



## **Biological Opinion**

### **Effects of Expansion of Mine Site C in the Kuparuk River Unit Oilfield, Alaska**

Prepared by:  
U.S. Fish and Wildlife Service  
Fairbanks Fish and Wildlife Field Office  
101 12<sup>th</sup> Ave, Room 110  
Fairbanks, Alaska 99701

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## 1 Introduction

This document transmits the U.S. Fish and Wildlife Service’s (Service) biological opinion (BO) in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*, ESA) on the effects of actions resulting from expansion of Mine Site C by ConocoPhillips Alaska, Inc. (CPAI) pursuant to U.S. Army Corps of Engineers’ permit POA-1980-307-M5. This BO describes the effects of the proposed action on listed Alaska-breeding Steller’s eiders (*Polysticta stelleri*), spectacled eiders (*Somateria fischeri*), and polar bears (*Ursus maritimus*). We used information provided the USACE’s Public Notice, Service documents, the Aquatic Site Assessment (ABR 2014) for this project, and published and unpublished literature to develop this BO.

Section 7(a)(2) of the ESA states that Federal agencies must ensure that their activities are not likely to:

- Jeopardize the continued existence of any listed species, or
- Result in the destruction or adverse modification of designated critical habitat.

The Service has determined the proposed action may affect, but is not likely to adversely affect Alaska-breeding Steller’s eiders but may adversely affect spectacled eiders and polar bears. After reviewing the status and environmental baseline of spectacled eiders and polar bears, and analyzing the potential effects of the proposed action to these listed entities, the Service has concluded the proposed action is not likely to jeopardize the continued existence of spectacled eiders or polar bears.

If you have comments or concerns regarding this BO, please contact Ted Swem, Endangered Species Branch Chief, Fairbanks Fish and Wildlife Field Office at (907) 456-0441.

## 2 The Action Area

Regulations implementing the ESA (50 CFR §402.02) define an “Action Area” as “area[s] to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” Mine Site C is in the Kuparuk River Unit (KRU) oilfield on the North Slope of Alaska (Figure 5.1) and adjacent to CPAI’s Kuparuk Operations Center (KOC) and Central Processing Facility 1 (CPF1). We expect most potential impacts of expanding Mine Site C would occur within a 200 m zone around the proposed expansion area (Figure 5.1).

### 3 The Proposed Action

CPAI would expand Mine Site C by approximately 125 acres to access approximately 6,023,000 cubic yards of gravel. Expanding Mine Site C would require dewatering the southern half of Pothole Lake (Lake M1204). The northern portion of Pothole Lake has already been developed by the existing mine site area. Gravel extraction would likely continue for at least 20 years (Figure 5.2). No new drill sites, cross-country pipelines, or power lines are proposed as part of this project.

CPAI would use approximately 57,000 cubic yards of organic top soil and 2,192,000 cubic yards of mineral subsoil in reclamation of the mine site; and, to the extent feasible rehabilitation activities would occur for the operational life of the mine. For example, some overburden would be placed along the northwest edge of the existing mine site for construction of a shallow wetland area. CPAI would stockpile the remaining overburden for other rehabilitation purposes in areas where the tundra has already been disturbed. At mine closure, CPAI would remove overburden from a large stockpile at the nearby Kuparuk Industrial Center (KIC) pad to rehabilitate the mine site.

Excavation would begin August 1, 2015. To minimize impacts on tundra-nesting birds, undisturbed tundra would not occur from the June 1 through July 31 annually.

### 4 Status of the Species

The status of spectacled eiders and polar bears is described in the section captioned *Status of the Species* in the *Programmatic biological opinion for wetland impacts for North Slope projects between the Colville and Sagavanirktok rivers: 2014 and 2015* (USACE Wetland Impacts BO, USFWS 2014a). No significant changes to the status of spectacled eiders or polar bears have occurred since the issuance of the USACE Wetland Impacts BO (USFWS 2014a). Thus, the status of spectacled eiders and polar bears as described in the USACE Wetland Impacts BO, (USFWS 2014a) provides the context to analyze effects of expansion of Mine Site C on these species.

#### 4.1 Climate Change

We used the best available information to discuss how climate change may affect spectacled eiders and polar bears in the USACE Wetland Impacts BO (USFWS 2014a). We addressed uncertainty regarding climate change by acknowledging that climate change will likely affect individual organisms and communities, but that it is difficult to predict with specificity or reliability how these effects will manifest. If new information regarding how climate change affects listed species occurring within the Action Area becomes available, we will update the *Status of the Species* at that time.

## 5 Environmental Baseline

Regulations implementing the ESA (50 CFR §402.02) define the environmental baseline to include the past and present impacts of all Federal, State, or private actions and other human actions in the Action Area. Also included are anticipated impacts of all proposed Federal projects in the Action Area that have undergone section 7 consultation and the impacts of State and private actions contemporaneous with the consultation in progress.

Because the Action Area is comprised almost entirely of wetlands and most development projects would require USACE permits and associated ESA section 7 consultation with the Service, potential factors affecting threatened species unrelated to the Proposed Action have undergone separate consultation elsewhere (USFWS 2014a). These potential factors include disturbance of threatened eiders, disturbance of polar bears from interactions with humans, avian and polar bear research, subsistence harvest of polar bears, and climate change. Other consultations addressing potential impacts in the Action Area include the:

- annual Intra-Service Section 10 permit for ABR Inc.'s eider survey work on the North Slope (USFWS 2014b);
- Intra-Service Migratory Bird Subsistence Hunting Regulations (USFWS 2014c);
- Intentional harassment of polar bears: Intentional take of polar bears with the Marine Mammals Management Office (MMM; USFWS 2014d) pursuant to the Marine Mammal Protection Act (MMPA); and
- Incidental disturbance of polar bears: Beaufort Sea Incidental Take Regulations (ITRs) pursuant with MMM pursuant to the MMPA (USFWS 2011a).

### 5.1 Spectacled Eiders

Spectacled eiders may breed, nest, and raise broods in the Action Area from late May through late October. Annual aerial surveys of the Arctic Coastal Plain (ACP) in June (Mallek et al. 2007, Larned et al. 2011, Larned et al. 2012, Stehn et al. 2013) provide a source of information for pre-nesting spectacled eider density in the Action Area. Density estimates across the ACP range from 0–0.426 birds/km<sup>2</sup> in 2009–2012 (Larned et al. 2011). Within the KRU, spectacled eiders nested primarily in non-patterned wet meadows within wetland complexes containing emergent grasses and sedges (Anderson and Cooper 1994, Anderson et al. 2009). After hatching, spectacled eider hens and broods occupy deep *Arctophila* spp. and shallow *Carex* spp. habitat (Safine 2011).

Factors that may have contributed to the status of spectacled eiders in the Action Area include environmental contaminants, increased predation, collisions with structures, long-term habitat loss through development and disturbance, and climate change. These impacts are occurring throughout much of the species' range, including within the Action Area. For example, existing oil and gas industry developments have resulted in long-term loss of spectacled eider breeding habitat in the Action Area directly through gravel fill and indirectly through disturbance from oilfield activities. Given the extent of development, it is likely that eiders in the Action Area have experienced some loss of reproductive potential resulting from direct and indirect habitat loss. However, the degree to which spectacled eiders can reproduce in disturbed areas or move to other less disturbed areas to reproduce, and the potential population level consequences of existing development near the Action Area, are unknown.

### 5.1.1 Summary

Spectacled eiders could occur in the Action Area at a low density. While we do not have information on use of the Action Area for brood rearing, we can infer from the low density of breeding adults that they would also occur at low density of pairs present before and during nesting that few broods would occur in the Action Area.

## 5.2 Polar Bears

Polar bears from the Southern Beaufort Sea (SBS) subpopulation (Obbard et al. 2010) may occur in the Action Area. While most SBS polar bears currently remain with the sea ice (Bromaghin et al. 2015), denning and non-denning (transient) polar bears could enter the Action Area. Land-based polar bears, however, generally occur most frequently along the coast and in low numbers across the terrestrial landscape. The Action Area is about 11.5 mi (18.5 km) from the coast and comprises a very small proportion of the overall terrestrial landscape used by polar bears. Additionally, because limited denning habitat exists within the Action Area, few females are likely to den there. Thus, we expect polar bears to enter the Action Area infrequently.

Although most SBS polar bears currently remain with the sea ice, a growing proportion of the population is using terrestrial habitat (Schliebe et al. 2008, Bromaghin et al. 2015). Recent investigations of the SBS population, however, have revealed early indications of the effects of climate-induced changes in the characteristics and availability of sea ice. For example, Fischbach et al. (2007) documented a shift in the distribution of maternal dens from multiyear pack ice to terrestrial locations, perhaps in response to the reduced availability of ice suitable for denning (Amstrup and Gardner 1994, Bromaghin et al. 2015). Thus, while we currently expect polar bears to occur infrequently in the Action Area, their presence there might increase with decreasing availability of sea ice.

The Service has issued Incidental Take Regulations (ITRs) for the Beaufort Sea and adjacent areas under the MMPA for oil and gas activities since the early 1990s. Oil and gas companies can obtain Letters of Authorization (LOAs) under the ITRs, and these LOAs require adherence to an approved polar bear interaction plan. The Service also issues LOAs for intentional take of polar bears that authorize specific methods of deterring polar bears, and like LOAs for incidental take, intentional take LOAs require adherence to an approved interaction plan. CPAI currently holds LOA 11-22 (five-year, 2011-2016, production activities, incidental take) and LOA 14-INT-12 (two-year, 2015-2017, slope-wide, intentional take) that authorize polar bear take pursuant to the MMPA, including activities at Mine Site C. LOA conditions require CPAI to report polar bear observations and interactions, and MMM have not received reports of observations, interactions, or hazing of polar bears at or near Mine Site C (email, C. Putnam, March 18, 2015).

### 5.2.1 SUMMARY

We expect denning and non-denning (transient) polar bears to occur infrequently in the Action Area.

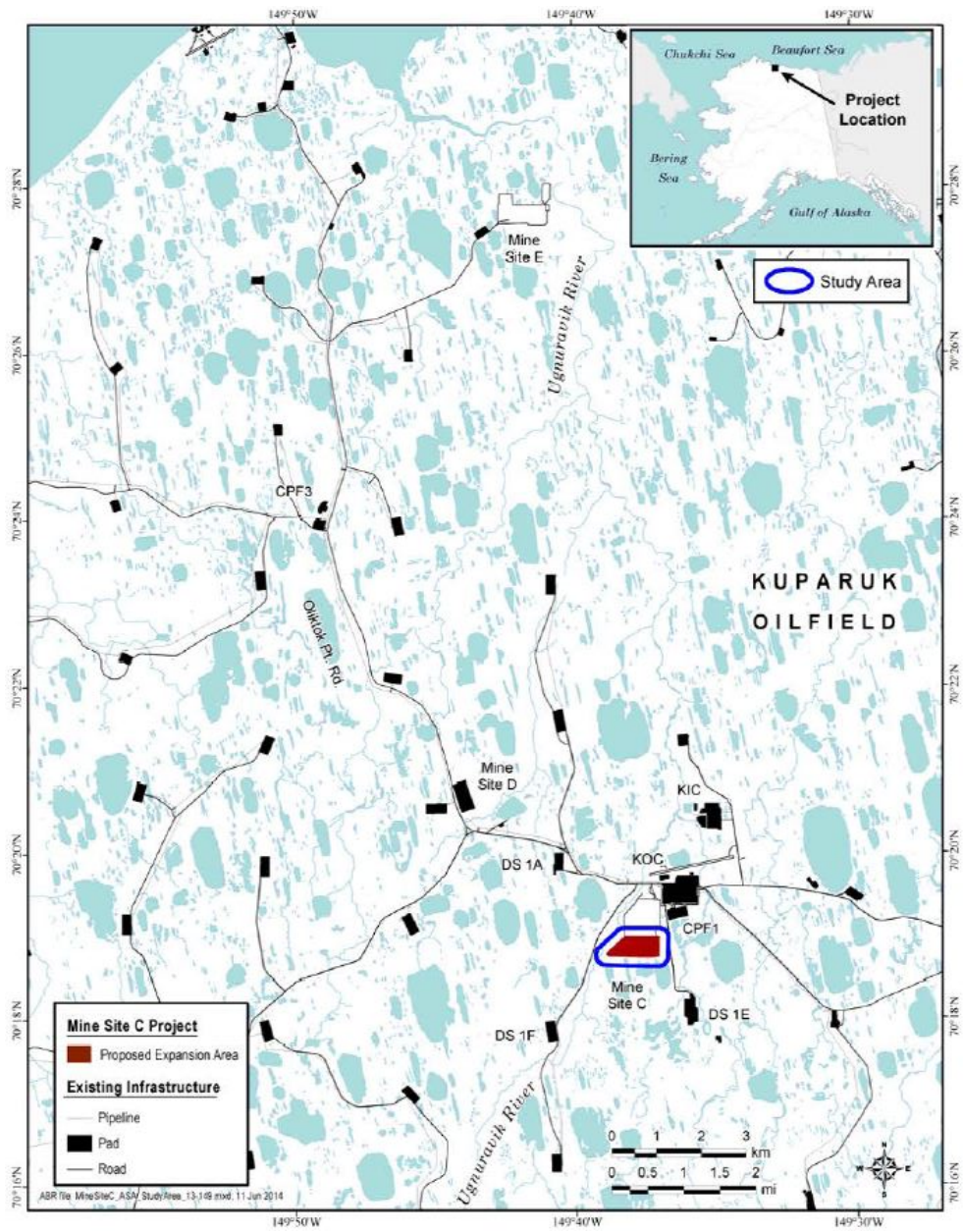


Figure 5.1. Location of Mine Site C in Kuparuk oilfields on the North Slope of Alaska.

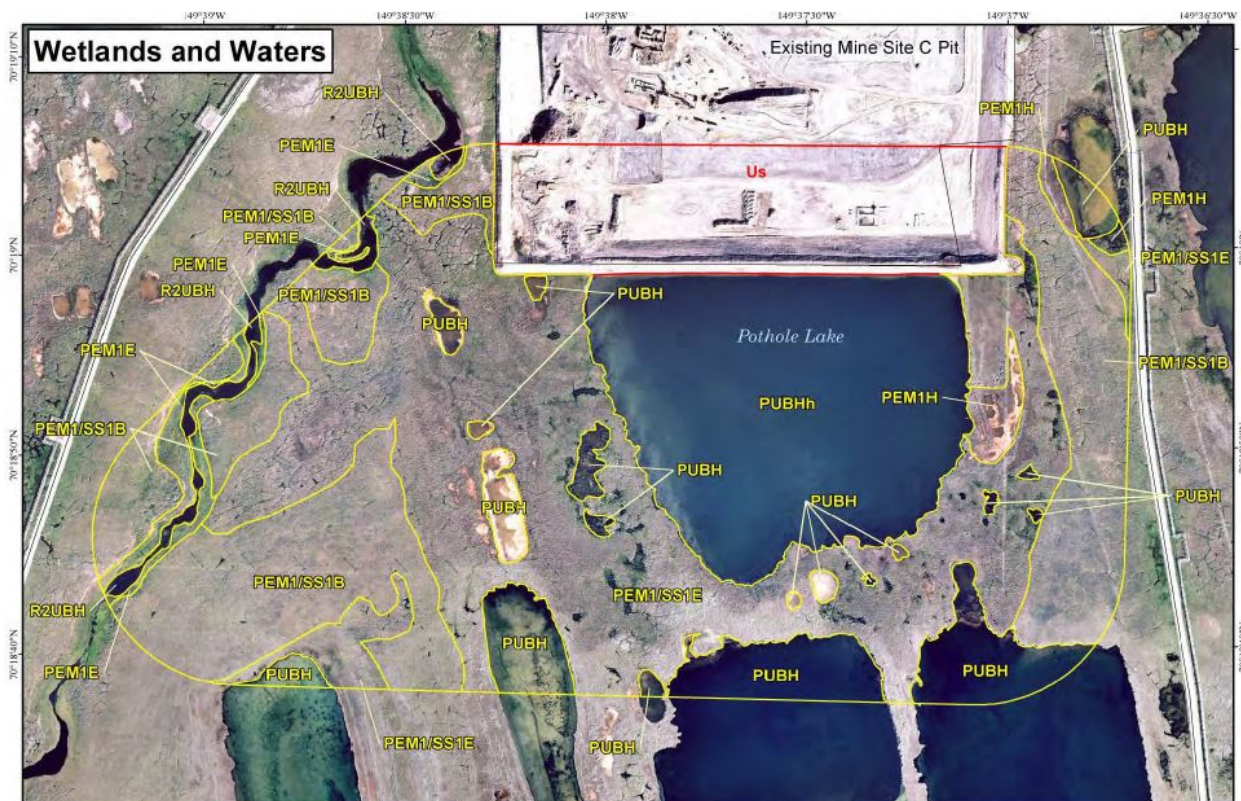


Figure 5.2. Mine Site C proposed expansion area.

## 6 Effects of the Action

Regulations implementing the ESA (50 CFR §402.02) define the “effects of the Action” as the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that Action.

### 6.1 Effects Determination for Alaska-breeding Steller’s Eiders

Alaska-breeding Steller’s eiders breed almost exclusively on the Arctic Coastal Plain (ACP), and nesting is concentrated in tundra wetlands near Barrow, Alaska. Only a handful of sightings and no nests have been documented in the KRU. We conclude that the probability of Alaska-breeding Steller’s eiders occurring in the Action Area is so low as to be discountable. Thus, expanding Mine Site C is not likely to adversely affect this species, and effects on Steller’s eiders will not be evaluated further in this BO.

### 6.2 Spectacled Eiders

Because tundra would not be excavated from June 1 to July 31, we do not expect that expansion of Mine Site C would directly impact breeding, nesting, or brood-rearing spectacled eiders. Adverse effects, however, could occur through habitat loss and associated disturbance and displacement. About 125 acres of tundra habitat would be permanently lost in the expansion of Mine Site C. Additionally, excavation at Mine Site C could disturb nearby spectacled eiders and



potentially prevent them from initiating nests or displace them from preferred nesting habitat. For example, pre-nesting spectacled eiders (observed in groups or pairs) were located an average of 239 m from structures, whereas nests were found an average of 442 m from structures near the Alpine development (Anderson et al. 2007), and the distance between spectacled eiders pre-nesting and Alpine oilfield structures did not differ before and after construction (Johnson et al. 2006). This suggests that nesting birds may be more sensitive to human presence than pre-nesting birds, and habitat near facilities may have a lower nesting value compared to distant areas. Response would likely depend upon the duration, frequency, and timing the activity, however.

Disturbance during the nesting and brood-rearing period (approximately June 5 - August 15) could adversely affect individuals by: 1) displacing adults and or broods from preferred habitats during pre-nesting, nesting, and brood rearing, leading to reduced foraging efficiency and higher energetic costs; and 2) flushing females from nests or shelter in brood-rearing habitats, exposing eggs or ducklings to inclement weather and predators. Hens may also damage eggs as they are flushed from a nest (Major 1989), and may abandon nests entirely, particularly if disturbance occurs early in the incubation period (Livezy 1980, Götmark and Ählund 1984). Individual tolerance and behavioral response of spectacled eiders to disturbance would likely vary. Thus, estimating loss of nesting habitat from disturbance is difficult. Based on best judgment and conservative estimates to benefit the species, we estimate nesting behavior may be disrupted and/or displaced by human activities within 200 m of active facilities. Thus, the loss of about 300 acres (ABR 2014) of spectacled eider nesting and brood-rearing habitat could result from this proposed project.

### *6.2.1 ESTIMATED LOSS OF SPECTACLED EIDER PRODUCTION*

We estimated lost productivity of spectacled eiders due to habitat loss. Here, we follow the same logic and assumptions used in the Wetland Impacts BO (USFWS 2014a). We assume that project disturbance and direct habitat loss would result in a loss or displacement of nests within the 300 acres of the Action Area. The 300 acres (1.214 km<sup>2</sup>) affected includes the habitat permanently lost to gravel excavation and the area within the 200-m disturbance zone. We also assume that the number of nests is half the number of indicated total spectacled eiders recorded on pre-nesting surveys (i.e., one nest for every two spectacled eiders; Larned et al. 2011). Using spectacled eider density estimates from Larned et al. (2011) estimate:

#### **Annual**

$$0.2685 \text{ indicated spectacled eiders/km}^2 \times 1.214 \text{ km}^2 = 0.326 \text{ spectacled eiders/year}$$

$$0.326 \text{ spectacled eiders/year} \times 0.5 \text{ nests/indicated spectacled eiders} = 0.161 \text{ nests/year}$$

#### **Life of Project (assumed 30 years of operation)**

$$30 \text{ years} \times 0.161 \text{ nests/year} = 4.88 \text{ nests}$$

We estimate that on average the project may result in the loss of fewer than one spectacled eider nest annually. Assuming the life of the project is 30 years, four to five nests could be lost over

that entire period. We expect these estimates are likely to be conservative overestimates of actual impacts for the following reasons:

1. Spectacled eiders can nest successfully within 200 m of active gravel roads, pads, and airstrips (results of CD3 eider studies in Johnson et al. 2008); and
2. Inherent in this approach is the assumption that spectacled eiders displaced by habitat loss or disturbance do not nest successfully elsewhere, which is supposition for the purposes of estimating potential impacts.

## 6.3 Polar Bears

We determined that the following factors may cause adverse effects to polar bears during expansion of Mine Site C:

- Disturbance of denning and non-denning (transient) polar bears
- Human-polar bear interactions
- Habitat loss

### 6.3.1 *DISTURBANCE OF DENNING POLAR BEARS*

Denning polar bears are more sensitive than other cohorts to disturbance from noise (USFWS 2011b). If disturbed, females appear more likely to abandon their dens and relocate in fall before cubs are born (Lentfer and Hensel 1980, Amstrup 1993) than in spring when cubs may not survive if they leave the maternal den early (Amstrup and Gardner 1994). Industrial noise and activities that commence after denning is initiated may cause females to abandon dens prematurely, before cubs have developed enough to survive outside the den. In addition, females and cubs continue to rely on the den site after cubs first emerge and they have been observed to spend an average of eight days in the area before a den site is abandoned (USGS data cited by USFWS 2006). Therefore, denning polar bears and females with young cubs may be particularly susceptible to disturbance.

Behavioral response of individual denning females and family groups to disturbance is variable. While observations of den abandonment associated with industry activities have been reported from northern Alaska (see review in USFWS 2011b), available data indicates such events have been infrequent and isolated (USFWS 2011b) and some studies have reported individual denning polar bears to be tolerant of human disturbance (e.g., Amstrup 1993, Smith et al. 2007). Additionally, USFWS (2011a) reported three examples (2006, 2009, and 2010) of pregnant female bears establishing dens prior to the onset of oil industry activity within 400 m (1,312 ft) of the den site and remaining in the den through the normal denning cycle.

Based on its distance from the coast and the minimal amount of potential denning habitat within the Action Area, we expect few polar bears to experience disturbance from expansion of Mine Site C. However, use of terrestrial denning habitat by the SBS population of polar bears may increase in response to changes in sea ice habitat (Bromaghin et al. 2015), which may lead to an increase in denning within the Action Area. If den abandonment were to occur, it would most likely occur during excavation of undisturbed tundra because ongoing activities during routine operations, which would be more constant and predictable, would allow more sensitive bears to select an alternative den site. However, if requested by MMM, CPAI has committed to survey the proposed ice road routes for potential polar bear dens using Forward-looking Infrared (FLIR) technology prior to ice road construction in compliance with LOAs issued for the project under

the Beaufort Sea ITRs and CPAI's *Polar Bear Avoidance and Interaction Plan*. If dens are detected within one mi (1.6 km) of proposed activities, work in the immediate area would cease, a one mile no-disturbance buffer would be established around the den site, and MMM would be contacted for guidance.

### 6.3.2 *DISTURBANCE OF NON-DENNING POLAR BEARS*

Operations at Mine Site C may disturb and displace transient (non-denning) bears from the immediate area. However, we expect disturbances would be infrequent, minor, and temporary because transient bears would occur infrequently in the Action Area and would be able to respond to human presence or disturbance by departing the area. Additionally, polar bears exposed to routine industrial noises may acclimate to those noises and show less vigilance than bears not exposed to such stimuli (Smith et al. 2007). Furthermore, the Service expects that potential adverse effects to transient polar bears would be reduced by following CPAI's *Polar Bear Avoidance and Interaction Plan* and the applicant's compliance with existing and future authorizations issued under the MMPA, such as LOAs issued under the Beaufort Sea ITRs.

### 6.3.3 *INCREASED HUMAN-POLAR BEAR INTERACTIONS*

Polar bears may need to be hazed if they approach work areas. The Service previously determined that many acoustic and vehicular deterrence methods (starting a vehicle or revving an engine) are not likely to adversely affect polar bears (75 FR 61631). However, as described in CPAI's LOAs, trained individuals may use mechanisms (e.g., chemical repellants, electric fences, and firearm projectiles) to harass or deter polar bears away from personnel and equipment. Polar bears could experience temporary disturbance and stress from some deterrence activities and may depart the area. Bears that are deterred using more aggressive methods (e.g., direct contact projectiles from firearms), would likely experience stress, short-term pain, and could be bruised. In extremely rare circumstances, if performed incorrectly, a polar bear may be severely injured or die.

Although CPAI would have authorization to use projectiles to deter bears away from personnel, we expect the majority of deterrence events would not involve contact with the bear (Level B Harassment under the MMPA), and most would cause only minor, temporary, behavioral changes (e.g., the bear departs the area). Very few deterrence events would entail techniques that would physically contact a bear, such as projectiles. For example, from 2006 through 2010, the entire North Slope oil and gas industry reported sightings of 1,414 polar bears, of which 209 (15%) were intentionally deterred (USFWS 2011b). During those previous events, between 0-5 polar bears were deterred using bean bags and between 0-1 with rubber bullets annually. Given (1) that only in 15% of bears encountered by industry have been subject to deterrence (USFWS 2011b); (2) the low density of bears in the Action Area; (3) the inland location of the proposed development; (4) the unlikely event that deterrence would result in injury; or death, we expect very few bears would require deterrence, and expect the proposed action would have a minimal impact on polar bears.

### 6.3.4 *MINIMIZATION MEASURES PURSUANT TO THE MARINE MAMMAL PROTECTION ACT*

While the LOAs CPAI has obtained would expire before the end of the development lifespan of this project, we assume that CPAI would obtain new LOAs in the future that would require

adhering to an interaction plan. Based on the record of the oil and gas industry as a whole, we expect that potential impacts of expansion of Mine Site C on polar bears would be minimized through adherence to their approved interaction plan.

### *6.3.5 HABITAT LOSS*

Habitat loss would occur through excavation of approximately 125 acres of tundra within the Action Area. It is possible a small amount of potential denning habitat may be destroyed or altered by project activities; however, denning habitat does not limit population size (C. Perham, pers. comm. in USFWS 2008c). Furthermore, the Action Area is about 11.5 mi (18.5 km) from the coast, and the majority of denning bears occur closer to the coast. Additionally, the Action Area comprises a very small proportion of the overall terrestrial landscape used by polar bears. Therefore, the small amount of habitat lost in the Action Area would likely have a minimal impact on denning bears.

## **7 Cumulative Effects**

Regulations implementing the ESA (50 CFR §402.02) define “cumulative effects” as the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the Action Area. Within the Action Area, future oil and gas development could occur. However, these activities would require Federal permits (e.g., from the USACE) and separate consultation and therefore are not considered cumulative impacts under the ESA.

## **8 Conclusion**

Section 7(a)(2) of the ESA requires Federal agencies to ensure their activities are not likely to: (1) jeopardize the continued existence of any listed species, or (2) result in the destruction or adverse modification of designated critical habitat. Regulations that implement section 7(a)(2) of the ESA define “jeopardize the continued existence of” as “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, number, or distribution of that species” (50 CFR 402.02).

### **8.1 Spectacled Eiders**

In this BO for expansion of Mine Site C, we identified loss of nesting habitat and associated disturbance as the factors most likely to adversely affect this species.

About 1.214 km<sup>2</sup> of nesting and brood-rearing habitat for spectacled eiders would be lost due excavation and disturbance (within the 200 m disturbance zone) could occur due to the expansion of Mine Site C. Assuming a 200-m disturbance zone around the excavation area, this habitat loss may result in the production loss of five spectacled eider nests for the 30-year life of the project. Based on an average clutch size of 3.9 eggs for spectacled eiders (Petersen et al. 2000, Bart and Earnst 2005, Johnson et al. 2008), we estimate up to 20 eggs (5 nests x 3.9 eggs = 19.5 eggs) could be lost due to nest abandonment. Loss of eggs is of much lower significance for survival and recovery of the species than the death of an adult bird. For example, when nest success, fledging success, over-winter survival, and annual survival are taken in context, we estimate roughly 1-7 out of every 100 spectacled eiders hatched on the Y-K Delta would enter

the breeding population (Grand and Flint 1997, Flint et al. 2000, Grand et al. 1998, and Flint pers. comm.). Similarly, we would expect only a small proportion of spectacled eider eggs or ducklings hatched on the North Slope to achieve reproductive potential. Based on current population estimate of 369,122 eiders (364,190–374,054 90% CI) (Larned et al. 2012) we do not expect the potential loss of 20 spectacled eider eggs would cause population-level declines. Thus, it is the Service’s biological opinion that proposed Action is *not reasonably likely to jeopardize the continued existence of spectacled eiders by reducing appreciably the likelihood of their survival and recovery in the wild by reducing their reproduction, numbers, or distribution.*

## 8.2 Polar Bears

In this BO for expansion of Mine Site C, we identified disturbance and human-polar bear interactions leading to deterrence events as the factors most likely to adversely affect this species. Predicting the number of deterrence events for individual projects such as expansion of this material site is difficult. However, we anticipate the use of projectiles would occur fewer than once annually and up to twice for the 30-year life of the material site with no deterrence events resulting in deaths; thus, we do not expect this project to cause population-level declines in this species. Thus, it is the Service’s biological opinion that proposed Action is *not reasonably likely to jeopardize the continued existence of polar bears by reducing appreciably the likelihood of their survival and recovery in the wild by reducing their reproduction, numbers, or distribution.*

## 9 Estimated Incidental Take

Biological opinions often have an accompanying Incidental Take Statement. Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. “Harass” is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, but not for the purpose of, carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

### 9.1 Estimated Incidental Take for Spectacled Eiders

#### 9.1.1 HABITAT LOSS WITH ASSOCIATED INCREASED DISTURBANCE, DISPLACEMENT, AND PREDATION

We based our estimates of incidental take on the acreage of gravel extraction, the 200-m zone surrounding the new Action Area, and the density of spectacled eiders in the Action Area. Using the methodology described in the *Effects* section, we anticipate incidental take of **five nests** for the 30-year life of the project.

## 9.2 Estimated Incidental Take for Polar Bears

Based on records reported from previous human-polar bear operations, we estimate **that up to two deterrence events that lead to injury** (e.g., pain and bruising) during the 30-year life of development, but that do not cause severe injury or death

The process for authorizing take (incidental or intentional) for marine mammals such as polar bears differs from the process of authorizing incidental take of other threatened and endangered species. Although we have enumerated the extent of anticipated incidental take of polar bears, the Service is not providing an exemption for incidental take of polar bears under the ESA at this time. Consistent with the ESA and regulations at 50 CFR §402.14(i) Appendix (A), incidental take statements for marine mammals are not included in formal consultations until regulations, authorizations, or permits under the MMPA until regulations, authorizations, or permits under the MMPA are in effect. Because such take must first be authorized under the MMPA, incidental take under the ESA that results from actions conducted in compliance with all requirements and stipulations set forth in the MMPA authorization will be considered by the Service to also be authorized under the ESA. CPAI currently holds LOA 11-22 (5-year, 2011-2016, production activities, incidental take) and LOA 14-INT-12 (2-year, 2015-2017, slope-wide, intentional take) that cover activities occurring at Mine Site C. These LOAs would expire before the end of the development lifespan of this project, but we assume that CPAI would continue to receive LOAs in the future.

## 10 Reasonable and Prudent Measures & Terms and Conditions

Reasonable and Prudent Measures (RPMs) and their implementing Terms and Conditions (T&Cs) aim to minimize the incidental take anticipated to result from the Proposed Action. As described above, activities resulting from expansion of Mine Site C may lead to the incidental take of spectacled eiders through habitat loss and disturbance/displacement.

### 10.1 Spectacled eiders

Because excavation of undisturbed tundra would not occur during the breeding and brood-rearing season, we are not including RPMs and T&Cs to minimize incidental take of spectacled eiders at this time.

## 11 Re-initiation Notice

This concludes formal consultation on the Action described. As provided in 50 CFR 402.16, re-initiation of formal consultation is required where discretionary USACE involvement or control over the action has been retained (or is authorized by law). The USACE must also re-initiate consultation if:

- The amount or extent of incidental take for spectacled eiders is exceeded;
  - More than five spectacled eider nests over the period covered by this BO;
- The proposed mine site expansion exceeds 125 acres;
- Project plans for expansion of Mine Site C are subsequently modified in a manner that causes an effect not considered in this biological opinion; or

- If a new species is listed or critical habitat is designated that may be affected by the Action.

Thank you for your cooperation in the development of this BO. If you have any comments or require additional information, please contact Ted Swem, Endangered Species Branch Chief, Fairbanks Fish and Wildlife Field Office, 101 12<sup>th</sup> Ave., Fairbanks, Alaska, 99701.

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