STATE OF ALASKA

DEPARTMENT OF FISH AND GAME
OFFICE OF THE COMMISSIONER

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November 7, 2009

Dr. Rosa Meehan
Alaska Regional Office
U.S. Fish and Wildlife Service
Marine Mammals Management
1011 East Tudor Road
Anchorage, Alaska 99503

Re: Pacific Walrus (*Odobenus rosmarus divergens*) Information (FWS-R7-ES-2009-0051)

Dear Dr. Meehan:

The State of Alaska has reviewed the September 10, 2009 Federal Register Notice (Vol. 74, No. 174) 90-day finding initiating a 12 month status review on a petition to list the Pacific walrus as threatened or endangered under the Endangered Species Act (1973). In response to the U.S. Fish and Wildlife Service (USFWS) request for information, the Alaska Department of Fish and Game (ADF&G) Endangered Species Program solicited and compiled information from pertinent State Departments that could inform the status review. The information gathered is attached to this letter. Included are descriptions from the Department of Environmental Conservation and Department of Natural Resources of existing State of Alaska regulations and environmental programs that potentially aid in the conservation of Pacific walrus.

Additionally, published walrus harvest data exist (see Garlich-Miller et al. 2006, "Trends in age structure and productivity of Pacific walruses harvested in the Bering Sea region of Alaska, 1952-2002") that could be utilized to calculate survival through time. A similar analysis was conducted by ADF&G for the National Marine Fisheries Service spotted seal Status Review, and is described in the attached document. We suggest meeting with you in the near future to discuss whether analysis of these walrus harvest data would benefit you in your status review. In addition, substantial information on the harvest and status of walruses is available from subsistence hunters and Bering Strait communities, which should be obtained from the Eskimo Walrus Commission, Kawerak, North Slope Borough, hunting communities, etc.

Thank you for the opportunity to provide you with these comments and information. We are willing to discuss this information in more detail if you wish. I can be contacted at sadie.wright@alaska.gov or (907) 465-4100.

Sincerely,

Sadie Wright
Wildlife Biologist
Alaska Department of Fish and Game

cc: Doug Vincent-Lang—ADF&G, Endangered Species Coordinator
Kim Titus—ADF&G, Wildlife Scientist
Doug Larsen—ADF&G, Division Director
Bob Small—ADF&G, Marine Mammal Program Coordinator
Gary Mendivil—DEC, Program Coordinator
Samantha Carroll—DNR, Special Assistant
Brad Meyen—DOL, Attorney

PACIFIC WALRUS
STATE OF ALASKA INFORMATION

Alaska Department of Environmental Conservation:

Water related permits and authorizations of the Alaska Department of Conservation (DEC) typically also involve the Environmental Protection Agency (EPA) and our discussions will include information and reference to EPA documents.

Oil Spill Prevention and Response

DEC's Spill Prevention and Response Division's activities are specifically focused on oil spill prevention and assurance of adequate oil spill response. DEC 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 DEC 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. Oil Spill contingency plans are required under Alaska Statute AS 46.04.030 and Alaska Administrative Code regulations at 18 AAC 75. Oil Spill Proof of Financial Responsibility is required under Alaska Statute AS 46.04.030. The State of Alaska requires oil spill contingency plans for the following facilities:

- Offshore oil and gas exploration facilities
- Onshore oil and gas exploration facilities
- Crude oil transmission pipelines
- Oil flow lines and gathering lines
- Noncrude oil terminals (over 10,000 bbls)

The Industry Preparedness Program requires regulated facilities and vessels to develop state-approved oil spill response and 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. Detailed information on historical oil spills is available in the department's latest report, *DEC 10-Year Statewide Summary: Oil and Hazardous Substances Spill Data*, and the *Summary of Oil and Hazardous Substances Spills by Subarea,* both of which are available on the program's web site. These reports provided the following conclusions and highlights relating to the Pacific walrus's marine habitat:

- Oil (both crude and noncrude oil products) constitute the vast majority (82%) of the reported spills
- Spills from unregulated vessels were most common for the coastal areas of Southeast Alaska, Prince William Sound, Kodiak, Cook Inlet and the Aleutians

and these marine spills occur during the commercial fishing season, typically April through September.

Industrial Wastewater Discharges

Arctic oil and gas wastewater discharges are mainly permitted through the EPA's NPDES Arctic General Permit. The January 24, 2006 *EPA Ocean Discharge Criteria Evaluation of the Arctic NPDES General Permit* report provides critical baseline information and updates regarding water quality issues in the Chukchi Sea. The report identifies biologically sensitive areas and discusses the seasonal distribution of marine mammals in the biological resources section. There are no existing general NPDES permits for oil and gas activities issued for the Bering Sea region.

The EPA's NPDES Arctic General Permit includes data on existing approved mixing zones, the parameters in the mixing zones, as well as effluent water quality data. DEC issued a Certificate of Reasonable Assurance (401 Certification) for this EPA permit. Water quality parameters of concern in DEC's certification were

- Hydrocarbons from drilling operations
- Increased sediment loading from drilling operations
- Increased metals loading from drilling muds
- Residues from drill cuttings accumulating in areas that do not have high currents that would encourage dispersal

Water Quality Monitoring and Assessment

The Clean Water Act (CWA) mandates that each state develop a program to monitor the quality of its surface and groundwaters and prepare a report describing the status of its 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, DEC and EPA already performed field monitoring in the Aleutian Islands/Alaska Peninsula adjacent to the Southern Bering Sea. DEC and EPA plan to perform field monitoring in the Northern Bering and Chukchi Seas in the near future. Until an assessment is completed, DEC has no independent baseline water quality data for the Bering and Chukchi Seas.

Other Potential Developments Affecting Alaskan Waters

An oil and gas exploration plan for offshore drilling has been submitted by Shell Offshore, Inc. to the Minerals Management Service for activities in the Beaufort Sea. In addition, both Shell and Conoco Phillips have announced plans for submitting similar plans for the Chukchi Seas. The Minerals Management Service is also engaged in preliminary environmental impact assessment work for the North Aleutian Basin adjacent to Bristol Bay.

Additional Information

Alaska's Final 2008 Integrated Water Quality Monitoring and Assessment Report, April 1, 2008 available at http://www.dec.state.ak.us/water/wqsar/waterbody/2008FinalIntegratedReport3-19-08.pdf

DEC Wastewater Permits Database, available at http://www.dec.state.ak.us/ias/permitsearch/default.aspx

DEC (2007) *DEC 10-Year Statewide Summary: Oil and Hazardous Substances Spill Data* (July 1, 1995 – June 30, 2007) available at http://www.dec.state.ak.us/spar/perp/subreports.htm

DEC (2007) *Summary of Oil and Hazardous Substance Spills by Subarea (July 1, 1995 – June 30, 2005)* http://www.dec.state.ak.us/spar/perp/docs/10year_rpt/10Yr_Subareas_FINAL.pdf

Alaska Department of Fish and Game:

Division of Wildlife Conservation

- Estimate walrus survival patterns through an analysis of the age structure previously determined through the subsistence harvest. Specifically, utilize harvest data compiled and published in Garlich-Miller et al. 2006: "Trends in age structure and productivity of Pacific walruses harvested in the Bering Strait region of Alaska, 1952-2002". Reliable population data of this type are not available for walruses, and thus this analysis could provide important population trend information. A similar analytical approach was used in a contribution by ADF&G for the NMFS spotted seal Status Review, resulting in recruitment patterns through time, as follows:
  Methods

  Survivorship schedule—Annual variation in recruitment was estimated for spotted seals harvested in the 1960s, 1970s, and 2000s. Recruitment was defined as the survival of fetuses to the age of harvest and included all potential mortality risks including abortion, predation, and competition. We calculated birth years for aged seals harvested during 1963–1980 and 1998–2003 and created a pooled survivorship curve (Ferguson et al. 2005). Seals collected on research cruises in the 1970s (n=397) were not included in this analysis because the collection was biased toward pups. Survivorship was predicted by fitting the birth year (age) frequency to a smooth function $y=ae^{bx}$, where y is the number of spotted seals predicted to be in the sample, x is the year of birth, e is the base of the natural logarithm, and a and b are constants. The log-survivorship curve represents the predicted number of seals born in a year that survived to be harvested. We estimated the constants in the curvilinear function using SAS and Proc NLIN (SAS Institute 2004). Deviations between the actual and

predicted number of survivors (residuals) for each year were used to identify years that had better or worse than expected recruitment. Log-survivorship curves were based on the assumptions that pregnancy rates, neonate survival, and juvenile recruitment varied while conception rates remained constant (Ferguson et al. 2005).

We estimated survivorship for seals in the Bering and Chukchi seas during two time periods, 1963–1980 and 1998–2003. A cut-off year was established for each dataset to improve the fit of the log-survivorship curve and limit the analysis mainly to years in which harvest was occurring. For example, harvested seals may have been born long before the sampling began in 1963. As recommended by Ferguson et al. (2005), we started our analysis with the most recent year, prior to harvest sampling, with fewer than fours seal births (1956 and 1991, respectively). As recommended by Ferguson et al. (2005), we also excluded the most recent year (1980 and 2003, respectively) from consideration as a larger proportion of young-of-the-year seals (50–65% of the annual harvest) were represented in the harvest of all years, possibly due to greater susceptibility.

Results

Survivorship schedule—A survivorship schedule was estimated for 1,413 spotted seals harvested from 1963–1979 (Fig. 15). The survivorship curve suggested that the success of seal recruitment was higher than expected from 1964 to 1974, and lower than expected from 1977–1979. Recruitment was generally twice that predicted in 1967, 1973, and 1974. Because seals less than 5 years of age comprised 81% of the harvest in the 1960s and 1970s (Fig. 15), and harvest data were collected for 17 consecutive years, we are reasonably confident that our model was able to detect variations in recruitment during this time period.

We estimated a survivorship schedule for 201 spotted seals harvested from 1998–2002 (Fig. 16). Annual recruitment of seals born from 1998–2002 was highly variable and may have been due to our limited sample size of aged seals from the 2000s. The survivorship curve suggested recruitment of spotted seals was poor during the 1980s; however, our limited sample size may have also limited our ability to detect recruitment patterns prior to 1998.

- As part of the Diomede Observatory Project (OPP Grant 9910319), two walruses tested negative for phocine distemper, herpesvirus I, herpesvirus II, and *Brucella abortus*.

- During 2008-2009, the ADF&G Nome office recorded dead stranding locations within Region V for 36 walruses. There were no reports of live strandings.

- ADF&G Annual Reports summarizing monitoring work conducted on the Walrus Islands State Game Sanctuary in 2005, 2006, 2007, and 2008 can be found online at: http://www.wildlife.alaska.gov/index.cfm?adfg=refuge.rnd_is

These reports are also attached as Appendix A* (2005), Appendix B* (2006), Appendix C* (2007), and Appendix D* (2008). The 2009 Walrus Islands State Game Sanctuary Report will be available at the end of November.

- Appendix E* is a recent publication regarding Pacific walrus prey digestion and diet. The citation for this publication is:
  Sheffield, Gay, and J.M. Grebmeier. 2009. Pacific walrus (*Odobenus rosmarus divergens):* Differential prey digestion and diet. Marine Mammal Science. 25(4): 761-777.

*Appendices are available upon request. Please contact Sadie Wright at sadie.wright@alaska.gov for copies of appendices.

Alaska Department of Natural Resources:

Through land use planning, permitting, and mitigation measures, the Alaska Department of Natural Resources (ADNR) implements stringent effective regulatory mechanisms that serve to protect Pacific Walrus and other fish and wildlife species. ADNR regulatory mechanisms also serve to integrate with federal marine mammal protection laws including the Marine Mammal Protection Act and Endangered Species Act. The following information is provided in the context of two areas of responsibility implemented by ADNR, 1) Oil and Gas leasing and 2) Area Planning.

ADNR Oil and Gas Leasing

Alaska Statute 38.05.035(e) provides ADNR with the authority to impose conditions or limitations, in addition to those imposed by statute, to ensure that a resource disposal is in the state's best interests. Consequently, to mitigate potential adverse social and environmental effects of specific lease related activities, ADNR has developed mitigation measures and conditions, plans of operation, exploration, or development, and other permits based on these mitigation measures.

A process is in place to ensure that mitigation measures address current issues and incorporate new information as it becomes available. Annually, ADNR requests new information from agencies and the public. ADNR seeks information that has become available since the most recent mitigation measures were issued. This information may address fish and wildlife species and their habitats in the area; current and projected uses in the area, including uses and value of fish and wildlife such as subsistence and recreation; reasonably foreseeable cumulative effects of exploration, development, production, and transportation for oil and gas on the area, including effects on subsistence uses, fish and wildlife habitat and populations and their uses, and historic and cultural resources; lease stipulations and mitigation measures, including any measures to prevent and mitigate releases of oil and hazardous substances; and air and water quality. ADNR may then modify or add mitigation measures as necessary to ensure the continued protection of fish and wildlife populations and habitats, and their uses.

There are two oil and gas lease sale areas that are within the range of Pacific Walrus. These are 1) Alaska Peninsula Areawide, and 2) Beaufort Sea Areawide. Please see the following links for oil and gas mitigation measures that benefit the conservation of Pacific Walrus in Alaska state waters.

Alaska Peninsula Areawide Oil and Gas Lease Sale
http://www.dog.dnr.state.ak.us/oil/products/publications/akpeninsula/ff/akff_ch_7.pdf

Mitigation Measures specific to Pacific Walrus

> *16. Cape Seniavin Walrus Haulout: Above ground lease-related facilities and structures will be prohibited within one mile inland from the coast, in an area extending one mile northeast and one mile southwest of the Cape Seniavin walrus haulout. See also Lessee Advisories 14, 15 and 16.*

Lessee Advisories specific to Pacific Walrus

> *14. Pilots are requested to follow these guidelines between April 1st and October 31st when traveling near Cape Seniavin:*
>
> *a. Fixed wing aircraft remain at altitudes greater than 2,000 feet above ground level (AGL) within ½ mile of Cape Seniavin (56° 24' N, 160° 09' W). Helicopters remain at altitudes greater than 5,000 feet AGL within one (1) nautical mile of the Cape. If cloud conditions necessitate flying lower than these recommended altitudes, please pass inland to avoid flushing walrus from the beach.*
>
> *b. Walrus are particularly sensitive to changes in engine noise and are more likely to stampede off beaches when planes turn or fly low overhead - please avoid circling or turning while in the area of the haulout.*
>
> *c. Aircraft visiting Cape Seniavin should land well away from the haulout and only taxi as close to the haulout as is necessary for landing and take off. Approaching the haulout by foot will greatly reduce the amount of disturbance to the animals resting at the haulout.*
>
> *15. Lessees are advised of the U.S. Coast Guard Advisory: United States Department of Interior, Fish and Wildlife Service is asking for mariners' cooperation in minimizing disturbances to walrus resting at Cape Seniavin. Mariners are asked to stay 1,000 yards from shore when transiting past Cape Seniavin 56°24'00"N 160°09'00"W. For more information contact U.S. Fish and Wildlife Service, Marine Mammals Management at 1-800-362-5148.*
>
> *16. Walrus Haul Outs: Disturbance of walrus is a violation of the Marine Mammals Protection Act (MMPA) of 1972, as amended (16 USC 1361-1407). The USFWS shares authority over marine mammals with the National Marine Fisheries Service (NMFS), per the MMPA. Oil and gas activities, including exploration and development, in areas where walrus or other marine mammals occur, may result in their disturbance. The unintentional, or incidental,*

disturbance of marine mammals may be allowed under the MMPA, provided the USFWS or NMFS determine that the proposed activity will have a negligible impact on marine mammals and will not adversely impact subsistence hunting activities. The USFWS reviews requests for the incidental take of marine mammals on a case by case basis, and if authorized, may require certain mitigative measures to minimize industry disturbance and impact to marine mammals. In areas such as the Cape Seniavin walrus haulout, mitigative measures are likely to include protective buffer areas landward and seaward of the haulout, seasonal closures and monitoring programs. The USFWS concurs with the Federal Aviation Administration and U.S. Coast Guard advisories for pilots and mariners operating near Cape Seniavin, and refers pilots and mariners to those advisories for recommendations to avoid walrus disturbance.

Supplement to the Alaska Peninsula Areawide Oil and Gas Lease Sale
http://www.dog.dnr.state.ak.us/oil/products/publications/akpeninsula/2007/ap_suppl_2007.pdf

From Supplement to the Alaska Peninsula Areawide Oil and Gas Lease Best Interest Finding:

Pacific Walrus: The Alaska DNR Division of Mining, Land and Water, Resource Allocation and Development Section and the Alaska Department of Fish and Game (ADF&G) are in the process of developing Special Use Area guidelines for Cape Seniavin, which has long been recognized for its importance as high use Pacific walrus habitat, to minimize negative impacts to wildlife resources and allow for further protection of important habitats for walrus, nesting seabirds and other wildlife.

Proposed Beaufort Sea Areawide 2009 oil and gas lease sale

Preliminary Finding of the Director and ACMP Consistency Analysis
http://www.dog.dnr.state.ak.us/oil/products/publications/beaufortsea/bsaw2009_prelim_finding/beaufort_sea_prelim_finding.html

Preliminary Finding Mitigation Measures and Other Regulatory Requirements
http://www.dog.dnr.state.ak.us/oil/products/publications/beaufortsea/bsaw2009_prelim_finding/BS%20PrelimBIF%20Chap09-Mitigation.pdf

ADNR Area Plans

The ADNR Area Plans determine how ADNR will manage state uplands, shorelands, tidelands, and submerged lands within the planning boundary. There are two ADNR Area Plans that encompass Pacific Walrus areas. These are 1) Bristol Bay Area Plan and 2) Northwest Area Plan.

Bristol Bay Area Plan
http://dnr.alaska.gov/mlw/planning/areaplans/bristol/index.htm

Bristol Area Plan Management Guidelines for Habitat Areas that protect Pacific Walrus, their prey, and habitat.

A. Mitigation. *When issuing permits and leases or otherwise authorizing the use or development of state lands, DNR will recognize the requirements of the activity or development and the effects to habitat when determining stipulations or measures needed to protect fish, wildlife, or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of this policy.*

All land use activities will be conducted with appropriate planning and implementation to avoid or minimize adverse effects on fish, wildlife, or their habitats.

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:

> ***1.*** *Avoid anticipated, significant adverse effects on fish, wildlife, or their habitats through siting, timing, or other management options.*
> ***2.*** *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.*
> ***3.*** *If significant loss of fish or wildlife habitat occurs, the loss will be rectified by repairing, rehabilitating, or restoring the affected area to a useful state.*
> ***4.*** *DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps 1 through 3 cannot avoid substantial and irreversible loss of habitat. The ADF&G or the DNR Office of Habitat Management and Permitting (OHMP), as appropriate, will identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. Replacement with 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 AS 38.05.035 (e) or permit review process.*

B. Allowing Uses in Fish and Wildlife Habitats (Ha). *These habitats are defined as Areas that serve as a concentrated use area for fish and wildlife species during a sensitive life history stage where alteration of the habitat and/or human disturbance could result in a permanent loss of a population or sustained yield of the species. Fish and wildlife categories used to identify "Ha" (Habitat) designations in this plan include the following:*

- *Anadromous fish spawning and rearing areas in fresh water or brackish intertidal zones*
- *Estuaries important for rearing or schooling of anadromous fish*
- *Kelp beds covering large areas that are important marine nurseries*
- *Pacific herring spawning and rearing concentrations areas*

• Eel grass beds that are important marine nurseries
• Waterfowl and/or shorebird concentration areas
• Seabird breeding habitat within each colony area of 500 birds and a two-mile radius around major breeding colonies (more than 20,000 birds)
• Bald eagle nest sites or nest site areas, and known concentrations
• Sea lion haulouts and rookeries
• Harbor seal haulouts and rookeries
• Walrus haulouts and rookeries
• Sea otter pupping areas
• Bear concentration areas (including concentrations by season)
• Important wildlife migration corridors, including nearshore migration routes

J. Sea Lion and Walrus Haulouts and Rookeries, and Seabird Colonies. *Seabird colonies and **walrus**, sea lion, and seal haulouts and rookeries shall not be physically altered. Structures or activities that would preclude or significantly interfere with the continued use of these areas should not be authorized and should be situated at least one-half mile distant from haulouts or seabird colonies, except as noted. Uses with high levels of acoustical or visual disturbance should not be allowed within: one mile of seabird colonies from April 15 through August 31; **one-half mile of walrus haulouts from May 1 through December 1**; and one-half mile of seal or sea lion haulouts from May 1 through July 31. Consult with the U.S. Fish and Wildlife Service and ADF&G prior to granting authorizations to identify marine mammal haulout, rookery and seabird colony locations more specifically, and to define minimum distance separation requirements and specific use restrictions. Consult the 'Resources & Uses' section of tideland management units in the Resource Allocation Tables to determine haulouts, rookeries, or seabird colonies likely to be present in an area. Individual sea lion and **walrus** haulouts and rookeries and seabird colonies[2] not contained within specific tideland management units or state protected tideland areas[3] are designated Habitat (Ha) and are to be managed according to Management Guideline B, 'Allowing Uses in Fish and Wildlife Habitats (Ha)' and the restrictions described above.*

North West Area Plan
http://dnr.alaska.gov/mlw/planning/areaplans/northwest/index.cfm

A. Mitigation – see mitigation above for Bristol Bay Area Plan and in the Northwest Area Plan as mitigation guidelines are similar among DNR area plans.

K. Seabird Colonies and Marine Mammal Haulouts
*Seabird colonies and **walrus**, sea lion, and seal haul-cuts and rookeries will not be physically altered or disturbed in a manner that would preclude or significantly interfere with continued use of these sites. Development structures or facilities will not be allowed within one half mile of these sites from April 15 through September 30. Land and water activities with high levels of acoustical or visual disturbance will, to the extent feasible and prudent, be prohibited within: one mile of seabird colonies from April 15 through September 30; **one-half mile landward and two miles seaward of walrus haulouts from May 1 through December 31**; and one-half mile of seal haulouts from March 1 through*

September 30. These areas are shown on the management unit maps in Chapter 3. To date, no sea lion haulouts have been identified by ADF&G in the planning area.