

Alaska North Slope

Ice Road and Ice Trail Best Management Practices

Best Management Practices Introduction and Definitions

The following Best Management Practices (BMPs) and monitoring measures are applicable to operations on the Alaska North Slope. They are proposed for the construction and maintenance of sea ice roads and sea ice trails in areas where water depth is greater than 10 feet (ft) (the minimum depth required to establish ringed seal lairs) as well as any open leads in the sea ice requiring a temporary bridge during the ice road season. These BMPs do not apply to land-based ice roads/trails or ice roads/trails crossing lakes. These measures are intended to avoid and minimize interactions with ringed seals. For the purposes of these BMPs, sea ice roads and trails are generally defined¹ as follows:

- Sea Ice Road: a route across sea ice created by clearing and grading snow, then pumping seawater through drilled holes in the sea ice until the desired thickness is achieved. The top layer is typically strengthened by a fresh water cap of ice.
- Sea Ice Trail: a route across sea ice created, used and maintained by equipment such as Tuckers, PistenBullys, snow machines or similar tracked equipment. Sea ice trails do not require seawater flooding.

These BMPs and monitoring activities are organized into the following categories:

Section 1: Wildlife Training

Section 2: General BMPs Implemented Throughout the Ice Road/Trail Season

Section 3: BMPs Implemented Before March 1st

Section 4: BMPs Implemented After March 1st

Section 5: Reporting

Section 1: Wildlife Training

Prior to initiation of sea ice road- and ice trail-related activities, project personnel associated with ice road construction, maintenance, use or decommissioning (i.e., ice road construction workers, surveyors, security personnel, and the environmental team) will receive annual training² on these BMPs. Personnel are advised that interactions with, or approaching, any wildlife is prohibited. Annual training also includes reviewing the company's Wildlife Management Plan³. In addition to the BMPs, other topics in the training will include:

- Ringed Seal Identification and Brief Life History
- Physical Environment (habitat characteristics and how to potentially identify habitat)

¹ Specific construction techniques may vary depending on site-specific conditions. However, this description generally describes the process by which a sea ice road is constructed.

² Training rosters can be made available to audit if requested.

³ May also be referred to as a Wildlife Interaction Plan.

- Ringed Seal Use in the Ice Road Region (timing, location, habitat use, birthing lairs, breathing holes, basking, etc.)
- Potential Effects of Disturbance
- Importance of Lairs, Breathing Holes and Basking to Ringed Seals

Brief Summary of Applicable Laws and Regulatory Requirements

- Marine Mammal Protection Act (MMPA)
- Endangered Species Act (ESA)

Section 2: General BMPs Implemented Throughout the Ice Road/Trail Season

General BMPs will be implemented through the entire ice road/trail season including during construction, maintenance, use and decommissioning.

1. Ice road/trail speed limits will be no greater than 45 miles per hour (mph); speed limits will be determined on a case-by-case basis based on environmental, road conditions and ice road/trail longevity considerations. Travel on ice roads and trails is restricted to industry staff.
2. Following existing safety measures, delineators will mark the roadway in a minimum of ¼-mile increments⁴ on both sides of the ice road to delineate the path of vehicle travel and areas of planned on-ice activities (e.g., emergency response exercises). Following existing safety measures currently used for ice trails, delineators will mark one side of an ice trail a minimum of every ¼ mile. Delineators will be color-coded⁵, following existing safety protocol, to indicate the direction of travel and location of the ice road or trail.
3. Corners of rig mats, steel plates, and other materials used to bridge sections of hazardous ice, will be clearly marked or mapped using GPS coordinates of the locations.
4. Project personnel will be instructed that approaching or interacting with ringed seals is prohibited.
5. Personnel will be instructed to remain in the vehicle and safely continue, if they encounter a ringed seal while driving on the road.
6. If a ringed seal is observed within 150 ft of the center of an ice road or trail, the operator's Environmental Specialist will be immediately notified with the information provided in the Reporting section below.
 - a. The Environmental Specialist will relay the seal sighting location information to all ice road personnel and the company's office personnel responsible for wildlife interaction, following notification protocols described in the company-specific Wildlife Management Plan. All other data will be recorded and logged.
 - b. The Environmental Specialist or designated person will monitor the ringed seal to document the animal's location relative to the road/trail. All work that is occurring when the ringed seal is observed and the behavior of the seal during those activities will be documented until the animal is at least 150 ft away from the center of the road/trail or is no longer observed.

⁴ The interval between delineators is specific to existing ice road safety measures and relates to how drivers assess and report weather and roadway conditions.

⁵ For example, a specific color to the driver's right or left will indicate direction of travel as well as the route.

- c. The Environmental Specialist or designated person will contact appropriate state and federal agencies as required⁶ (see company-specific Wildlife Plans for notification details).

Section 3: BMPs Implemented Prior to March 1st

Winter sea ice road/trail construction and use will begin as early as possible (typically December 1st through mid-February). It is anticipated that all ice road construction activities will be initiated prior to March 1st, before the time when female ringed seals establish birth lairs. Prior to establishing lairs, ringed seals are mobile and are expected to generally avoid the ice roads/trails and construction activities.

Other on-ice activities occurring prior to March 1st could also include spill training exercises, pipeline surveys, snow clearing, and work conducted by other snow vehicles such as a PistenBullys, snow machines, or rollagons. Prior to March 1st, these activities could occur outside of the delineated ice road/trail and shoulder areas. During this period, General BMPs (described in Section 2) will be implemented.

Section 4: BMPs Implemented After March 1st

After March 1st, and continuing until decommissioning of ice roads/trails in late May or early June, the on-ice activities mentioned above can occur anywhere on sea ice where water depth is less than 10 ft (i.e., habitat is not suitable for ringed seal lairs). However, if the water is greater than 10 ft in depth, these activities should only occur within the boundaries of the driving lane or shoulder area of the ice road/trail and other areas previously disturbed (e.g., spill and emergency response areas, snow push areas) when the safety of personnel is ensured.

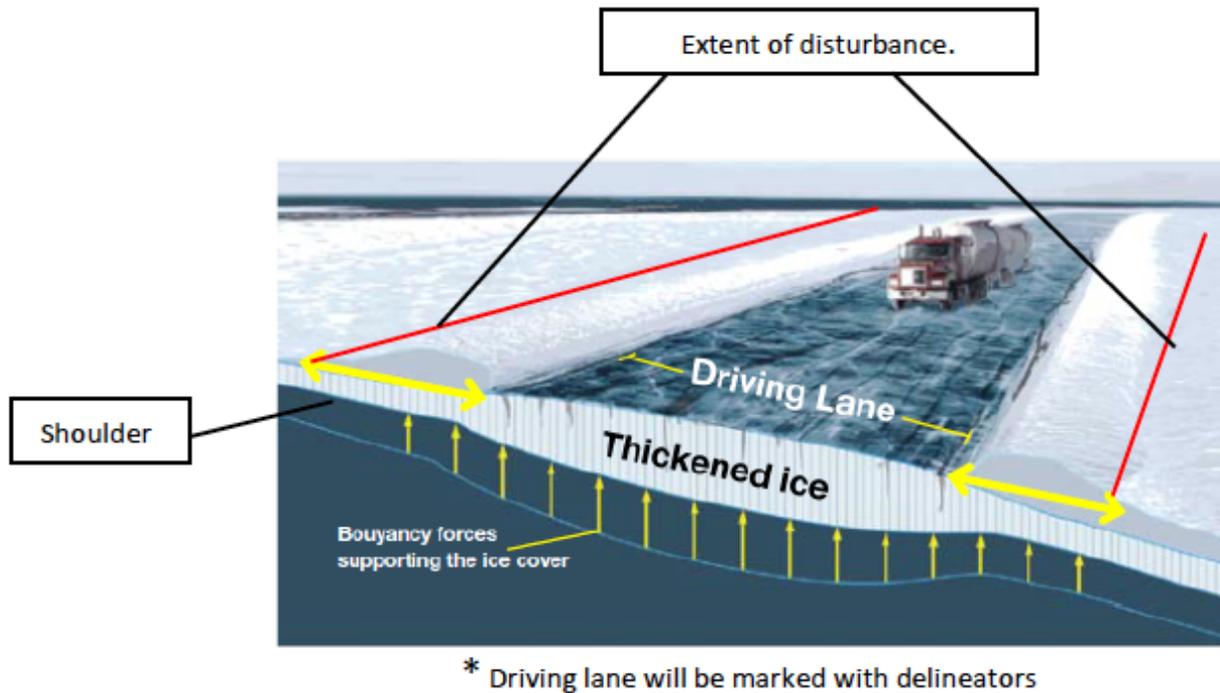
In addition to the general BMPs, the following BMPs will also be implemented after March 1st:

7. Ice road/trail construction, maintenance and decommissioning will be performed within the boundaries of the road/trail and shoulders, with most work occurring within the driving lane. To the extent practicable and when safety of personnel is ensured, equipment will travel within the driving lane and shoulder areas (see Figure 1).
8. Blading and snow blowing of ice roads will be limited to the previously disturbed ice road/shoulder areas to the extent safe and practicable. Snow will be plowed or blown from the ice road surface.
9. In the event snow is accumulating on a road within a 150 ft. radius of an identified downwind seal or seal lair, operational measures will be used to avoid seal impacts, such as pushing snow further down the road before blowing it off the roadway. Vehicles will not stop within 150 ft of identified seals or within 500 ft of known seal lairs.
10. To the extent practicable and when safety of personnel is ensured, tracked vehicle operation will be limited to the previously disturbed ice trail areas. When safety requires a new ice trail to be constructed after March 1st, construction activities such as drilling holes in the ice to determine ice quality and thickness, will be conducted only during daylight hours with good visibility. Ringed seal structures will be avoided by a minimum of 150 ft during ice testing and new trail construction. Any observed ringed seal structures will be reported following BMP #6. Once the new ice trail is

⁶ As detailed in the Wildlife Management Plan.

established, tracked vehicle operation will be limited to the disturbed area to the extent practicable and when safety of personnel is ensured.

Figure 1. Graphic Representation of Ice Road



11. If an ice road or trail is being actively used⁷, under daylight conditions with good visibility, a dedicated observer (not the vehicle operator) will conduct a survey along the sea ice road/trail to observe if any ringed seals are within 500 ft of the roadway corridor. The following survey protocol will be implemented:
 - a. Surveys will be conducted every other day during daylight hours.
 - b. Observers for ice road activities need not be trained Protected Species Observers (PSOs), but they must have received the training described in Section 1 and understand the applicable sections of the Wildlife Management Plan. In addition, they must be capable of detecting, observing and monitoring ringed seal presence and behaviors, and accurately and completely recording data.
 - c. Observers will have no other primary duty than to watch for and report observations related to ringed seals during this survey. If weather conditions become unsafe, the observer may be removed from the monitoring activity.

⁷ Any days when there is no traffic on an ice road, monitoring for ringed seals will not occur in order to minimize potential for interactions with seals.

12. If a seal is observed on ice within 150 feet of the centerline of the ice road/trail, BMP #6 shall be initiated and:
 - a. Construction, maintenance or decommissioning activities associated with ice roads and trails will not occur within 150 ft of the observed ring seal, but may proceed as soon as the ringed seal, of its own accord, moves farther than 150 ft distance away from the activities or has not been observed within that area for at least 24 hours. Transport vehicles (i.e., vehicles not associated with construction, maintenance or decommissioning) may continue their route within the designated road/trail without stopping.
13. If a ringed seal structure (i.e., breathing hole or lair) is observed within 150 ft of the ice road/trail, the location of the structure will be reported to the Environmental Specialist⁸ who will then carry out notification protocol identified in BMP #7 above and:
 - a. a qualified observer (see BMP #11) will monitor the structure every six hours on the day of the initial sighting to determine whether a ringed seal is present. Monitoring for the seal will occur every other day the ice road is being used unless it is determined the structure is not actively being used (i.e., a seal is not sighted at that location during monitoring). A lair or breathing hole does not automatically imply that a ringed seal is present.
 - b. Construction, maintenance or decommissioning work will proceed following all other BMPs to minimize impacts or disturbance in the area.

Section 5: Reporting (as needed)

A final end-of-season report compiling all ringed seal observations will be submitted to NMFS Alaska Region Protected Resources Division (greg.balogh@noaa.gov) and NMFS Office of Protected Resources Permits Division (jaclyn.daly@noaa.gov) within 90 days of decommissioning the ice road/trail. The report will include:

- a. Date, time, location of observation.
- b. Ringed seal characteristics (i.e., adult or pup, behavior [avoidance, resting, etc.]).
- c. Activities occurring during observation including equipment being used and its purpose, and approximate distance to ringed seal(s).
- d. Actions taken to mitigate effects of interaction emphasizing: 1) which BMPs were successful; 2) which BMPs may need to be improved to reduce interactions with ringed seals; 3) the effectiveness and practicality of implementing BMPs; 4) any issues or concerns regarding implementation of BMPs; and 5) potential effects of interactions based on observation data.
- e. Proposed updates (if any) to Wildlife Management Plan(s) or BMPs.
- f. Reports should be able to be queried for information.

NMFS, in consultation with the operator, may make modifications to these BMPs based on this information for the next ice road season.

⁸ Also referred to as an Environmental Advisor in Wildlife Management / Interaction Plans.

In the unanticipated event a seal is killed or seriously injured by ice road/trail activities, NMFS will be notified immediately (see contact information above).

In the event ice road/trail personnel discover a dead or injured seal but the cause of injury or death is unknown or believed not to be related to ice road/trail activities, NMFS will be notified within 48 hours of discovery (see contact information above).

Citations

- Kim, K.H. and W.J. Richardson (eds.). 2016. Monitoring of industrial sounds, seals, and bowhead whales near Hilcorp' Northstar Oil Development, Alaskan Beaufort Sea, 2015: Summary Report. GSI Rep. 521-1. Rep. from Greeneridge Sciences Inc. (Santa Barbara, CA) and LGL Alaska Res. Assoc. Inc. (Anchorage, AK) for Hilcorp Alaska LLC, Anchorage, AK. 69 p
- Moulton, V.D., W.J. Richardson, T.L. McDonald, R.E. Elliott, M.T. Williams and C. Nations. 2005. Effects of an offshore oil development on local abundance and distribution of ringed seals (*Phoca hispida*) of the Alaskan Beaufort Sea. *Marine Mammal Science* 21(2): 217-242
- NMFS (National Marine Fisheries Service). 2000. Final Rule: Taking Marine mammals Incidental to Construction and Operations Of Offshore Oil and Gas Facilities in the Beaufort Sea. *Federal Register*, Vol. 65, No. 102, Thursday May 25, 2000
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