

Biological Opinion

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Re: The unauthorized Level B harassment take of a denning female polar bear and two cubs of the year (COYs) by ConocoPhillips Alaska, Inc., March/April 2006, Alpine Development Site, CD3 River Crossing #5, Alaska

Summary of events

- 1) A bear sighting was reported, but not confirmed, on 24 March 2006. A female bear with cub visual was confirmed at a den site on 26 March 2006.
- 2) The maternal den was within 400 meters of a highly active industrial river channel crossing (Tamayayak Channel, Colville River), which was under construction as an oil pipeline right-of-way.
- 3) On 27 March 2006, a second cub emerged from the den and was observed for, what appears to be the first time, at approximately 0900.
- 4) At approximately 1200, 27 March 2006, the female bear abandoned the maternal den with both COYs.
- 5) During the northward movement, after the den abandonment, the second smaller cub has trouble keeping up and the female has to come back repeatedly to encourage the smaller cub along.

6) The female travels approximately 1 mile north with cubs to a high area on the Colville River Delta, approximately 1 km off the end of the CD3 runway. The sow arrives at approximately 1608 to this elevated area which Alpine Security calls a pingo (but it is more similar to an elevated dune) and digs an excavation shelter at this secondary site.

7) The female exhibits vigilant behavior: looking back (south), milling, and pacing prior to, and after moving away from this excavation shelter as reported in the Alpine Security observation log (28 March).

8) The female bear with COYs remains at the second site from 1600, 27 March to 0917, 28 March, approximately 17 hours. She subsequently abandons this area and moves NNW with both COYs at 0900 and is not observed again.

How was this polar bear family harassed?

The den location, prior to the disturbance and displacement, was unknown to industry, slope managers, USFWS wildlife managers, and USGS wildlife researchers. After the bear den was observed all activity should have been stopped and U.S. Fish and Wildlife Service notified immediately. ConocoPhillips harassed this bear family to the point where the sow was disturbed and abandoned the den site. This occurred through noise and visual stimuli. The fate of the cubs is unknown, but early abandonment of the den site can decrease cub survival. I have used the above summary of events to explain the bear's behavior, disturbance and consequent displacement.

1) A bear sighting is reported, but not confirmed on 24 March 2006. A bear with cub visual is confirmed on 26 March 2006.

Based on the behavior of denning female polar bears and information from the security reports, the Colville female bear most likely emerges from the maternal den on, or very close to 24 March 2006 and a cub finally appears two days later. The true emergent date can not be confirmed because most likely it reentered the den when first observed by

industry personnel. This emergence date is assumed from: a) the polar bear observation reports submitted by Alpine Security, and b) subsequent interviews with Alpine Security. Security reported an unconfirmed sighting of a bear by a worker at the River Crossing #5 work site on 24 March. Security could not confirm the sighting (a visual of the bear), but notes the observation and will later back-date a USFWS polar bear observation form for the record. This back-dating was to help with the observational and informational timeline. The assumed date for den emergence at the CD3 site was within the normal, expected date of emergence range for polar bears in the Southern Beaufort Sea stock (mid March to mid April; [Amstrup and Gardener 1994]). In 2006, an additional four polar bears in the central Beaufort Sea region also emerged during mid-March to mid-April 2006 (T. Smith, USGS, pers. comm.).

2) The location of this maternal den was within 400 meters of a highly active industrial river crossing (Tamayayak Channel, Colville River).

Pregnant females enter the den in late November or early January (Amstrup 1993), which are excavated in drifted snow along river banks and bluff areas. Construction for the river crossing was initiated in late January 2006, well after polar bears seek maternal den sites to give birth to their young (Amstrup 1993). Construction personnel and management in charge of this project should have been aware that this was a potential denning area from the maps available from Durner et al. (2001). In addition, a forward-looking infrared (FLIR) survey had been conducted for this project in the same location during 2005. The survey was implemented to look for potential polar bear dens in the construction area. This survey set the precedent that ConocoPhillips was knowledgeable that there was the potential for polar bear dens to be located in the vicinity of the CD 3 project area. ConocoPhillips did not conduct a FLIR survey in advance of the 2006 activity for the CD 3 project.

Construction included the installation of the vertical support members (VSMs) and river crossing supports for the CD3 pipeline. Other activity included welding, moving large VSM pipe around the pad, and placement of casings which were being slurried into the

riverbed where pipes could be placed inside them. Equipment on site included, but was not limited to: at least 4 boom cranes, one drill rig, front end loaders, generators and light plants (with self-sustaining generators). In addition, a construction crew, roughly 15-25 people were at the CD3 Crossing 5. This included personnel in trucks and equipment break shacks where activity was occurring on both sides of the river channel. ConocoPhillips employees related to me that construction of the crossing was behind schedule making this area a constant source of increased noise and activity (movement).

Furthermore, sometime between January and March, 2006 snow mining of the river channel for the bridge crossing occurred. As related to me by a ConocoPhillips employee, this is a technique where heavy equipment, such as a front end loader, pushes snow off a river channel or lake to a central spot and collects it to be used as the foundation for ice roads. Snow mining occurs when insufficient snow exists to create ramps for the ice road approaches on the river channels. Two snow collection spots were in close proximity to the den. One snow pile had been pushed as close as 15 to 20 ft away from the den.

Noise as a Disturbance Factor

Noise associated with the excavation and construction of the river crossing most likely disturbed the Colville polar bear family. Although reaction to different noise levels varies between bears, parturient females often seek secluded areas far away from human activity and adult males for their dens (Smith et al. *in review*).

Industrial noise and sound propagation levels have been recorded for various activities and types of equipment on the North Slope of Alaska and behavior studies of polar bears can attest to the fact that certain noises can be heard by, and possibly disturb polar bears, although no empirical data on the auditory range of polar bears currently exists.

Industrial sound levels have been recorded in artificial bear dens (Blix and Lentfer 1992; MacGillivray et al. 2003) and in air (Blackwell and Greene 2002; MacGillivray et al. 2003) near industrial facilities.

During a study to record industrial noise levels from a reserve pit remediation project at and in artificial polar bear dens, MacGillivray et al. (2003) found that the maximum airborne distance that vehicle noise was detected above background inside a den was 2000 m for an empty gravel hauler. However, only one such measurement was noted, the second greatest range was 1000 m for noise from the Hägglunds tracked vehicle. All other maximum distances were less than 500 m. The den along the Colville River was within 400 m of the river crossing. MacGillivray et al. (2003) recorded in-air sound data for the following heavy equipment: empty and loaded gravel haulers, a front-end loader, pickup trucks, fuel trucks, and tracked vehicles during normal operations. Received sound pressure levels (SPL), referenced to 20 micro-Pascal (re 20 μ Pa), and distances of closest point of approach (CPA) of vehicles at artificial den sites ranged between 71 and 87 decibels (dB) at 12 to 20 m, respectively. During a high activity time (equipment scraping gravel and the loading of trucks) at the site, in-air sound levels (the levels recorded outside of the artificial dens) were 83.8 and 63.8 dB re 20 μ Pa at artificial den sites 76 m and 416 m away from the area of activity, respectively. For a measured idle period at the same project in-air sound levels were 76.3 and 63.4 dB re 20 μ Pa at artificial den sites 76 m and 416 m away from the area of activity, respectively. In summary, the majority of known events of sound received at the Colville den site occurred at less than 500 m and these included movements of some similar heavy equipment. Since the den site was within 400 m of similar noise sources, it is highly probable that the female at the Colville River site heard the noise of the construction at the river crossing prior to emergence when the den entrance was closed, and after emergence when the den entrance was open.

Airborne sounds of drilling and production machinery were also recorded during the winter of 2002 near Northstar Island (Blackwell and Greene 2002). The maximum broadband (10-10,000 Hz) unweighted SPL, recorded approximately 220 m from the active Northstar drill rig during oil and gas production, was 80 dB re 20 μ Pa. Some in-air industrial sounds were detectable by the instruments as far as 9 km (5.6 mi) away (Blackwell and Greene 2002). Industrial noise can be affected by natural variables, such as wind and geography. For comparison of the sound levels associated with these

industrial activities on the North Slope to sound levels familiar to humans, the normal noise level in a living room, an office, a city street, and a jet aircraft taking off are 40dB, 60 dB, 85 dB, and 125 dB, respectively (Blix and Lentfer 1992).

Blix and Lentfer (1992) reported that seismic exploration, drilling and transport noises were generally undetectable inside dens at distances greater than 100 m from the artificial dens, considerably less than the 2000 m maximum detection reported in MacGillivray et al. (2003). They thought the large variation in maximum detection distances may have been a result of varying wind speed and direction, snowdrift depth, snow density, ceiling thickness, and den orientation relative to the road. Polar bears will naturally experience a wide range of noise levels caused by variations in wind speed and direction (Blix and Lentfer 1992). Blix and Lentfer (1992) also discussed noises received inside the den. From their results it is apparent that snow is an excellent acoustic insulator. This is most likely one of the reasons (energy costs are discussed later) that the Colville female did not abandon the den earlier in the denning season even though major activity was occurring within a short distance from the den. The acoustic insulative value of snow and energy costs were also apparent when describing why snow-mining activities with heavy equipment which were pushing snow to within 20 ft of the den did not cause the female to abandon the den while they were occurring. Once the Colville female emerged and broke open the snow layer of the den chamber industrial noise was more apparent within the den.

While Blix and Lentfer (1992) and MacGillivray et al. (2003) indicate what levels of noise polar bears are likely to hear inside and outside the den site, the noise levels that actually induce disturbance or a change behavior are less known. Although audiograms to determine the frequency and sensitivity thresholds of polar bear hearing have not been determined, the only study to describe the type of physiological disturbance of polar bears to received sound levels was an auditory deterrent study conducted by Wooldridge and Belton (1980). Wooldridge and Belton (1980) suggested that biologically significant auditory deterrents should have an amplitude of at least 100 dB if they are to be useful in deterring movement of polar bears. During one of their tests they successfully moved a

bear from a distance of 250 m to 500 m with a sound level of 120 dB. It is important to note that these tests were conducted on free ranging bears with an “escape mechanism” to move away from the sound disturbance compared to female bears that are committed to a denning effort. Although the potential for disturbance remains, the behavior (escaping the disturbance) of free-ranging bears to noise disturbance is expected to be different than the behavior of females bears with cubs in a den. Behavior of denning females to disturbance is discussed in the, “Maternal denning” section.

The sound levels from construction at the river crossing were most likely within the same levels as found in Blix and Lentfer (1992) and MacGillivray et al. (2003). They are also similar to the level Bohne and Harding (1999) describe as those found in “noisy industries” (≤ 90 dB SPL). The constant industrial sounds and their amplitudes from the river crossing suggest that the Colville bear heard the noises. Although noise levels at the river crossing site are unknown, it is expected that the noise from the construction activities contributed to the den abandonment.

3) *On 27 March 2006, a second cub emerged from the den and was observed for, what appears to be the first time, at approximately 0900.*

Timing of emergence of cubs

The importance of the den structure to cubs has been described by numerous polar bear researchers. Amstrup (1993) stated that the ultimate measure of the effect of den site disturbance is reproductive output, expressed in survival of the cubs. Dens protect altricial cubs prior to emergence in the spring by providing shelter from weather, and insulative warmth to ambient air. Blix and Lentfer (1979) reported that neonatal cubs may not survive exposures to ambient temperatures during midwinter as a result of premature abandonment because cubs have not developed in mass and body fat to sufficiently maintain body heat. Survival of pre-emergence neonatal cubs is dependent on shelter provided by the den and the care of the female.

The timing of den emergence is thought to be related to a balance between maternal fat stores and the size of the cubs (Derocher and Stirling 1994). By the time of emergence, cubs reach their predicted neonate mass (Derocher and Wiig 1999); and they have a higher chance of survivability for post-emergent life on the ice. Furthermore, a high metabolic rate and fur insulation that is established as the cub grows in the den and at the den site are the mechanisms for cub survival post emergence (Blix and Lentfer 1979).

Females will often come out of the den several days before a cub emerges (Ovsyanikov 1998; T. Smith, USGS, pers. comm.). The emergent time for both Colville cubs correlates with information Hansson and Thomassen (1983) recorded, in terms of cubs not emerging until after one or more days after the female emerges.

Acclimation of cubs

Den residence to the time of leaving the maternal den site after den emergence is thought to be important for preparing the cubs for their move onto the ice (Ovsyanikov 1998). Following den emergence, Smith et al. (*in review*) states that continued den residence is beneficial in that it provides environmental acclimatization, locomotor skills development, and increases in body weight and size.

Den sites may also play a role in acclimating the cubs to their “new” environment post-emergent prior to the natural abandonment of the site by the female. Polar bear families often remain at the den site for up to several weeks. During this time cubs continues rapid growth, learn to negotiate terrain, and acclimate to the arctic environment (Smith et al. *in review*). Hence, premature abandonment prior to the natural movement from the den site to the pack ice may reduce the cubs’ survival on the ice as they may be too young and too weak to have acclimated, or not large enough in body weight to be physiologically strong enough to survive the rigors of the Arctic environment.

The time between emergence of the second cub and den abandonment, 3 hours, suggests that this cub had no time to acclimate to its surroundings and was most likely the cub reported to “lag behind.” It also suggests that under natural circumstances the Colville

female may have remained at the den site longer to allow the cubs to increase in size, thereby increasing the chances of survival away from the den site.

4) *At approximately 1200, 27 March 2006, the female bear abandoned the maternal den with both COYs.*

Premature Den Abandonment

Numerous articles suggest that polar bears abandon maternal dens as a result of natural (Amstrup and Gardner 1994; Ovsyanikov 1998) or anthropogenic disturbance (Belikov 1976; Larsen 1985; Amstrup 1993; Lunn et al. 2004). Anthropogenic disturbances by oil and gas activities have been specifically described as well due to the overlapping nature of the industry within polar bear habitat (Lentfer and Hensel 1980; Geraci and St. Aubin 1980; Lentfer 1990; Blix and Lentfer 1992; Amstrup 1993; Amstrup and Gardner 1994; Perham 2005).

In contrast, some of the same researchers have noted instances where bears did not appear to abandon dens in close proximity to human disturbance (Lentfer and Hensel 1980; Belikov 1976; MacGillivray et al. 2003, Smith et al. *in prep*). Amstrup (1993) noted that some denning polar bears appeared to tolerate disturbances close to the den while other females appeared to abandon their dens, although he could not discern if the abandonment was caused by anthropogenic disturbance or natural causes. Smith et al. (*in prep*) suggested that some bears become habituated to certain sounds at the den site and do not elicit certain disturbance behaviors that other females at dens may exhibit.

Female bears are vulnerable to disturbance prior to the birth of cubs and can abandon the maternal den if disturbed (Belikov 1976; Ramsay and Stirling 1986; Amstrup 1993). As early as the 1940s, it has been documented that anthropogenic activity can disturb female polar bears from their maternal dens. Shereshevskii and Petriaev (1949 *in* Belikov 1976) reported that female polar bears were “frightened away” from maternal dens due to human activity before parturition. Belikov (1976) reported that several female bears abandoned maternal dens on Wrangel Island due to the presence of investigators in

October and November after excavating the dens. Amstrup (1993) also reported den abandonment prior to parturition due to capture activities.

Belikov (1976) noted that on Wrangel Island, female bears abandoned their maternal dens 1 to 2 days after an anthropogenic disturbance. These abandonments occurred at the beginning of the denning season, in late November and early December. Derocher and Wiig (1999) noted that a female abandoned her den on Svalbard, Norway after 7 days of intermittent anthropogenic activity in April.

Although, the number of days between den emergence and den abandonment alone can not determine a displacement event, the three day interval between emergence and abandonment of the Colville bear den is within the expected emergence to abandonment range for polar bears in the Southern Beaufort Sea stock (2 days to 3 weeks; [Smith et al. *in prep*]), especially considering the constant exposure to anthropogenic activity. It must be noted though, that three days is outside the mean (8 days) of natural den abandonment for Beaufort Sea bears (Smith et al. *in review*), which suggests that the female bear was not acting within the normal behavior.

Lentfer and Hensel (1980), Amstrup (1993), and Derocher and Wiig (1999) describe post emergence abandonment events, after the female emerged from the den. During the post-emergent stage at the den site polar bears can be disturbed by movement and sound of anthropogenic activities (Amstrup 1993; Amstrup and Gardener 1994; Derocher and Wiig 1999; Smith et al. *in prep*).

Smith et al. (*in prep*) reported that bear response to anthropogenic activity near observed den sites ranged from slight to significant. They observed female bears at four den sites that were intentionally exposed to anthropogenic disturbances; truck traffic on ice roads, aircraft overflights, snowmachines, and Tucker tracked vehicles). Smith et al. (*in prep*) found that female bears outside the den responded with varying degrees of intensity by: 1) focusing attention on the source of disturbance (vigilance) or 2) re-entering the den.

Researchers have found that bears who have been disturbed to the point of emerging can re-enter the den during the spring when disturbances were at distances of less than 500 m away from the den site (Smith et al. *in prep*). Amstrup (1993) also found that anthropogenic activity can be tolerated by some denning females to within 500 m without abandonment. Amstrup (1993) also documented that an approach of less than 250 m from a den caused abandonment (spring disturbance by an apparent passing rolligon train), but in other circumstances, such as approaches of less than 50 m, caused no abandonment (intermittent exposure during the spring from aircraft, foot traffic, and snowmobiles). These events suggest that the behavior of the sow in response to a disturbance event could be based (in part or whole) on the distance of the stimuli from the den site and the frequency of the stimuli from the den site. In other words, the closer and more frequent a disturbance stimuli is to the den site, the higher the probability that the female bear will abandon the den.

Maternal Investment

Amstrup (1993) stated that a pregnant female bear may be more apt to abandon a den site early in the denning period (November to December) rather than after the cubs have been born. Later in the denning period the energetic investment is greater and moving cubs risks the loss of the offspring. At this time, sows may be more willing to withstand a certain level of disturbance. The abandonment disturbance threshold, that level above which bears will abandon a den site, has not been determined and may vary by individual. However, it is reasonable to assume that a prolonged period of disturbance (a multi-day scenario), including multiple stimuli, such as noise and movement, would likely induce greater stress on a female bear and potentially increase the chance of den abandonment than disturbance events of limited duration and stimuli.

Physiologically, after a disturbance in the spring, the cost of relocating to a new den site dramatically increases because cubs will be exposed to dangers such as, thermal stress and predation (Blix and Lentfer 1979; Linnell et al. 2000). Linnell et al. (2000) suggested that female bears with cubs should then be able to tolerate a greater level of disturbance without abandoning the den due to the increased costs as expressed in an

increase in energy expenditures and stress levels in the female polar bear moving and fending young cubs, ill-suited for Arctic conditions. Hence, the type of disturbance that initiates a female polar bear to prematurely emerge and possibly abandon its den during this time period is a major disturbance relative to the bear.

If the female is compromised physically and nutritionally-stressed, she may leave the den earlier than normal as well. A female polar bear observed during a den emergence study in the spring of 2006 abandoned her den two days after emergence (T. Evans, USFWS, pers comm.). It is unknown if any disturbance, whether natural or anthropogenic, caused the female to leave the den site. Thus, a combination of factors, such as noise, activity, nutritional stress, individual tolerance to activity, age (first litter) could all play a role in the reaction of the female bear to the disturbance.

The Colville bear was exposed to constant disturbance from a highly active (both noise and movement) construction site rather than a short-term perturbation. A temporary perturbation may have been more easily tolerated than the extended disturbance the Colville bear was exposed to, given the energy cost of remaining at the den site late in the season.

5) During the northward movement, after the den abandonment, the second smaller cub has trouble keeping up and the female has to come back repeatedly to encourage the smaller cub along.

Security personnel provide inferences regarding one cub, a smaller, weaker cub. This cub lags behind to the point the sow must return and coax it along. This cub is also harassed by 2 ravens which causes the sow react. Hind paw measurements for the larger and smaller cubs taken at the maternal den on 30 March 2006 were 4.0 x 3.75 inches and 3 x 2 inches, respectively. Security noted that neither cub could climb over a 5 ft snow bluff. There is also a later reference on 28 March that one cub trailed about 25 ft behind the sow after the sow “abandons” the secondary den site. This is believed to be the smaller of the two cubs, the same cub that lagged behind on 27 March. Given the weaker

cub, the Colville female would probably have stayed longer at the maternal den if not displaced by the anthropogenic activity.

Lentfer and Hensel (1980) describe a bear observation that occurred in early March which indicated possible disturbance of a denning female bear. A seismic crew observed a female and a new cub of the year traveling across Prudhoe Bay on 2 and 3 March 1974, earlier than normal. They speculated that the abandonment of the maternal den which led to this early observation prior to normal emergence occurred because of some anthropogenic disturbance. It was noted that the cub was extremely small and had difficulty traveling. The fate of the cub was unknown.

In another example, Derocher and Wiig (1999) stated that helicopter activity and human foot traffic near an open polar bear den in Svalbard contributed to the den abandonment and the death of an underweight cub. The cub was still alive when the female was captured later that spring, but it weighed 3 kg. Normal cubs in Alaska average 13 kg upon emergence (Amstrup 2003). The authors believed that the ground disturbance and visitation to the open den contributed to the early den abandonment. This was based on the small weight of the cub and the observation that the female was carrying the cub in her mouth; an indicator that the cub was too small to traverse the Arctic environment by itself. The female subsequently denned in the fall of the same year, indicating that she had lost the underweight cub. Derocher and Stirling (1998) have also reported that smaller cubs of lower body weight have reduced survivability. In a study of cub survival they found that no cub with a mass of < 5.2 kg was known to have survived through the year.

Both of these examples (Lentfer and Hensel 1980; Derocher and Wiig 1999) substantiate the findings of Derocher and Stirling (1998). The weight of the smaller Colville cub that could not keep up and was harassed by ravens was unknown. However, the behavior of this cub was similar to cubs described in Derocher and Wiig (1999) and Lentfer and Hensel (1980), indicating that it is very likely that this cub did not survive.

6) *The female travels approximately 1 mile north with cubs to a high area on the Colville River Delta, approximately 1 km off the end of the CD3 runway. The sow arrives at approximately 1608 and digs an excavation shelter at this secondary site.*

Belikov (1976) noted that some bears will excavate temporary dens after they have been disturbed from their maternal den in the beginning of the denning season on Wrangel Island. It can be further noted that searching for a new den site and excavating a new den site will increase energy costs to the female and subsequently to the cubs (Lunn et al. 2004).

In 2003, a female polar bear abandoned her maternal den near Bullen Point, Alaska during the middle of the denning season (late January) and subsequently re-dennded (T. Smith, USGS, pers. comm.). She emerged with one cub during the normal range of den emergence, but she abandoned her secondary den site 2 days after she emerged, possibly as a result of anthropogenic disturbance caused by researchers observing her.

7) *The female exhibits vigilant behavior: looking back (south), milling, and pacing prior to, and after moving away from this excavation site as reported in the Alpine Security observation log (28 March).*

Vigilance, in Dyck and Baylack (2003), is defined as a motor act, which corresponds to a head lift interrupting ongoing activities, such as sleeping, resting, or grooming due to visual cues. Vigilance involves a visual scanning of the surroundings beyond the immediate vicinity. Dyck and Baylack (2003) studied vigilance as it related to wildlife viewing of polar bears in Churchill, Manitoba, specifically investigating the influence of tundra vehicles on bears. Vigilance is associated with the detection of predators. This potentially constant stimuli that are perceived as threats are costly in that they create a hormonal reaction that can result in increased cardiac output and increased levels of stress hormones at the expense of protein and fat (Dyck and Baylack 2003). In addition, Dyck and Baylack (2003) suggested that wildlife viewing activities elicits a response

similar to predator avoidance and individual fitness of bears could decrease if bears were exposed repeatedly to stimuli that elicit a vigilance response,

Smith et al. (*in review*) reported that the most common post emergent behavior that sows exhibited was vigilant behavior which was expressed the behavior modifier, scanning, when females were either standing or resting. In addition, Smith et al. (*in prep*) and Andersen and Aars (2005) found that non-denning female polar bears with cubs react to disturbance (noises) at long distances and exhibit strong responses than other polar bear age and sex groups. Andersen and Aars (2005) categorized their responses by intensity and persistence and sows with cubs exhibited the strongest responses to snowmobiles. Snowmobiles were also detected by females with cubs at greater distances than by any other age and sex group. Although sows with cubs were not observed around den sites, the results of Andersen and Aars (2005) demonstrate that sows with cubs are highly vigilant to anthropogenic noise and visual stimulus that may increase their vulnerability to disturbance.

Industry stimuli due to constant activity at the river crossing on the Colville River were most likely similar to those reported by Dyck and Baylack (2003) and the vigilance behavior displayed by the Colville female was most likely the result of the industrial activity occurring in close proximity to the den. Furthermore, every time the Colville bear exhibited vigilance or re-denning due to the industry disturbance, these events can be considered harassment takes, due to the change in behavior elicited by the bear.

8) *The female bear with COYs remains at the second site from 1600, 27 March to 0917, 28 March, approximately 17 hours. She subsequently abandons this area and moves NNW with both COYs at 0900 and is not observed again.*

The reason the female abandoned the second site will never be known, but it may not have been suitable for her needs as she hit the soil of the pingo within 6 feet during her horizontal excavation. The digging of excavation sites by a post emergent female polar bear, was documented in 2005 by a bear that emerged from a den on Cottle Island in the

Beaufort Sea Jones Island group (T. Smith, USGS, pers. comm.). She excavated two sites after she emerged from her maternal den. The excavation sites were shallow and she exposed gravel soon after she initiated excavation. It appeared the thin snow level may have hindered the excavation for a usable den and she never re-denned.

Based on the bear reports, the Colville bear continued to look back toward the den site and area of activity; on one occasion she started back to the secondary den, but then reversed course. This behavior could be interpreted as desire to return to use the maternal den, ultimately in an effort to protect the cubs.

Conclusion

Researchers have documented wide variety of behaviors of female polar bears associated with den sites and various types of disturbances in relation to denning polar bears. No documented event that has been reviewed in this opinion is exactly the same as the events that occurred on the Colville River near River Crossing #5 in March 2006. Conclusions to all of these events are site-specific and depend on the behavior of the bear and the environment which contributes to the response of the bear to the stimulus. However, information on the Colville event can be compared to past documented events in order to obtain an educated opinion on the events that occurred on the Colville River. Thus, in conclusion, although the Colville sow's apparent emergence date from the den, 24 March, and the length of time she remained at the maternal den site, 3 days, are both within normal envelopes of behavior that has been recorded for Beaufort Sea bears, other behaviors appear to be indicative of premature departure and abandonment of the den and the sow or cubs not being prepared to move onto the pack ice. These are:

- 1) The second cub first emerged from the den Monday morning and by noon Monday the sow had abandoned the den with the cubs, indicating that there was little time for acclimatization to its new environment at the den site, only 3 hours.
- 2) The sow's vigilant behavior which may have been a response to the industrial activity 400 m away.

- 3) The behavior of the smaller cub indicated that it was not able to keep up with the sow and the larger cub as they moved north to the ice from the maternal den, indicating that more time at the den site was necessary to improve physical condition and strength.
- 4) The sow returned to the smaller cub to "move" it along, indicating a strong maternal investment associated with the denning event.
- 5) The sow digging another den excavation in the vicinity of the maternal den. The excavation den may have been abandoned because it was not suitable for her needs.

All of these behavioral variables suggest that the constant, uninterrupted activity of the construction of the river crossing on the Tamayyak Channel of the Colville River, with its anthropogenic noise and visual stimuli, within 400 m of the den site, led the female bear to abandon the den site sooner than naturally expected. An earlier disturbance event at < 20 feet (the snow mining) may have influenced or exacerbated the effect of persistent and intense disturbances more closely associated with the apparent early abandonment as well.

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Biological Opinion Addendum

**Craig Perham
U.S. Fish and Wildlife Service
Marine Mammals Management
December 26, 2006**

This Addendum to the Biological Opinion (August 2006) is to clarify that industrial activities of ConocoPhillips Alaska, Inc. at the Alpine Development Site, CD3 River Crossing #5, near the den site in the Tamayayak Channel, Colville River, Alaska resulted in the unauthorized Level B harassment take of 3 polar bears (one female and two cubs of the year). This harassment eventually resulted in premature den abandonment by the female on March 27, 2006.

What factor(s) triggered the harassment and ultimately the premature abandonment of the den abandonment?

The constant, uninterrupted activity of the construction of the CD3 oil pipeline River Crossing #5 on the Tamayayak Channel of the Colville River, with its anthropogenic noise and visual stimuli, which occurred within 400 m of the den site, led the Colville sow to abandon the den site sooner than naturally expected.

Noise stimuli occurred during the pre-den emergence and post-den emergence stages. Industrial noise stimuli associated with the construction prior to den emergence by the polar bear female, as stated in the Biological Opinion included, but was not limited to:

1. Noise associated with the installation of the vertical support members and river crossing supports for the CD3 pipeline;
2. Movement of large vertical support member pipe around the area;
3. Placement of casings into the riverbed where pipes could be placed inside them

Equipment on site included, but were not limited to:

1. at least 4 boom cranes,
2. one drill rig,

3. front end loaders,
4. generators and light plants (with self-sustaining generators);

Additional noise stimuli included, but were not limited to:

1. Activities of a construction crew of roughly 15-25 people;
2. A snow mining event that occurred at two points approximately 20 feet from the bear den.

Although reactions to different noise levels varies between bears, pregnant females often seek secluded areas secure from human activity for their dens. Animals during this period are vulnerable and unable to flee from potential threats to their welfare. Escape is the predominant method of avoiding threats in the wild.

The distance and sound levels from the source and the attenuation of the sound through the snow affected the level of noise received at the den. For this reason, the noise level received in the den and “heard” by the female bear was unknown during the pre-emergence stage. Once the polar bear female emerged by breaking open the snow layer of the den chamber and exposing the den to ambient air, industrial noise was more apparent within the den and the female and cubs were most likely exposed to higher levels of industrial noise.

Visual stimuli occurred during the post-den emergence stage from approximately March 24 to March 27, 2006. Visual stimuli included anthropogenic structures, such as the pipeline river crossing, and lighting supplied by light plants. It also included the movement of equipment, vehicles, and people throughout the work site.

The polar bear female was exposed to constant disturbance from a highly active (both noise and movement) construction site rather than a short-term perturbation. A temporary perturbation may have been more easily tolerated than the extended disturbance to which the female was exposed.

What behavior exhibited by the bears suggested that these factors were the cause of the harassment and ultimately the premature abandonment of the den abandonment?

As expressed in the Biological Opinion, these are:

1. **Vigilance.** A common post-emergent behavior that sows can exhibit is vigilant behavior. The female's vigilant behavior observed at the den prior to abandonment (from pictures) and after the bear family abandoned the den (as described in the bear observation report) are highly likely to have been in response to the industrial activity 400 m away. Each time the adult female exhibited vigilance behaviors or re-denning due to the industry activity, the response behaviors are considered as harassment takes, due to the change in behavior elicited by the bear.
2. **Increased Stress.** The behavior of the adult female in response to industrial noise and visual stimuli is highly probable to have been based (in part or whole) on the distance of the stimuli from the den site and the frequency of the stimuli from the den site. A prolonged period of disturbance (a multi-day scenario), including multiple stimuli, such as noise and movement, can only exacerbate the situation and induce greater stress on a female bear thus increasing the likelihood of den abandonment in contrast to disturbance events of limited duration and stimuli intensity.
3. **Abandonment of Den.** The adult female abandoned the den with the cubs within 3 hours after the second cub emerges, allowing little time for the acclimatization of the second cub to its new environment at the den site.
4. **Cub Movement.** The behavior of the smaller cub indicated that it was not able to keep up with the mother and the larger cub as they moved north to the ice from the maternal den, indicating that more time at the den site was necessary for nursing in an unexposed environment and for development to improve physical condition and strength.
5. **Maternal Investment.** The adult female returned to the smaller cub to encourage it to "move" along in a predominantly northerly direction out to the sea ice where

the female would begin hunting. This indicated a strong maternal investment associated with ensuring the survival of the young cubs, but it also indicated that the cub was not ready to move from the den site. Under natural circumstances it is highly likely that the female would have remained at the den site longer to allow the cubs to acclimate, nurse and increase in size, thereby increasing the chances of survival away from the den site.

6. **Secondary Den Excavation.** The Colville sow excavated a secondary den in the vicinity of the maternal den. The excavation den may have been abandoned because it was not suitable for her needs.
7. **Den Preference.** After abandoning the second den site the adult female moved back toward the maternal den site, indicating a preference for the maternal den site. Continued construction and noise are likely to have deterred her from redenning.

(b) (6), (b) (7)(C) /R7/FWS/DOI
04/10/2006 11:24 AM

To (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS
cc
bcc
Subject Fw: North Slope polar bear issue

FYI, (b) (6), (b) (7)(C) the room numbe you gave me did not work. I left a message with security tha (b) (6), (b) (7)(C) visit was a go. I'll email the security tel. # to (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)
----- Forwarded by (b) (6), (b) (7)(C) /R7/FWS/DOI on 04/10/2006 11:13 AM -----

(b) (6), (b) (7)(C) /R7/FWS/DOI
04/10/2006 09:06 AM

To (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS
cc (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS, (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS, (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS
Subject Re: North Slope polar bear issue

Hello (b) (6), (b) (7)(C)

I spoke with (b) (6), (b) (7)(C) Friday evening. He was going to try to track down (b) (6), (b) (7)(C) contact information from (b) (6), (b) (7)(C) then meet with (b) (6), (b) (7)(C) and Conoco reps/witnesses/contractors this week. His visit will be, as usual, to investigate. I think a letter notifying Conoco's (and other involved companies) management of the investigation and supplying LE contact information will have a very sobering effect on them, and we'll probably do that after (b) (6), (b) (7)(C) finishes his interviews and we know where we stand. We will talk with (b) (6), (b) (7)(C) and/or you to make sure your message is relayed too.

Often times information or evidence is lost unless we get an investigator to the scene quickly, so the sooner LE is notified the better. I read through (b) (6), (b) (7)(C) documentation on this and he did a great job.

(b) (6), (b) (7)(C) /R7/FWS/DOI

(b) (6), (b) (7)(C) /R7/FWS/DOI
04/10/2006 08:36 AM

To (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS
cc (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS, (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS, (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS
Subject Re: North Slope polar bear issue

(b) (6), (b) (7)(C)
I'm sorry that SA (b) (6), (b) (7)(C) won't be able to meet (b) (6), (b) (7)(C) in Prudhoe. From my perspective, this is a case where a visit from LE will provide incentive to the various contractors and support companies who work for Conocco to be mindful of polar bears and follow their polar bear interaction plans. A letter to Conocco (with or without reference to a penalty) would not have as broad of an effect. Often, it is the support companies who are on the ground that are the entities that we work most closely with. These companies can also be effective allies in promoting the program - somewhat recently Pioneer (a new operator) did not want to get an LOA because they did not believe it was required; the security company refused to work for them until Pioneer did get an LOA. So, the support companies are a critical part of keeping the program working effectively.

(b) (6),
(b) (7)

(b) (6), (b) (7)(C)

*Division Chief
Marine Mammals Management
Anchorage, Alaska 99503*

(b) (6), (b) (7)(C)

Ph:

Fax:

(b) (6), (b) (7)(C)

R7/FWS/DOI

(b) (6), (b) (7)(C)

R7/FWS/DOI

04/07/2006 01:37 PM

To: (b) (6), (b) (7)(C) R7/FWS/DOI@FWS, (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) R7/FWS/DOI@FWS
cc: (b) (6), (b) (7)(C) R7/FWS/DOI@FWS

Subject: North Slope polar bear issue

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

- logistic, timing, and other planned priority activities are going to make it impossible for SA (b) (6), (b) (7)(C) from Fairbanks to meet (b) (6), (b) (7)(C) and visit the site next week. From what we discussed the other day, most of the information has been obtained and I'm still not sure what we would ultimately gain from an LE visit.

I still agree that our next step should be a letter from the RD to the company addressing Service concerns with their actions and response during the incident.

When we obtain (b) (6), (b) (7)(C) report, field notes and photographs from the eyewitness we'll put together an LE report and determine the formal enforcement response to the incident.

(b) (6), (b) (7)(C)



(b) (6), (b) (7)(C) R7/FWS/DOI
04/07/2006 04:17 PM

To (b) (6), (b) (7)(C) R7/FWS/DOI@FWS
cc
bcc
Subject letter from (b) (6), (b) (7)(C) re: (b) (6), (b) (7)(C) trip cancellation

(b) (6), (b) (7)(C)

I'm sending this despite having just discussed it all with you on the phone.


I talked with (b) (6), (b) (7)(C) about the cancellation and urged him to send (b) (6), (b) (7)(C) if at all possible. In his response it did not sound like that was going to happen because (b) (6), (b) (7)(C) was without a govt. plane and would be in (b) (6), (b) (7)(C) via commercial fig. (b) (6), (b) (7)(C) also thought that (b) (6), (b) (7)(C) would gather little if any new info. and we would still arrive at the same point with or without his presence. The visibility on this issue is fairly high... (b) (6), (b) (7)(C) etc. and I still believe it would be beneficial to have (b) (6), (b) (7)(C) visit if at all possible. If you can cajole him into visiting with you on site that would be great. (b) (6), (b) (7)(C) is willing to consider a civil fine and letter or just a letter. The process and outcome will be thru negotiations, and we are invited to be part of the process and weigh in on the best strategy.

And while I was writing this (b) (6), (b) (7)(C) Conoco - probably equivalent to (b) (6), (b) (7)(C) (as you indicate HSE attorney), called to find out if we knew more about the site visit, details on timing, who would visit, and purpose. I elaborated that we weren't sure if a site visit would occur owing to the issues with (b) (6), (b) (7)(C) above (plane). I provided your phone number at Service are 10 (called you since then).

(b) (6), (b) (7)(C) may try to convince (b) (6), (b) (7)(C) of the importance of a LE on-site visit. Please coordinate with (b) (6), (b) (7)(C) as appropriate.

Have a good weekend.

(b) (6), (b) (7)(C)

 (b) (6), (b) (7)(C) R7/FWS/DOI
04/07/2006 02:58 PM

To: (b) (6), (b) (7)(C) R7/FWS/DOI@FWS, (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) R7/FWS/DOI@FWS
cc:
bcc:
Subject: Fw: North Slope polar bear issue

(b) (6), (b) (7)(C)
Division Chief
Marine Mammals Management
Anchorage, Alaska 99503

Ph: (b) (6), (b) (7)(C)
Fax: (b) (6), (b) (7)(C)

----- Forwarded by (b) (6), (b) (7)(C) R7/FWS/DOI on 04/07/2006 02:49 PM -----

(b) (6), (b) (7)(C)
R7/FWS/DOI
04/07/2006 01:37 PM

To: (b) (6), (b) (7)(C) R7/FWS/DOI@FWS, (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) R7/FWS/DOI@FWS
cc: (b) (6), (b) (7)(C) R7/FWS/DOI@FWS
Subject: North Slope polar bear issue

(b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) - logistic, timing, and other planned priority activities are going to make it impossible for SA (b) (6), (b) (7)(C) from Fairbanks to meet (b) (6), (b) (7)(C) and visit the site next week. From what we discussed the other day, most of the information has been obtained and I'm still not sure what we would ultimately gain from an LE visit.

I still agree that our next step should be a letter from the RD to the company addressing Service concerns with their actions and response during the incident.

When we obtain (b) (6), (b) (7)(C) report, field notes and photographs from the eyewitness we'll put together an LE report and determine the formal enforcement response to the incident.

(b) (6), (b) (7)(C)



(b) (6), (b) (7)(C) /R7/FWS/DOI

04/07/2006 09:58 AM

To (b) (6), (b) (7)(C) /R7/FWS/DOI@FWS

cc

bcc

Subject Conoco Phillips coord.

Hi (b) (6),
(b) (7)(C)

I left a message with (b) (6), (b) (7)(C) and she contacted (b) (6), (b) (7)(C), Alpine Supervisor and informed him of the impending visit by you (b) (6), (b) (7)(C).

I had no logistics information to share but did indicate that you were aware of the need to coordinate with Alpine personnel prior to the visit. I didn't know (b) (6), (b) (7)(C) schedule or if he had plans to fly up in the govt. plane. Of course (b) (6), (b) (7)(C) wanted to make sure that they touch bases if he planned to use the landing strip.

(b) (6), (b) (7)(C) contact info follows:

tel. (b) (6), (b) (7)(C)

email: (b) (6), (b) (7)(C)@conocophillips.com

Also - (b) (6), (b) (7)(C) has been in contact with (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C). She would like a basic timeline/summary of events and findings from your 1st trip. I believe you have all the materials and were planning to complete this during your trip. The sooner we can have something the better. It doesn't have to be a polished final report on the event.

Hope your weather is good and work with (b) (6), (b) (7)(C) proceeding.

Thx

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

R7/FWS/DOI

To

(b) (6), (b) (7)(C)

R7/FWS/DOI@FWS


cc

04/05/2006 01:50 PM

bcc

Subject polar bear

History:

 This message has been replied to.

(b) (6), (b) (7)(C)

could you send me a short narrative of the events and location, also people involved.

If I fly up there is a vehicle available? I really don't want to drive, but I will if wheels are needed.

Special Agent

(b) (6), (b) (7)(C)

U.S. Fish and Wildlife Service

1412 Airport Way

Fairbanks, AK 99701

phone: (b) (6), (b) (7)(C)

fax: (b) (6), (b) (7)(C)

(b) (6), (b) (7)(C) R7/FWS/DOI
04/05/2006 08:36 AM

To (b) (6), (b) (7)(C) R7/FWS/DOI@FWS
cc (b) (6), (b) (7)(C) R7/FWS/DOI@FWS, (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) R7/FWS/DOI@FWS, (b) (6), (b) (7)(C)
(b) (6), (b) (7)(C) R7/FWS/DOI@FWS
bcc

Subject polar bear

(b) (6), (b) (7)(C)

Last week a polar bear with cubs left her den early likely as a result of industrial activity. (b) (6), (b) (7)(C) went up and checked the den site and talked with folks on site. We're concerned that the company did not implement procedures required by lease sale stip and recommended by us. Would you be available to meet with (b) (6), (b) (7)(C) and the rest of us today at 12:30 to discuss potential options? (b) (6), (b) (7)(C) has some background on the timing of the reporting etc. that he was going to drop off to you yesterday -

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

*Division Chief
Marine Mammals Management
Anchorage, Alaska 99503*

Ph:
Fax:

(b) (6), (b) (7)(C)

(b) (6), (b) (7)(C)

/R7/FWS/DOI

04/07/2006 02:55 PM

To

(b) (6), (b) (7)(C)

/R7/FWS/DOI,

@fws.gov

cc

(b) (6), (b) (7)(C)

/R7/FWS/DOI,

(b) (6), (b) (7)(C)

/R7/FWS/DOI

bcc

Subject: alpine polar bear

(b) (6), (b) (7)(C)

and

(b) (6), (b) (7)(C)

Here is a narrative of my involvement with the Alpine bear from first knowledge to return. Also is included supporting documents.

Regards,

(b) (6), (b) (7)(C)



Memo to file.doc



Alpine Security email.doc Bear_Den.pdf den photo.doc



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

1011 E. Tudor Rd.

Anchorage, Alaska 99503-6199

AFES/MMM

AUG 24 2006

Ms. Caryn Rea
Senior Staff Biologist
ConocoPhillips Alaska, Inc.
700 G Street, ATO 1902
PO Box 100360
Anchorage, Alaska 99510-0360

Dear Ms. Rea:

This responds to your request dated August 15, 2006, for a Letter of Authorization (LOA) to incidentally take polar bears and Pacific walrus during oil and gas operations within the Greater Kuparuk Area and Alpine Oilfield Units. On August 2, 2006, final regulations that authorize the incidental, unintentional take of small numbers of polar bears and Pacific walrus during year-round oil and gas industry exploration, development, and production operations in the Beaufort Sea and adjacent northern coast of Alaska were issued for a period of five years. In accordance with these regulations, enclosed is a LOA (06-03) that allows ConocoPhillips Alaska, Inc. (CPAI), to take small numbers of polar bears and Pacific walrus incidental to year-round oil and gas exploration, production, operations, and restoration activities within the Greater Kuparuk Area and Alpine units, provided annual monitoring reports are received by January 15 of each year. Activities are ongoing and expected continue through the life of the regulations.

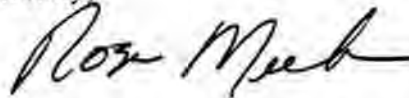
Polar bear conservation has benefited from monitoring programs associated with the Incidental Take program since 1993. Monitoring serves to assess the effect of industrial activities on polar bears by evaluating trends and effects of bear encounter rates, take frequency, as well as the location and timing of encounters. In addition, the monitoring and protection measures for marine mammals described in CPAI's Bear Avoidance and Human Encounter/Interaction plan are appropriate, and hereby incorporated into the terms of the LOA by reference. The U.S. Fish and Wildlife Service (USFWS) biologists are available for consultation if questions or concerns arise during the project period at the phone numbers listed below and noted in your interaction plan.

Historical polar bear denning activity reveals that polar bear denning habitat occurs along creek cutbanks and river bluffs. Approximately 1782 miles (2870 km) of potential polar bear denning habitat is located between the Colville River and the Canning River; of that, approximately 300 miles (480 km) of potential polar bear habitat occurs within the boundaries of the above-mentioned Oilfield Units (see enclosed maps). Disturbance during denning could lead to

abandonment of dens and possible mortality to cubs. Use caution when operating near these areas during the maternal denning period (late October to mid April). The U.S. Geological Survey has posted information identifying polar bear denning habitat and GIS coverage available for downloading from the Alaska Science Center (ASC) website, plus associated documents. The den habitat map (ARC/INFO export file), the mapping manuscript (PDF file) and a picture of den habitat (JPG file) are now available on the ASC website (<http://www.absc.usgs.gov/dataproducts.htm>). Please use these resources when planning activities in potential denning areas and contact us immediately if any dens are found in the Oilfield Units during oil and gas activities. In addition, biologists with the USFWS are also available for consultation if questions or concerns about arise regarding polar bears and walrus during this authorization.

This authorization is issued in accordance with our regulations listed at 71 FR 43926, dated August 2, 2006. Should you have any further questions contact Mr. Craig Perham of our Marine Mammals Management Office at (907) 786-3800 or 786-3810.

Sincerely,



Rosa Meehan, Ph.D.
Chief, Marine Mammals Management

Enclosure

cc: Mr. Richard Shideler, ADF&G
FFWFO
LE

MMM

ISSUED: August 22, 2006
EXPIRES: August 2, 2011

LETTER OF AUTHORIZATION
(06-03)

ConocoPhillips Alaska, Inc. (CPAI) is hereby authorized to take small numbers of polar bears and Pacific walrus incidental to conducting year-round development and production activities at the Greater Kuparuk and Alpine units on the North Slope of Alaska identified within your LOA request (August 15, 2006). This also includes contractors of CPAI performing CPAI-approved work under the scope of operations to be conducted. The scope of operations is limited to the activities that will be conducted during the exploration, production, operations, and rehabilitation of oil and gas facilities within the boundaries of the Greater Kuparuk Unit and Alpine Unit. In addition, it includes the travel corridors to access these sites. Activities within these fields are ongoing and are expected to continue through the end of the current incidental take regulations. Authorization is subject to the following conditions:

1. The polar bear plan is approved and all provisions, unless noted specifically, are incorporated into this Letter of Authorization by reference.
2. CPAI Operations Managers, or their designates, will be fully aware, understand, and capable of implementing the conditions of this authorization.
3. Intentional take is prohibited.
4. This authorization is valid only for those activities identified in the request for a Letter of Authorization dated August 15, 2006.
5. Activities will not operate nor pass within 1 mile of known polar bear dens, and all observed dens will be reported to the Marine Mammals Management Office, Fish and Wildlife Service within 24 hours. The Fish and Wildlife Service will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential responses may range from cessation or modification of work to conducting additional monitoring.

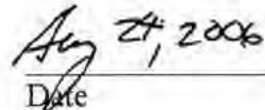
6. Polar bear monitoring, reporting, and survey activities will be conducted in accordance with 50 CFR 18, section 18.128. The basic monitoring and reporting requirements follow:

- cooperate with the Fish and Wildlife Service, and other designated Federal, State, or local agencies to monitor the impacts of oil and gas exploration activities on polar bears;
- designate a qualified individual or individuals to observe, record, and report the effects of the activity on polar bears;
- at the discretion of the Fish and Wildlife Service, allow the Fish and Wildlife Service to place an observer on the site to monitor the impacts of the activity on polar bears;
- submit an annual monitoring report to the Marine Mammals Management Office, which will be received by January 15 of each year.

7. This authorization expires August 2, 2011.



Chief, Marine Mammals Management


Date



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

1011 E. Tudor Rd.

Anchorage, Alaska 99503-6199

AFES/MMM

APR 20 2005

Alaska Oil and Gas Association
121 W. Fireweed Lane, Suite 207
Anchorage, Alaska 99503

Dear AOGA members:

Regulations that provide authorization for the incidental take of polar bears and Pacific walrus during oil and gas activities expired on March 28, 2005. New regulations to provide authorization for the incidental take of small numbers of polar bears and Pacific walrus are in the process of being finalized. This letter is to inform you of the status of the regulations and how the U.S. Fish and Wildlife Service (USFWS) is working to minimize the possibility of any incidental takes of polar bears and walrus until final regulations are in place.

To review, the current status of regulations and the steps necessary to finalize the regulations are described below:

1. A proposed rule will be published in the Federal Register.
2. A 30-day public comment period will be implemented once the proposed rule is published in the Federal Register.
3. The USFWS-Marine Mammals Management Office will then review and summarize public comments and make a final finding based on the best available information.
4. If negligible impact and subsistence findings are made, a final rule will be published in the Federal Register.

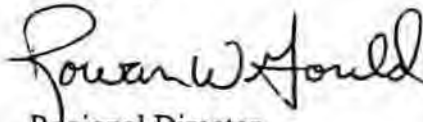
The time frame for finalization of the regulations is unknown, but could overlap with the 2005 fall season on the North Slope, when an increase of polar bear sightings and bear/human interactions may occur. With current and future operations in mind, the USFWS is asking that all operators follow the same procedures and practices outlined in established polar bear interaction plans that were in operation when the previous regulations were in place. Continuation of all past procedures including monitoring and reporting will help to ensure that oil and gas exploration, development, and production activities have no more than a minimal effect on polar bears and Pacific walrus. If new activities are planned please contact the USFWS-Marine Mammals Management Office so that we can provide you with an update on polar bear activity in the proposed area of

work and recommend measures to minimize any possible negative effects. For North Slope operators conducting lawful activities and following all measures required under their prior Letters of Authorization, the USFWS will exercise its prosecutorial discretion in the event that an incident does occur.

For those operators with Intentional Take authorizations, deterrence activities remain authorized since intentional take is authorized separately from the incidental take regulations.

Should you have any further questions contact Mr. Craig Perham of our Marine Mammals Management Office at (907) 786-3800 or 786-3810.

Sincerely,



Lauren W. Gould

Regional Director

cc: Mr. Richard Shideler, ADF&G
bcc: FFWFO
LE