

**TABLE 9-1
IMPACTS OF NOISE GENERATED UNDER ALTERNATIVES 2, 3, 4, AND 5 ON THE BIOLOGICAL AND HUMAN ENVIRONMENTS**

Action/Event	Frequency	Duration	Scope	Direct Impacts	Indirect Impacts
Ice Roads – Construction	Once	All winter	Seal Island to landfall location and access roads to water supply.	Minor – Possible attraction of Arctic fox due to noise of traffic on ice roads.	None anticipated.
Ice Roads – Operations	Annually	All winter	Seal Island to landfall location and access roads to water supply.	Minor – Temporary displacement of overwintering caribou; possible attraction of Arctic fox due to noise of traffic on ice roads.	None anticipated.
Island – Construction	Once	3 Months	Vicinity of Seal Island and onshore areas.	<p>Negligible - Displacement of beluga, bearded seals, and spotted seals from general construction activities; disturbance to marine fish; disturbance to ravens, ptarmigan, and most seabirds and sea ducks.</p> <p>Minor - Displacement/avoidance of beluga whales due to drilling and of bowhead whales due to helicopter/vessel traffic and drilling; displacement of ringed seals during late winter/early spring; avoidance/attraction of polar bears to construction site; mild behavior effects on caribou from helicopter overflights; disturbance of nesting brant and spectacled eiders from helicopter overflights.</p> <p>Significant – Disturbance to molting oldsquaw and common eiders from helicopter overflights.</p>	<p>Minor – Temporary displacement of prey species, impacting ringed seals.</p> <p>Significant – Impacts to subsistence harvesting of the bowhead whale if high noise-level activities in the vicinity of Seal Island coincided with the fall migration period and resulted in a reduced harvest.</p>
Island – Operation/ Maintenance	Annually	15 years	Vicinity of Seal Island.	<p>Negligible - Avoidance of the area by bowhead whales due to noise from gas flaring; disturbance to oldsquaw, common eider, king eider, and glaucous gull during open water and broken ice seasons.</p> <p>Minor – Displacement/avoidance of beluga whales due to drilling and of bowhead whales due to routine helicopter/ boat traffic and drilling; avoidance of area by ringed and bearded seals due to general activities on the island; to marine mammals and birds from noise due to icebreaker activity; disturbance to nesting brant and spectacled eiders from helicopter overflights; disturbance to molting oldsquaw and common eiders from helicopter and barge traffic.</p>	<p>Minor –Attraction of gulls and ravens to Seal Island could increase their productivity, which could cause increased predation on their prey species.</p> <p>Significant – Impacts to subsistence harvesting of the bowhead whale if high noise-level activities at Seal Island coincided with the fall migration period and resulted in a reduced harvest.</p>

TABLE 9-1 (Cont.)
IMPACTS OF NOISE GENERATED UNDER ALTERNATIVES 2, 3, 4, AND 5 ON THE BIOLOGICAL AND HUMAN ENVIRONMENTS

Action/Event	Frequency	Duration	Scope	Direct Impacts	Indirect Impacts
Offshore Pipeline – Construction	Once	3 Months (Winter)	Offshore pipeline corridor from Seal Island to landfall.	Minor – Temporary displacement of ringed seals, polar bears, and non-migratory birds; possible attraction of Arctic fox due to the noise of offshore pipeline construction.	Negligible – Temporary displacement of prey species, impacting ringed seals.
Offshore Pipeline - Operation/ Maintenance	Rare	15 years	Offshore pipeline corridor from Seal Island to landfall.	Minor – To marine mammals from noise and activities during maintenance.	None anticipated.
Onshore Pipeline – Construction	Once	6 Months (Winter)	Onshore pipeline corridor from landfall to Pump Station No. 1.	Minor – Displacement of overwintering caribou and Arctic fox.	None anticipated.
Onshore Pipeline - Operation/ Maintenance	Weekly	15 years	Onshore pipeline corridor from landfall to Pump Station No. 1.	Minor – Disturbance to tundra nesting birds, Arctic fox, grizzly bears, and caribou from low-elevation helicopter inspection overflights; disturbance to nesting brant and spectacled eiders from low-elevation helicopter inspection overflights.	None anticipated.
Gravel Mining Construction Operation	Once Occasionally	3 Months (Winter) Unknown	Kuparuk mine site.	Minor – Displacement of caribou that overwinter in the area; to denning polar bears if mining of gravel results in abandonment of a den.	None anticipated.
Large Oil Spill	Rare	Unknown	Marine waters, lagoons, and tundra areas contacted by oil - up to 200 miles (322 km) from release site (Figures 8-4 and 8-5).	Minor - If noise from increased boat and aircraft movement for cleanup and mobilization result in displacement of marine mammals, terrestrial mammals, fish, and bird species.	Significant – Impacts to bowhead subsistence harvesting if noise from spill response activities during fall resulted in a reduced harvest.
Abandonment	Once	3 to 6 Months	Onshore and offshore pipeline corridors and vicinity of Seal Island.	Negligible to Minor – Temporary and similar to construction activity impacts.	Negligible – Temporary displacement of prey species, impacting ringed and spotted seals. Significant – Impacts to bowhead subsistence harvesting if high noise-level activities at Seal Island during fall resulted in a reduced harvest.

Notes: km = kilometers