

**TABLE 8-10
IMPACTS OF A POTENTIAL OIL SPILL AND OIL SPILL RESPONSE ON THE BIOLOGICAL ENVIRONMENT**

Resources Affected	Frequency	Duration: Construction	Duration: Operation	Scope	Direct Impacts	Indirect Impacts
Plankton and Marine Invertebrates	Rare	N/A	Unknown	Marine water areas contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	Minor - Mortality of organisms contacted resulting in temporary (few days) reduction in population numbers in the affected area.	None anticipated.
Marine and Freshwater Fish Resources	Rare	N/A	Unknown	Marine and fresh water areas contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	Minor - Mortality of marine and anadromous fish as a result of oil toxicity, effects from physiological or behavioral changes, destruction of food organisms, and habitat damage.	None anticipated.
Marine Mammals	Rare	N/A	Unknown	Marine waters and ice contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	<p>Minor - Potential mortality of beluga whales, not normally present in the areas likely to be contacted by oil; mortality of seals from direct contact with oil, consumption of oiled prey, injection during grooming, inhalation of vapors.</p> <p>Significant – Mortality of polar bears from ingestion of oil during grooming, consumption of oiled prey, or loss of insulation and subsequent hypothermia. A major oil spill(s) or the cumulative effects of many small spills, could have negative population effects for polar bears.</p>	Minor - Disturbance to marine mammals from spill response activities and noise. Also, disturbance from icebreaking barge activities during broken/thin ice conditions may occur even though an oil spill has not (icebreaking barge activities are not expected to coincide with the fall bowhead migration past the project area).
Coastal Vegetation and Invertebrates	Rare	N/A	Unknown	Few hundred yards of tundra for onshore spills; coastline areas contacted by oil for offshore spills - up to 200 miles (322 km) from the release site (Figure 8-4).	<p>Minor - Damage to tundra/coastal vegetation, with recovery potentially taking more than 5 years.</p> <p>Significant - Mortality of freshwater invertebrates; potential long-term impact to various invertebrate life stages due to contamination of sediments.</p>	Significant - Damage to sensitive coastline vegetation from oil spill response activities.

**TABLE 8-10 (Cont.)
IMPACTS OF A POTENTIAL OIL SPILL AND OIL SPILL RESPONSE ON THE BIOLOGICAL ENVIRONMENT**

Resources Affected	Frequency	Duration: Construction	Duration: Operation	Scope	Direct Impacts	Indirect Impacts
Birds	Rare	N/A	Unknown	Marine waters, lagoons, and tundra areas contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	Minor - Mortality of waterfowl and shorebirds in onshore aquatic habitats due to direct contact with oil if a spill occurred during the summer. Significant – Mortality of birds in marine waters or lagoon areas due to direct contact with oil if a spill occurred during open water period.	Minor - Disruption of nesting or staging activities from spill response activities.
Terrestrial Mammals	Rare	N/A	Unknown	Tundra or shorelines contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	Minor – Potential mortality of individual Arctic foxes or grizzly bears from loss of fur insulative value, ingestion of oil during grooming, or consumption of oiled carcasses; to individual caribou through absorption and inhalation of vapors.	Negligible - Displacement of animals from hazing or cleanup activities, reduction of prey species, and displacement of caribou from oiled vegetation areas.
Threatened and Endangered Species	Rare	N/A	Unknown	Marine waters, lagoons, and tundra areas contacted by oil - up to 200 miles (322 km) from the release site (Figures 8-4 and 8-5).	Minor – To Steller’s eider (few found in project area) from contact with oil or ingestion of oil contaminated food. Significant – Mortality of spectacled eiders from contact with oil along shorelines or in the lagoon areas during migration or from ingestion of oil contaminated food; injury and/or mortality of bowhead whales from an oil spill contacting the spring lead system coincident with migration.	Minor - Disruption of bowhead whale migration from noise and boat traffic related to cleanup, displacement of birds from habitats and disruption of nesting activities from oil spill response.

Notes: km = Kilometers
N/A = Not applicable