



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Fairbanks Fish and Wildlife Field Office
101 12th Avenue, Box 19, Room 110
Fairbanks, Alaska 99701

August 23, 2004

197618



Memorandum

Re: Northeast NPR-A Draft IAP/EIS

To: Susan Childs, Project Manager, Northeast NPR-A

From: Steven Alan Lewis, Field Supervisor

Cc: Debbie Hollen
LaVerne Smith
Larry Bright

- 1 The U.S. Fish and Wildlife Service has reviewed the Draft Amended Integrated Activity Plan/Environmental Impact Statement (DEIS) prepared by the BLM for the Northeast Planning Area of the National Petroleum Reserve-Alaska (NPR-A). The DEIS presents two alternatives for amending the 1998 Record of Decision (ROD) regarding management of the 4.6 million-acre Northeast Planning Area, and it analyzes a No Action Alternative that would retain the current management strategy authorized by the 1998 ROD. The DEIS also provides updated estimates of potential oil reserves that might be economically recovered within the Planning Area.
- 2 The Service is providing our comments in two separate memos. The Regional Director is supplying the Service's general comments and recommendations regarding management of the biologically unique resources in this part of the NPR-A. This Office is supplying additional specific comments on the Draft IAP/EIS Amendment NE NPR-A, as referenced in the Regional Director's memo.
- 3 We appreciate this opportunity to review and comment on the DEIS and to provide resource data, maps and other technical information throughout this process. We look forward to continued opportunities to work closely with your agency as this effort proceeds toward the Final EIS and ROD.

Please contact me at 907-456-0272 should you have any questions.

Attachment 1
U.S. Fish and Wildlife Service Specific Comments
Northeast National Petroleum Reserve-Alaska
Draft Amended Integrated Activity Plan/Environmental Impact Statement

3

Our Specific Comments are limited to a discussion of potential impacts to Department of the Interior Federal trusts resources including migratory birds, marine mammals, anadromous fish, subsistence resources and species listed under the Endangered Species Act. General Comments have been provided under separate cover from the Regional Director.

SPECIFIC COMMENTS

Executive Summary

004
Alternatives

Page 3, Alternative B (Preferred Alternative): Here and throughout the DEIS, it is stated that performance-based Stipulations and ROPs “would be used to mitigate impacts...” In recognition of the uncertainty regarding the implementation and effectiveness of these measures, the text should reflect that they “*are intended to* mitigate impacts...”

005
Stips &
ROPs

Page 3, Summary of Impacts: This section states that DEIS analyses assume Stipulations and ROPs would be adopted under each alternative, yet Section 1.7, *Decisions to be Made and Implementation* (page 1-10) suggests that some of the mitigation measures may not be adopted. Further, Section 2.6.2.1, *Stipulation(s) and Required Operating Procedure(s) Exception Process* (page 2-14) indicates that exceptions to mitigation measures will be granted if they are considered “economically prohibitive,” although criteria for establishing a threshold with regard to economic impact are not defined. The uncertainties regarding the implementation and effectiveness of Stipulations and ROPs calls into question the degree to which this analysis depends on Stipulations and ROPs to mitigate potential impacts. These uncertainties need to be thoroughly discussed in the final EIS.

006
Alternatives

Page 4, Summary of Impacts: The final paragraph on this page states that Alternative C could result in increased levels of impact due to oil field development in the caribou insect-relief area. It should be noted that under both Alternatives B and C, greater impacts to caribou would be expected due to potential development within the Teshekpuk Lake Caribou Herd’s core calving habitat to the south, east and north of Teshekpuk Lake in areas that are currently protected as no-lease or no-surface-occupancy areas.

007
Impact

Page 5, Summary of Impacts: The first bullet and the first full paragraph indicate that caribou migration and insect-relief habitat would be protected under the draft Preferred Alternative. The majority of the TLH, including cows with calves at the time when they are most sensitive to disturbance, must pass through narrow pieces of land or “pinch points” to the east and northwest of Teshekpuk Lake to reach insect-relief habitat. These critical areas would be open to leasing and development under both the draft Preferred Alternative and Alternative C. These migration corridors are currently protected as no-lease or no-surface-occupancy areas. The risks associated

with opening these areas to leasing should be discussed relative to the degree of protection provided by the Alternatives.

008
Basic

Page 5, Summary of Impacts: The second bullet box notes that the No Action Alternative would keep 56% of the high-oil potential area off limits or encumbered by surface-occupancy restrictions. It should be noted that, even with the surface restriction, about 60% of the no-surface-occupancy area has been leased, suggesting industry's willingness to invest in the area and confidence in its ability to develop the resources beneath these tracts. Similarly, about 230,000 acres in the high-oil potential area, most not encumbered by the surface restriction, were offered but not leased in previous lease sales. A more complete and balanced discussion of the leasing in this area is needed in the Executive Summary. (This should also be noted in the *Introduction* section at page 1-5, paragraph 1.)

009
Stips &
ROPs

Page 5, Summary of Impacts: Here and throughout the DEIS (pages 1-5, 2-3, 2-6, 2-11), it is suggested that the current stipulations (No Action Alternative) "do not allow for modification or change" or are otherwise inflexible and, therefore, less amenable to Adaptive Management Concepts than the proposed performance-based stipulations and ROPs. It is not clear in the DEIS how this conclusion was reached. For example, stipulations found in the No Action Alternative can be exempted, and will be exempted if the Alpine Satellites Development is approved as currently proposed. It has been our experience that resource agencies, Native organizations or other stakeholders are willing to consider exemptions to existing stipulations if they are warranted both scientifically and economically. Indeed, the intent of the Research and Monitoring program authorized for the Northeast Planning Area was to evaluate the effectiveness of proposed stipulations and recommend changes where appropriate.

010
Cumulative

Page 5, Summary of Impacts: The fourth full paragraph suggests that cumulative impacts are expected to be "minimal, short-term, and localized." The National Research Council (NRC 2003, pages 5-10) suggests that some impacts related to oil development on the North Slope already exceed these levels, and that increased development may exacerbate such impacts. Specific to the Northeast Planning Area, some potential impacts could have other than minimal, short-term, and localized impacts. For example, development in the Goose Molting Area conceivably could result in widespread and lasting displacement of molting Pacific brant, with potential population-level impacts that could effect Alaskan, Canadian and Russian populations and the people in these areas who use the resource, as well as others in the lower forty-eight states and in Mexico.

011
Air

Page 5, Summary of Impacts: The fourth full paragraph suggests that activities in the Planning Area are not expected to contribute substantially to greenhouse gas emissions, despite the earlier contention (page Exec. Summ.-1, second bullet) that the energy resources of the NPR-A are essential for meeting national energy needs. Because combustion of fossil fuels is known to contribute to greenhouse gases, it seems reasonable that the contribution of activities within NPR-A to greenhouse gas emissions would be proportional to the degree to which its resources contribute to national energy consumption. If statements regarding greenhouse gases and national energy needs are included in this document, they should be supported with existing statistics or the best available estimates. References would also be needed for statistics and estimates.

012
Caribou

Page 6, Summary of Impacts: The second paragraph states that calving by TLH caribou could be reduced near pipeline corridors, but that Stipulations developed for the draft Preferred Alternative and Alternative C would provide protection for insect-relief habitat in the Planning area. This statement implies that these Alternatives offer protection either equal to or greater than the No Action Alternative. This assessment does not acknowledge that under both the draft Preferred Alternative and Alternative C, there is a greater likelihood of impact to caribou because critical calving, migration, and insect-relief areas currently protected by no-lease and no-surface-occupancy areas would become available for oil leasing and development.

013
Subsistence

Page 6, Summary of Impacts: The last paragraph should acknowledge that subsistence users may be displaced even if the availability and distribution of subsistence resources do not change substantially. Subsistence hunters from Nuiqsut no longer hunt in traditional areas where oil field infrastructure now exists, even though in some instances subsistence resources continue to be available. Additionally, it should be noted that if caribou are displaced, particularly from the TLH, the community of Wainwright would also be affected because the majority of caribou it harvests are from the TLH.

Introduction

014
Edits

1.2, Page 1-3, Proposed Action: The first sentence says the Planning Area is 23 million acres; rather this approximates the size of the NPR-A as a whole.

015
Edits

1.3.2, Page 1-6, Authority: The first paragraph refers to the “National” Petroleum Reserves Production Act; here and elsewhere correct as “Naval.”

Alternatives

017
Alternatives

2.2, Page 2-4, Formulation of Alternatives and 2.6, Page 2-11, Stipulations and Required Operating Procedures: These sections suggest that protection of surface resources under the draft Preferred Alternative and Alternative C would be equal to or greater than protection under the No Action Alternative. As recognized by the BLM, making some areas unavailable for leasing provides a high level of protection for surface resources. Combined with uncertainties regarding implementation and effectiveness of proposed mitigation measures, it seems clear that alternatives that open a larger area to oil leasing and development, particularly in biologically sensitive areas, will not achieve the same level of resource protection as an alternative that prohibits leasing and development in these areas. In this regard, the Service believes the No Action Alternative, as compared to Alternatives B and C, would offer greater protection of surface resources, particularly for trust resources within the existing no-lease and no-surface-occupancy areas in the vicinity of Teshekpuk Lake. For this reason, the Service prefers the protective measures of the No Action Alternative as compared to Alternatives B and C.

018
Birds

2.2.1, Pages 2-5 and 2-6, Areas with Additional Protections: A discussion of other species of management concern may be appropriate here. There are large numbers of shorebirds that occupy the Northeast Planning Area, including a number of Birds of Conservation Concern (BCC) species that occur in the area that are not monitored or actively avoided (see General

Comments, Other Species of Management Concern; and comments below relative to pages 3-34 and 3-36).

019
Alternatives

2.2.1.1, Page 2-5, Rivers Area: Given its importance to fish and subsistence, it is unclear why the Tingmiaksiqvik (Ublutuoch) River would only receive protection under the draft Preferred Alternative. This river should receive equal protection under all Alternatives.

020
Birds

2.2.1.4, Page 2-6, Goose Molting Area: The draft should cite the most current references for the maximum numbers of brant recorded in the Teshekpuk Lake Goose Molting Area; 36,817 were observed in 2001, which represented nearly 30% of the estimated world population of Pacific brant for that year (Mallek 2004). Additionally, 34,929 molting greater white-fronted geese were counted in 2002 and 2,674 snow geese, whose numbers have been increasing in recent years, were counted in 2001.

021
Edits

Table 2-1, Page 2-7: Under the Preferred Alternative, this table reports that 97% of the Planning Area would be available for leasing and that 4.6% would be unavailable for leasing; this discrepancy should be corrected.

022
Stips &
ROPs

2.6.2.2.A, Page 2-17, A-8 ROP (and Table 2-2, Page 2-75): Because the Incidental Take Program is the primary method by which the Service monitors bear-human interactions and potential effects of industrial activity on polar bears, we recommend the following Requirement be added:

“h. Consult with USFWS before initiating oil and gas-related activities within 25 miles of the coast to determine polar bear activity in the area. Operators should obtain a Letter of Authorization from the USFWS prior to conducting activities in polar bear habitat.”

The recommended language reflects the Service’s intent to encourage compliance with and participation in the Incidental Take Program, previously identified in the No Action Alternative under Stipulation 77 (see pg. 2-75).

023
Stips &
ROPs

2.6.2.2, Page 2-20, D-2 Lease Stipulation: The Requirement/Standard for this stipulation would permit construction of permanent facilities such as gravel roads, airstrips, and pads for exploratory drilling programs if such structures would allow exploration to be conducted “more economically,” though it does not describe an economic threshold that would guide decisions regarding such permanent structures. Because of the potential impacts of these structures and the increased access they may provide, the Service believes that only temporary facilities should be allowed during exploration, particularly in biologically sensitive areas including the TLSA and the CRSA.

024
Stips &
ROPs

2.6.2.2, Page 2-22, E-11 ROP: The Requirement/Standard states that breeding pair surveys be conducted prior to approval of facility construction. Surveys, however, should not be constrained to breeding pairs only. Non-breeding birds may constitute a large portion of the population in years of poor breeding conditions; therefore, permitting of facilities should consider potential impacts to breeding and non-breeding birds. Additionally, the Requirements/Standards for this ROP emphasize only listed species and Yellow-billed Loons. It

does not mention Birds of Conservation Concern species or any precautions to be taken to keep these species from becoming threatened or endangered.

025
Stips &
ROPs

2.6.2.2, Page 2-22, E-11 ROP, Special Conditions in Spectacled and/or Steller's Eiders Habitats, c.: This Special Condition addresses potential impacts of overhead power lines. The phrase "to the extent practical" should be changed to "to the extent practicable," and the criteria previously agreed to by the Service and the BLM to determine the few circumstances in which exemptions may be appropriate should be included as part of this condition. Specifically, power or communication lines could be routed overhead only when: 1) they are located entirely within the boundaries of a facility pad; 2) engineering constraints at the specific location make it unfeasible to bury or connect them to vertical support members; or, 3) human safety would be compromised.

026
Threatened

Additionally, we believe this condition should be implemented throughout the entire Northeast Planning Area (or in the entire NPR-A), not just where listed eiders are recorded on breeding surveys. The goal of the Endangered Species Act is to facilitate recovery of listed species, rather than merely maintain current populations. To apply conservation measures exclusively in areas occupied during the 3 most recent years prevents proactive protection of habitat that may become important in future years. Additionally, recent telemetry studies showed that a significant number of male spectacled eiders use overland routes during westward molt migration across the Arctic Coastal Plain (Troy 2003). Migrants are likely more vulnerable to collisions with wires than resident breeding birds (Stout and Cornwell 1976), so limiting this measure to known breeding habitat places migrants at risk of take wherever breeding pairs are not detected. Moreover, other migratory birds may be equally vulnerable to collision with overhead wires, and take of these species is prohibited under the Migratory Bird Treaty Act. Finally, collision is not the only potential impact of overhead wires; birds, particularly raptors, may be electrocuted, and perhaps more importantly, support structures for overhead wires provide perches for predators in areas where perches are otherwise rare or absent. This could expand the foraging range of predators and have substantial impacts on avian prey well beyond the immediate area of the structures.

027
Stips &
ROPs

2.6.2.2, Page 2-22, E-11 ROP, Special Conditions in Yellow-billed Loon Habitats, b.: This Special Condition proposes to minimize disturbance around yellow-billed loon nests and nest lakes, and it lists buffers for each that are considered "accepted mitigation," however, it is unclear whether development would be permitted within buffers ("Development *may be* prohibited within buffers or activities curtailed while birds are present", our italics). This Special Condition should be reworded to indicate clearly that development will be prohibited within the buffers and that development-related activities will be minimized while birds are present.

028
Stips &
ROPs

2.6.2.2, Page 2-23, E-12 ROP: The ecological mapping tool does not include animal presence and abundance as part of the modeling effort. Ecological land classification maps should be updated and based on animal-habitat relationship models. Given the inter-year variability present on the North Slope, ground surveys for one year are unlikely to yield sufficient data for determining locations of permanent facilities. At a minimum, ecological land classification maps should be updated at 5-year intervals to allow meaningful analyses of facility development

proposals within the Northeast Planning Area. Habitat is expected to change over time; permitting of facility development should be based on the most current habitat data available.

029
Traffic

2.6.2.2, Page 2-23, F-1 ROP: Derksen et al. (1992) reported that "...aircraft disturbance can influence the movements of geese; potentially causing increases in energetic costs and possibly having a negative influence on use of optimal habitats." Their report recommended that aircraft should maintain altitudes of >1,070 m to reduce disturbance. The current stipulation suspends helicopter overflights in the Goose Molting area from June 15 - Aug. 20 (pg. 2-65); Alternatives B and C have eliminated this stipulation despite documented effects of air traffic on sensitive molting geese. An additional Requirement/Standard should be developed for this ROP that prohibits air traffic at altitudes less than 1km above the goose molting area from June 15 - Aug. 20 to avoid disturbance effects to molting geese.

030
Stips &
ROPs

2.6.2.2, Page 2-24, H-1 ROP: A large proportion of the brant that breed on the Yukon-Kuskokwim Delta (YKD) congregate in the TLSA to molt (Mallek 2004). Therefore, in requiring the leesee/permittee to consult with affected subsistence communities, the EIS should specify that such communities are not limited to the NSB, rather, subsistence hunters on the YKD and elsewhere in northwest, western and southwest Alaska also have a large stake in the potential impacts to molting geese on the North Slope and in the TLSA in particular.

31

2.6.2.3, Page 2-30, K-4 Lease Stipulation-Goose Molting Area: The Teshekpuk Lake Goose Molting Area is a molting destination of international importance to geese, providing secure molting habitat for over 50,000 geese annually from the U.S., Canada and Russia. Apparently, the combination of low-lying topography, abundant and diverse forage species, isolation from predators and disturbance, and proximity to coastal staging areas that this area provides is highly favorable to successful molting. Derksen et al. (1992) characterized the goose molting area as "...unique, and no other known area could replace this habitat for brant anywhere within the Alaskan Coastal Plain."

032
Birds

The area appears to be most vital to Pacific black brant; in some years nearly 30 percent of the entire population molts there (Mallek 2004). Research also suggests that molting brant do not habituate daily or seasonally to frequent aircraft overflights (Derksen et al. 1992). The Pacific brant population is well below the Pacific Flyway population objective (Pacific Flyway Council 2002) and has been in slow decline for decades (Conant and King 2003). Recruitment has been poor in recent years (Groves 2004), and the population will probably decline below an established management threshold requiring a major reduction in harvest throughout the range. These birds represent a highly-valued subsistence resource in western and northern Alaska and an important sport harvest species on the west coast of the U.S. and Mexico. Given the current vulnerability of the brant population combined with their apparent inability to habituate to disturbance while molting, leasing and development within the Goose Molting Area would likely be detrimental to the population.

033
Stips &
ROPs

Although Requirements/Standards (h) and (i) of proposed Lease Stipulation K-4 state that "[n]onessential" helicopter overflights "may be" suspended and restrictions on fixed-wing aircraft "may include" limits on the number of flights and flight corridors that may be used from May 20 to August 20, there is no unequivocal prohibition on these activities, which are known to

impact molting geese in this area. It is unclear what constitutes a “nonessential” helicopter flight and under what conditions or upon what criteria restrictions on helicopter and fixed-wing aircraft travel would be implemented.

034
Birds

Given the international importance of this area to molting geese, the current status of the Pacific brant population, the significant segment of the brant population that annually molts in the area north of Teshekpuk Lake, research suggesting that brant do not habituate to such disturbance (Owens 1977, Burger 1981, Derksen et al. 1992), the apparent lack of suitable alternate molting habitat on the Alaskan Arctic Coastal Plain, uncertainty regarding the implementation and effectiveness of proposed stipulations and ROPs in mitigating disturbance, and the importance of these brant to subsistence hunters in northern, western and southwest Alaska, the Service believes that clearly defined restrictions governing air traffic in the vicinity of the goose molting area that will be consistently implemented and enforced must be developed for the Final EIS and incorporated into the ROD. These comments are also relevant to Sections 4.4.8.2, Page 4-205, Effects of Disturbances, Oil and Gas Development, Activities, Air Traffic; 4.5.8.2, Page 4-289, Effects of Disturbances, Oil and Gas Development, Air Traffic; and 4.6.9.8, Page 4-382, Birds, Cumulative Analysis, Effects of Disturbance, Aircraft and Vessel Disturbance, Paragraph 3 (below).

035
Stips &
ROPs

If either the draft Preferred Alternative or Alternative C is selected, the Requirements/Standards for the K-4 Lease Stipulation should be modified to protect goose molting lakes as follows:

- “d. Pipelines and causeways shall not be permitted in or under lakes used by molting geese.”
- “e. Permanent oil and gas facilities, excluding pipelines, shall not be permitted within 1½ miles of goose molting lakes.”
- “f. Major construction activities shall not occur within 1½ miles of goose molting lakes.”
- “g. Ground traffic shall not be permitted within 1½ miles of goose molting lakes.”
- “h. Non-emergency helicopter flights shall be suspended within 1½ miles of goose molting lakes from June 15 through August 20.”

036
Stips &
ROPs

2.6.2.3, Page 2-32, K-6 Stipulation: We recommend adding to the Objective paragraph the words “...prevent alteration to or loss of habitat used by polar bears for denning, feeding, and seasonal movements.”

037
Monitoring

2.7, Page 2-33, Monitoring: Monitoring of other wildlife species should also be conducted to ensure that these populations are not adversely affected by oil and gas development. Several ongoing and proposed monitoring efforts include predators of bird species, but no emphasis has been placed on monitoring bird productivity and survival, two population parameters thought to be negatively affected by higher predator numbers around development sites.

038
Stips &
ROPs

2.9, Page 2-34, Impacts to Current and Future Lease Holders from Revisions to 1998 Northeast IAP/EIS ROD: This section suggests that stipulations attached to existing leases could be revised but that such revisions would not create different impacts “from what might occur given the current stipulations.” If tracts currently leased in the no-surface-occupancy area were to have this restriction removed, the Service believes the potential for different and greater impacts along the western and southern edges of Teshekpuk Lake certainly exists. Surface development in these areas, which is currently prohibited, could impact important caribou calving habitat and migration corridors.

039
Studies

Table 2-2, Page 2-52, Facility Design and Construction: Along with the 3-year caribou movement study, we suggest a similar length study be conducted on breeding birds at the proposed site to inventory the presence of endangered, threatened, candidate/petitioned and BCC species.

040
Birds

Table 2-3, Pages 2-80 and 2-81, Effects on Birds: The draft acknowledges likely impacts to “small numbers of nesting birds,” but does not address potential impacts to the thousands of geese that molt in lakes in areas proposed for leasing and development under Alternatives B and C. Effects on birds for alternatives B and C should include analysis and discussion of possible permanent displacement of molting geese.

041
Birds

Table 2-3, Page 2-81, Effects on Birds: The DEIS concludes that under the draft Preferred Alternative, “Stipulations and ROPs would minimize effects to birds; overall, Impacts (*sic*) would be negligible to minor,” and that under Alternative C, leasing and development “would likely result in negligible population effects.” However, no information is provided to support these statements. Information on and analysis of the amount of land affected by changes in management designations, bird diversity, nest density, and effects of disturbance on bird survival, productivity, and recruitment are needed to support such a statement. Further, under all three alternatives, the DEIS indicates that the birds will simply be “displaced,” whereas very little scientific data are available to suggest birds can simply move to a new area, which may already be saturated with breeding birds or which may not provide the suite of resources present in the areas currently used by birds in the planning area that were selected in the absence of disturbance and development. Many species of shorebirds are highly site faithful, and loss or alteration of traditional breeding sites may prevent these birds from breeding successfully. Thus, displaced birds may become part of the nonbreeding portion of the population, resulting in reduced productivity and lower recruitment rates.

042
Cumulative

Table 2-3, Page 2-81, Cumulative Effects on Birds: The statement that less than 1% of bird habitat on the North Slope would be affected assumes that all land area is equally suitable for birds. This is particularly untrue in the NPR-A, which has some of the highest concentrations of shorebirds of any coastal area on the Slope (Andres 2004). Additionally, it appears that this assessment is based on the “footprint” of potential future development without considering the “zone of influence” around developed areas in which bird populations also may be impacted.

043
Birds

Effects of oil and gas development on shorebirds are frequently suggested to have minor negative consequences on a species. Although such statements may be true when developments are viewed independently, the cumulative effects from many developments may have more than

“minor” negative effects on a given species. This may be particularly true for species that use the drier habitats within NPR-A. Such areas, frequently selected as sites for pads, pipelines and roads as managers attempt to avoid wetland sites, may be relatively limited and locally more important to some species compared to adjacent wetland areas. In the Northeast Planning Area, these drier areas are selected by buff-breasted sandpipers, a BCC species, and they may be used as migratory pathways by the Teshekpuk Lake Caribou Herd.

044
Marine
Mammals

Table 2-3, Page 2-82, Effects on Marine Mammals, General Effects (Preferred Alternative): The table accurately reflects that the Preferred Alternative, if selected, has the potential for increasing disturbances to marine mammals through increased levels of seismic, aircraft, overland, and barge activities. However, the conclusion that “effects would be localized and short term, and would not substantially affect marine mammal populations” is misleading because the effects to polar bears would actually depend on the level and duration of increased seismic, aircraft, overland, and barge activities, as well as other factors such as the age, sex, number, and distribution of bears during the specified activities, availability of prey, availability of suitable denning habitat, noise levels and their proximity during denning, and other factors. We recommend that language be added to more accurately reflect the nature of the situation including the uncertainty regarding future activity levels and the effectiveness of Stipulations, ROPS, and other proposed mitigation measures; at minimum, the word “likely” should be placed between the words “would” and “be” in the third sentence.

045
Marine
Mammals

Table 2-3, Page 2-82, Effects on Marine Mammals, Cumulative Effects: This section should be expanded to include discussion of potential impacts on polar bears from multiple sales within NPR-A, combined with ongoing activities at existing fields, proposed future lease sales and subsequent oil and gas development across the North Slope region. Cumulatively, these activities could result in habitat loss or disturbances to polar bears as their “human-free” areas are reduced. It should also mention environmental factors such as global climate change that could increase polar bear dependency on terrestrial areas, thereby subjecting them to increased bear-human interactions. Effects are unknown and will depend on the level of oil and gas activity and polar bear abundance along the coast, and environmental and other factors. The authors also should provide a citation for the sentence, “...less than 10 polar bears will be oiled” and explain how this number was derived.

046
Economy

Table 2-3, Page 2-87, Effects on the Economy: This section should recognize the economic significance of sport harvest (state permits and federal duck stamps) and associated benefits to communities where hunting occurs. If populations of geese are impacted by development-related activities in close proximity to key molting areas, which could occur under the draft Preferred Alternative or Alternative C, then the economic benefits associated with the hunting of these species could be lost or reduced. Similarly, any loss of subsistence opportunities could significantly affect local economies of subsistence hunters on the North Slope and elsewhere in northwest, western and southwest Alaska, as well as those of the extended families and communities with which subsistence hunters share their harvest.

Description of the Affected Environment

047
Birds

3.3.6.2., Page 3-39, Loons: It should be noted that most Alaska-breeding yellow-billed loons nest in the NPR-A. In a recent telemetry study of these loons, all monitored birds wintered off the coast of Southeast Asia (J. Schmutz, USGS-BRD, pers. comm.). It should also be noted that Alaska-breeding red-throated loons have declined significantly since the late 1970s (Groves, et al. 1996).

048
Birds

3.3.6.3, Page 3-40, Swans and Geese, White-fronted Goose: White-fronted geese on the Arctic Coastal Plain (ACP) belong to the Mid-Continent Population, which winters on the coasts of Louisiana and Texas and on the coast and central highlands of Mexico. While numbers of white-fronted geese summering on the ACP appear to have increased since 1985, the population as a whole has declined significantly in recent years (Neiman et al. 2003) and additional harvest restrictions may be required.

049
Birds

3.3.6.3, Page 3-41, Swans and Geese, Brant: This section describes the local breeding brant population. The significance of the TLSA to brant, however, is in regard to the molting population. The draft recognizes molting birds but reports the mean number of birds that use the area. Because the size of the molting population on the ACP is dependent on nesting conditions in Canada, Russia, and the YKD, a far more important statistic to report here is the range of counts. This section should report that as many as 36,817 Pacific flyway brant used the TSLA in 2001, representing nearly 30% of the entire population (Mallek 2004).

050
Birds

Further, although Service aerial surveys suggest increasing numbers of Pacific brant on the ACP since 1992 (Larned et al. 2003), the population as a whole is well below the Pacific Flyway population objective (Pacific Flyway Council 2002) and has been in slow decline for decades (Conant and King 2003). Given recent years of poor recruitment (Groves 2004), this population will probably (in January 2005) pass a management threshold requiring a major reduction in harvest throughout the range. These birds represent a highly-valued subsistence resource in western and northern Alaska and an important sport harvest resource on the west coast of the U.S. and Mexico. The EIS should include a figure showing the goose molting lakes (coded with maximum abundance) with the proposed boundaries of the Preferred Alternative overlaid.

051
Birds

3.3.6.3, Pages 3-41 to 3-43, Ducks: While no significant trends are apparent in northern pintail numbers recorded on Service aerial surveys, the ACP represents one of the very few areas within the species' range where numbers are stable. Range-wide, pintail numbers are at approximately 50% of continental population objective level (USFWS 2003), and pintail population restoration represents one of the major waterfowl management challenges in North America today. Similarly, the continental long-tailed duck population has declined dramatically in recent decades (Trost and Drut 2003), and the ACP is the only surveyed breeding area that has not exhibited long-term declines. This may not necessarily reflect the long-term health of the ACP segment of the population; rather it may be, in part, because much of the decline observed elsewhere occurred prior to the initiation of surveys on the ACP. It should also be noted that common eiders have exhibited declines similar to those observed in king eiders (Suydam et al. 2000).

052
Birds

Table 3-8, Page 3-43: This table is misleading with regard to Pacific brant numbers on the North Slope. First, it reports the number of brant observed in the Planning Area in mid-June as a proportion of the estimated northern ACP population index, however, the Breeding Pair Surveys cited as the source of the data often occur in late June. Second, the cited reports specifically advise against using numbers of some species surveyed, including Pacific brant, to construct population indices. Finally, it confuses the differences between brant that breed in the Planning Area with those that congregate there to molt. The number of brant that breed in the Planning Area is relatively small and does not approach 55% of the northern ACP breeding population. The majority of molting brant, which arrive after the survey, are not represented in the table. The total number of brant that molt in the TLSA far exceeds the entire ACP breeding population in most years. The table should clearly recognize these differences.

053
Birds

3.3.6.4, Pages 3-44 to 3-46, Shorebirds: This section is missing several key points that are described below:

A bird monitoring study conducted between 1998 and 2001 surveyed 386 various-sized plots distributed throughout the NPR-A, which together covered a 112-km² area (B. Andres and J. Bart, unpubl. data). These surveys were conducted initially along rivers but during the last two years of the study helicopters were used to survey random locations throughout NPR-A. The surveyed area represents about 0.47% of the approximately 24,000 km² NPR-A area. Biologists counted 4,445 shorebirds belonging to 17 species during the four survey years. The highest counts of shorebirds occurred in the northern portion of NPR-A, followed by areas near the Colville River, and then the southern portion of NPR-A. The most numerous species were Semipalmated Sandpiper (1153), Pectoral Sandpiper (943), Red Phalarope (669), Red-necked Phalarope (435), Long-billed Dowitcher (353), and **Dunlin** (343). Other less common species included Black-bellied Plover, **American Golden-plover**, **Whimbrel**, **Bar-tailed Godwit**, **Ruddy Turnstone**, Western Sandpiper, White-rumped Sandpiper, Baird Sandpiper, **Buff-breasted Sandpiper**, **Stilt Sandpiper**, and Wilson's Snipe. Seven of the species (in bold above) are on the USFWS's National or Alaska BCC list (see details below as to why these species are considered of high conservation concern). A preliminary analysis that extrapolated the densities of the most abundant shorebirds (based on a double sampling approach used to determine detection rates) using the Duck's Unlimited land cover information in a regression model estimated that between 356,000 and 455,000 (95% Confidence Intervals) shorebirds occurred on the eastern portion of the NPR-A.

054
Birds

The large number of shorebirds that occur in the NPR-A should not be used as a reason for arguing that oil development has little affect on the species at a population level. Cumulative effects from many developments over a large area could have a negative impact on less common species, especially when facilities and roads are built in their preferred habitat. Local extirpation for particular species might also be an issue if specific habitats become substantially reduced or eliminated.

055
Birds

Based on the type, distribution and quantity of habitat available in northern Alaska, the NPR-A ranks the highest in terms of shorebird diversity and abundance (R. Lanctot, unpubl. data). Indeed, habitat availability alone indicates the number of shorebirds in NPR-A likely dwarfs the number present on the Kuparuk/Prudhoe Bay oil field, and the Arctic National Wildlife Refuge.

056
Birds

Shorebirds breeding on the NPR-A migrate to many parts of the world, including Japan and Asia (Dunlin), New Zealand (Bar-tailed Godwit), southern South America (e.g., Pectoral Sandpiper, American Golden-plover, White-rumped Sandpiper, Buff-breasted Sandpiper), Central America (e.g., Western Sandpiper, Semipalmated Sandpiper), and the east coast of North America (Red-necked Phalarope). Such long-distance migrations are energetically expensive and the ability of these birds to acquire sufficient fat reserves on the tundra and littoral areas of the NPR-A are crucial to their accomplishing such migrations.

057
Birds

While some of the international significance of these species is presented in the document, the ramifications of this are not clearly presented. For example, it should be noted that shorebirds (and many other birds) are affected by human actions throughout their breeding, staging, migration, and wintering ranges. Thus we cannot view any negative, although frequently argued as only subtle, habitat alteration on the breeding grounds independently, but rather such actions must be viewed from a global perspective (i.e., our actions may be just one of many).

58

The Service provides the following specific information on shorebirds that occur in the Northeast Planning Area and that are Species of High Conservation Concern or that are considered Highly Imperiled (excerpted from the Alaska Shorebird Conservation Plan, second edition 2004).

059
Birds

American Golden-Plover—Despite a population of moderate size for a migratory shorebird (150,000+, Morrison et al. 2001), this is a species of high concern because of an apparent population decline and significant potential threats on the non-breeding grounds (Brown et al. 2001). Among the latter, changing agricultural practices at spring staging areas in Indiana and Illinois, exposure to agricultural pesticides during much of the spring migration in North America, and the loss of suitable habitat on the non-breeding grounds in South America are probably the most important (Johnson 2003).

060
Birds

Whimbrel—The second edition of the U. S. Shorebird Conservation plan provides separate conservation assessments for the two known North American races of Whimbrel. The Canadian form, *Numenius phaeopus hudsonicus*, is highly imperiled, but the Alaskan form, *N. p. rufiventris* (Gibson and Kessel 1997, Engelmoer and Roselaar 1998), is considered to be of only moderate concern (Brown et al. 2001). The U.S. Plan prioritization, however, does not take into account the rapid elimination of much of the intertidal mangrove habitat used extensively by Whimbrels in Latin America during the non-breeding season (Mallory 1981; Skeel and Mallory 1996; P. O'Hara, pers. comm.). Consideration of this potential threat to both races elevates the prioritization score of *rufiventris* (the Alaskan race) to a 4 (high concern). There may be as many as 40,000 Whimbrels in Alaska (Morrison et al. 2001, Brown et al. 2001). Published estimates of density in Alaska, however, are low (McCaffery 1996, Skeel and Mallory 1996), and the largest Alaskan concentrations involve only a few thousand birds (Handel and Dau 1988). Population trends, migration routes and non-breeding destinations of Alaska-breeding Whimbrels are unknown.

061
Birds

Bar-tailed Godwit—Alaska may support the entire breeding population of *Limosa lapponica baueri*. Despite having a moderate population size (~120,000 birds), this population is

061 (Cont'd)
Birds

potentially at risk. The species is vulnerable to subsistence harvest throughout its annual cycle. A few thousand godwits are harvested annually on the Yukon-Kuskokwim Delta; a harvest of similar magnitude apparently occurs in China, and the indigenous Maori of New Zealand have recently petitioned their government to legalize harvest there. The absolute levels of such harvest and their cumulative impacts on the population are largely unknown but could be significant. In addition, post-breeding surveys on the Yukon-Kuskokwim Delta suggest that large-scale reproductive failures have occurred repeatedly during the past five years; juveniles have made up no more than 3% of staging flocks (McCaffery and Gill 2001; McCaffery and Gill, unpubl. data). Even lower proportions have been detected among birds arriving in fall on the non-breeding grounds of New Zealand and eastern Australia. Finally, limited data suggest that clutch size has declined significantly over the last century (McCaffery, unpubl.); this may contribute to the low numbers of juveniles seen on the fall staging grounds.

062
Birds

Ruddy Turnstone—At the species level, the Ruddy Turnstone is considered a species of high concern in the U. S. Shorebird Conservation Plan (Brown et al. 2001). The population in eastern North America (*Arenaria interpres morinella*) is thought to be declining overall, and has declined significantly in two major survey areas (Donaldson et al. 2001). As such, this population independently qualifies as one of high concern. Ruddy Turnstones breeding along the Beaufort Sea coast of Alaska show affinities with *morinella*, but the taxonomic status of birds in this region of the state is unclear (Gabrielson and Lincoln 1959, Engelmoer and Roselaar 1998). Most Alaskan breeders apparently belong to the nominate race, *A. i. interpres*. Although the U.S. Plan indicates that this species is of only moderate conservation score, *interpres* actually qualifies as a population of high concern according to the quantitative criteria in the plan. The estimated population size of this Alaskan population is only 20,000, but the quality of that estimate is poor (Brown et al. 2001). The population trend and non-breeding areas of Alaskan Ruddy Turnstones are unknown. Although thousands formerly congregated on the Pribilof Islands each fall to feed on the maggots infesting slaughtered fur seals, those numbers have declined dramatically since the cessation of the seal harvest. This phenomenon involved both Siberian- and Alaskan-breeding birds (Thompson 1974), but in what proportions is not known.

063
Birds

Dunlin—Two subspecies of Dunlin (*Calidris alpina arctica* and *C. a. pacifica*) nest in Alaska, the former exclusively while a very small fraction of the latter occasionally nests east into Canada (Warnock and Gill 1996). The population size of *C. a. arctica* is < 650,000 (D. Troy, pers. comm.). Despite the large population size, this race is considered highly imperiled (Brown et al. 2001) because significant declines have been documented in a local population on the North Slope (D. Troy, pers. comm.), and non-breeding habitat in East Asia continues to be lost at an alarming rate (Barter 2003). The estimated population size of *C. a. pacifica* is also large, at 550,000. Similar to *arctica*, however, this species is of high conservation concern because of probable population declines, significant threats during the non-breeding season (e.g., extreme concentrations near oil-shipping lanes in Prince William Sound) and its small breeding range (Brown et al. 2001).

064
Birds

Buff-breasted Sandpiper—The Buff-breasted Sandpiper is a species of high conservation concern because of its apparent decline from historical numbers, small population size (15,000), small non-breeding distribution, and probable threats on the non-breeding grounds (Brown et al. 2001, Morrison et al. 2001). Threats on the non-breeding grounds include habitat loss along the migration route, exposure to pesticides, and resort and agricultural development of remaining habitat used during the austral summer in South America (Lanctot and Laredo 1994, Gotthardt and Lanctot 2002).

065
Birds

3.3.6.4, Pages 3-44, Sandpipers and Phalaropes: Several of these species have populations that can increase and decrease substantially from year-to-year. Most notable are pectoral sandpipers and buff-breasted sandpipers, which can be completely absent from an area one year and very abundant the next (Lanctot and Weatherhead 1997, Holmes and Pitelka 1998). These species cannot be adequately monitored in one or even two-years.

066
Birds

3.3.6.4, Pages 3-46, Buff-breasted Sandpiper: The distribution of buff-breasted sandpipers, and most other shorebirds, is poorly known on the Arctic Coastal Plain. Thus the lack of observations of this species from the NPR-A does not mean the species does not occur or that it occurs uncommonly in the region. The ramifications of the species' lek-mating system are also not mentioned. Leks are areas where males aggregate and females visit to mate. Thus the availability of these meeting areas, usually located in dry areas adjacent to river banks, is essential for the species to breed successfully. These drier sites are typically selected for oil and gas development to avoid the much more common wetland areas. The principal wintering areas for buff-breasted sandpipers are in coastal Brazil, Uruguay and Argentina (Lanctot et al. 2002).

067
Marine
Mammals

3.3.7.2, Page 3-55, Polar Bear, Paragraph 2: We recommend re-writing this paragraph as follows:

“Polar bears are usually associated with the pack ice, although they may be seen on land or swimming in open water at considerable distances from the ice. During the fall open water period, polar bears commonly swim ashore and scavenge beached carcasses or the remains of bowhead whales taken by subsistence hunters (Kalxdorff and Proffitt 2003). The Beaufort Sea coastline, as well as river drainages and bluffs along lakes throughout NPR-A, provide important areas used by polar bears for resting, feeding, denning, and seasonal movements. In the last decade, the numbers of polar bears occurring along coastal areas of the Beaufort Sea have been increasing (Stirling and Andriashek 1992, Amstrup and Gardner 1994, and Amstrup 2000). The reason for the increase in numbers of polar bears is unknown but may be related to ice conditions. The USFWS (Schliebe et. al in prep) recently compared the distance of the ice edge from shore (during fall months) with the numbers of polar bears observed on land. A significant correlation was found to exist: as distance to the ice edge increased, so did the numbers of bears observed on land. The potential for continued reduction in ice cover from global climate change could result in greater numbers of polar bears occurring along the coastline for protracted periods of time, thereby also increasing potential conflicts with human activity.”

3.3.7.2, Page 3-55, Polar Bear, Paragraph 3: We recommend adding the following sentence prior to the existing last sentence:

068
Marine
Mammals

“In the Planning Area, polar bears are known to have denned at or near Cape Simpson, Smith Bay, Lonely, Pogik Bay, Cape Halkett, Eskimo Islands, Atigaru Point, and the Colville River Delta.”

069
Birds

3.4.2, Page 3-69, Subsistence: Oil and gas development in the Northeast Planning Area of the NPR-A could have dramatic effects on bird populations should residents (both native and non-native) have access to newly built roads for hunting. This is particularly relevant given the recent legalization of an Alaska Subsistence Spring/Summer Migratory Bird Harvest. Across the state, residents are able to legally harvest some 34 waterfowl, 6 waterbirds, 30 seabirds, 1 crane, 2 owls and 18 shorebird species. In the Planning Area, legal spring and summer harvest may occur between 2 April and 6 June, and between 16 July and 31 August in 2004 (except for King and Common eiders which have a slightly different season). This new legal harvest may increase the number of non-native hunters that now can legally harvest birds in the spring and summer. Efforts should be made to minimize any use of oil and gas development infrastructure that would promote access to new hunting areas previously difficult to access. More information on this new harvest can be obtained at <http://alaska.fws.gov/ambcc/Regulations.htm>.

070
Birds

Map 3-19: This map depicts shorebird distributions across the NPR-A based on aerial breeding pair surveys. This map is likely inaccurate for several reasons. First, these surveys were designed to sample waterfowl and thus transect methods are likely inappropriate for shorebirds (even large ones) that are difficult to see and seldom fly up while planes are flying over. Second, shorebirds are counted opportunistically (i.e., when duck numbers are not overwhelming the observers). We recommend using data from the more accurate ground-based surveys described above.

071
Marine
Mammals

Map 3-24: Several known polar bear den sites have been omitted from the map. We recommend contacting the Service’s Marine Mammal Management office at (907) 786-3800 for a listing of current and historic den locations known to occur in and adjacent to the Northeast Planning Area. Polar bear sightings data for 2000-2003 along the coast of the Planning Area are also available.

Environmental Consequences

072
Effects
of Spills

4.3.8.2, Pages 4-104 and 4-105, Effects of Spills: In the fourth paragraph of this section, the text needs to explain that spills occurring during the broken ice and solid ice periods (over 200 days per year) will likely be difficult or impossible to clean up before the ice free period and could, therefore, represent a hazard to spring migrating birds that land in broken ice areas or open leads containing floating oil.

0703
Vegetation

4.3.8.4, Page 4-106, Conclusion: The effects of water draw down on vegetation important as forage for molting geese are unknown. If draw down were to significantly damage important vegetation geese would either be displaced or negatively impacted.

4.3.9.2, Page 4-121, Effects From a Large Spill, Paragraph 3: Please replace this paragraph with the following text:

074
Marine
Mammals

“Polar bears are known to travel and den along the Colville River and would be most vulnerable during fall (open water), winter, and spring months. Polar bears may be affected directly through contacting spilled oil or ingesting contaminated prey, or indirectly through loss of habitat or prey species. However, the low probability of a large scale oil spill combined with the likelihood of low numbers of bears occurring in the area indicates that population-level effects would likely be low, unless spilled oil traveled extensively into the marine environment, or aggregations of bears encountered oil.”

075
Threatened

4.3.10.2, Page 4-130, Effects of Spills, Spectacled and Steller’s Eiders, Paragarph 2, Sentence 3: It is not necessarily true that an offshore spill in summer would have a greater effect on threatened eiders than a winter spill. A winter spill may not be cleaned up until well after spring breakup. If floating oil was present during the spring broken ice period, migrating eiders would be oiled when landing in contaminated leads.

076
Birds

4.4.8, Page 4-202, Birds: Besides birds being simply displaced, the authors should note the possibility that displaced birds may breed less successfully or not at all and may have higher mortality rates than birds able to return to their original breeding site. This is a distinct possibility because displaced birds may be forced to settle for lesser quality habitat.

077
Birds

4.4.8.2, Page 4-203, Effects of Disturbances, Exploration: The introductory paragraph of this section states that temporary displacement of a small number of birds from preferred sites may occur. The third paragraph, however, states that permanent displacement from nesting, feeding or brood-rearing habitats may occur. The discrepancy should be reconciled in the introduction, which should summarize the general finding that is supported in subsequent paragraphs. The DEIS also states that conducting surveys after the nesting season would eliminate potential for nest abandonment. This sentence should acknowledge that information on nesting would be sacrificed if it was not collected during the nesting season.

078
Seismic

4.4.8.2, Page 4-203, Effects of Disturbances-Exploration: The use of airguns for seismic work in Teshekpuk Lake or other lakes during summer could not only “temporarily displace” birds from preferred habitats but could also prevent them from putting on adequate fat reserves for successful migration. Thus, there could be more far-reaching consequences than simply causing a bird to move to a new area of the lake. Conducting seismic work only in winter months would eliminate this concern.

079
Roads

4.4.8.2, Page 4-204, Effects of Disturbances, Oil and Gas Development, Activities on Roads and Pads: The first sentence refers to pedestrian traffic on roads and pads. This suggests that pedestrians would not be prohibited from access to these roads. While currently there is no road access to this region, the public and subsistence hunters may use the area to a greater degree if roads are constructed. A thorough analysis of the impacts to natural resources associated with public access or increased subsistence hunting to a currently undeveloped and relatively inaccessible region is needed in the Final EIS.

080
Stips &
ROPs

Additionally, the draft acknowledges that impacts from disturbance would occur in habitats with high bird concentrations (goose molting lakes), or if species with low population numbers (brant are well below flyway objectives) or declining populations (brant) are disturbed. The draft states that effects would be mitigated by Lease Stipulation K-4. This explanation fails to note that Alternatives B and C would eliminate a stipulation that currently reduces disturbances from overflights (Pg. 2-65, Table 2-2, Air Traffic, #53), which have been demonstrated to have significant disturbance effects on molting brant (Derksen et al. 1992). The difference between Alternatives, with regard to overflight mitigation measures, is significant and should be discussed in this section.

081
Birds

4.4.8.2, Page 4-205, Effects of Disturbances, Oil and Gas Development, Activities, Air Traffic: The draft states, "...some birds could acclimate to aircraft activity by either remaining in habitats located near aircraft activities, or by moving to nearby habitats." The existing literature suggests that brant do not easily habituate to aircraft disturbances (Owens 1977, Burger 1981, Derksen et al. 1992), and there is no evidence that nearby areas provide the suite of resources (adequate forage and security from predators) present in the areas currently used by molting brant in the TLSA and selected in the absence of disturbance.

082
Birds

4.4.8.2, Page 4-205, Effects of Disturbance, Oil and Gas Development, Watercraft: Watercraft use along rivers could affect some bird species that rely almost strictly on gravel bars and shrubs that occur along the streams. Among the shorebirds, such species include Semipalmated Plovers, Baird's Sandpipers, and Ruddy Turnstones. Repeated displacement of these birds could result in failure to nest, abandonment of nest sites, and generally lower productivity.

083
Wildlife

4.4.8.2, Page 4-206, Effects of Disturbances, Mortality: Despite the intent of ROP E-9, the Service does not concur that the potential effects to birds of increases in predators would be similar under the No Action Alternative and the draft Preferred Alternative (or for Alternative C). Although North Slope operators have, with the encouragement of the resource agencies, implemented measures to reduce the availability to predators of anthropogenic food sources and nesting or denning structures, these measures have not been completely effective, as evidenced by the continued nesting efforts of ravens on permanent and temporary structures and the persistence of unusually large concentrations of gulls associated with human activities. Because Alternatives B and C would open significantly more area, much of which supports important bird populations and habitats, to oil and gas leasing and development, increases in predators and related impacts to birds would likely be higher under these Alternatives than under the No Action Alternative.

084
Effects of
Spills

4.4.8.2, Page 4-207, Effects of Spills: Some lakes within the core goose molting area are connected to marine waters. While these lakes would be deferred from development under Alternative B, they could be impacted by potential oil spills from wells located between the proposed no-lease area and the coast in areas proposed to be open for leasing (E and SE of Pogik Bay (T 18N, R3W-R4W), and SW of Cape Halkett (T 16N, R2W), or from spills in marine waters that originate from increased barge traffic. To reduce this risk, it would be prudent to defer these on-shore sites in the blocks T 18N, R3W-R4W, and T 16N, R2W.

085
Birds

4.4.8.4, Page 4-208, Conclusion: It seems unlikely that “once exploration and development/production ceases in an area, bird populations and habitat could recover” unless the land area can be restored to its previous state. Restoration is cost prohibitive, and there are no assurances that roads and pads ultimately will be removed and habitats restored. These areas would still have habitat loss, and the roads may provide increased and continued long-term access routes in the future for the public to hunt, and thus birds using the surrounding area would continue to be affected by increased access in areas with historically lower levels of access. This comment applies also to 4.5.8.4, Page 4-291, Conclusion.

086
Birds

The final paragraph should state that potential additive effects would likely be greatest for Pacific brant due to their sensitivity to disturbance, the current decreasing population trend, and the concentration of up to 30% of the Pacific flyway population in the TLSA.

087
Traffic

4.4.9.2, Page 4-214, Activities Not Associated with Oil and Gas Exploration and Development, Paragraph 2: Please add a sentence at the end of this paragraph that states that overland traffic could disturb denning bears, potentially resulting in abandonment of the den site and death of cubs.

088
Marine
Mammals

4.4.9.2, Page 4-215, Effects of Disturbances, Paragraph 3: We believe that, under the Preferred Alternative and despite the proposed ¾-mile coastal buffer, increased levels of exploratory drilling and development near the coast would increase the likelihood of displacing or attracting polar bears or causing den abandonment, and request that the first sentence of Paragraph 3 be re-stated accordingly. Also, please replace the last sentence in paragraph 3 with the following:

“The effects of exploration activities, including disturbance and potential spills, would depend on the scale and duration of the activity and could affect some marine mammals. However, numbers of marine mammals in the planning area are likely to be low, and therefore significant effects at the population level are not expected.”

089
Marine
Mammals

4.4.9.2, Page 4-215, Effects of Disturbances, Paragraph 4: We disagree with the last sentence in paragraph 4, which states: “Onshore [exploratory] activities would affect local tundra habitats but would not likely affect individual marine mammals or populations.” Individual polar bears may be affected by exploration activities. Of particular concern are winter seismic surveys which are a primary disturbance factor for denning polar bears. This section should reflect that seismic surveys in close proximity to polar bear dens may cause abandonment of maternity dens by polar bears, however, numbers of dens affected would likely be low. Also, mitigation measures (e.g. use of habitat classification system to identify den habitat, pre-activity FLIR reconnaissance flights, use of scent-trained dogs to locate/validate dens, one mile den buffer), incorporated through site-specific Letters of Authorization, would minimize the possibility of disturbance occurring.

090
Effects of
Spills

4.4.9.2, Page 4-216, Effects from a Large Spill: Please add the same language as recommended for the same section under Alternative A and note that the probability of a spill would be expected to increase with increasing levels of exploration and development.

091
Impact

4.4.9.2, Page 4-217, Conclusion, Paragraph 1: Please insert the word “likely” between “would” and “be” in the first sentence.

92

4.4.12.2, Page 4-229, Subsistence Harvest Patterns, Paragraph 4, Last Sentence: Given the importance of the molting area to mid-continent white-fronted geese, population level effects could affect subsistence and sport goose harvest on the ACP, and in interior Alaska, Canada, the Midwest states, and Mexico.

93

4.4.16.2, Page 4-246, Effects of Development: It should be noted that if development activities reduce waterfowl populations sufficiently to cause managers to restrict subsistence harvest (as indicated in Section 4.4.12.2), sport harvest will be restricted as well.

094
Traffic

4.5.8.2, Page 4-289, Effects of Disturbances, Oil and Gas Development, Air Traffic: Under Alternative C, aircraft traffic, including takeoffs and landings, apparently could occur within the entire Goose Molting Area. Derksen et al. (1992) did not detect any habituation by molting brant to helicopters on a daily or seasonal basis and predicted serious reductions in body weight at high helicopter travel frequencies. Given the uniqueness of the Goose Molting Area and the status of the brant population, frequent aircraft activity could have serious population-level impacts. While disturbance effects of ground activities (construction and operation on roads and pads) have not been adequately examined, results obtained from helicopter disturbance studies suggest that ground disturbances could have serious impacts as well (Page 4-288). Our comments (above) for Section 4.4.8.2, Page 4-205, Effects of Disturbances, Oil and Gas Development, Activities, Air Traffic are incorporated here by reference.

095
Cumulative

4.6.3, Page 4-337, Scope of the (Cumulative Case) Analysis: The introduction to the cumulative impacts analysis should state clearly that it will consider loss of breeding, molting, staging, migrating and wintering habitats for migratory birds.

096
Cumulative

4.6.9.8, Page 4-381, Birds, Cumulative Analysis, Paragraph 2: We disagree that there would be only minor differences in cumulative effects to birds under the Alternatives. Alternatives B and C would almost certainly result in substantially increased intrusion into the Goose Molting Area of the TLSA. As described above, preliminary results of USGS-BRD analysis suggests that since 1999, on average, 47% of molting brant in the TLSA use lakes that would be partially or wholly outside the boundary of the no-lease area proposed under the draft Preferred Alternative (USGS unpubl. data). Similarly, since 1999, on average, 44% of molting greater white-fronted geese and 58% of Canada geese have congregated on lakes in the area that would be available for leasing and development if the draft Preferred Alternative is adopted. Under Alternative C, the entire Goose Molting Area would be open to leasing, with development and related activities allowed within ¼-mile of all goose molting lakes.

097
Birds

After five years of intensive study, Derksen et al (1992) concluded that the Goose Molting Area was unique and essentially irreplaceable. It is not evident that displaced birds could find alternative molting areas that would provide comparable resources and survival. The Pacific brant population has declined gradually since the 1960s and is currently nearly 50,000 birds below the Pacific Flyway population objective of 162,000 wintering birds (Pacific Flyway Council 2002). Migration and wintering habitats for this species have been degraded

substantially by anthropogenic activities during this period, and recent work has identified human-caused damage to breeding habitat in some areas (Anthony 2003). The harvest of this species, which is highly valued by sport and subsistence hunters, is already restricted well below desired levels. Given the species' inability to habituate to disturbance while molting and the uniqueness of the Goose Molting Area, any encroachment into this area (such as that proposed by Alternatives B and C), could jeopardize this important resource.

098
Cumulative

The Service believes, therefore, that the likelihood of significant impacts (direct, indirect, and cumulative) to molting geese in general and Pacific brant in particular is greater under the draft Preferred Alternative and Alternative C than under the No Action Alternative, and that this constitutes more than "minor differences" in the cumulative effects these alternatives are likely to have on birds in the Planning Area and specifically in the TLSA. This issue needs to be clearly presented and evaluated in the *Effects of Disturbance* sections (pages 4-382, 4-383, 4-384, and 4-386) of the final EIS.

099
Cumulative

Additionally, the claim regarding only minor differences in cumulative effects between the Alternatives appears to be based on the assumption that only a small percentage of the overall Planning Area is likely to be developed. Without a greater understanding of the distribution of birds throughout the Northeast Planning Area and how this distribution overlaps with future oil development, this conclusion appears unsubstantiated. For example, we have very little information on how different BCC species are distributed throughout the NPR-A. This lack of knowledge prevents us from determining how development would affect wildlife under the various Alternatives.

100
Birds

The last sentence of this paragraph states that the portion of habitat affected would be a small percentage of total habitat on the ACP. This statement is misleading because it does not consider the fact that birds are not evenly distributed across the ACP. Instead, molting geese in particular concentrate in specific habitats where leasing is currently closed, some or all of which would be made available for oil and gas leasing and development under alternatives B or C. Additionally, impacts to birds may not be related only to the amount of habitat affected (the development "footprint"), but to a somewhat larger area that includes the "zone of influence" of oil and gas activities that may impact birds beyond the development footprint, including development-related disturbances such as increased air traffic.

101
Birds

4.6.9.8, Page 4-382, Birds, Cumulative Analysis, Effects of Disturbance, Aircraft and Vessel Disturbance: The last sentence of paragraph 3 states that disturbance from aircraft would affect a small percentage of total bird populations. This statement is speculative, particularly because there are no stipulations that specifically and with certainty direct how air traffic will occur in the goose molting area. Our comments (above) for Section 4.4.8.2, Page 4-205, Effects of Disturbances, Oil and Gas Development, Activities, Air Traffic are incorporated here by reference.

102

4.6.9.8, Page 4-383, Cumulative Analysis, Effects of Disturbance, Other Disturbance Factors: Lacroix et al. (2003) found no major effects of seismic activity on **long-range** movements and diving behavior of **molting (i.e., flightless)** long-tailed ducks in the lagoons near Prudhoe Bay (information in bold is important but omitted in the DEIS). This does not mean such activities

would not affect the thousands of flight-capable shorebirds that use the Colville Delta and other river mouths in or adjacent to the Northeast Planning Area. These birds are trying to put on fat reserves in preparation for a long-distance migration. Disturbance in areas used by staging shorebirds could limit their ability to acquire food and the fat reserves necessary for migration.

103
Effects of
Spills

4.6.9.8, Page 4-385, Cumulative Analysis, Effects of a Large Oil Spill: The first sentence of the first paragraph suggests that any oil spill is likely “to be contained and cleaned up before substantial bird loss can occur.” This seems unlikely if the spill should occur during the spring break-up season, when moving ice flows make distribution of containment booms impossible, or in the fall months, when large storms frequently hit the coast. This seems like an overly optimistic assessment of industry’s ability to clean up spills should they occur.

104
Effects of
Spills

The potential impact of a large oil spill on staging shorebirds on the Colville River Delta also appears to be understated given that between 45,000 and 300,000 shorebirds stage on the delta between the 25 July and 5 September (Andres 1994, Andres, pers. comm.). The uncertainty in these numbers occurs because information on turnover rates of birds is poor (45,000 would be present if birds stayed at least 7 days and 300,000 would be present if birds stayed one day). Large numbers of shorebirds could die during this critical staging period should they encounter oil on shorelines through oil exposure and subsequent hypothermia, or indirectly by birds eating contaminated prey or their invertebrate food sources dying (Andres 1994). Contamination of sediments and thereby invertebrates could affect intertidal areas (and thus feeding shorebirds) for years to come as has been seen in Prince William Sound. Disturbances such as these could have population-level effects (as opposed to the loss of a few nests as described in the DEIS) because very large number of birds would be affected.

105
Cumulative

4.6.9.8, Page 4-386, Birds, Cumulative Analysis, Conclusion, Paragraph 2: The final sentence of this paragraph states that the (cumulative) effects on bird populations resulting from future project infrastructure, including that related to the Alternatives analyzed in the DEIS, would be expected to be less severe than previous developments. While this may be true in a general sense based on improved technologies and a growing understanding of impacts and measures for effectively mitigating them, it is unlikely that this generalization holds true for all bird populations on the ACP. For example, it certainly is not accurate with regard to potential impacts to molting geese that concentrate specifically within the TLSA. Nowhere else on the ACP would past or future development and related infrastructure be expected to have as great a potential for impacts to populations of molting geese, particularly Pacific brant, as would development that could result from implementation of the draft Preferred Alternative or Alternative C. This needs to be clearly acknowledged and evaluated in the cumulative analysis for the Final EIS.

106
Cumulative

4.6.9.9, Page 4-391, Marine Mammals, Cumulative Analysis, Effects of Noise and Disturbance on Polar Bears: Please replace the fourth sentence with the following:

“The cumulative effects of these combined disturbances are unknown and will depend on the type, level, frequency, and duration of the disturbance, as well as the number of bears affected. If low numbers of bears are affected, populations would be expected to recover within a year or two.”

4.6.9.9, Page 4-392, Marine Mammals, Cumulative Analysis, Effects of Spills: Please add the following text:

107
Cumulative

“The potential for increased dependence on terrestrial habitats by polar bears combined with increased human development from multiple lease sales and subsequent exploration and development within NPR-A and ongoing development at Alpine, Northstar, Prudhoe Bay, and Point Thompson increases risks to polar bears from oil spills. Increased encounters with humans and spilled oil or other contaminants could increase cumulative effects to the polar bear population.”

4.6.9.14, Page 4-411, Cumulative Analysis, Paragraph 2: This analysis should address the significant threats to the subsistence lifestyles of the Native peoples of western and southwestern Alaska if the proposed encroachment into Goose Molting Area results in a population-level effect on Pacific brant. Similarly, subsistence hunters in interior Alaska could be affected by impacts on the mid-continent white-fronted goose population.

108
Socio-cultural

4.7.8, Page 4-421, Birds: Pre-migratory staging shorebirds may be particularly susceptible to disturbance associated with aircraft flying over the delta as people travel to the various pad sites. Staging birds are typically very prone to fly when disturbed, which could interrupt feeding and prevent them from gaining the necessary fat to successfully migrate to the lower portions of North America and Latin America. This may be especially problematic for Dunlins, the most common staging bird in the area, as they are also undergoing an energetically expensive, pre-migratory molt at this time. Given that there are a limited number of staging areas along the North Slope, birds might have few options for moving to new areas that provide comparable resources.

109
Traffic

4.7.8, Page 4-421, Unavoidable Adverse Impacts, Birds and 4.9.8, Page 4-432, Unavoidable Adverse Impacts, Birds: These sections should adequately describe the potential consequences of encroachment into the Goose Molting Area. There is little evidence that displaced birds simply move to adjacent habitat.

110
Birds

4.8.8, Page 4-427, Relationship Between the Local Short-term Uses and Maintenance and Enhancement of Long-term Productivity, Birds: This section should adequately describe the potential long-term consequences of encroachment into the Goose Molting Area.

111
Birds

4.9.8, Page 4-432, Irreversible and Irrecoverable Commitment of Resources, Birds: This section should adequately describe the potential long-term consequences of encroachment into the Goose Molting Area.

112
Birds

4.11.3.8, Page 4-456, Birds: The potential for a permanent road to lead to increased access and, subsequently, a larger subsistence harvest of birds is understated as it does not mention that the new legal subsistence harvest will allow native and non-native hunters to harvest birds during the spring and summer (in addition to the normal fall hunt). The authors did a good job indicating the differential effect of roads on shorebird species (i.e., intolerant versus tolerant species).

113
Roads

Appendices

114
Alternatives

B.2.2.1, Page B-7, Evaluation of the Effect of Use, Occupancy, or Disposition on Subsistence Uses and Needs: This section needs to mention the potential effects of Alternatives B and C on Native peoples in western, southwestern, and interior Alaska if long-term impacts to molting geese were to occur.

115
Water D

D.4.2.4, Page D-27, Withdrawal of Freshwater From Lakes and Ponds, Paragraph 2: Emphasis should be placed on protecting ponds and lakes that are used for nesting and brood-rearing.

116
Subsistence

J.7, Page J-8, Contemporary Subsistence Uses: This and the following sections should acknowledge the importance of migratory birds from the project area to Native peoples in western, southwestern and interior Alaska.

Attachment 2
U. S. Fish and Wildlife Service References
Northeast National Petroleum Reserve-Alaska
Draft Amended Integrated Activity Plan/Environmental Impact Statement

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