservation plan before it is finalized:

- Need cooperation of all stakeholders and shared resources in the development of a plan, including the State, federal agencies, boroughs, academia, and non-government entities.
- Need an implementation strategy; i.e., who will investigate what, monitor, and evaluate progress, identify sources of funding, develop cost-sharing and leveraging of funds.
- Need a multi-disciplinary team, such as the workshop that was held in March 1999, to discuss, develop, and prioritize objectives and studies to address the wide range of scientific information that is not available.
- Need to address education and enforcement, hydrology and other physical changes occurring in the entire Cook Inlet due to geologic and other physical parameters, and many other components of the environment.

The draft plan and ongoing research conducted by the Service appear to largely focus on the interests of its own scientists and those that have independent funding. Recent research on biological and physical characteristics of the Inlet was ignored in the 2007 proposed rule. This leads us to conclude that the Service is not considering the best available scientific and commercial data. Only limited recognition is made of recent research conducted in upper Cook Inlet to identify individual whales to provide information on age structure and numbers or on fish forage studies.

NMFS needs to immediately pursue a cooperative effort with the government and non-government agencies to improve funding and other resources toward the completion of identified needs. We urge the above list be addressed and a cooperative effort be initiated to complete a final conservation plan as soon as possible.

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30 August 2007

Dr. Kaja Brix
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Dear Dr. Brix:

I have reviewed the proposed rule and supporting documents (Policy Regarding the Recognition of Distinct Vertebrate Population Segments (61FR 4722) and the Population Viability Analysis in the NMFS 2006 Status Review) as requested in your letter of June 14, 2007. My review is provided to you in my capacity as an independent peer reviewer chosen for my experience in marine mammal and beluga whale biology.

General Comments on the Proposed Rule to list the Cook Inlet beluga whale:

> The available data has been reasonably interpreted and well summarized. There is a significant new development however, that needs additional attention (see aging by growth layer groups (GLGs) in #3 below).

Specific Comments on questions:

1) ***Do you find the Cook inlet population of beluga whales exhibits sufficient discreteness and significance to constitute a Discrete Population Segment as presented in the 1996 Department of Commerce Policy Regarding the Recognition of Distinct Vertebrate Population Segments (61FR 4722)?***

   Yes, there are at least five distinct stocks of beluga whales in Alaska. The stocks are recognized as being different genetically, they inhabit different geographic areas in summer, and they are managed as different stocks by National Marine Fisheries Service (NMFS) and their co-management partner the Alaska Beluga Whale Committee (ABWC). Cook Inlet is recognized genetically as the stock most different from the others and is also different from the small group of belugas resident near Yakutat.

   If the Cook Inlet stock declined to zero it would not be easily replaced by belugas from other stocks. There are few belugas in the Yakutat group (the only belugas to the south) available to disperse and the amount of exposed water between Bristol Bay and Cook Inlet appears to limit beluga movement in that direction, possibly due to vulnerability to killer whales. Satellite tagging data from 15 belugas in Bristol Bay (5 per year in 2002,

2003, and 2006) has shown movements within and between the Kvichak and Nushagak drainages and bays in spring and summer and two whales were tracked into Bristol Bay; one in November and one in February. Those transmitters did not last long enough to determine how far the whale would have gone, however data for May – February showed local movements all within the inner portion of Bristol Bay (Quakenbush, unpubl. data). In addition to the satellite tagging we have been conducting a genetic mark-recapture study in the Kvichak River and Bay area and have recaptured individuals from previous years. For example, the first beluga we tagged in May 2002 was biopsied in May 2005 at approximately the same location, supporting fidelity at least to summer feeding areas (Quakenbush, unpubl. data). Winter movements and habitat use are least known and there could be mixing of some stocks during this time of year, however Cook Inlet satellite telemetry data cover this time period well and it does not look like Cook Inlet belugas leave the Inlet during winter.

2) ***Do you find the extant survey data and other information presented reasonably support the abundance and trend estimates used in the Proposed Rule?***

Yes, adult belugas are not easy to count from aerial surveys and calves are even more difficult. It is difficult to determine from raw counts how many belugas there are and there are uncertainties associated with all correction factors developed so far. However, Hobbs et al. (2000) have incorporated the use of video, which greatly improves the ability to count whales, correct for whales below the surface, and correct for whales missed at the surface. Although the estimates using these methods cannot be compared with estimates prior to 1994, the abundance and trend after 1994 is calculated using the best methods currently known. The key point here is that with the reduction of harvest mortality in 1999 the population was expected to increase by at least 2% per year. The trend, however appears to be continuing to decline, or at best, it may be stable.

The expectation of an annual increase between 2–6% does not seem unreasonable for belugas after the removal of significant harvest pressure begging the question about what else could be limiting population growth. Even with a disruption of the age structure of the population due to over harvest of adults, there were still at least 150 adults that would be capable of breeding in 1999. If 75 are female and one third give birth each year, a minimum of 25 calves per year could be produced since 1999 (~200 calves in 8 years). Given this conservative scenario, even if an increase were not detectible in the surveys, the trend should at least be stable. If however, calves were being produced but not surviving to recruit that would result in the declining population trend. Possible explanations for low calf survival include insufficient prey in winter or exclusion from quality feeding areas due to killer whales or noise/boat disturbance.

3) ***Do you believe the population Viability Analysis (PVA) in the NMFS' 2006 Status Review provides a reasonable biological model of these whales? Are the extinction risk probabilities supported by the PVA?***

Although the assumptions used in the model could have been more detailed in terms of their justification and the ramifications of using other assumptions could have better

discussed, I think that the assumptions made considering what is known about beluga biology and life history were reasonable. There has been a recent development however that requires that the model be re-run using different life history parameters.

There has been professional uncertainty and conflicting evidence for the number of GLGs laid down per year in beluga teeth used to determine age. Brodie (1982), Goren et al. (1987), and Heide-Jørgensen et al. (1994) provided arguments for 2 GLGs/year while Hohn and Lockyer (1999) argued for 1 GLG/year. A study analyzing radiocarbon from atomic bomb testing appears to have settled the argument at 1 GLG/year (Stewart et al. 2006). The interpretation for all of the life history data presented in Table 2 was based on 2 GLGs/yr. Therefore ages used in the life history parameters in the model are wrong by a factor of two and belugas are twice as old at sexual maturity, senescence, and death as what was modeled. This will likely have significant affects on a model that is a projection of population size through time; therefore the model needs to be re-run with the new life history parameters based on 1 GLG/yr for age.

Mortality due to killer whales has likely been underestimated by Sheldon et al. (1993). They did not extend their estimates beyond the attacks by killer whales were documented and only extrapolated outcomes to the few whose demise were not observed. Their estimates did not include dependent or unborn calves or how much mortality might go unobserved. In a small population even low levels of predation may affect recovery.

4) ***Do you believe the Proposed Rule accurately describes the present range of the Cook Inlet beluga whale?***

Yes, aerial survey and satellite telemetry data show that Cook Inlet belugas remain in Cook Inlet year round and appear to be using the lower inlet less than in the past. Seasonal movement patterns of summer use higher in the drainages and winter use lower in the inlet is similar to our findings for Bristol Bay belugas using satellite telemetry (Quakenbush, unpublished data). Ice forming in the inner bays in winter may require movements to lower areas; however the tidal cycles probably keep ice broken in both Cook Inlet and Bristol Bay enough for access by belugas most of the year. The presence of the ice however could discourage killer whales from entering the lower bay during this time of year, giving belugas the opportunity to feed there with less risk of predation.

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Sincerely,

Lori Quakenbush

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Attachment
Stewart et al. 2006 (pdf)

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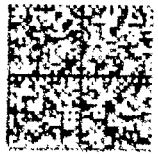

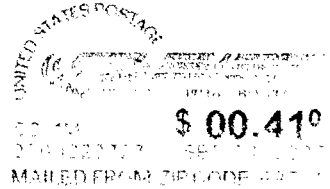

Dr. Kaja Brix
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STATE OF ALASKA

SARAH PALIN, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

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December 10, 2007

Ms. Kaja Brix
Assistant Regional Administrator
Protected Resources Division
Alaska Region, National Marine Fisheries Division
P.O Box 21668
Juneau, AK 99802

Re: Lynn Canal herring

Ms. Brix:

Enclosed are comments from the State of Alaska regarding requests for information on Lynn Canal herring as noticed in Federal Register Vol. 72, No. 174 dated September 10, 2007.

Alaska Department of Fish and Game (ADF&G) fishery managers and State of Alaska scientists, after review of available information, found that the best available scientific and commercial information support a determination that listing of Lynn Canal herring under the Endangered Species Act (ESA) is not warranted for at least five separate reasons.

1. Lynn Canal herring do not represent a distinct population segment. There is no substantial information available that would support a contrary determination. Herring found in Lynn Canal are part of a larger herring metapopulation that includes all of Southeast Alaska and that may extend beyond Southeast Alaska.
2. Herring found in Lynn Canal are stable or increasing. There is no evidence that the herring in Lynn Canal are in danger of extinction within the foreseeable future. Recent surveys indicate that the documented spawn for herring in Lynn Canal during the recent 4 year period has exceeded 8.0 nautical miles twice, well above the average documented spawn of 3.7 nautical miles since 1982.
3. Herring in Southeast Alaska are very strong. Documented herring spawn in Southeast Alaska in the past 12 years has averaged 55.4

nautical miles, well above the previous average documented spawn from 1969-70 through 1994-95 of 22.9 nautical miles.

4. The Lynn Canal area does not represent a significant portion of the range of the larger Southeast Alaska metapopulation. In addition to representing a small geographic portion of the herrings range, Lynn Canal does not represent an unusual or unique ecological setting for the taxon and is connected directly to Chatham Strait and Stephens Passage, both of which contain numerous bays and inlets offering similar ecological settings that support regular or sporadic herring spawn events.
5. Given the herring population status and other background information, listing could not be justified under the statutory listing factors. Sufficient regulatory measures are in place to protect herring spawning habitats in Lynn Canal and the greater southeast Alaska metapopulation and to provide for sustained yield management of these herring populations.

Based on this, and a detailed analysis of the statutory listing criteria (attached), we do not believe that a listing of Lynn Canal herring as either threatened or endangered under the ESA could be justified at this time.

Attached are more detailed comments that substantiate our position. If you have any questions regarding these materials, please fell free to contact me.

Sincerely,

Doug Vincent-Lang, ESA Coordinator
Alaska Department of Fish and Game
(907) 267-2339
douglas.vincent-lang@alaska.gov

cc: Denby Lloyd, ADF&G – Juneau/HQ
Ken Taylor, ADF&G - Anchorage
John Hilsinger, ADF&G - Anchorage
John Katz, Governor's Office – Washington D.C.
Mike Nizich, Governor's Office - Juneau
Cora Crome, Governor's Office - Juneau
Tina Cunning, ADF&G - Anchorage
Gary Mendivil, ADEC - Juneau
Ed Fogels. ADNR – Anchorage

I. Herring within Lynn Canal do not represent a Distinct Population Segment (DPS) under the Endangered Species Act (ESA)

A. Background.

To understand whether herring within Lynn Canal can be classified as a DPS under the ESA it is important to understand the concatenated definitions that the NMFS uses to clarify the meaning of "species" in the ESA. These definitions are documented and applied in many places, including the Stout et al. (2001) and Gustafson (2006) status reviews of Pacific Herring in Puget Sound, Washington, that were prepared by NMFS in response to ESA petitions.

1. Species

The ESA as amended in 1978 defines "species" as "any subspecies of fish or wildlife or plants, and any distinct population segment of any {biological} species of vertebrate fish or wildlife which interbreeds when mature."

2. Distinct

The meaning of "distinct population segment" is clarified in a joint US Fish and Wildlife Service and NMFS interagency policy on vertebrate populations (USFWS-NOAA 1996, 61 Fed. Reg. 4722-25): To be considered "distinct" a population must be first "discrete" from other populations and then second "significant" to the biological species as a whole.

a. Discrete

In the many status reviews in response to ESA petitions, NMFS has defined a "discrete" population to be markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. If physical (geographic) separation is not clear, then quantitative measures of life history, morphological, or genetic discontinuity are used to determine whether a population is "discrete."

This definition remains unclear because it has not been rigidly applied and does not indicate how much separation is necessary for a population to be "markedly separated". For example,

Gustafson (2006) found the Cherry Point herring to be "somewhat discrete," and to represent a "demographically independent subpopulation" despite evidence of gene flow, while at the same time questioning the biological importance of the low level differentiation observed. While evidence of gene flow should prevent a "discrete" determination, the Service has not rigidly applied the "discrete" component, requiring it to apply the "significant" component.

b. Significant

A "significant" determination is based upon "1) persistence of the discrete population segment in an ecological setting unusual or unique for the taxon, 2) evidence that loss of the discrete population segment would result in a significant gap in the range of the taxon, 3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be abundant elsewhere as an introduced population outside of its historic range, or 4) evidence that the discrete population segment differed markedly from other population of the species in its genetics characteristics" (Stout et al. 2001).

To address whether herring in Lynn Canal represent a DPS under the ESA, the following two questions must be addressed:

1. What are the limits of the DPS that includes herring in Lynn Canal —do Lynn Canal herring represent a stand-alone DPS?
2. Is the DPS in danger of becoming extinct (endangered) or likely to become extinct (threatened) in a significant portion of its range.

B. Lynn Canal Herring do not represent a "discrete" population.

Pacific herring were petitioned for ESA protection twice in Puget Sound, Washington. The first petition named Puget Sound herring in general; the second focused upon the stock inhabiting Cherry Point. The NMFS completed two comprehensive status reviews in response to these petitions. These included hundreds of references on the biology and distribution of Pacific herring. In reviewing the status and conducting the distinct/discrete/significant determination for Puget Sound, the NMFS also considered all of the research available from British Columbia and Alaska. Since little research has been done in the few years since that time, these reviews provide the best basis for a determination of whether herring within Lynn Canal represent a DPS.

In both of the previous status reviews, NMFS concluded that Pacific herring DPSs follow the metapopulation model of stock and species structure. Many species have a metapopulation structure whereby numerous local aggregations (or stocks) coexist, with some connectivity, with local extinctions and recolonizations occurring routinely through biological time (Levins 1968). This conclusion is soundly supported by NMFS' wide-ranging review of life history, migration and tagging, and population genetics.

The salient feature of metapopulations in this instance is that depressions and extinctions of local subpopulations are naturally occurring phenomena. Waples et al. (2007) further explains that an ESA status review of a metapopulation is a single snapshot in time where one might expect to see some habitat patches occupied by stable populations, some patches vacant, and other patches with increasing or decreasing populations (see Figure 1). In his review of the NMFS status reviews, Waples et al. (2007) points out:

> *"The goal of ESA recovery planning is to restore viable populations in enough strata that the listed unit as a whole is no longer threatened or endangered in all or a significant portion of its range. In a recent review of Pacific herring (Clupea pallasi) in Puget Sound, current status (some populations increasing and others declining) was evaluated in the context of the historical template, and it was concluded that current patterns of distribution and abundance do not depart substantially from what would be expected at any point in time under natural conditions in a large metapopulation."*

That local stocks of Pacific herring naturally disappear and reappear in Washington, British Columbia, and Alaska is well documented in the existing status reviews. Stout et al. (2001) points out that in Alaska, Skud (1960) failed to find spawning at 37 of the 57 bays where spawning was first documented by Rounsefell (1930). Ware and Tovey (2004) provide excellent long-term data sets demonstrating decline, extirpation, and recolonization of stocks inhabiting bays in British Columbia (see examples extracted for Figure 2). They identified 82 spawn disappearance events. Some of these vacant habitats were recolonized quickly, in five to 35 years. Others remain vacant today.

Stout et al. (2001), reviewing the petition to protect Puget Sound herring, concluded that the dozens of stocks in Georgia Basin--Puget Sound and Southern British Columbia--compose a single metapopulation: the Georgia Basin DPS (see Georgia Basin description at http://www.epa.gov/region10/psgb/). They found that the DPS included

a combination of healthy stocks, declining or depressed stocks, and one critical stock (Cherry Point). In evaluating all of the related factors, the Biological Review Team (BRT) concluded, by a large majority, that the Georgia Basin DPS was acting as a healthy metapopulation, "neither at risk of extinction, nor likely to become so" (Stout et al. 2001). At the same time the BRT recommended, even though the DPS was not at risk, that state conservation activities at the stock level were totally appropriate to promote viable commercial fisheries.

Gustafson et al (2006), reviewing the petition to protect the Cherry Point stock, supported the designation of the Georgia Basin DPS by Stout et al. (2006). There was significant support in the BRT to actually enlarge the Georgia Basin DPS. Substantial evidence including tagging studies (Hay et al. 2001) and genetic studies (Grant and Utter 1984; Beacham et al. 2001, 2002; and Small et al. 2005) demonstrates extensive straying beyond the Georgia Basin and substantial genetic homogeneity of Pacific herring stocks throughout the Pacific Northwest and British Columbia. However, the final recommendation was to support the Georgia Basin DPS designation based upon ecological and age composition evidence (Gustafson et al. 2006 p. 68).

This support of the Georgia Basin DPS in the Cherry Point review demonstrates the importance of the distinct/discrete/significant definitions above. Gustafson (2006) reported that some local stocks or stock groups in Puget Sound have distinguishing characteristics: *discrete* and persistent spawning location, spawn timing, size at age, migration behavior, genetic differentiation, and many others. The microsatellite DNA study of Small et al. (2005) described a weak but stable signal indicating restricted gene flow between the Cherry Point stock and other stocks in the Georgia Basin DPS. Considering these factors Gustafson (2006 p. 132) refined the description of the Georgia Basin DPS to include eight "*discrete*" or "somewhat *discrete*" subpopulations (Figure 3) in a slightly modified metapopulation. In this refinement, Cherry Point was determined to be a *discrete* subpopulation, a demographically independent subpopulation, but not *significant* to the species as a whole; thus the Cherry Point stock did not constitute a stand-alone DPS.

In reviewing the extinction question, the BRT concluded that "abundance is declining within some of these {distinct subpopulations} and increasing in others. These patterns of abundance and distribution within the Georgia Basin DPS appeared to be fairly typical of what is seen in other Pacific herring populations throughout northwestern North America, including many relatively pristine areas in southeastern Alaska and British Columbia" (Gustafson et al. 2006 p. xiv).

NMFS expressed concern that recolonization might take longer than that observed in classical metapopulations, should the Cherry Point subpopulation become extinct. However, this still did not present a threatened or endangered risk to the DPS in a significant portion of its range.

Lynn Canal herring are not markedly separated from other populations. Herring have generally been divided into migratory and resident life history categories (reviewed in Stout et al. 2001):

1. migratory stocks that are long-lived and make extensive summer feeding migrations
2. resident stocks that make comparatively very short feeding migrations (or no migrations at all).

Studies suggest that most of the herring that spawn in Lynn Canal are resident, and more or less demographically discrete, while most other herring in Southeast Alaska are migratory (Carlson 1980). While this factor might provide some support for a discreteness determination for herring stocks in Lynn Canal, there is no physical isolation, and historical genetic (allozyme) data show no differences between Lynn Canal herring and other Gulf of Alaska herring, including Kodiak, and suggest that these herring are closely related to those from British Columbia and Washington (Grant and Utter 1984).

These results are consistent with contemporary microsatellite data that suggest that Pacific herring are characterized by high levels of gene flow among populations across fairly large geographic areas (Beacham et al. 2001, 2002). Therefore, although the herring of Southeast Alaska are managed as a number of stocks for purposes of fishery management, these "stocks," including the herring found in Lynn Canal, should be considered subpopulations within a larger metapopulation comprised of subpopulations occurring throughout at least all of Southeast Alaska and probably extending significantly beyond Southeast Alaska into the Gulf of Alaska and British Columbia.

C. Even if considered "discrete", "stocks" of herring in Lynn Canal cannot be considered significant.

First, Lynn Canal does not represent an unusual or unique ecological setting for the taxon. Lynn Canal is connected directly to Chatham Strait and Stephens Passage, both of which contain numerous bays and inlets offering similar ecological settings, and both of which are known sites of

occasional herring spawning events (Pritchett 2005; Coonradt, Gordon, Harris, and Monagle 2006; Marc Pritchett personal communication[1]).

Second, even in the unlikely event that the Lynn Canal spawning aggregation was to temporarily disappear, it would not result in a significant gap in the range of the taxon. Pacific herring range from California to the Bering Sea, and even if the metapopulation is considered to include only Southeast Alaska – a definition that would appear inconsistent with genetic evidence – it would not create a gap in the range of the taxon. Spawning events have been reported in nearby areas including Oliver Inlet, Taku Harbor, Couverden Island, Icy Strait, Tenakee Inlet, and Port Fredrick (Marc Pritchett personal communication[1]), recolonization could certainly be expected from herring spawning in these areas or even from more distant, but still relatively close, areas such as Hobart Bay, Port Houghton, Seymour Canal, Mud Bay, Idaho Inlet, and Lisianski Inlet (Table 1, Figure 5).

Third, there is no evidence that Lynn Canal herring represent the only natural occurrence of a taxon that might be more abundant elsewhere as an introduced population outside its historic range. The available genetic information directly contradicts this factor by showing that herring populations are interrelated with high levels of gene flow.

Fourth, known and expected genetic characteristics of Lynn Canal herring do not differ markedly from other subpopulations of the species. Genetic differentiation is one of the central elements in many DPS determinations. Genetic differentiation is easily quantifiable, provides direct evidence of potential restrictions in gene flow (discreteness), and is not masked by environmental variables that can influence false signals of discreteness. Genetic studies of Pacific herring nearly always identify extensive gene flow (no discrete stocks) over broad geographic areas spanning hundreds (or thousands) of miles (see additional papers including Kobayashi (1993) and Bentzen et al. (1998) as reviewed in Seeb et al. (1999) that includes mtDNA and microsatellite data from North Gulf of Alaska and Bering Sea stocks). The Alaska Fisheries Science Center has plans for a microsatellite study that includes the Lynn Canal stock; however, there may not be sufficient time to complete the study in time for the DPS determination. Absent an extremely unlikely biological event, the results of such a study should be no more informative than those of Small et al. (2005) which were not sufficient to warrant designating the Cherry Point stock as a DPS.

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[1] Marc Pritchett, Biologist at the Alaska Department of Fish and Game, Douglas, Alaska. (907) 465-4244.

D. Summary of Distinct Population Segment Analysis

Based on the application of best available scientific and commercial data, and using the interagency policy regarding the recognition of distinct vertebrate population segments, the Department concludes that the herring that inhabit Lynn Canal cannot be considered a DPS under the ESA. Further, classifying herring within Lynn Canal as a DPS would be inconsistent with previous determinations of distinct population segmentation in Pacific herring.

II. Lynn Canal herring are stable or increasing and adequate measures are in place to prevent over-harvest.

ADF&G conducts aerial, skiff, and scuba dive surveys to monitor the primary areas where the Lynn Canal herring are known to spawn. Aerial and skiff surveys have been conduced since 1970 to identify the dates and extent of herring spawns (miles of spawn along shoreline). A 2004 dive survey provided the first estimate of spawning biomass escapement by the department for the Lynn Canal area since a 1984 dive survey and a 1992 hydroacoustic estimate. Using dive surveys, the department estimates the total number of herring eggs in the Lynn Canal spawning grounds and converts this to an estimate of spawning biomass through use of a fecundity relationship and weight-at-age data. Monitoring of the Lynn Canal spawning through aerial, skiff, and spawn deposition scuba dive surveys continued in 2007 as reported here.

The Department in conjunction with the Alaska Board of Fisheries adopted regulations to assure for the sustainability of southeast Alaska herring stocks, including those within Lynn Canal. These regulations relating to commercial fisheries, the only potentially significant harvest source[2], are:

> **5 AAC 27.190. Herring Management Plan for Southeastern Alaska Area.** For the management of herring fisheries in the Southeastern Alaska Area, the department
>
> (1) shall identify stocks of herring on a spawning area basis;
>
> (2) shall establish minimum spawning biomass thresholds below which fishing will not be allowed;
>
> (3) shall assess the abundance of mature herring for each stock before allowing fishing to occur;
>
> (4) except as provided elsewhere, may allow a harvest of herring at an exploitation rate between 10 percent and 20 percent of the estimated spawning biomass when that biomass is above the minimum threshold level;
>
> (5) may identify and consider sources of mortality in setting harvest guideline;
>
> (6) by emergency order, may modify fishing periods to minimize incidental mortalities during commercial fisheries.

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[2] As discussed more fully below in Section IV, subsistence harvest is not a concern because the major spawning areas (and all road accessible spawning areas) are within the Juneau nonsubsistence area defined in 5 AAC 00.015(a)(2). There is no significant personal use or sport harvest, and both personal use and sport harvest would be subject to restrictive regulations found at 5 AAC 77.672 and 5 AAC 75.030.

Under these regulations, the established spawning biomass threshold level for Lynn Canal herring has been established as 5,000 tons. This means that before a directed herring fishery may be considered on Lynn Canal herring, a forecast of spawning biomass must meet or exceed 5,000 tons.

Prior to 1983 herring within Lynn Canal supported several commercial fisheries including a sac roe fishery, bait fishery, and a winter food and bait fishery. Herring within Lynn Canal declined in 1981-82. As a result, no commercial harvest has occurred in the Juneau area since the 1981-82 season. Alaska's fisheries are subject to a constitutional sustained yield management requirement and these closures will remain in force to allow the herring within the Lynn Canal area to rebuild until it can support a fishery without threatening sustained yield.

From 1953 to 1981 Lynn Canal herring spawned from Auke Bay to Point Sherman including Berners Bay and Cascade Point. The documented spawn for Lynn Canal herring during this period ranged from 5.7 to 28.1 nautical miles (nmi), averaging approximately 12 nmi (Table 1, Figure 4). While significant spawning occurred in the vicinity of Auke Bay prior to 1981, there has been very limited spawning in Auke Bay in recent years. Recently, spawning activity for Lynn Canal herring has centered between Bridget Cove and the east shoreline of Berners Bay. Since 1982 the documented spawn has ranged from 0.5 to 9.0 nmi, averaging 3.7 nmi (Table 1, Figure 4). ADF&G records since 1971 document herring spawn between Echo Cove and the Berners Bay flats in most years, with few exceptions. Pacific herring have been documented to spawn at Cascade Point as early as April 18 and as late as May 24. There is no significant difference in time of spawn between Lynn Canal and adjacent waters.

While not sufficient to allow a commercial harvest, herring levels within Lynn Canal are not declining or in danger of becoming extinct or threatened with extinction within the foreseeable future. Recent surveys indicate that the documented spawn for herring in Lynn Canal during the recent 4 year period has exceeded 8.0 nmi twice (Table 1). This suggests the stock is stable and may be rebuilding. Further, actual spawn deposition may exceed documented spawn in many years where spawning occurs outside of more common areas or time frames. The department monitors only areas that are or have been commercially exploited where significant spawn events are known to occur. Limited resources are not expended monitoring small populations or spawn events. The department has received reports of herring spawn events in a number of nearby locations, including sites in Port Fredrick, Cross Sound, portions of Icy Strait, Lisianski Inlet, Olivers Inlet, Taku Harbor (Marc Pritchett

personal communication[3]). These sites are not surveyed on a regular basis and observed spawn from some of these locations is generally not counted in determining the cumulative miles of spawn attributable to the Lynn Canal herring.

The reasons for the decline and slow recovery of Lynn Canal herring are not clear, but fluctuations of herring within larger herring metapopulations are not uncommon (Ware and Tovey 2004). In Alaska, Pritchett (2005) showed the West Behm Canal spawning aggregate forecast increased from 283 tons in 1991 to 15,968 tons in 1999 and fell back to 454 tons in 2005; similarly Hobart Bay/Port Houghton miles of herring spawn ranged between 0 in the late 1970's/early 1980's to 19.1 nautical miles (nmi) in 1998-99 (Table 1, Marc Pritchett personal communication[4]). Additionally, recovery from overfishing may be slowed by natural population cycles or by a number of predation factors including increasing salmon returns (Bachman 2007), growth in Southeast Alaska stellar sea lion populations (Pitcher et al. 2007), and increasing humpback and killer whale (Angliss and Outlaw 2006) populations in Southeast Alaska.

Further, the larger metapopulation of herring in southeast Alaska and beyond, of which herring in Lynn Canal herring is a part, is quite strong. Documented spawn for the overall southeast Alaska portion of the herring metapopulation in the past 12 years has averaged 55.4 nmi, well above the previous average documented spawn from 1969-70 through 1994-95 of 22.9 nmi (Table 1, Figure 4).

Summary

While herring within Lynn Canal are at levels below historic highs, the best available information does not indicate they are in danger of becoming extinct within the foreseeable future. Also, the larger metapopulation of herring within southeast Alaska is at record high levels. Finally, adequate regulatory mechanisms are in place to assure against over-harvest.

[3] Marc Pritchett, Herring biologist at the Alaska Department of Fish and Game, Douglas, Alaska. (907) 465-4244.
[4] Marc Pritchett, Biologist at the Alaska Department of Fish and Game, Douglas, Alaska. (907) 465-4244.

III. Lynn Canal does not represent a significant portion of the range of the herring DPS found in Southeast Alaska

Given the broad range of pacific herring from California to the Bering Sea, or even of a separate DPS limited to Southeast Alaska and Gulf of Alaska stocks, even if the herring found in the approximately 40 mile long Lynn Canal were to disappear, it would not result in loss of a significant portion of the range of the species or of the DPS.

Simple geographic scale is enough to show that there is no way that Lynn Canal could reasonably be considered a significant portion of the range even if the DPS were limited to herring found Southeast Alaska. This is bolstered by many of the same factors discussed in the DPS section of this analysis. In addition to representing a small geographic portion of the herring's range, Lynn Canal does not represent an unusual or unique ecological setting for the taxon and is connected directly to Chatham Strait and Stephens Passage, both of which contain numerous bays and inlets offering similar ecological settings that supporting regular or sporadic herring spawn events.

IV. Listing of Herring in Lynn Canal Could Not be Justified Under Statutory Listing Factors Because the Population is Healthy and Adequate Regulatory Measures are in Place to Protect Herring and Herring Habitat.

As indicated in prior sections, an analysis of the ESA listing factors should be made with reference to the herring metapopulation that extends throughout Southeast Alaska and beyond. However, even if the Service were to consider the Lynn Canal herring to be a DPS, application of the listing factors would not support a listing. Herring that utilize Lynn Canal are not at significant risk as a result of any of the five statutory factors.

A. Present or threatened destruction, modification, or curtailment of habitat or range is not a significant factor.

Herring in Lynn Canal are not threatened by present or threatened destruction, modification, or curtailment of habitat or range. There is no scientific evidence to tie the decline of the Lynn Canal herring to the destruction or modification of habitat. Because Cascade Point and adjacent areas of Berners Bay are within primary spawning grounds for Lynn Canal herring, listing proponents postulate that proposed development of a marine facility in this area could have an impact on herring within Lynn Canal. Increased disturbance from vessel traffic, transient lighting, increased turbidity and sedimentation, and increased petroleum hydrocarbons in the water from oil or gas spills are also postulated as concerns by the listing proponents.

Observations of effects of development from nearby areas illustrates that development does not necessarily cause harm to herring, and in some cases may improve or increase spawning habitat by providing protected waters and/or increased surface area for spawn deposition. Herring near Sitka consistently spawn around the new Thompson Harbor breakwater and in fact sometimes spawn inside the boat harbor. Spawn frequently occurs along the well developed waterfront road system to the ferry terminal. Boat traffic does not appear to disrupt spawning. Commercial and subsistence vessels near Sitka are often operating in the area of peak spawn or pre spawn biomass with no apparent detriment to herring. Despite significant development and boat traffic, the herring biomass in the Sitka Sound area is at near record high levels. Similarly, in Lynn Canal, herring were observed spawning adjacent to a new dock and fill at Adlersheim during 2007.

Herring stocks are also fairly resilient to change. The resiliency of herring stocks is demonstrated by the fact that herring stocks naturally disappear and reappear in Washington, British Columbia, and Alaska even when reduced to very low numbers (Stout et al . 2001). It is also illustrated by the fact that large scale fluctuations in spawning biomass have been observed in Southeast Alaska. Pritchett (2005) documented a West Behm Canal spawning aggregate forecast increase from 283 tons in 1991 to 15,968 tons in 1999 followed by a decline to 454 tons in 2005. Similarly, ADF&G data show that Hobart Bay/Port Houghton miles of herring spawn ranged between 0 in the late 1970's/early 1980's to 19.1 nmi in 1998-99 (Table 1, Figure 4).

Herring resiliency and demonstrated ability to successfully spawn in developed areas weighs heavily against a determination that heavily regulated development such as that proposed for the Kensington mine would threaten significant destruction, modification, or curtailment of habitat or range.

Additionally, sufficient regulatory mechanisms are in place to assure that such developments do not significantly impact herring or their spawning habitats. A description of these regulatory mechanisms is summarized in subsection D below.

B. *Overutilization for commercial, recreational, scientific, or educational purposes is not a significant factor.*

Herring in Lynn Canal are not threatened by overutilization for commercial, recreational, scientific, or educational purposes. There is no scientific or commercial evidence that the decline of Lynn Canal herring was due to overharvest, and as indicated earlier even if significant overharvest were to occur, herring stocks are very resilient and can be expected to recover over time even if reduced to very low levels.

No commercial harvest has occurred since the 1981-82 season, and regulations are in force that will not allow a harvest until herring within Lynn canal rebuilds to a level that allows a sustained harvest. Most of the primary herring spawning areas in Lynn Canal, including Berners Bay and areas south of Berners Bay along the road system, are located in the Juneau nonsubsistence area as defined in 5 AAC 99.015(a)(2), and therefore Lynn Canal herring are not subject to significant subsistence harvest. No significant sport or personal use fishery targets Lynn Canal herring. Specific harvest amounts are not available, however, area management biologists estimate the harvest to be less than 5,000 herring

annually (Rob Bentz, personal communication[5]). Finally, no significant take of Lynn Canal herring occurs for scientific or educational purposes (Sara Larsen, personal communication[6]).

As discussed more fully above in Section II of this analysis, herring numbers in Lynn Canal are not declining. Since 1982, the documented spawn has ranged from 0.5 to 9.0 nmi, averaging 3.7 nmi (Table 1, Figure 4). Recent surveys indicate that the documented spawn for herring in Lynn Canal during the recent 4 year period has exceeded 8.0 nmi twice (Table 1). This suggests the stock is stable and may be rebuilding. Further, the methodology and areas used for pre-statehood spawn estimates are unknown, and under current methodology actual spawn deposition may exceed documented spawn in many years where spawning occurs outside of more common areas or time frames. The department monitors only areas that are or have been commercially exploited where significant spawn events are known to occur. Limited resources are not expended monitoring small populations or spawn events.

Pressure from fisheries has not been and is not now a factor in the slow recovery of herring in Lynn Canal, and as more fully addressed above in section II and below in subsection D, state fisheries are managed under a constitutional sustained yield mandate and adequate regulatory measures are in place to prevent overharvest.

C. Disease or Predation is not a significant factor.

Herring in Lynn Canal are not threatened by disease or predation. There is no scientific or commercial evidence that the decline of Lynn Canal herring was due to disease or predation. As noted earlier, while increasing salmon returns, growth in Southeast Alaska stellar sea lion populations, and increasing humpback and killer whale populations in Southeast Alaska may have slowed the recovery of the Lynn Canal subpopulation, there is no information to indicate that predation has or will cause a further population decline. Since, as shown above, Lynn Canal herring are stable or increasing, despite recent increases in predator populations, there is no reason to speculate that predation is likely to threaten or endanger herring in Lynn Canal within the foreseeable future.

D. Existing Regulatory Mechanisms to Protect Herring and Habitats Used by Herring in Lynn Canal are adequate.

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[5] Rob Bentz, Deputy Director, Division of Sport Fish, Alaska Department of Fish and Game (907) 465-6187.
[6] Sara Larsen, Permit Coordinator, Division of Commercial Fisheries, Alaska Department of Fish and Game (907) 465-4724.

There is no scientific or commercial evidence that the decline or slow recovery of Lynn Canal herring was due to inadequacy of existing regulatory mechanisms. The Department provides the following information as requested by the proposed rule, consistent with the Service's March 28, 2003, Policy for Evaluating Conservation Efforts (PECE) (68 FR 15100). The proposed rule described the policy by which the Service must consider efforts by the State, political subdivisions of the State, Native American tribes and organizations, local governments, and private organizations to protect species when considering an ESA listing:

> *The PECE provides guidance on evaluating current protective efforts identified in conservation agreements, conservation plans, management plans, or similar documents (developed by Federal agencies, state and local governments, tribal governments, businesses, organizations, and individuals) that have not yet been implemented or have been implemented but have not yet demonstrated effectiveness. The PECE establishes two basic criteria for evaluating current conservation efforts: (1) the certainty that the conservation efforts will be implemented, and (2) the certainty that the efforts will be effective. The PECE provides specific factors under these two basic criteria that direct the analysis of adequacy and efficacy of existing conservation efforts.*

We address the ongoing and planned protective efforts by numerous entities according to the PECE criteria and their effectiveness.

Fisheries Management

As discussed in section II, Alaska's fisheries are managed by ADF&G and the Alaska Board of Fisheries under a constitutional requirement to manage according to sustained yield principles. The commercial herring fishery in Lynn Canal has been closed since the 1981-82 season, and will not reopen under current regulations and policies until the spawning biomass reaches at least 5,000 tons. When a commercial fishery is authorized, under 5 AAC 27.190, the exploitation rate allowed will only be 10 to 20 percent of the spawning biomass.

Most of the primary herring spawning areas in Lynn Canal, including Berners Bay and areas south of Berners Bay along the road system, are located in the Juneau nonsubsistence area as defined in 5 AAC 99.015(a)(2), and thus Lynn Canal herring are not subject to significant subsistence harvest.

As noted earlier, no significant sport or personal use fishery targets Lynn Canal herring. Any personal use fishing that does occur is subject to regulatory restrictions in 5 AAC 77.672, which require a permit for the most desirable product, spawn on kelp, and which limit take of this product to at most 32 pounds per individual or 158 pounds per household and which prohibit herring harvest in Auke Bay. Sport fishing for herring is limited under 5 AAC 75.030 to use of a single line with 15 or fewer unbaited hooks, so the potential catch would continue to be extremely low if the herring were to be increasingly targeted by sport fishers.

Protected Lands

Lands managed by the federal and state governments in and around Lynn Canal help to preserve good herring habitat. These protected lands comprise State game refuges and critical habitats, Tongass National Forest lands, Glacier Bay National Park and Preserve, and state park lands (Figure 6). All of these protected areas have special management legislation limiting land and water use activities, and most have detailed management plans that are effective in protecting habitat.

Agency	Managed Lands (M Sq. Miles)
U.S. Forest Service	422.2
National Park Service	184.2
State of Alaska	38.9
Bureau of Land Management	23.3

Other Existing Regulatory Mechanisms

In addition to land management plans, the State comprehensively regulates activities that occur within the Lynn Canal watershed that potentially affect land use, water quality and quantity. Below are detailed examples of some of these management guidelines, regulations, and permit stipulations which are implemented by the Alaska Department of Fish and Game, Alaska Department of Environmental Conservation, and Alaska Department of Natural Resources as part of the State's role in habitat protection measures.

ALASKA DEPARTMENT OF FISH AND GAME'S ROLE IN HABITAT PROTECTION

In addition to its general responsibilities for the sustained yield management of all fish and wildlife on all lands and waters in the State, the Alaska Department of Fish and Game (ADF&G) manages State lands designated as Refuges and Critical Habitat Areas within and near Lynn Canal.

Alaska Special Areas: Refuges, Sanctuaries and Critical Habitat Areas within or near Lynn Canal managed by ADF&G.

Name of Special Area	Date Established	Enabling Statute		Date of Management Plan
Mendenhall State Game Refuge	1976	AS 16.20.034 (g)		1990
Chilkat River Critical Habitat Area	1972	AS 16.20.585 AS 41.21.610		2002 (w/ADNR)
Dude Creek Critical Habitat Area	1988	AS 16.20.610 (c)		None
Stan Price Wildlife Sanctuary	1990	AS 16.20.150		None

The ADF&G special area management plans are available at: http://www.wildlife.alaska.gov/index.cfm?adfg=refuge.main

The ADF&G participates with other State agencies in Oil Spill Contingency Plans. The Alaska Department of Environmental Conservation (ADEC) requires all vessels transporting oil and hazardous substances within the State of Alaska to have a contingency plan in the event of a spill. Each operator is required to follow the ADEC format as described in 18 AAC 75, Article 4 which is located at the following link: http://www.dec.state.ak.us/spar/statutes_regs.htm#regs75

In addition to industry contingency plans, ADEC and other agencies, including ADF&G, formalized regional plans to ensure consistency. Southeast Alaska has its own regional plan entitled 'The Southeast Alaska Subarea Contingency Plan for oil and hazardous substance spills and releases'. This regional plan is located at : www.dec.state.ak.us/spar/perp/plans/scp_se.htm. The industry contingency plans are a way that ADEC can ensure that the company is prepared and thinking in advance before they travel in Alaska waters. ADF&G reviews relevant industry plans with a focus on the protection of fish and wildlife.

Following is the "Unified Plan and Subarea Contingency Plan Description" of the regional plans.

The Southeast Alaska Subarea Contingency Plan is a supplement to the *Alaska Federal/State Preparedness Plan for Response to Oil & Hazardous Substance Discharges/Releases* (commonly referred to as the Unified Plan). The Unified and the Subarea Contingency Plans represent a

coordinated and cooperative effort by government agencies and were written jointly by the U.S. Coast Guard, the U.S. Environmental Protection Agency, and the Alaska Department of Environmental Conservation. The Oil Pollution Act of 1990 (OPA 90) requires the USCG and the USEPA to prepare oil spill response plans for the State of Alaska, which is designated as an entire planning region under federal guidelines. Alaska statute requires the ADEC to prepare a state-wide master plan addressing oil and hazardous substance discharges. The Unified Plan meets these federal (National Contingency Plan and OPA 90) requirements for regional and area planning, as well as State planning requirements.

OPA 90 requires the development of Area Contingency Plans for the inland and coastal zones of each federal region. For the Alaska region, there are three Coast Guard Captain of the Port zones and one inland zone. The three Captain of the Port zones are: 1) Southeast, which covers all of Southeast Alaska; 2) Prince William Sound, which covers the Prince William Sound area; and 3) Western Alaska, which includes the rest of coastal Alaska from Cook Inlet out the Aleutians and north to the Beaufort Sea and the Canadian border. The inland zone is subdivided into two sectors: 1) the North Slope oil production area and the Trans-Alaska Pipeline System (TAPS) and 2) all other areas inland from the coastal zones.

Alaska statute divides the state into ten regions for oil and hazardous substance spill planning and preparedness. The USCG and the USEPA joined with the ADEC to use these ten regions for area planning instead of the federal planning divisions since this would facilitate unified planning for the State of Alaska and prove more practical as well (for example, the huge COTP Western Alaska planning area is replaced by seven more manageable divisions). Because the State of Alaska is called a planning "region" under federal planning guidelines and to avoid confusion with the other federal term, "area contingency plans," these ten subordinate planning regions of the State are called "subareas" in the context of the Unified Plan.

The Unified Plan contains information applicable to pollution response within the entire State of Alaska and meets the pollution response contingency planning requirements applicable to the federal and State governments. The plan provides broad policy guidance and describes the strategy for a coordinated federal, State and local response to a discharge, or substantial threat of discharge, of oil and/or a release of a hazardous substance within the boundaries of Alaska and its surrounding waters.

Under both federal and State law, the responsible party for an oil or hazardous substance incident is required to report the incident and mount a response effort to contain and cleanup the release. The federal and State governments mandate response plans for oil tank vessels and facilities that have stringent spill response requirements. If the responsible party fails to respond adequately or if no responsible party can be identified, then the federal and State governments will rely on the Unified Plan and the appropriate Subarea Contingency Plan for response protocols and guidance.

Whereas the Unified Plan contains general information for response efforts taking place anywhere in the State of Alaska, the Subarea Contingency Plan (SCP) concentrates on issues and provisions specific to its particular subarea. The Southeast Alaska SCP focuses on the southeast Alaska region of the State. The boundaries of this subarea are described in the Background Section of this plan. The Southeast Alaska SCP provides information specific to the area, including emergency response phone numbers, available response equipment and other resources, specific response guidelines, and information on hazardous substance presence and sensitive areas protection.

Alaska State statute mandates a public review of all new plans, an annual departmental review of these plans, and another public review whenever the plans are significantly revised. The ADEC offers a public review of these plans for a period of 30 to 60 days during which verbal and written comments are accepted. During this comment period, several public meetings are held at locations appropriate for the plan being reviewed. The federal government does not require public review for any of its plans, though the USCG and the USEPA, as part of the Alaska unified planning process, do cooperate with the State of Alaska and participate in the public review process.

Neither the federal nor the State government maintains a formal approval process for these plans. The Unified Plan and the SCPs are presented to the Alaska State Emergency Response Commission and the Alaska Regional Response Team (ARRT) for review and comment. The ARRT's concurrence is also part of the process for plan promulgation. Final promulgation of the plan is accomplished once the three plan holders – the USCG, the USEPA and the State of Alaska – sign the letter of promulgation.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) ROLE IN HABITAT PROTECTION

The following is a summary of ADEC regulatory authorities and a compilation of mitigation measures that pertain to Lynn Canal Herring.

Water Quality Standards. The Division of Water's mission is to improve and protect water quality. In keeping with this mission, the division:

- Establishes standards for water cleanliness
- Regulates discharges to water and wetlands
- Provides financial assistance for water and wastewater facility construction, and waterbody assessments and remediation
- Trains, certifies and assists water and wastewater system operators
- Monitors and reports on water quality

Water quality standards for the State of Alaska are found in the Alaska Administrative Code at 18 AAC 70. These regulations describe water quality criteria, beneficial uses and also site specific criteria for certain areas such as Sherman Creek. The designated uses for the marine waters of Lynn Canal (means they are protected for)

- Marine water supply (aquaculture, seafood processing, industrial)
- Water recreation (contact and secondary)
- Growth and propagations of fish, shellfish, other aquatic life and wildlife
- Harvesting for consumption of raw mollusks or other raw aquatic life.

In 18 AAC 70 there are tables that establish and describe the water quality criteria for each of the designated beneficial uses outline above. In addition, Section 401 of the Clean Water Act requires the Environmental Protection Agency (EPA) and the U.S. Army Corp of Engineers (ACE) to seek state certification that state water quality standards are being met before issuing a final permit.

Cruise Ships. Cruise Ships in Alaska operate under a number of federal and state regulations.

- Ballast water reporting to the United States Coast Guard (USCG)
- Graywater / Blackwater regulated under 33 C.F.R. 159, Subpart E by USCG
- Graywater/Blackwater also regulated under AS 46.03.460 – 490 and 18 AAC 69

The ADEC Commercial Passenger Vessel Environmental Compliance program regulates visible air emissions and wastewater discharged from

cruise ships. Small cruise ships and Alaska Marine Highway vessels (ferries) are required to use best management practice plans and are restricted from discharging treated wastewater in areas identified as herring spawning areas by the Alaska Department of Fish and Game (ADF&G).

Ballast Water Discharge Regulations. All vessels, foreign and domestic transiting Lynn Canal are subject to mandatory federal ballast water exchange regulations at 33 C.F.R. 151, Part D. These regulations require that the entire amount of ballast water loaded at the port of origin is exchanged with sea water during the voyage and include recordkeeping requirements. As a practical matter, ballast exchange discharge does not happen in Lynn Canal.

Oil Spill Prevention and Response. The ADEC Spill Prevention and Response (SPAR) Division's mission is to prevent, respond and ensure the cleanup of unauthorized discharge of oil and hazardous substances. SPAR is responsible for protecting Alaska's land, waters and air from oil and hazardous substances spills. The Industry Preparedness Program (IPP) requires regulated facilities and vessel to develop state-approved contingency plans, to establish a facility-wide spill prevention program and to ensure that personnel, equipment and financial resources are available to respond to spills. In the event of a spill the Prevention and Emergency Response Program (PERP) serves as the State's emergency responders to oil and hazardous substance spills and ensures that cleanup measures are implemented as soon as possible.

ALASKA DEPARTMENT OF NATURAL RESOURCES ROLE IN HABITAT PROTECTION

The following is a summary of DNR regulatory authorities and a compilation of mitigation measures that pertain to Lynn Canal Herring. This information is organized by DNR division.

OFFICE OF PROJECT MANAGEMENT & PERMITTING

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The Office of Project Management and Permitting (OPMP) functions under AS 38.05.020(b)(9) which requires the Commissioner of DNR to coordinate permitting activities for all large resource development projects, and AS 27.05.010(b) which requires DNR to be the lead agency for permitting all large mine projects. OPMP's goal is to ensure that all aspects of a large project are considered during a single review and approval process. The OPMP is currently coordinating the permitting of mining, oil & gas, and transportation projects, including BP's Liberty project, BLM's planning for NPRA-NE, the Bullen Point infrastructure corridor

permitting, and Shell Oil's OCS exploratory activities.

OPMP assigns a project manager to serve as the primary contact for a large project. The project manager coordinates the permitting activities of the state team assigned to work on the project. The Large Project Team is an interagency group, coordinated by OPMP, that works cooperatively with project applicants and operators, federal resource agencies, and the Alaskan public to ensure that projects are designed, operated and reclaimed in a manner consistent with the public interest. The project manager's primary responsibility is to ensure a coordinated process with minimum duplicity of efforts. This often involves tailoring the process to fit specific project needs.

The goal of the state's Large Project Team is to coordinate the timing and completion of the numerous permits. The team reviews all the complex technical documents generated during the process and provides coordinated comments. The team also coordinates stakeholder involvement and provides a single point of contact for the public. The team provides the public, agencies and the applicant the opportunity to view the project as a whole.

The requirement for the federal authorizations usually triggers the requirement for an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). The State usually participates as a cooperating agency in the EIS process, and the team endeavors to dovetail the state's permitting process with the EIS process. For example, during the Pogo Mine process, the public Draft EIS included drafts of all the major state permits. This gave the public the opportunity to see how the state's management decisions could be implemented on the ground, and enabled them to comment on the project as a whole.

The Large Project Team also coordinates, to the extent possible, with local governments. For example, the team has been working closely with the City and Borough of Juneau throughout the permitting and EIS process for the Kensington Mine. The City's Conditional Use Permits are critical authorizations for the mine, and may place additional stipulations on the project.

THE KENSINGTON MINE PROJECT

OPMP coordinated the interagency review and permitting of the Kensington Mine Project, which was initially permitted in the Spring of 2005. This gold mine project, located about 40 miles north of Juneau, involved the transportation of mine workers via ferry across Berners Bay.

To accommodate the ferry, two dock facilities were proposed, one on the north side at Slate Cove, and one on the south side at Cascade Point. The permitting review of the Cascade Point dock centered around the potential impacts to Lynn Canal herring, and resulted in special stipulations for the project. These stipulations are contained in the state tidelands lease, the City and Borough's conditional use permit, and the state's Coastal Consistency Review, and are summarized below:

- Prohibition of in-water construction from March 15 through June 30
- Suspension of all vessel operations at the dock when herring are spawning within 500 meters of the dock, and will remain suspended until spawning is complete.
- In the event that eggs are deposited within 500 meters of the dock, fueling operations will be suspended until the eggs have hatched.
- During the herring runs, vessel speeds are limited to 13 knots, and operations are limited to daylight hours.
- The dock facility is to be used for mine use only.
- Trained observers are to accompany the vessels to ensure effectiveness of the stipulations.

The current status of the Kensington mine project is uncertain. In May of this year, in *Southeast Alaska Conservation Council v. United States Army Corps of Engineers,* the Ninth Circuit ordered the vacation of both the federal wetlands fill (Section 404) permit and the construction permit for a marine facility at Cascade point. (486 F.3d 638, 9th Cir. 2007). A new plan and 404 permit approval will be needed for the project to proceed; however, there is no reason to expect that restrictions imposed for the protection of herring will be any less protective than under the prior plan if new permits are issued.

DIVISION OF COASTAL AND OCEAN MANAGEMENT
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The Division of Coastal and Ocean Management (DCOM) is responsible for administering the Alaska Coastal Management Program (ACMP). The ACMP facilitates the implementation of various herring conservation measures at several distinct levels during resource planning processes as well as at the level of individual project planning and development. Below is a listing of the ACMP responsibilities of DCOM:

1. Pre-application assistance & meetings. The DCOM is tasked with arranging and scheduling meetings between a prospective developer and the agency personnel that would be reviewing, critiquing and, ultimately, writing permits to authorize a given development project. These meetings provide an invaluable

opportunity for industry to meet face-to-face with agency scientists and resource managers. Oftentimes herring issues are brought to an applicant's attention at these meetings. Thus, when a developer is made aware of potential conflicts and/or potential adverse impacts of their planned project ahead of time, the finalized plan of operation or facility footprint is substantially modified before permit applications are even filed. At these meetings, prospective applicants are made aware, if they are not already, of the need to design and site facilities so as to be consistent with statewide standards and district enforceable policies. Applicants are also made aware of the (oftentimes) many distinct special-interest groups that need to be "kept in the loop" for the planning/approval process. This list typically includes commercial and recreational fishing interest groups, conservation and environmental groups, etc.

2. Requirements/Standards for what review materials need be submitted. Applicants need to provide DCOM and review participants with (A) a completed Coastal Project Questionnaire; (B) map(s) identifying the location of the project and adjacent facilities, diagrams, technical data, and other relevant material; (C) description of any man-made structures or natural features that are at or near the project site; and (D) an evaluation of how the proposed project is consistent with the state standards and with any applicable district enforceable policies, sufficient to support the consistency certification.

   These materials are of paramount importance in assisting agency personnel and the public in reviewing a given project for its potential impacts to coastal uses and resources. It is partially with these materials that a review participant can suggest alternative measures that will improve a proposed development project.

3. Public process/ public review. Most federal agency actions and activities that require a State or federal authorization (permits) go through both public and agency review processes often coordinated by DCOM. This fulfills many agencies responsibility for posting/distributing public notice. It also provides a key tool wherein USFWS, NMFS, ADF&G, state agency biologists, the coastal district, and the public can raise and address issues related to scientific, social and/or environmental concerns relative to herring habitats, population dynamics, or health. Federal agency activities and activities that require a State or federal authorization must go through the consistency review process and be found

consistent/compliant with ACMP enforceable policies (statewide standards and district enforceable policies) before the authorizations for the activity can be issued. Oftentimes DCOM will negotiate and include specific alternative measures designed to minimize potentially adverse impacts to herring into a project description before it can be found consistent/compliant and authorizations can be issued.

4. DCOM assists coastal districts develop, adopt, and implement Coastal Management Plans, including district enforceable policies. According to statewide standards of the ACMP as well as the local enforceable policies, the ACMP review process functions as a tool for evaluating an activity and modifying the project description by adding minimization or mitigating measures (in the form of Alternative Measures).

5. DCOM works to act as a facilitator to attempt to resolve conflicts among the resource agencies, an affected coastal resource district, and/or an applicant--before, during, or after a project is permitted.

6. Where the specific aspects of an activity that would otherwise be subject to authorization by the ADEC are not subject to that department's authorization because the activity is either a federal activity or is located on federal land or the OCS, the DEC can review, comment on, and/or add alternative measures to the activity's project description ***only*** through the ACMP. Thus, the ACMP provides a valuable and substantive venue for the state to review, comment on, allow, disallow or make modifications to certain federal agency activities or activities that require a State or federal authorization that are located on federal land or the OCS. This leverage is of paramount importance in areas that happen to be important as habitat for herring.

Specific Statewide standards and Coastal District Enforceable policies that address herring and herring habitat include, but are not limited to:

- **11 AAC 112.300. Habitats.** (b)(1) Offshore areas must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
- **11 AAC 112.300. Habitats.** (b)(2)(B) Estuaries must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial,

recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;

- **11 AAC 112.300. Habitats.** (b)(4) Tideflats must be managed to avoid, minimize, or mitigate significant adverse impacts to water flow, natural drainage patterns, and competing uses such as commercial, recreational, or subsistence uses;
  11 AAC 112.300. Habitats. (b)(9)(A) Important habitat designated by a coastal district must be managed for the special productivity of the habitat in accordance with the district enforceable policy; and
  11 AAC 112.300. Habitats. (b)(9)(B) Important habitat identified by a state agency must be managed to avoid, minimize, or mitigate significant adverse impacts to the special productivity of the habitat.

During the ACMP Coastal Consistency Review process for the Kensington Project, under prior regulations, numerous stipulations were developed to mitigate impacts to herring and their habitat (see above). These stipulations were incorporated into the various state authorizations, and will be in force for the duration of the Kensington Project if it proceeds. Similar stipulations are likely to be incorporated under current regulations into any future authorizations or modifications to existing authorizations that may affect the herring habitat in Berners Bay.

City and Borough of Juneau Coastal Management Plan Enforceable Policies

- The City and Borough of Juneau does not currently have a coastal district plan or enforceable policies in effect. However, DCOM is currently reviewing the proposed City and Borough of Juneau's Coastal Management Plan for approval and incorporation into the ACMP. The proposed CBJ CMP, likely to be effective March 2008, includes enforceable policies that could, depending on the activity, address herring and/or herring habitat.

City and Borough of Haines Coastal Management Plan Enforceable Policies

- The City and Borough of Haines Coastal Management Plan (CBH CMP) went into effect August 8, 2007. The CBH CMP includes enforceable policies that may, depending on the activity, address herring and/or herring habitat.

DIVISION OF MINING, LAND AND WATER
Comments prepared by Wyn Menefee, 269-8501
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The Division of Mining, Land and Water (DMLW) has the responsibility and authority to manage all commercial and recreational use of state land and resources in Southeast Alaska. This area stretches over 600 miles from Cape Suckling south to Portland Canal, and includes 1,000 named islands and 15,000 miles of shoreline. A limited amount of uplands and approximately 11 million acres of shorelands, tidelands, and submerged lands out to the three mile limit are managed by DMLW. In addition DMLW manages water allocations on all lands, including on federal and private land.

The DMLW authority primarily comes from AS 38.05, 41.23, 46.15 and 46.17. The division is responsible for preparing area plans and management plans for state lands. This is done through a public process to create policy and guidance for State land management. This includes consideration of sensitive habitats and development needs. There are six area plans covering the state lands in Southeast Alaska.

The newer plans say that "*essentially all tidelands and submerged lands are used for some form of community or commercial harvest at some time during the year.*" There are references to NOAA maps of "human use of biological resources" and to ADFG Subsistence Division if questions arise. The Central/Southern SE Area Plan states "*Activities in Traditional Use Commercial Herring Areas. Activities should be conditioned to minimize disruption of the harvest within traditional herring fishery areas, including the sac roe and wild kelp harvest fishery areas.*" The Juneau plan says that "*mitigating measures should be designed to protect the specific type of fish and wildlife harvest that occurs in the designated areas.*"

DMLW authorizes land uses through permits, leases, rights of way, sales, and other authorizations. All DMLW authorizations are granted in accordance with the area plans. In addition, authorizations must first be found consistent with the Alaska Coastal Management Program's plans and enforceable policies. The division will consider these plans and place any restrictions or mitigating measures in the authorizations through stipulations to protect social or environmental concerns, inclusive of critical habitats.

Most authorizations undergo public and agency review, during which ADFG, USFWS or other participating agencies can bring attention to any environmental concerns about the project. DMLW will then address those

concerns, commonly through attaching appropriate stipulations to the authorization.

The Division of Mining, Land and Water issues many authorizations for activities on State-owned lands in Southeast Alaska. Many of these approvals involve tideland improvements such as docks, floats, harbors and ferry terminals. Since these activities are within the coastal zone, the permits are subject to a consistency finding under the ACMP.

DMLW's statutes and regulations are fairly general and non-specific regarding fish and wildlife conflicts but generally require compliance with other statutes and regulations and minimization of environmental impacts. For example, the authority for attaching stipulations to DMLW permits is 11 AAC 96.040(b): "Each permit is subject to any provisions the department determines necessary to assure compliance with this chapter, to minimize conflicts with other uses, **to minimize environmental impacts,** or otherwise to be in the interests of the state." Leasing statutes and regulations also don't have any specific language.

Summary of Regulatory Mechanisms

Existing regulatory mechanisms for the protection of the Lynn Canal herring habitats are extensive. There is no scientific or commercial information indicating that a failure of any of these mechanisms contributed to the decline or slow recovery of herring in Lynn Canal or that any currently authorized or proposed development project would have significant adverse effects on herring in Lynn Canal.

E. Other Natural and Manmade factors do not require a threatened or endangered listing.

There is no scientific or commercial evidence that the decline or slow recovery of Lynn Canal Herring was or is due to other natural or manmade factors. Pacific herring are adaptable to a wide range of habitat and ocean conditions as evidenced by their geographic range which extends from California into the Bering Sea, and which includes a wide variety of habitats even within Southeast Alaska (Mecklenburg et al 2002). As a result herring may be more resilient to climate change than many other species. Herring as demonstrated by healthy herring populations in the Sitka area, are tolerant of both development and significant boat traffic. There is no scientific or commercial data indicating that climate change, oil pollution, or noise pollution are likely within the foreseeable future to occur at levels high enough to threaten the viability of herring in Lynn Canal.

SUMMARY OF ANALYSIS OF THE STATUTORY LISTING FACTORS

As indicated in prior sections, an analysis of the statutory endangered species act listing factors should be made with reference to the herring metapopulation that extends throughout Southeast Alaska and beyond. However, even if the Service were to consider Lynn Canal herring to be a DPS, as shown above, application of the listing factors would not support a listing. Herring in Lynn Canal are not at significant risk as a result of any of the five listing factors found at 16 USC 1533 (a)(1).

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Figure 1. Classical metapopulation model (patterned after Ware and Tovey 2004 and Waples et al. 2007). Each frame represents a snapshot in time where some subpopulations (stocks or groups of stocks) are strong (black); some are intermediate, either increasing from a low or declining from a high (gray); or some are extinct (white).

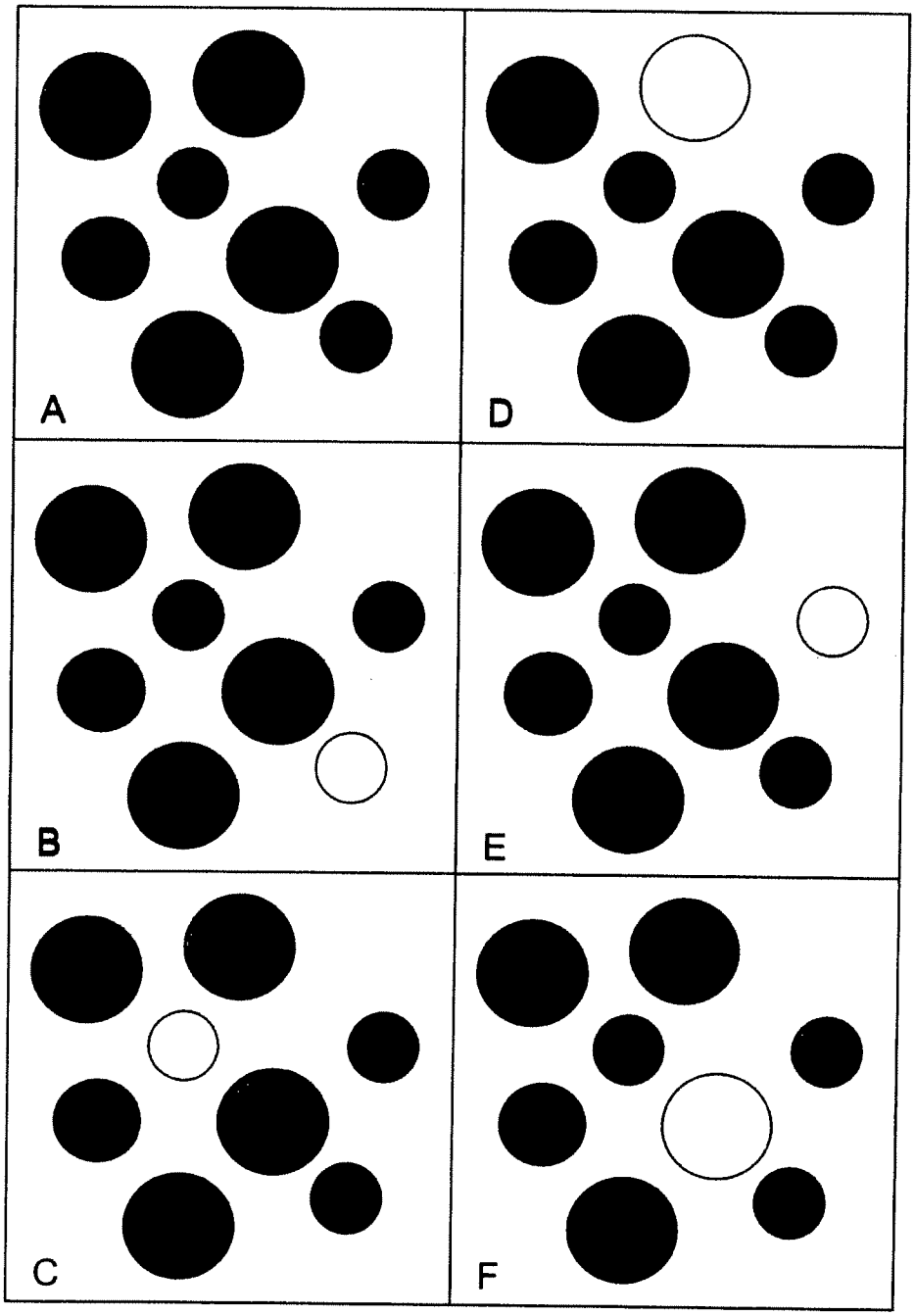


Figure 2. Disappearance events (DE) in four stocks of Pacific herring in British Columbia (from Ware and Tovey 2004). Stock strength is represented by length of spawn (y axis), years are on x axis. This pattern is typical in classical metapopulations where periods of decline in some stocks may be followed by periods of "disappearance" (11 to 28 years in these examples) followed by periods of recolonization.

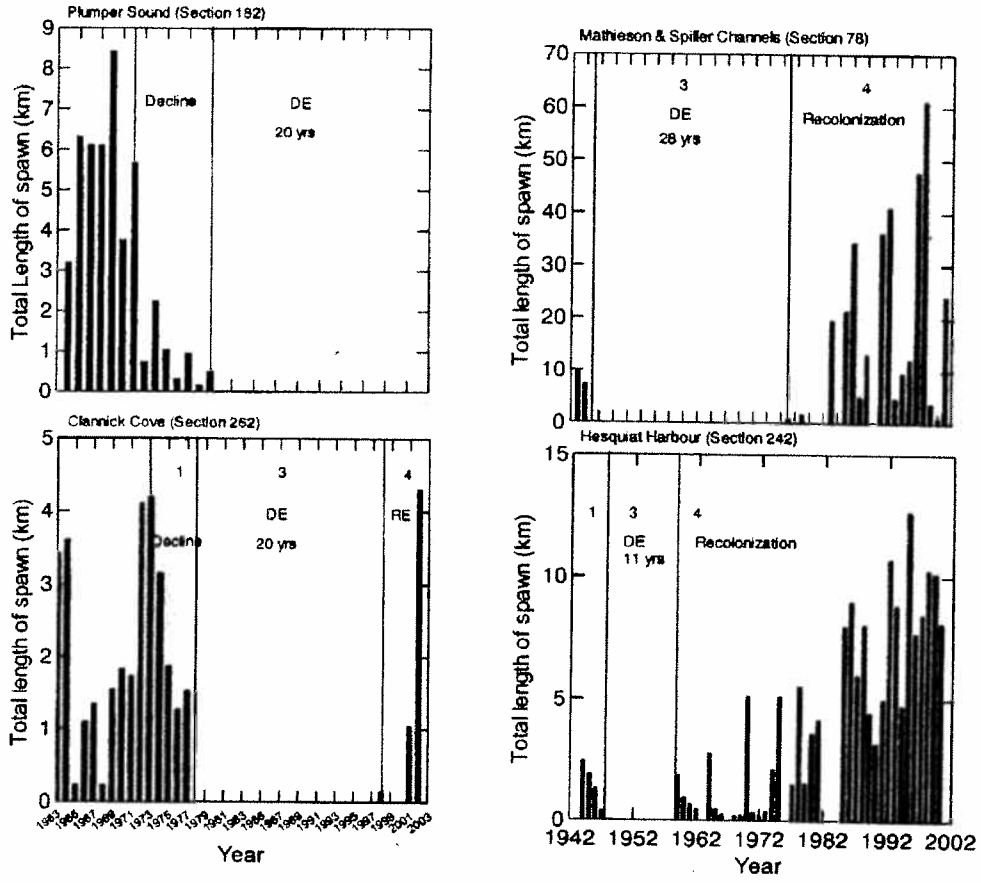
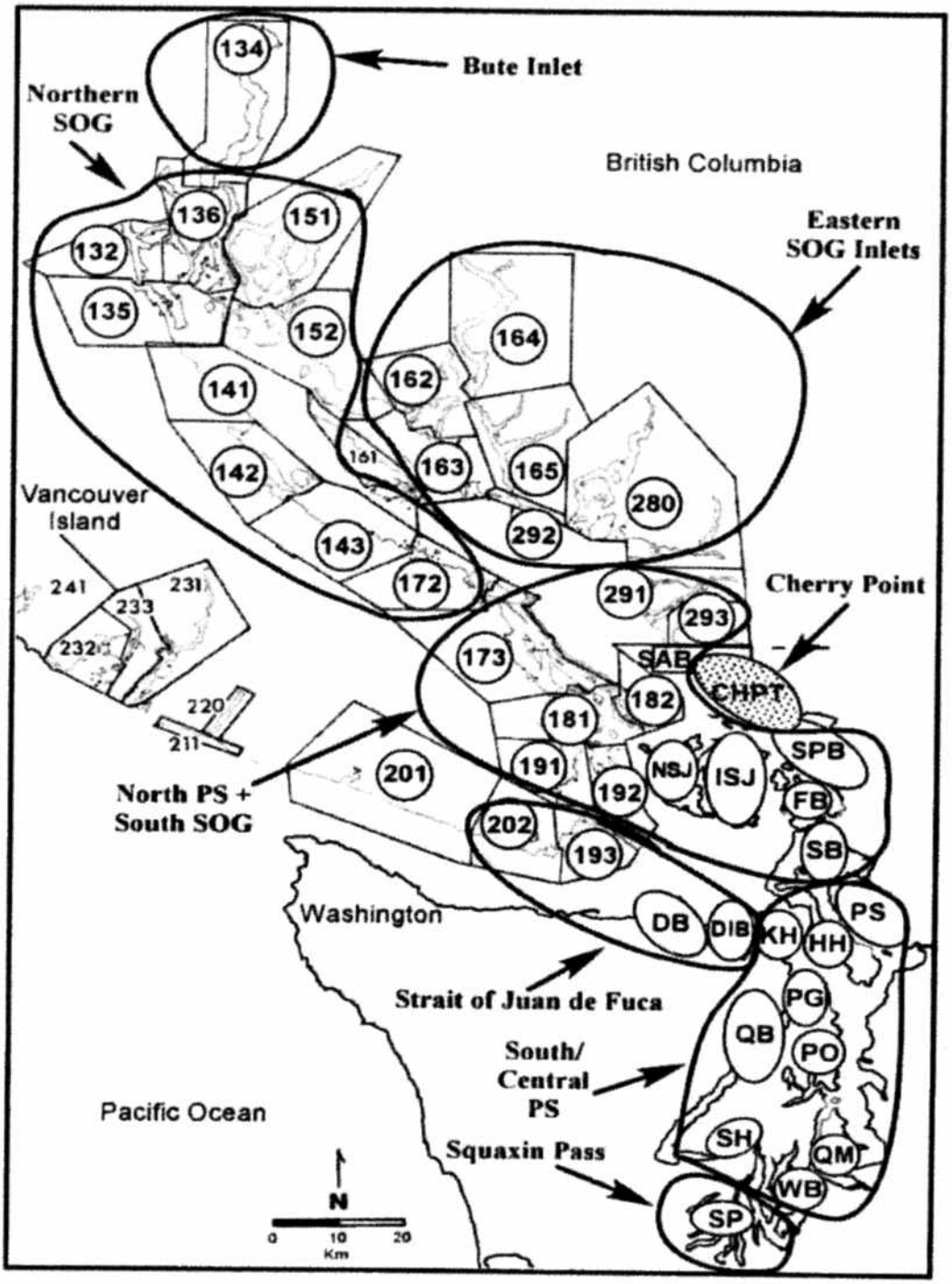


Figure 3. Georgia Basin DPS for Pacific herring. *This is Figure 55 in Gustafson (2006).* Geographic distribution of the many individual stocks (open circles), each assembled into eight somewhat discrete subpopulations, over the entire Georgia Basin. The Cherry Point stock is a single stock (stippled circle) that was given subpopulation but not DPS status.


134
Bute Inlet
Northern SOG
British Columbia
136
151
132
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152
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162
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280
Vancouver Island
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292
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Cherry Point
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ISJ
SPB
FB
SB
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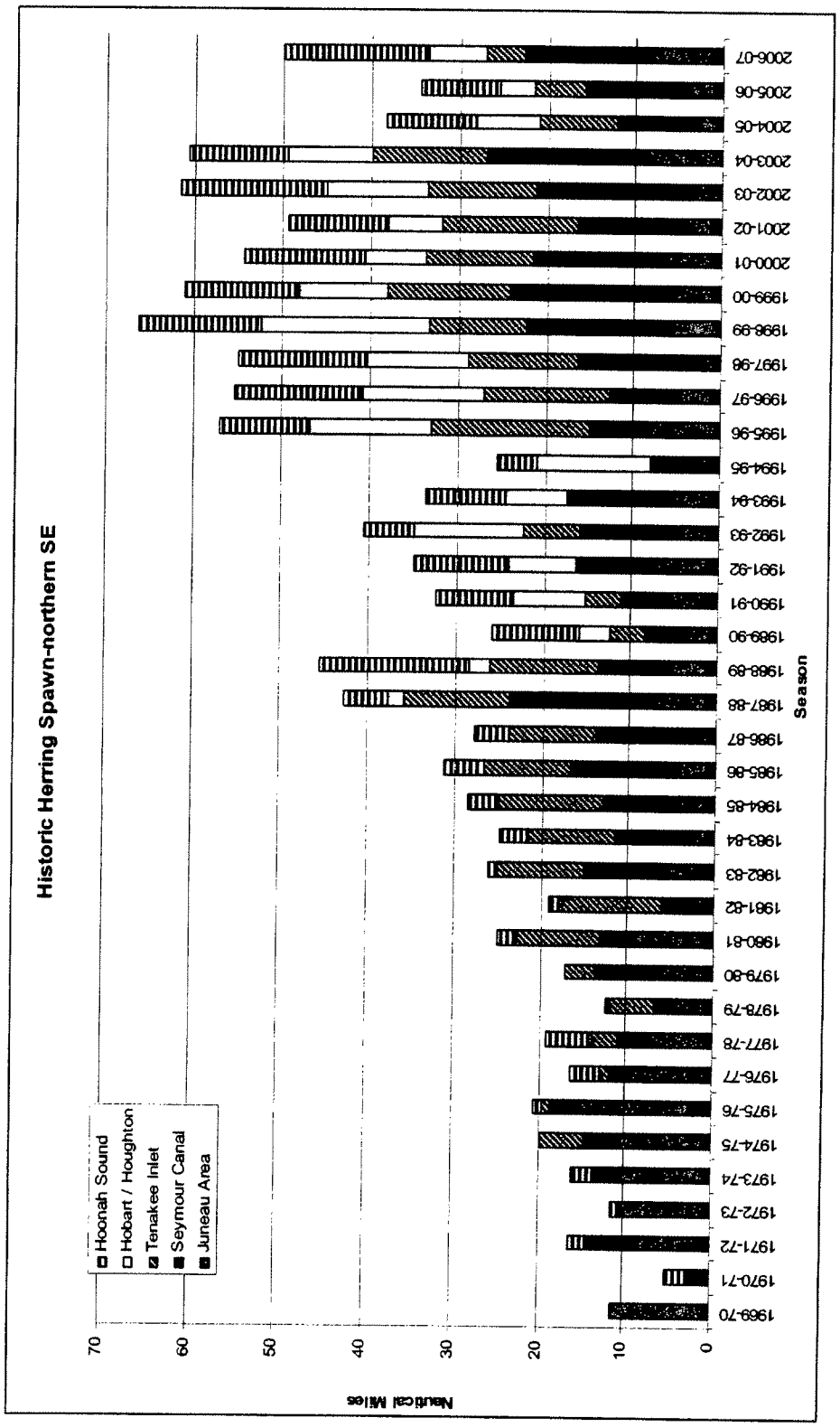


Figure 4. Nautical miles of documented herring spawn in southeast Alaska 1969-2007 (graphical presentation of data from table 1).

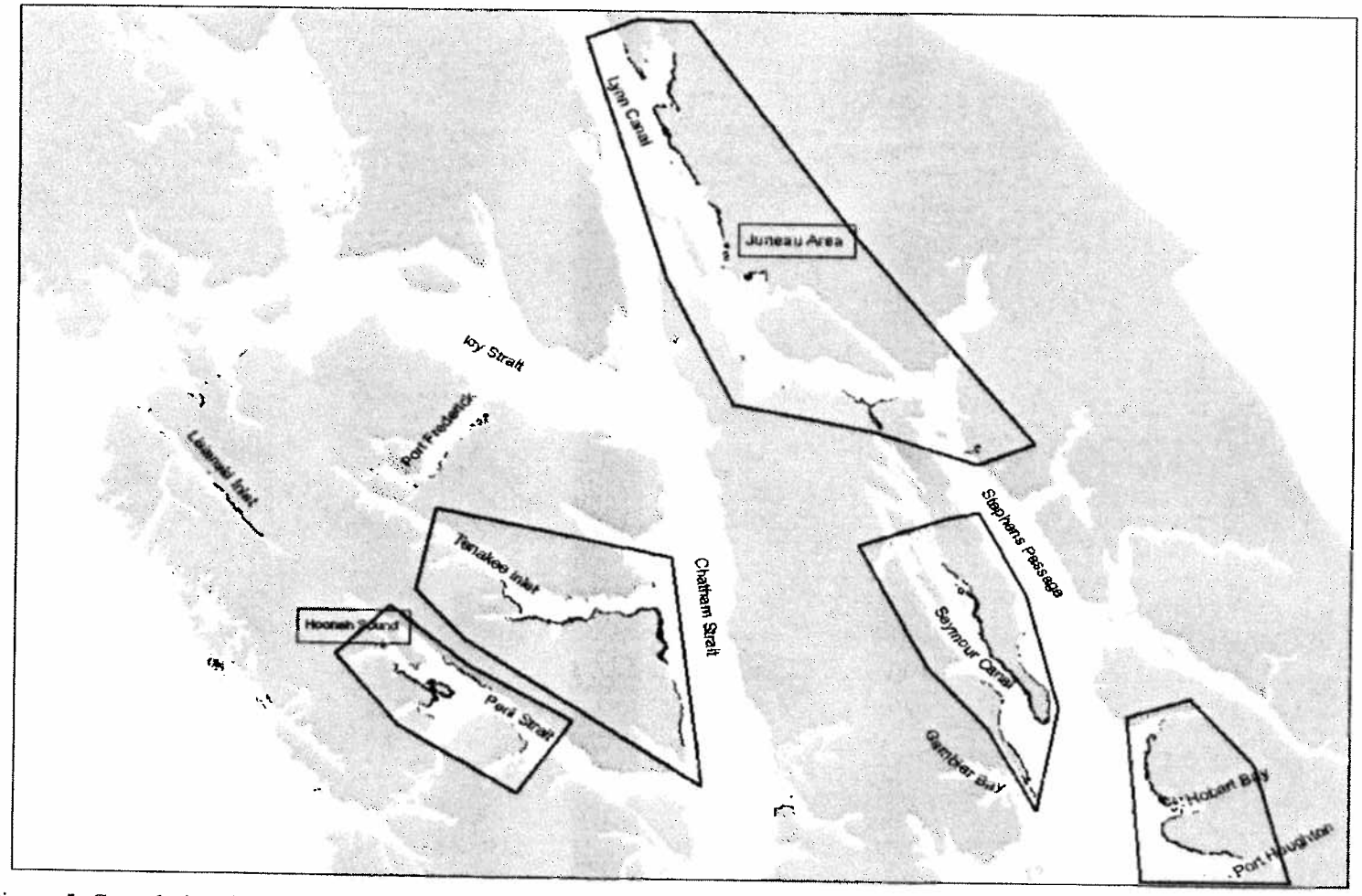


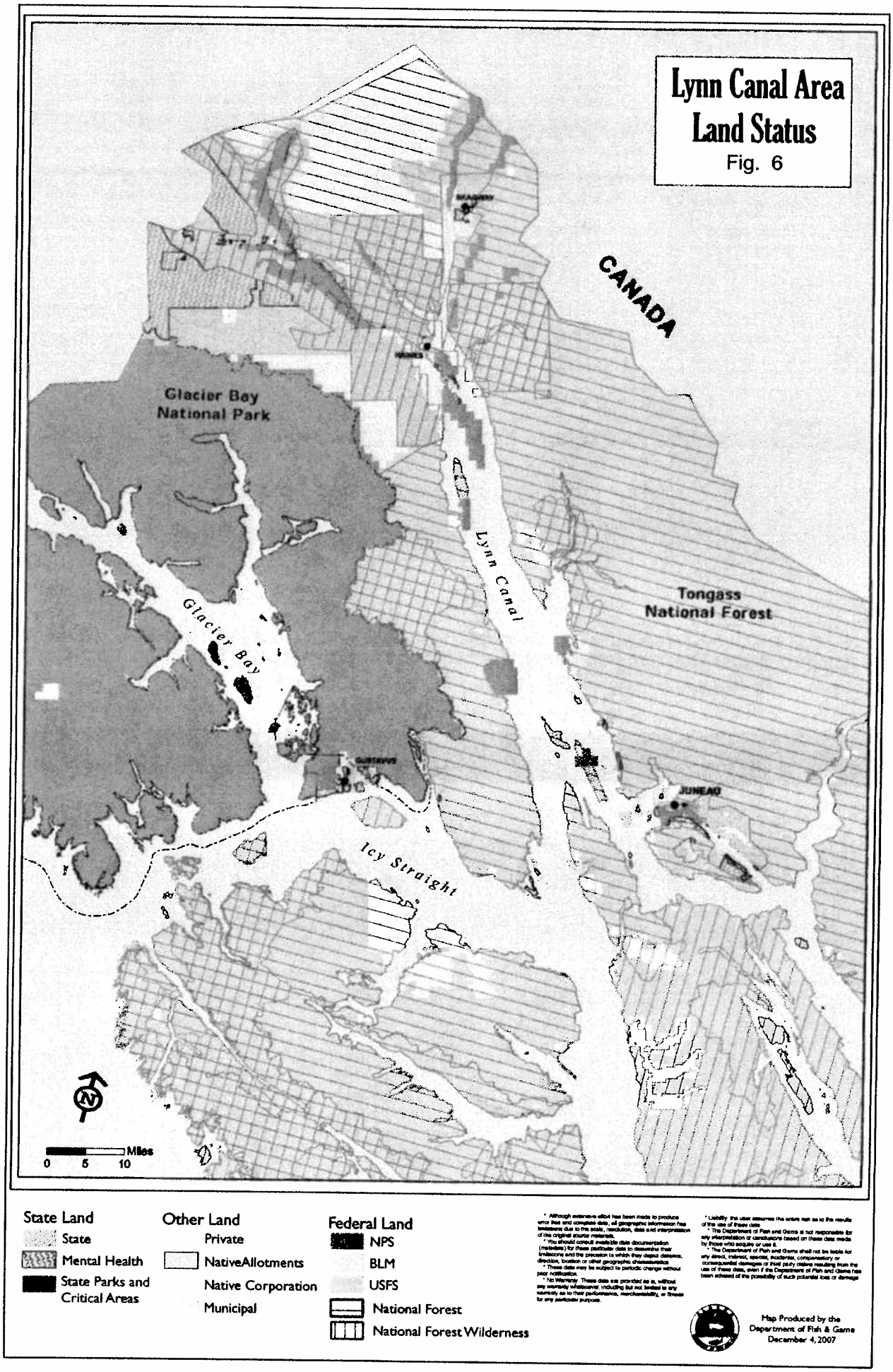
Figure 5. Cumulative documented historical herring spawn. See table 1 for included years. The outlined areas are the 'general' aerial survey areas.

Table 1. Documented herring spawn (in nautical miles, by area, in northern Southeast Alaska.

	Juneau Area	Seymour Canal	Tenakee Inlet	Hobart / Houghton	Funter	Idaho Inlet	West Chichagof	Port Althorp	Lisianski Inlet	Port Frederick	Hoonah Sound	Gambier Bay	Hood Bay	Total
1952-53	8.2										12.2			20.4
1953-54	9.4													9.4
1954-55	12.2													12.2
1955-56	10.0													10.0
1956-57	28.1													28.1
1957-58	24.1													24.1
1958-59	10.8													10.8
1959-60	12.9													12.9
						1961-69: data missing or not available								
1969-70	11.5													11.5
1970-71		2.6									2.5			5.1
1971-72	8.5	6.0									2.0			16.5
1972-73	10.6										1.0			11.6
1973-74	13.2										3.0			16.2
1974-75	10.9	3.9	5.0											19.8
1975-76	15.9	2.8	1.0								1.0			20.7
1976-77	9.7	2.2	1.0								3.5		2.3	18.7
1977-78	8.0	2.9	3.0	0.1		0.1		2.1		0.9	5.3		1.7	24.1
1978-79	5.7	1.0	5.2	0.0				0.9			0.5		0.2	13.6
1979-80	9.8	3.9	3.5	0.0		1.2				1.1			0.9	20.5
1980-81	9.2	3.9	9.6	0.0				0.8		1.2	2.3		0.7	27.7
1981-82	2.5	3.5	11.6	0.0							1.5			19.1
1982-83	6.0	9.1	10.0	0.0							1.0		0.5	26.6
1983-84	2.6	8.9	10.0	0.3						0.2	3.0			25.0
1984-85	5.1	7.8	12.0	0.0							3.5			28.4
1985-86	5.0	11.7	10.0	0.7			0.3				3.8			31.5
1986-87	2.5	11.3	10.0	0.1			5.3				3.8			33.0
1987-88	7.3	16.5	12.0	1.9						0.6	5.0			43.3

- continued -

	Juneau Area	Seymour Canal	Tenakee Inlet	Hobart / Houghton	Funter	Idaho Inlet	West Chichagof	Port Althorp	Lisianski Inlet	Port Frederick	Hoonah Sound	Gambier Bay	Hood Bay	Total
1988-89	5.8	7.8	12.5	2.3							17.0			45.4
1989-90	3.3	5.0	4.1	3.6							10.0			26.0
1990-91	5.6	5.5	4.3	8.2							8.7			32.3
1991-92	7.5	9.0		7.6						1.4	10.8			36.3
1992-93	5.1	11.0	6.4	12.3							5.8			40.6
1993-94	6.2	11.1	0.3	7.0							9.0			33.6
1994-95	2.1	5.8	0.1	13.0							4.5			25.5
1995-96	8.5	6.5	18.1	13.8		0.4				2.8	10.1			60.3
1996-97	5.6	7.1	14.4	13.8						0.2	14.5			55.6
1997-98	2.0	14.4	12.4	11.7							14.5			55.0
1998-99	5.5	16.8	11.0	19.1					1.6	1.0	13.8			68.8
1999-00	5.6	18.7	13.8	10.0	0.6				0.8		13.0			62.5
2000-01	6.9	14.7	12.2	6.9					3.7	0.3	13.7			58.4
2001-02	4.0	12.6	15.4	6.0					3.8		11.4			53.2
2002-03	3.0	18.4	12.2	11.4					3.3		16.7	0.1		65.1
2003-04	8.8	18.1	13.0	9.6			2.4				11.1			63.0
2004-05	2.8	9.3	8.9	7.1							10.3			38.4
2005-06	4.5	11.2	5.9	3.9							8.9			34.4
2006-07	8.2	14.5	4.4	6.5							16.5			50.1


Lynn Canal Area
Land Status
Fig. 6
CANADA
Glacier Bay
National Park
Glacier Bay
Lynn Canal
Tongass
National Forest
Icy Straight
JUNEAU
GUSTAVUS
Miles
0 5 10
State Land
State
Mental Health
State Parks and
Critical Areas
Other Land
Private
NativeAllotments
Native Corporation
Municipal
Federal Land
NPS
BLM
USFS
National Forest
National Forest Wilderness
Map Produced by the
Department of Fish & Game
December 4, 2007

From	"Vincent-Lang, Douglas S (DFG)" <douglas.vincent-lang@alaska.gov>
Sent	Monday, December 10, 2007 12:59 pm
To	LCHERRING@noaa.gov
Cc	"Taylor, Kenton P (DFG)" <kenton.taylor@alaska.gov> , "Lloyd, Denby S (DFG)" <denby.lloyd@alaska.gov> , "Hilsinger, John R (DFG)" <john.hilsinger@alaska.gov> , "Katz, John W (GOV)" <jwkatz@alaskadc.org> , "Nizich, Michael A (GOV)" <mike.nizich@alaska.gov> , "Crome, Cora J (GOV)" <cora.crome@alaska.gov> , "Cunning, Tina (DFG)" <tina.cunning@alaska.gov> , "Mendivil, Gary A (DEC)" <gary.mendivil@alaska.gov> , "Fogels, Edmund J (DNR)" <ed.fogels@alaska.gov>
Subject	Lynn Canal Herring
Attachments	Lynn Canal herring FR comments (final to NMFS 12-10-2007).pdf 1.6MB; Lynn Canal herring FR comments Fig 6 (fianl to NMFS 12-10-2007).pdf 1.6MB

Attached are the State of Alaska comments in response to the notice posted in the Federal Register (Vol. 72, No. 174, page 51619-51621) dated September 10, 2007.

Doug Vincent-Lang
Special Projects Coordinator
Alaska Department of Fish and Game
333 Raspberry Road, Anchorage, AK 99518
(907) 267-2339
douglas.vincent-lang@alaska.gov

SARAH PALIN
GOVERNOR
GOVERNOR@GOV.STATE.AK.US

P.O. BOX 110001
JUNEAU, ALASKA 99811-0001
(907) 465-3500
FAX (907) 465-3532
WWW.GOV.STATE.AK.US

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

February 22, 2008

The Honorable Carlos M. Gutierrez
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Secretary:

I am forwarding nominations for Alaska's appointed representatives to the North Pacific Research Board.

The terms of Alaska's appointed representatives to the North Pacific Research Board will expire on January 13, 2008. I am requesting the appointment/reappointment of the following members.

Fishing Interest Seat-	Mr. Gerry Merrigan
Oil and Gas Industry Interest Seat-	Ms. Pamela Pope
Alaska Natives Interest Seat-	Mr. Steve MacLean
Academia Seat-	Dr. Denis Wiesenburg
Environmental Interest Seat-	Ms. Dorothy Childers

I appreciate your consideration of these nominations for Alaska's appointed representatives.

Sincerely,

Sarah Palin
Governor

cc: Frank Bailey, Director, Boards and Commissions
Robert D. Mecum, Acting Administrator, NOAA Fisheries Service

SARAH PALIN
GOVERNOR
GOVERNOR@GOV.STATE.AK.US

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STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

April 4, 2008

The Honorable Carlos M. Gutierrez
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Secretary:

This letter is to clarify and supersede the North Pacific Research Board (Board) nomination letter of April 1, 2008. The Office of the Governor has been advised that your office is in receipt of Alaska's nominations for the reappointment of Mr. Merrigan (Fishing Interest), Mrs. Pope (Oil and Gas Interest), Dr. Wiesenburg (Academia), and Mrs. Childers (Environmental). These individuals' exemplary service to the Board over the past three year term is well noted and I request your consideration for their speedy reappointment.

My office has been advised that in the case of first time nominations, the enabling legislation requires three nominations per Board seat and individual background information to assist the Department of Commerce's review of the nominee's qualifications. This letter serves to clarify and provide additional information relative to the vacated Alaska Native Seat on the Board. Alaska takes keen interest in evaluating the commitment and qualifications for candidates to serve on the North Pacific Research Board. Our recruitment and review process has brought forth several notable Alaska Native representatives which I am including for your consideration in order of preference. Enclosed in this letter is the resume for the preferred nominee.

↑ ↑
Resume
not included
or provided

The state of Alaska's nominations for the Alaska Native Interest seat on the North Pacific Research Board in order of preference are:

Alaska Natives Interest Seat-	Mr. Steve MacLean
Alternate-	Mr. Robin Samuelson
Alternate-	Mr. Ragnar Alstrom

I appreciate your consideration of these nominations for Alaska's appointed representatives.

Sincerely,

Sarah Palin
Governor

cc: Frank Bailey, Director, Boards and Commissions
Robert D. Mecum, Acting Regional Administrator, NOAA Fisheries Service

November 28, 2006

Honorable Stephanie Madsen
Chair, North Pacific Fishery Management Council
605 W 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Re: Agenda for the December 6th to December 12th 2006 Council Meeting

Dear Ms. Madsen:

The Agenda for the upcoming meeting of the North Pacific Fishery Management Council (NPFMC) under Item C, New or Continuing Business, indicates that the Council will be considering Gulf of Alaska (GOA) Rationalization (Item C-4).

The implementation of rationalization programs and their potential impact of the fishing community in Alaska are of real and genuine interest to my new Administration. The effects of crab rationalization were dramatic. For example, one study estimates that crab rationalization resulted in the loss of approximately 1350 crab fishing jobs.

As Governor-Elect, I have both the duty and the desire to work with the Council to ensure that future rationalization programs are carefully discussed, designed and implemented. I would, therefore, ask that the Council defer discussion of this issue until October, 2007 so my Administration can have time to work with the Council in a constructive and meaningful manner. I would request that GOA Rationalization be moved to a subsequent Council meeting.

I am concerned that the Council, by making GOA Rationalization a formal Agenda item just two days after the start of the new Administration, may unintentionally create a situation which is not in the best interests of all parties.

I thank you for your consideration of this request and look forward to your reply.

Sincerely,

Sarah Palin
Governor-Elect

11-29-06

AGENDA C-4
Supplemental
DECEMBER 2006

North Pacific Fishery Management Cou

Stephanie Madsen, Chair
Chris Oliver, Executive Director

Telephone (907) 271-2809

605 W. 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Fax (907) 271-2817

Visit our website: http://www.fakr.noaa.gov/npfmc

November 29, 2006

Honorable Sarah Palin, Governor-Elect
Transition Office
Anchorage, Alaska

Dear Governor-Elect Palin:

Thank you for your letter yesterday regarding Gulf of Alaska rationalization. As you note, we are scheduled to resume discussion of this issue at our upcoming meeting next week, after a lengthy hiatus, and the focus of our discussion would be on simply reassessing where we are in the overall landseape. No major decisions are expected to be made at this time relative to Gulf rationalization, though in response to your concerns, I expect the future nature and speed of our progress on this issue will be part of those discussions by the Council.

Because our Council agendas are set a month in advance of our meetings, approved by the Couneil membership, and published in the FEDERAL REGISTER as required by law, it is not possible to remove this as an agenda item at this time. Additionally, many members of the public and fishing industry have made travel and other plans to attend this meeting, specifically for discussions of this agenda item.

It may well be that the Council hearing from these constituencies, and taking into account the concerns expressed in your letter, will help us determine an appropriate schedule and course of action that best accommodates those concerns. Indeed, there may be smaller, interim measures, such as beginning the discussion of possible sector splits, which although not part of rationalization, may be prudent to initiate at this time in order to better allow for a delayed consideration of the larger issue, consistent with your request.

On behalf of the Council, I want you to know that we are eager to work with your Administration, all affected members of the fishing industry, and dependent Alaska coastal communities to ensure we craft appropriate and effective management programs. We share your concern that any future rationalization program is carefully discussed and designed well before any plan is considered for approval. We will take your concerns into serious account as we discuss this issue at our Deeember meeting, and look forward to working with you in future Council deliberations on this important issue.

Please contact me or the Council's Executive Director, Chris Oliver, if you or your staff have further questions with regard to this or any other fisheries issues before the Council.

Sincerely,

Stephanie D Madsen

Stephanie D. Madsen
Chair

SARAH PALIN
GOVERNOR
GOVERNOR@GOV.STATE.AK.US

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FAX (907) 465-3532
WWW.GOV.STATE.AK.US

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

February 2, 2007

RECEIVED
N.P.F.M.C.

Mr. Chris Oliver, Executive Director
North Pacific Fishery Management Council
605 West Fourth Avenue, Suite 306
Anchorage, AK 99501-2252

Dear Mr. Oliver:

This letter is to notify you that under the Magnuson Fishery Conservation and Management Act, I am appointing Mr. Denby Lloyd as the State of Alaska's principal state official on the North Pacific Fishery Management Council. Mr. Lloyd is currently Acting Commissioner of the Alaska Department of Fish and Game.

If you have any questions or concerns regarding this position, please contact Mike Nizich, my deputy chief of staff at (907) 465-3500.

Sincerely,

Sarah Palin
Governor

cc: John Katz, Director of State/Federal Relations and Special Counsel, Office of the Governor
Denby Lloyd, Commissioner, Fish and Game

Subject: NA03NMF4520430_SF272_Sep05
From: Sara Peacock <sara_peacock@gov.state.ak.us>
Date: Wed, 07 Mar 2007 08:42:16 -0900
To: Federal.FinancialReport@noaa.gov
CC: Jenn.Hall-Brown@noaa.gov

Attched is the requested report. Sara Peacock.

NA03NMF4520420_SF272_Sep05.PDF **Content-Type:** application/pdf
Content-Encoding: base64

Federal Cash Transaction Report

OMB APPROVAL NO. 0348-0003

1. Federal sponsoring agency and organizational element to which this report is submitted	US Department of Commerce, National Oceanic and Atmospheric Administration

2. Recipient Organization

Name: Office of the Governor, State of Alaska

Number and Street: PO Box 110001

City, State and Zip Code: Juneau Alaska 99111-0101

4. Federal grant or other identification number	5. Recipient's account number or identifying number
NA03NMF4520430	AR 2210
6. Letter of credit number	7. Last payment voucher number

Give total number for this period

8. Payment vouchers credited to your account	9. Treasury checks received (whether or not deposited)

3. Federal Employer Identification No. EIN926001185

10. PERIOD COVERED BY THIS REPORT

FROM (month, day, year)	TO (month, day, year)
7/1/2005	9/30/2005

11. STATUS OF FEDERAL CASH *(See specific instructions on the back)*

a. Cash on hand beginning of report period		$ 11,498,954.74
b. Letter of credit withdrawls		$ -
c. Treasury check payments		$ -
d. Total receipts (Sum of lines b and c)		$ -
e. Total cash available (Sum of lines a and d)		$ 11,498,954.74
f. Gross Disbursements		$ 1,828,579.73
g. Federal share of program income		$ -
h. Net disbursements (Line f minus line g)		$ 1,828,579.73
i. Adjustments of prior periods		$ -
j. Cash on hand end of period		$ 9,668,375.01

12. THE AMOUNT SHOWN ON LINE 11j ABOVE, REPRESENTS CASH REQUIREMENTS FOR THE ENSUING *Days*

13. Other Information

a. Interest Income — $ -

Interest in the amount of $84,843.30 was remitted to NOAA on January 18, 2006.

b. Advances to subgrantees or subcontractors — $ -

14. REMARKS (Attach additional sheets of plain paper, if more space is required)

15. CERTIFICATION

I certify to the best of my knowledge and belief that this report is true in all respects and that all disbursements have been made for the purpose and conditions of the grant or agreement.

AUTHORIZED CERTIFYING OFFICIAL

SIGNATURE	DATE REPORT SUBMITTED
Sara Peacock	1/18/2006
TYPED OR PRINTED NAME AND TITLE	**TELEPHONE (Area Code, Number, Extension)**
Sara Peacock Finance Officer, Office of the Governor	907-465-3918

THIS SPACE FOR AGENCY USE

SF 272 FORM

3-7-07
3pp

Subject: Re: Delinquent Financial Reports NA03NMF4520430 - ADNR
From: Jenn Hall-Brown <Jenn.Hall-Brown@noaa.gov>
Date: Wed, 07 Mar 2007 08:32:50 -0900
To: Sara Peacock <sara_peacock@gov.state.ak.us>

Thanks for the update....if these delinquencies keep coming up you might have to contact GMD directly regarding the situation. I'm not sure how they have your particular award entered into Grants OnLine when it comes to financial reports and since it's quarterly reporting.

Jenn

Sara Peacock wrote:

> Jenn -- These reports were mailed in from the beginning of the grant agreement and have been emailed since I received these instructions on October 25 of this year. This grant requires quarterly reporting, not semi-annual reporting, and I have been in compliance. I am emailing the reports for the period 4/1/2004 - 6/30/2004, 7/1/2004 - 9/30/3004, and 10/1/2005 - 12/31/2005 as requested. Thank you for advising me of this problem. Sara.
> Jenn Hall-Brown wrote:
>
> > Sara,
> >
> > I'm not sure if your the right person to send this to, please forward to the appropriate person if needed.
> >
> > We recently received notification from the GMD that the following financial report is delinquent, please submit the report as soon as possible to **federal.financialreport@noaa.gov** with a cc to me for future reference.
> >
> > **NA03NMF4520430 - SF-272 - Report Period to cover 04/01/2004 - 09/30/2004 - Due 10/30/2004** (Skipped time period of 6 months. Report overdue by 28 Months as of 02/28/2007).
> >
> > **NA03NMF4520430 - SF-272 - Report Period to cover 10/01/2005 - 12/31/2005 - Due 01/30/2006** (Skipped time period of 3 months. Report overdue by 13 Months as of 02/28/2007).
> >
> > If you've already submitted this report please do so again. Sorry for the inconvenience this may cause, my apologies!
> >
> > **I have attached the current procedures for submitting these financial reports, please follow them carefully to insure they are received properly at GMD.**
> >
> > Regards,
> > Jenn

Jenn Hall-Brown
Federal Program Officer
NOAA/NMFS - AK Region
Tele: 907.586.7273

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East-West Highway
Silver Spring, Maryland 20910

THE DIRECTOR

MAY 23 2007

The Honorable Sarah Palin
Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Governor Palin:

Thank you for your letter regarding the proposal by NOAA's National Marine Fisheries Service (NMFS) to list the Cook Inlet beluga whale as an endangered species under the Endangered Species Act, specifically concerning an extension of the public comment period and request for public hearings.

The Endangered Species Act specifically provides for at least one public hearing to be held promptly if requested within 45 days of publication of the proposal. NMFS will schedule separate hearings to be held in Anchorage and on the Kenai Peninsula. Specific dates and locations for these hearings will be announced in local newspepers and in the *Federal Register*. To allow time for these hearings to be scheduled, and in response to your request, the public comment period for this action will be extended 45 days, now ending August 3, 2007.

NMFS will continue to coordinate this listing process with the State of Alaska, and I appreciate your interest in this matter.

Sincerely,

for William T. Hogarth, Ph.D.

THE ASSISTANT ADMINISTRATOR
FOR FISHERIES

08-12/08-7
8-1-07

Subject: FW: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA03NMF4520430
From: "Peacock, Sara J (GOV)" <sara.peacock@alaska.gov>
Date: Wed, 01 Aug 2007 08:22:33 -0800
To: Shawn.Carey@noaa.gov

Shawn -- Any luck in getting me on a separate account? I don't know if what Steve has done here will help me or hurt me.

The message that the progress report is late is erroneous, since no progress report is due until after the funding lapses on March 30, 2008. I can email you a copy of the grant if you need me to. Thanks again for doing battle with grants online on my behalf. Sara.

-----Original Message-----
From: Schmitz, Steven R (DNR)
Sent: Wednesday, August 01, 2007 8:20 AM
To: Peacock, Sara J (GOV)
Subject: FW: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA03NMF4520430

Good luck.
I just added you as the authorized rep, principal investigator and Business rep in grants online.

-----Original Message-----
From: GrantsOnline.QandA@noaa.gov
[mailto:GrantsOnline.QandA@noaa.gov]
Sent: Wednesday, August 01, 2007 12:05 AM
To: Schmitz, Steven R (DNR)
Cc: shawn.carey@noaa.gov
Subject: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA03NMF4520430

This is a notification of one or more Federal Financial Report(s) and/or Project Progress Report(s) that are delinquent for Award NA03NMF4520430. The reports are available for completion and submission through NOAA Grants Online.

Award Details:
Award Number: NA03NMF4520430
Award Status: Accepted
Program Officer: Shawn Carey ,907-586-7845,

shawn.carey@noaa.gov
Program Office: Fisheries Alaska Region Program Office (AK)
Award Period: 04/01/2003 - 03/31/2008
Project Title: State of Alaska Economic Assistance - Fisheries
Disasters
Recipient Name: Alaska Department of Natural Resources
Investigator(s): None Identified

Report Details:
Report Type: Project Progress Report
Reporting Period: 10/01/2006 - 03/31/2007
Final Report: No
Report Due Date: 04/30/2007
DELINQUENT BY: 93 days

The Grants Officer, in consultation with the Program Office, is authorized to take appropriate actions if recipients fail to meet their obligations under awards. Every grant and cooperative agreement contains a provision for suspension and/or termination of the award for failure to submit required reports, deficient project performance, poor financial management, non-payment of accounts receivable, and/or other non-compliance or deficiency problems.

Enforcement actions may include, but are not limited to written correspondence delineating needed actions (this notice); suspension of payment, suspension of the award, termination of the award; or debarment and suspension of the recipient pursuant to 15 CFR Part 26.
See 15 CFR § 14.62 or 15 CFR § 24.43, as applicable

If any of the above reports are delinquent by 15 days or more, you can expect a suspension of payments action to commence within the next 15 days. If any of the above reports are delinquent by 30 days or more, you can expect suspension of the Award within the next 15 days. More serious actions may also be considered.

You may complete a report by logging into NOAA Grants Online at https://www.GrantsOnline.noaa.gov. Search for the award and navigate to the Grants File overview page. Then find the report near the bottom of the page and click on the link to the report to start filling it out.
For multiple awards that require SF-272s covering the same

period, you may create and submit a multi-award SF-272 from the Awards tab. For additional assistance with Grants Online, please review the Grantee Quick Reference Guide available at http://www.ofa.noaa.gov/~grantsonline/gol_training.html. This site also has additional detailed Grantee assistance material. If you are having problems with your access to Grants Online, please contact the Grants Online Help Desk at 1-877-662-2478 or GrantsOnline.HelpDesk@noaa.gov.

Sincerely,
NOAA Grants Online

(Please do not respond to this email. If you need assistance, contact the Help Desk or your Program Officer).

09-12/09-21
10-2-07

Subject: Notice of Project Progress Reports Due for NOAA Award NA03NMF4520430
From: "Peacock, Sara J (GOV)" <sara.peacock@alaska.gov>
Date: Tue, 02 Oct 2007 10:15:08 -0800
To: Shawn.Carey@noaa.gov

Good morning, Shawn. I am working on a strategy to meet the Grants Online reporting requirements (semi-annual reporting) and the actual award reporting requirements (quarterly reporting and no), and wanted to run this by you.

For the SF272 for Grants Online due this month, I'll report semi-annually in Grants Online using the shell document provided and keep separate reports on file that meet the quarterly requirement. Is there anyone I should be emailing these to in order to document that I'm in compliance with the actual award requirements?

For the SF269 due this month, I'll prepare the quarterly reports to be in compliance with the actual award, and prepare a semi-annual report. Again, is there anyone I should be emailing these to?

For the Progress Report due in Grants Online this month, I'll attach a spreadsheet that shows the status of all the projects divided into the four types of assistance and the semi-annual SF269. According to the actual award agreement no progress reports are due until 90 days after the close of the award on March 30, 2008.

Again, I want to be current in Grants Online but I also want to be able to demonstrate that I have met the actual award requirements, which are different than those in Grants Online. Any suggestions you may have would be welcome. Thank you. Sara.

Subject: Reimbursement of Excess funds, NA03NMF4520430 N PACIFIC FISHERIES DISASTER DIRECT GRANT
From: "Peacock, Sara J (GOV)" <sara.peacock@alaska.gov>
Date: Thu, 26 Jun 2008 08:12:25 -0800
To: Mark.Blades@noaa.gov
CC: Shawn.Carey@noaa.gov

Good morning, Mark. The $34,695.45 in unexpended funds from award NA03NMF4520430 is being refunded to NOAA via a wire transfer. If there are any problems with this transaction please let me know. I will be remitting any remaining interest in the fund mid July after June interest is posted. Sara Peacock, Office of the Governor, 907-465-3918.

09-12/08-21

Subject: RE: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF4070165
From: "Peacock, Sara J (GOV)" <sara.peacock@alaska.gov>
Date: Fri, 03 Oct 2008 13:08:11 -0800
To: Jenn Hall-Brown <Jenn.Hall-Brown@noaa.gov>, "Wright, Stephen (DFG)" <stephen.wright@alaska.gov>
CC: Shawn Carey <Shawn.Carey@noaa.gov>, "Kaelke, Michelle M (DFG)" <michelle.kaelke@alaska.gov>, "vanSteenwyk, Matt C (DFG)" <matt.vansteenwyk@alaska.gov>, "Alt, Becky R (DFG)" <rebecca.alt@alaska.gov>, "Biddinger, Julie J (DFG)" <julie.biddinger@alaska.gov>, "Fisher, Roberta A (DFG)" <roberta.fisher@alaska.gov>, "Bruce, Geron (DFG)" <geron.bruce@alaska.gov>

Jenn -- Please put me back on for Fish and Game since I am still responsible for grant reporting for awards NA04NMF4380162, NA06NMF4380119, and NA07NMF4380288. I do not need to be associated with DNR any longer with the close out of award NA03NMF20430. Thank you. Sara Peacock.

From: Jenn Hall-Brown [mailto:Jenn.Hall-Brown@noaa.gov]
Sent: Friday, October 03, 2008 12:52 PM
To: Wright, Stephen (DFG)
Cc: Shawn Carey; Kaelke, Michelle M (DFG); vanSteenwyk, Matt C (DFG); Alt, Becky R (DFG); Biddinger, Julie J (DFG); Peacock, Sara J (GOV); Fisher, Roberta A (DFG); Bruce, Geron (DFG)
Subject: Re: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF4070165

Stephen,
Just an FYI this notification was for financial reports only and are listed in the body of the email as such. I had the GOL Help Desk unassign Sara Peacock as a Business/Financial Administrator for ADF&G, she is now only associated with DNR.

As for the financial reports, they were submitted to NOAA through GOL on 10/1/08.

I hope this helps and clarifies any concerns you may have.

Jenn

Wright, Stephen (DFG) wrote:
Dear NOAA Grants Online Help Desk:

Please forward to the appropriate Grants Online personnel with regard to the below NOAA award reporting delinquency notice. This notice applies to one or more

Federal Financial Report(s) and/or Project Progress Report(s) for the award Southeast Alaska Interjurisdictional Fisheries Act (NA04NMF4070165).

While my position is not responsible for the submission of financial status reports, the final financial report for this award appears to have been submitted prior to the deadline. I confirmed with our recipient agency administrative services division staff that the report was submitted via Grants Online timely on September 26.

NMFS Alaska Region communicated in August that due to a Grants Online error in not listing any final comprehensive performance report for this award, there would be no final progress report due. I confirmed that understanding with the Federal Program Officer in early September. I checked again today on Grants Online and there does not appear to be any final progress report requirement nor any avenue available for its submission.

My view is these delinquent reporting notices should be monitored in advance by Grants Online for their applicability and then sent only to the appropriate recipient agency personnel. Sending such notices for state departments to the Alaska Governor's Office and other external parties may create misimpressions and reflect negatively on the recipient agency's compliance with federal reporting requirements.

It would also be helpful if Grants Online would distinguish in such delinquent notices between financial status and progress reporting, as in our department different personnel are tasked separately with these two responsibilities.

Thank you in advance for your consideration of these concerns.

Respectfully,

Stephen E. Wright
Federal Aid Coordinator
Commercial Fisheries Division
Alaska Department of Fish & Game
(907) 465-6121

-----Original Message-----
From: GrantsOnline.QandA@noaa.gov
[mailto:GrantsOnline.QandA@noaa.gov]
Sent: Wednesday, October 01, 2008 12:00 AM
To: Kaelke, Michelle M (DFG); Kaelke, Michelle M (DFG); vanSteenwyk, Matt C (DFG); Alt, Becky R (DFG); Biddinger, Julie J (DFG); Wright, Stephen (DFG); Peacock, Sara J (GOV)
Cc: jenn.hall-brown@noaa.gov
Subject: Delinquent Project Progress and/or Federal Financial

Reports for NOAA Award NA04NMF4070165

This is a notification of one or more Federal Financial Report(s)
and/or Project Progress Report(s) that are delinquent for Award
NA04NMF4070165. The reports are available for completion and submission
through NOAA Grants Online.

Award Details:
Award Number: NA04NMF4070165
Award Status: Expired
Program Officer: Jenn Brown ,(907) 586-7273, jenn.hall-brown@noaa.gov
Program Office: Fisheries Alaska Region Program Office (AK)
Award Period: 07/01/2004 - 06/30/2008
Project Title: Southeast Alaska Interjurisdictional Fisheries Act
Recipient Name: Alaska Department of Fish and Game
Investigator(s): Rebecca Alt, Stephen Wright

Report Details:
Report Type: SF-269
Reporting Period: 07/01/2004 - 06/30/2008
Final Report: Yes
Report Due Date: 09/28/2008
DELINQUENT BY: 3 days

Report Details:
Report Type: SF-272
Reporting Period: 04/01/2008 - 06/30/2008
Final Report: Yes
Report Due Date: 09/28/2008
DELINQUENT BY: 3 days

The Grants Officer, in consultation with the Program Office, is
authorized to take appropriate actions if recipients fail to meet their
obligations under awards. Every grant and cooperative agreement
contains a provision for suspension and/or termination of the award for

failure to submit required reports, deficient project performance, poor financial management, non-payment of accounts receivable, and/or other non-compliance or deficiency problems.

Enforcement actions may include, but are not limited to written correspondence delineating needed actions (this notice); suspension of payment, suspension of the award, termination of the award; or debarment and suspension of the recipient pursuant to 15 CFR Part 26. See 15 CFR § 14.62 or 15 CFR § 24.43, as applicable

If any of the above reports are delinquent by 15 days or more, you can expect a suspension of payments action to commence within the next 15 days. If any of the above reports are delinquent by 30 days or more, you can expect suspension of the Award within the next 15 days. More serious actions may also be considered.

You may complete a report by logging into NOAA Grants Online at https://GrantsOnline.rdc.noaa.gov. Search for the award and navigate to the Grants File overview page. Then find the report near the bottom of the page and click on the link to the report to start filling it out.

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Sincerely,
NOAA Grants Online

(Please do not respond to this email. If you need assistance, contact
the Help Desk or your Program Officer).

09-17/05-21

4/P1

Subject: Re: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF4070165
From: Jenn Hall-Brown <Jenn.Hall-Brown@noaa.gov>
Date: Mon, 06 Oct 2008 08:16:09 -0800
To: "Peacock, Sara J (GOV)" <sara.peacock@alaska.gov>
CC: "vanSteenwyk, Matt C (DFG)" <matt.vansteenwyk@alaska.gov>, "Wright, Stephen (DFG)" <stephen.wright@alaska.gov>, Shawn Carey <Shawn.Carey@noaa.gov>, "Kaelke, Michelle M (DFG)" <michelle.kaelke@alaska.gov>, "Alt, Becky R (DFG)" <rebecca.alt@alaska.gov>, "Biddinger, Julie J (DFG)" <julie.biddinger@alaska.gov>, "Fisher, Roberta A (DFG)" <roberta.fisher@alaska.gov>, "Bruce, Geron (DFG)" <geron.bruce@alaska.gov>

Good Morning All,
I received word this morning from the GOL Help Desk that Sara is now associated as a Business/Finance person for the three awards she's identified below. Sorry for all the emails back and forth and thanks for your patience while we worked this out.
Happy Monday,
Jenn

Peacock, Sara J (GOV) wrote:

> Jenn – Thanks for taking care of this. Sara.
>
> **From:** Jenn Hall-Brown [mailto:Jenn.Hall-Brown@noaa.gov]
> **Sent:** Friday, October 03, 2008 1:29 PM
> **To:** Peacock, Sara J (GOV); vanSteenwyk, Matt C (DFG)
> **Cc:** Wright, Stephen (DFG); Shawn Carey; Kaelke, Michelle M (DFG); Alt, Becky R (DFG); Biddinger, Julie J (DFG); Fisher, Roberta A (DFG); Bruce, Geron (DFG)
> **Subject:** Re: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF407016S
>
> Sorry Sara....
>
> Here I was trying to make it easier for you all. My apologies, Shawn and I didn't realize you were "associated" (submit financial reports) with ADF&G in that aspect. I emailed GOL to add you back to the awards you've listed. They should have it completed COB today. I sincerely apologize for the mix up!
>
> Jenn
>
> Peacock, Sara J (GOV) wrote:
> Jenn -- Please put me back on for Fish and Game since I am still responsible for grant reporting for awards NA04NMF4380162, NA06NMF4380119, and NA07NMF4380288. I do not need to be associated with DNR any longer with the close out of award NA03NMF20430. Thank you. Sara Peacock.
>
> **From:** Jenn Hall-Brown [mailto:Jenn.Hall-Brown@noaa.gov]
> **Sent:** Friday, October 03, 2008 12:52 PM
> **To:** Wright, Stephen (DFG)
> **Cc:** Shawn Carey; Kaelke, Michelle M (DFG); vanSteenwyk, Matt C (DFG); Alt, Becky R (DFG); Biddinger,

Julie J (DFG); Peacock, Sara J (GOV); Fisher, Roberta A (DFG); Bruce, Geron (DFG)
Subject: Re: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF4070165

Stephen,
Just an FYI this notification was for financial reports only and are listed in the body of the email as such. I had the GOL Help Desk unassign Sara Peacock as a Business/Financial Administrator for ADF&G, she is now only associated with DNR.

As for the financial reports, they were submitted to NOAA through GOL on 10/1/08.

I hope this helps and clarifies any concerns you may have.

Jenn

Wright, Stephen (DFG) wrote:
Dear NOAA Grants Online Help Desk:

Please forward to the appropriate Grants Online personnel with regard to the below NOAA award reporting delinquency notice. This notice applies to one or more Federal Financial Report(s) and/or Project Progress Report(s) for the award Southeast Alaska Interjurisdictional Fisheries Act (NA04NMF4070165).

While my position is not responsible for the submission of financial status reports, the final financial report for this award appears to have been submitted prior to the deadline. I confirmed with our recipient agency administrative services division staff that the report was submitted via Grants Online timely on September 26.

NMFS Alaska Region communicated in August that due to a Grants Online error in not listing any final comprehensive performance report for this award, there would be no final progress report due. I confirmed that understanding with the Federal Program Officer in early September. I checked again today on Grants Online and there does not appear to be any final progress report requirement nor any avenue available for its submission.

My view is these delinquent reporting notices should be monitored in advance by Grants Online for their applicability and then sent only to the appropriate recipient agency personnel. Sending such notices for state departments to the Alaska Governor's Office and other external parties may create misimpressions and reflect negatively on the recipient agency's compliance with federal reporting requirements.

It would also be helpful if Grants Online would distinguish in such delinquent notices between financial status and progress reporting, as in our department different personnel are tasked separately with these two responsibilities.

Thank you in advance for your consideration of these concerns.

Respectfully,

Stephen E. Wright

Federal Aid Coordinator
Commercial Fisheries Division
Alaska Department of Fish & Game
(907) 465-6121

-----Original Message-----
From: GrantsOnline.QandA@noaa.gov [mailto:GrantsOnline.QandA@noaa.gov]
Sent: Wednesday, October 01, 2008 12:00 AM
To: Kaelke, Michelle M (DFG); Kaelke, Michelle M (DFG); vanSteenwyk, Matt C (DFG); Alt, Becky R (DFG); Biddinger, Julie J (DFG); Wright, Stephen (DFG); Peacock, Sara J (GOV)
Cc: jenn.hall-brown@noaa.gov
Subject: Delinquent Project Progress and/or Federal Financial Reports for NOAA Award NA04NMF4070165

This is a notification of one or more Federal Financial Report(s) and/or Project Progress Report(s) that are delinquent for Award NA04NMF4070165. The reports are available for completion and submission through NOAA Grants Online.

Award Details:

Award Number:	NA04NMF4070165
Award Status:	Expired
Program Officer:	Jenn Brown ,(907) 586-7273, jenn.hall-brown@noaa.gov
Program Office:	Fisheries Alaska Region Program Office (AK)
Award Period:	07/01/2004 - 06/30/2008
Project Title:	Southeast Alaska Interjurisdictional Fisheries Act
Recipient Name:	Alaska Department of Fish and Game
Investigator(s):	Rebecca Alt, Stephen Wright

Report Details:

Report Type:	SF-269
Reporting Period:	07/01/2004 - 06/30/2008
Final Report:	Yes
Report Due Date:	09/28/2008
DELINQUENT BY:	3 days

Report Details:

Report Type:	SF-272
Reporting Period:	04/01/2008 - 06/30/2008
Final Report:	Yes
Report Due Date:	09/28/2008
DELINQUENT BY:	3 days

The Grants Officer, in consultation with the Program Office, is authorized to take appropriate actions if recipients fail to meet their obligations under awards. Every grant and cooperative agreement contains a provision for suspension and/or termination of the award for failure to submit required reports, deficient project performance, poor financial management, non-payment of accounts receivable, and/or other non-compliance or deficiency problems.

Enforcement actions may include, but are not limited to written correspondence delineating needed actions (this notice); suspension of payment, suspension of the award, termination of the award; or debarment and suspension of the recipient pursuant to 15 CFR Part 26. See 15 CFR § 14.62 or 15 CFR § 24.43, as applicable

If any of the above reports are delinquent by 15 days or more, you can expect a suspension of payments action to commence within the next 15

days. If any of the above reports are delinquent by 30 days or more, you can expect suspension of the Award within the next 15 days. More serious actions may also be considered.

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Sincerely,
NOAA Grants Online

(Please do not respond to this email. If you need assistance, contact the Help Desk or your Program Officer).

Jenn Hall-Brown
Federal Program Officer
NOAA Fisheries - AK Region
Tel: 907.586.7273

08-577

SARAH PALIN
GOVERNOR
GOVERNOR@GOV.STATE.AK.US

P.O. BOX 110001
JUNEAU, ALASKA 99811-0001
(907) 465-3500
FAX (907) 465-3532
WWW.GOV.STATE.AK.US

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

February 22, 2008

The Honorable Carlos M. Gutierrez
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Secretary:

I am forwarding nominations for Alaska's appointed representatives to the North Pacific Research Board.

The terms of Alaska's appointed representatives to the North Pacific Research Board will expire on January 13, 2008. I am requesting the appointment/reappointment of the following members.

Fishing Interest Seat-	Mr. Gerry Merrigan
Oil and Gas Industry Interest Seat-	Ms. Pamela Pope
Alaska Natives Interest Seat-	Mr. Steve MacLean
Academia Seat-	Dr. Denis Wiesenburg
Environmental Interest Seat-	Ms. Dorothy Childers

I appreciate your consideration of these nominations for Alaska's appointed representatives.

Sincerely,

Sarah Palin
Governor

cc: Frank Bailey, Director, Boards and Commissions
Robert D. Mecum, Acting Administrator, NOAA Fisheries Service

09-12/24-21
8-579
4-4-08
EP

SARAH PALIN
GOVERNOR
GOVERNOR@GOV.STATE.AK.US

P.O. BOX 110001
JUNEAU, ALASKA 99811-0001
(907) 465-3500
FAX (907) 465-3532
WWW.GOV.STATE.AK.US

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

April 4, 2008

The Honorable Carlos M. Gutierrez
Secretary of Commerce
U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Mr. Secretary:

This letter is to clarify and supersede the North Pacific Research Board (Board) nomination letter of April 1, 2008. The Office of the Governor has been advised that your office is in receipt of Alaska's nominations for the reappointment of Mr. Merrigan (Fishing Interest), Mrs. Pope (Oil and Gas Interest), Dr. Wiesenburg (Academia), and Mrs. Childers (Environmental). These individuals' exemplary service to the Board over the past three year term is well noted and I request your consideration for their speedy reappointment.

My office has been advised that in the case of first time nominations, the enabling legislation requires three nominations per Board seat and individual background information to assist the Department of Commerce's review of the nominee's qualifications. This letter serves to clarify and provide additional information relative to the vacated Alaska Native Seat on the Board. Alaska takes keen interest in evaluating the commitment and qualifications for candidates to serve on the North Pacific Research Board. Our recruitment and review process has brought forth several notable Alaska Native representatives which I am including for your consideration in order of preference. Enclosed in this letter is the resume for the preferred nominee.

↑ ↑

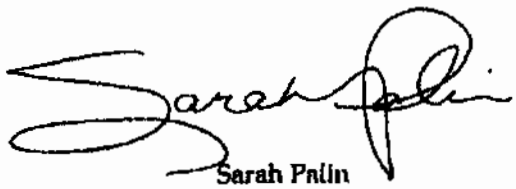
Resume not included or provided

The state of Alaska's nominations for the Alaska Native Interest seat on the North Pacific Research Board in order of preference are:

Alaska Natives Interest Seat-	Mr. Steve MacLean
Alternate-	Mr. Robin Samuelson
Alternate-	Mr. Ragnar Alstrom

I appreciate your consideration of these nominations for Alaska's appointed representatives.

Sincerely,



Sarah Palin
Governor

cc: Frank Bailey, Director, Boards and Commissions
Robert D. Mecum, Acting Regional Administrator, NOAA Fisheries Service

09-12/3-21
4-21-08
1879.0

THE SECRETARY OF COMMERCE
Washington, D.C. 20230

April 29, 2008

The Honorable Sarah Palin
Governor of Alaska
P.O. Box 110001
Juneau, AK 99811-0001

Dear Governor Palin:

Thank you for your letter recommending the reappointments to the North Pacific Research Board of Dorothy Childers, Gerry Merrigan, Pamela Pope, and Denis Wiesenburg, and the first-time appointment of Steve MacLean (along with two alternative choices) to fill the vacant Alaska Native Interest seat.

I appreciate your recommendations and your interest in our appointing qualified and dedicated individuals to the Board. I am pleased to reappoint Ms. Childers, Mr. Merrigan, Ms. Pope, and Dr. Wiesenburg to the Board. In addition, the Department of Commerce has completed its review of your nominees to fill the Alaska Native Interest seat, and I will now appoint Mr. MacLean to fill this seat on the Board.

Sincerely,

Carlos M. Gutiérrez

The Honorable Sarah Palin
Governor of Alaska
P.O. Box 110001
Juneau, Alaska 99811-0001

Dear Governor Palin:

Thank you for your letter recommending the re-appointments to the North Pacific Research Board (Board) of Dorothy Childers, Gerry Merrigan, Pamela Pope, and Denis Wiesenburg, and the first-time appointment of Steve MacLean (along with two alternative choices) to fill the vacated Alaska Native Interest seat.

Under the enabling legislation for the Board, you nominate five members for appointment by the Secretary. Members may serve for a 3-year term, and may be reappointed.

I will re-appoint Ms. Childers, Mr. Merrigan, Ms. Pope, and Dr. Wiesenburg to the Board. The Department of Commerce is undertaking a review of your nominations to fill the vacated Alaska Native Interest seat, and this decision will be communicated to you.

Sincerely,

Carlos M. Gutierrez