

Nuiqsut; and 26 by residents of the village of Kaktovik. Hunting success varies considerably from year to year because of variable ice and weather conditions.

Native subsistence polar bear hunting could be affected by oil and gas activities in various ways. Hunting areas where polar bears are historically taken may be viewed as tainted if an oil spill were to occur at these sites. Other potential disturbances, such as noise and vehicular traffic, could have limited effects on subsistence activities if these disturbances were to occur near traditional hunting areas and lead to the displacement of polar bears.

Plan of Cooperation

Polar bear and Pacific walrus inhabiting the Beaufort Sea represent a small portion, in terms of the number of animals, of the total subsistence harvest for the villages of Barrow, Nuiqsut, and Kaktovik. Despite this fact, the harvest of these species is important to Alaska Natives. An important aspect of the LOA process, therefore, is that prior to issuance of an LOA, Industry must provide evidence to us that an adequate Plan of Cooperation has been presented to any affected subsistence community, the Eskimo Walrus Commission, the Alaska Nanuq Commission, and the North Slope Borough. This Plan of Cooperation must provide the procedures on how Industry will work with the affected Native communities and what actions will be taken to avoid interfering with subsistence hunting of polar bear and walrus. For this rule we evaluated the effect of proposed activities on the availability of polar bears and walrus for subsistence use. Although all three communities are located in the geographic area of the rule, the community most likely affected by Industry activities due to its close proximity is Nuiqsut. For this rule we determined that the total taking of polar bears and walrus will not have an unmitigable adverse impact on the availability of these species for subsistence uses during the duration of the regulation. We base this conclusion on: the results of coastal aerial surveys conducted within the area during the past three years; direct observations of polar bears occurring on Cross Island during the village of Nuiqsut's annual fall bowhead whaling efforts; anecdotal reports and recent sighting of polar bears by Nuiqsut residents; and data discussed in the sections of this regulation titled, "Effects of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears" and "Actual Impacts of Oil and Gas Industry Activities on Pacific Walrus and Polar

Bears". Furthermore, we have received no evidence or reports that bears are being deflected (*i.e.*, altering habitat use patterns by avoiding certain areas) or being impacted in other ways by the existing level of oil and gas activity near Nuiqsut to diminish their availability for subsistence use; nor do we expect any change in the impact of future activities.

Effects of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears

Pacific Walrus

Walrus are not present in the region of activity during the ice-covered season and occur only in small numbers in the defined area during the open-water season. From 1994 to 2000, three Pacific walrus were sighted during the open-water season. In June 1996, one walrus was observed from a seismic vessel near Point Barrow. In October 1996, one walrus was sighted approximately 5 miles northwest of Howe Island. In September 1997, one walrus was sighted approximately 20 miles north of Pingok Island.

Certain activities associated with oil and gas exploration and production during the open-water season have the potential to disturb walrus. Activities that may affect walrus include disturbance by: (1) Noise, including stationary and mobile sources, and vessel and aircraft traffic; (2) physical obstructions; and (3) contact with releases of oil or waste products. Despite the potential for disturbance, there is no indication that walrus have been injured during an encounter by industry activities on the North Slope, and there has been no evidence of lethal takes to date.

1. Noise Disturbance

Reactions of marine mammals to noise sources, particularly mobile sources such as marine vessels, vary. Reactions depend on the individuals' prior exposure to the disturbance source and their need or desire to be in the particular habitat or area where they are exposed to the noise and visual presence of the disturbance sources. Walrus are typically more sensitive to disturbance when hauled out on land or ice than when they are in the water. In addition, females and young are generally more sensitive to disturbance than adult males.

Noise generated by Industry activities, whether stationary or mobile, has the potential to disturb small numbers of walrus. The response of walrus to sound sources may be either avoidance or tolerance. In one instance, prior to the

initiation of incidental take regulations, walrus that tolerated noises produced by Industry activities were intentionally harassed to protect them from more serious injury. Shell Western E & P Inc. encountered several walrus close to the drillship during offshore drilling operations in the eastern Chukchi Sea in 1989. On more than one occasion, one walrus actually entered the moon pool of the drillship. (A moon pool is the opening to the sea on a drillship for a marine drill apparatus. The drill apparatus protrudes from the ship through the moon pool to the sea floor.) Eventually, the walrus had to be removed from the ship for its own safety.

A. Stationary Sources—It is highly improbable that noise from stationary sources would impact walrus. Currently, Endicott, the saltwater treatment plant, and Northstar, are the only offshore facilities that could produce noise that has the potential to disturb walrus. Walrus are rare in the vicinity of these facilities, although one walrus hauled out on Northstar Island in the fall of 2001.

B. Mobile Sources—Open-water seismic exploration produces underwater sounds, typically with airgun arrays, that may be audible numerous kilometers from the source. Such exploration activities could potentially disturb walrus at varying ranges. In addition, source levels are thought to be high enough to cause hearing damage in pinnipeds close in proximity to the sound. Therefore, it is possible that walrus within the 190 dB re 1 μ Pa safety radius of seismic activities (Industry standard) could suffer temporary threshold shift; however, the use of acoustic safety radii and monitoring programs are designed to ensure that marine mammals are not exposed to potentially harmful noise levels. Previous open-water seismic exploration has been conducted in nearshore ice-free areas. This is the area where any expected open-water seismic exploration will occur in the duration of this rule. It is highly unlikely that walrus will be present in these areas, and therefore, it is not expected that seismic exploration would disturb walrus.

C. Vessel Traffic—Noise produced by routine vessel traffic could potentially disturb walrus in the Beaufort Sea. However, walrus densities are highest along the edge of the pack ice, and Industry vessel traffic typically avoids these areas. The reaction of walrus to vessel traffic is highly dependent on distance, vessel speed, as well as previous exposure to hunting. Walrus in the water appear to be less readily