USFWS/AFES/MMM

National Marine Fisheries Service
Office of Protected Resources
1315 East –West Highway
Silver Spring, MD 20910
ATTN: Candace Nachman

Dear Ms.Nachman:

The US Fish and Wildlife Service polar bear program is requesting incidental harassment authorization of ringed and bearded seals during annual spring polar bear capture work that will be conducted in 2011 and 2012 in the Chukchi Sea. Per our phone and email correspondence, below we have provided the information requested for IHA applications on your website.

1. *A detailed description of the specific activity or class of activities that can be expected to result in incidental taking of marine mammals;*

   In 2008, the US Fish and Wildlife Service started a capture-recapture program of polar bears in the Chukchi-Bering Seas to begin to obtain information on bear health, body condition, movement patterns, habitat use, and demography. This work was initiated in response to the need for information to inform management (particularly the setting of harvest quotas) under the US-Russia treaty that was implemented starting in 2008, identify appropriate mitigation for oil and gas exploration activities in the Chukchi sea lease sale area, and the need to better monitor this population due to the listing of polar bears as "threatened" under the Endangered Species Act. To date there has never been an estimate of the size or status (e.g. increasing, decreasing, or stable) of this population and minimal research has been conducted to understand the population's status or response to declining sea ice habitat. Estimates of human-caused removal for this polar bear population are high (100-200/year in Russia and 30/yr in the US) and sea ice loss has occurred at one of the highest rates in the circumpolar arctic. There is concern over the current status of this population due to these threats.

   In response to the need for information on the Chukchi-Bering Seas polar bear population, the US Fish and Wildlife Service initiated a capture-based research program starting in 2008. Each spring, the US Fish and Wildlife Service conducts a 6-8 week period of polar bear captures on the sea ice off the US Chukchi Sea coastline. A fixed

wing and a Bell 206 Long-ranger helicopter are flown 300ft above the sea ice to track and locate polar bears for capture. The area over which we fly to locate polar bears includes ice seal habitat, and ice seals are frequently encountered hauled out on the sea ice at breathing holes or cracks. To capture polar bears, the aircraft flies immediately over the target bear for several minutes to administer a dart. Capture locations are carefully chosen for the safety of the bear and never include areas where ice seals occur. However, during flights to locate bears for capture at least some of the ice seals that are encountered result in incidental harassment. Their responses can include looking up at the aircraft and/or entering the crack or breathing hole they are hauled out at. Encounters may be with the same individuals repeatedly or may represent different individuals. With the exception of habitats near our base location on the coast, flights rarely occur repeatedly over the same areas. We monitor the prior week's tracklogs to ensure that we continue to search new habitat each day which likely results in few individuals being disturbed repeatedly during the course of our activities.

2. *The date(s) and duration of such activity and the specific geographical region where it will occur;*

   Polar bear capture operations will occur daily, as weather permits, between mid-March and the first week of May during 2011. During a typical capture season over the past 3 years, this has resulted in 28-30 flight days and less than 200 flight hours per season. Captures occur on the sea ice up to 100 miles offshore of the Alaskan coastline between Shishmaref and Cape Lisburne (see Fig. 1 showing flight paths in 2009 and 2010).

3. *The species and numbers of marine mammals likely to be found within the activity area;*

   We estimate that we may have as many as 1000 encounters with ringed seals (Phoca hispida) and 200 encounters with bearded seals (Erignathus barbatus) each year. In the past three years we have never encountered spotted or ribbon seals, since these species range farther south in the Bering Sea and Bristol Bay during this time of year. These encounters may or may not be repeated with the same individuals (i.e. the number of encounters is not necessarily equivalent to the number of individuals observed).

4. *A description of the status, distribution, and seasonal distribution (when applicable) of the affected species or stocks of marine mammals likely to be affected by such activities*

   Ringed seals and bearded seals are protected under the Marine Mammals Protection Act (MMPA) and are candidates for the Endangered Species Act (ESA). The ringed and bearded seals we encounter are distributed up to 100 miles offshore of the Alaskan Chukchi Sea coastline between Shishmaref and Cape Lisburne. These two species range throughout much of the Chukchi and northern Bering Seas. According to the National Marine Fisheries Service, ringed seals range throughout the Arctic seas. They remain in contact with ice most of the year. They are found throughout the Beaufort, Chukchi, and

Bering Seas as far south as Bristol Bay. A reliable estimate for the entire Alaska stock is not available. In Alaska, bearded seals are distributed over the continental shelf of the Bering, Chukchi and Beaufort Seas. They are most concentrated from January to April over the northern part of the Bering Sea shelf. The population size is estimated between 250,000 and 300,000. Both ringed and bearded seals pup and molt in late winter/early spring.

5. *The type of incidental taking authorization that is being requested (i.e., takes by harassment only; takes by harassment, injury and/or death) and the method of incidental taking;*

   The incidental take authorization that is being requested is 'take by harassment' only. Only take by Level B harassment is anticipated. Responses of ringed and bearded seals to our activities are limited to a change in behavior, including looking up at the aircraft, moving across the sea ice, and entering the water. It is unknown whether the sound or the sighting of the helicopter (or both) causes the observed change in behavior. Typically more significant responses, such as entering a breathing hole, occur only if the helicopter flies directly over the seals. Thus, responses are often avoided by varying our travel path to avoid directly flying over seals.

6. *By age, sex, and reproductive condition (if possible), the number of marine mammals (by species) that may be taken by each type of taking identified in paragraph (a)(5) of this section, and the number of times such takings by each type of taking are likely to occur;*

   The estimated number of seals that may be taken by harassment each year is 500 ringed seals and 100 bearded seals (based on our estimate of the number of seals encountered during previous work over the past 3 years and the research of Born et al. 1999 in which approximately 50% of all seals responded to helicopters at a similar altitude). It is possible that the same seal can be taken by harassment multiple times during mid-March and the first week of May. Age and sex of the seals are not always known, but likely include all sex and age classes. Female ringed and bearded seals give birth on the sea ice between mid March and May.

7. *The anticipated impact of the activity upon the species or stock;*

   We do not anticipate our activities having an impact on ringed seals or bearded seals at the population/stock or species level. As previously indicated the aircraft flies 300 feet in the air and generally stays within the same area less than seconds, thus allowing seals to return to daily activities. The only reactions we have observed over the past 3 years include looking up at the helicopter, moving on the ice, or entering a breathing hole or crack. In addition, efforts are made to avoid flying over areas where concentrations of seals, along a crack for example, occur. We expect that impacts even at the individual level are unlikely beyond a short-term change in behavior.

A study by Born et al. (1999) determined that 49% of ringed seals (*Phoca hispida*) escaped as a response to a helicopter flying at 150 m altitude (480 ft). Seals entered the water when the helicopter was 1250 m away if the seal was in front of the helicopter and at 500 m away if the seal was to the side of the helicopter. The study concluded that the risk of scaring ringed seals by small-type helicopters could be substantially reduced if they do not approach closer than 1500 m.

Born, E.W., F.F. Riget, R. Dietz, and D. Andriashek. 1999. Escape responses of hauled out ringed seals (Phoca hispida) to aircraft disturbance. Polar Biology 21:171-178.

8. *The anticipated impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses;*

   Our capture work encompasses areas near the communities of Kivalina and Point Hope. During the spring months that our capture work is conducted both of these communities hunt bowhead whales and ice seals. Hunting for both bowhead whales and ice seals occurs typically within 15 miles or less of the community, according to local residents. Due to the location and timing of subsistence activities, over the past 3 years we have avoided flying in these areas. At Point Hope, hunters have informed us that they hunt only to the west and south of Point Hope and have agreed that flying to the north and northwest of Point Hope would not interfere with subsistence activities. Therefore, we have restricted our flights to avoid the areas 15 miles to the south and west of Point Hope and within a 15 mile radius of Kivalina.

   We have purposefully mitigated our activities to avoid any interference or overlap with areas of subsistence activities.

9. *The anticipated impact of the activity upon the habitat of the marine mammal populations, and the likelihood of restoration of the affected habitat;*

   We do not anticipate impacting the habitat of ice seals during the course of our activities. The aircraft lands on various areas on the sea ice a few times per day when bears are captured. This makes no modification to the habitat and landings are always well away from any ice seals in the area.

10. *The anticipated impact of the loss or modification of the habitat on the marine mammal populations involved;*

    We do not anticipate having any effect on the habitat of ice seals or other marine mammals during the course of our activities.

11. *The availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable*

adverse impact upon the affected species or stocks, their habitat, and on their availability for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance;

Successful location of polar bears for capture requires flying at 300 feet of altitude in areas of good ice habitat (i.e., that includes cracks, leads, and pressure ridges). Capture per unit effort in the Chukchi Seas for this project is lower than for any other study of this kind in the Arctic. Thus, flying at a higher altitude during these surveys would jeopardize our ability to successfully continue this important project that is providing critically needed information to manage this threatened species. That being said, there are many ways we can minimize our effects on ice seals during the course of our activities while simultaneously accomplishing the objectives of this project.

Protocols for flights can include deterring (maintaining a 1 mile radius) from flying over areas where seals are concentrated (i.e. 5 or more seals) - such as cracks or areas of thin ice with multiple breathing holes. This distance is the distance suggested by Born et al. (cited above) for preventing ringed seals from entering the water. We believe we can greatly minimize the number of seals that are harassed by adhering to these practices for all future work. We have not in the past and will continue not to land on ice within ½ mile of a hauled out seal.

We would like to maintain that if necessary for safety reasons (i.e. heavy fog or aircraft issues) that we can take the most direct flight path back to our base camp and not be required to maintain a 1 mile radius from groupings of ice seals.

12. *Where the proposed activity would take place in or near a traditional Arctic subsistence hunting area and/or may affect the availability of a species or stock of marine mammal for Arctic subsistence uses, the applicant must submit either a "plan of cooperation" or information that identifies what measures have been taken and/or will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses.*

As stated above, over the past 3 years, as part of this work, we regularly consult extensively with local communities to identify temporal and spatial no fly zones. These no fly zones occur in areas of subsistence activities. The majority of our work occurs greater than 30 miles offshore which also minimizes the potential for our flights to affect availability of ice seals to local hunters. Specifically, we hold two meetings in Point Hope each year (the community in closest proximity to much of our work). For 2011, we have agreed with local whaling captains and community leaders to have regular, weekly communications to identify no fly zones and ensure that that our flight paths do not intersect areas of subsistence activity. We also regularly communicate with the community of Kivalina, although polar bears tend not to be concentrated in close proximity to this community, thus our flight paths tend to occur well away from subsistence use areas.

13. *The suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species, the level of taking or impacts on populations of marine mammals that are expected to be present while conducting activities and suggested means of minimizing burdens by coordinating such reporting requirements with other schemes already applicable to persons conducting such activity. Monitoring plans should include a description of the survey techniques that would be used to determine the movement and activity of marine mammals near the activity site(s) including migration and other habitat uses, such as feeding. Guidelines for developing a site-specific monitoring plan may be obtained by writing to the Director, Office of Protected Resources; and*

    During the course of our capture efforts, we will devote a staff member to monitoring the number of seals encountered and species continuously throughout our flights, with the exception of when we are following polar bear tracks or have initiated a polar bear capture. In addition we will monitor and record age group (to the best of our ability – but at a minimum pups vs. adult females; adult male bearded seals can be identified) and the type of reaction (i.e., tracking helicopter, moving on ice, or entering water) over one hour time periods daily. The other biologist (a capture crew consists of two biologists and a pilot) and the pilot will continue searching for polar bears to capture. These flights will continue to occur at 300 feet altitude. Surveys will occur on days that vary in weather conditions since the number of seals encountered greatly depends on weather, including temperature, cloud cover, and wind speed.

    USFWS will submit a report to NMFS within 90 days of completing the activity. The report will include a description of the activities that were conducted, the methods and results of the ice seal monitoring, marine mammal sightings, estimates of the number of seals encountered, and seal reactions to the activity.

14. *Suggested means of learning of, encouraging, and coordinating research opportunities, plans, and activities relating to reducing such incidental taking and evaluating its effects.*

    Same as above. Since surveying ice seals will detract from our ability to search and track polar bears, we will limit these surveys to one hour periods spaced throughout the field season on days with varying weather conditions.

Please feel free to contact me if you need any additional information to evaluate our application. I appreciate your attention to this application and any effort you can make to provide authorization prior to the start of our field season in mid-March 2011.

Sincerely,

Karyn D. Rode, PhD
Wildlife Biologist

cc: NMFS Alaska Regional Office, PO Box 21668, Juneau, Alaska 99802-1668

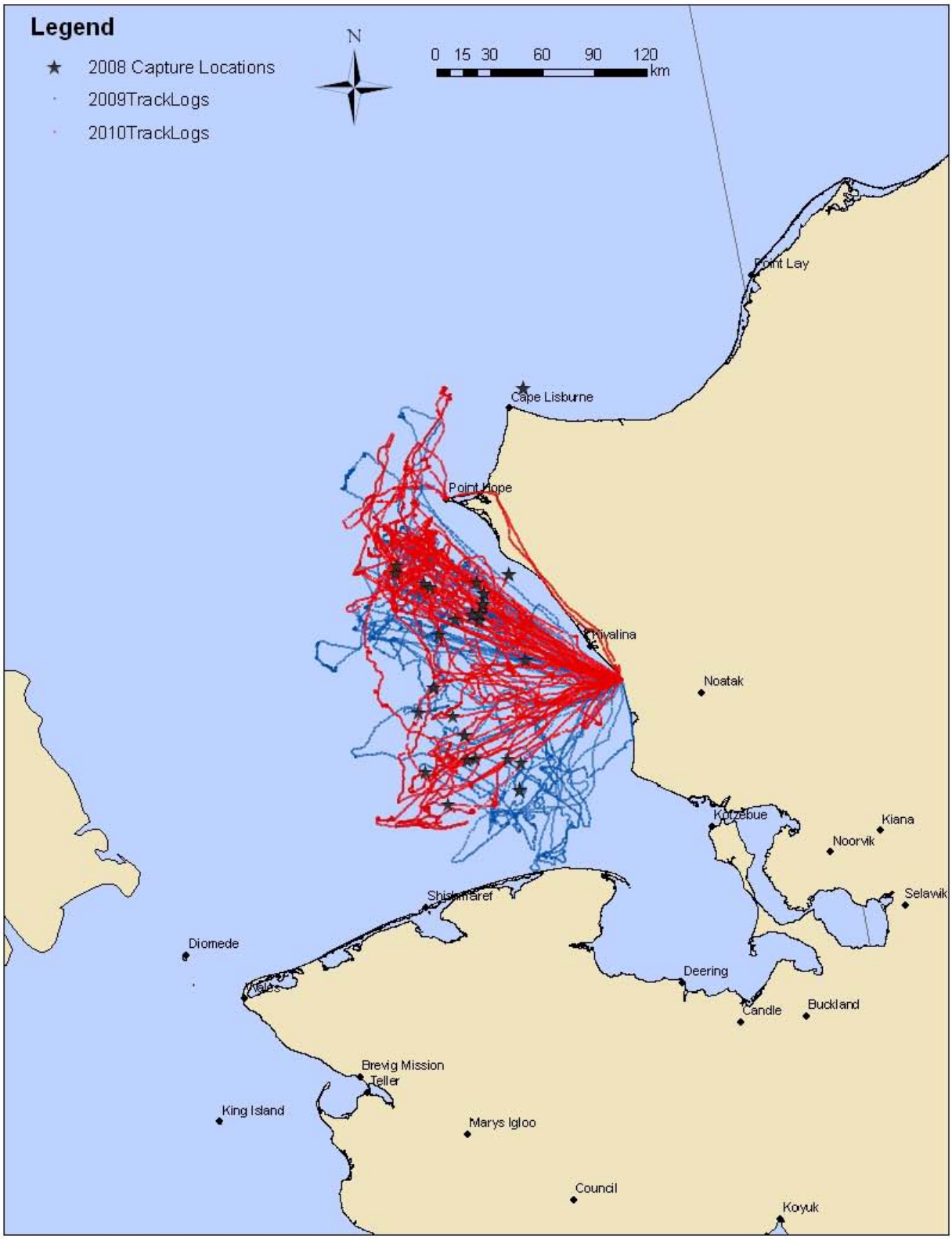

Figure 1: Flight paths during polar bear capture operations conducted mid-March through early May in 2009 and 2010.