

Location: 70°20'N, 110°30'W

Size: 4886 km²

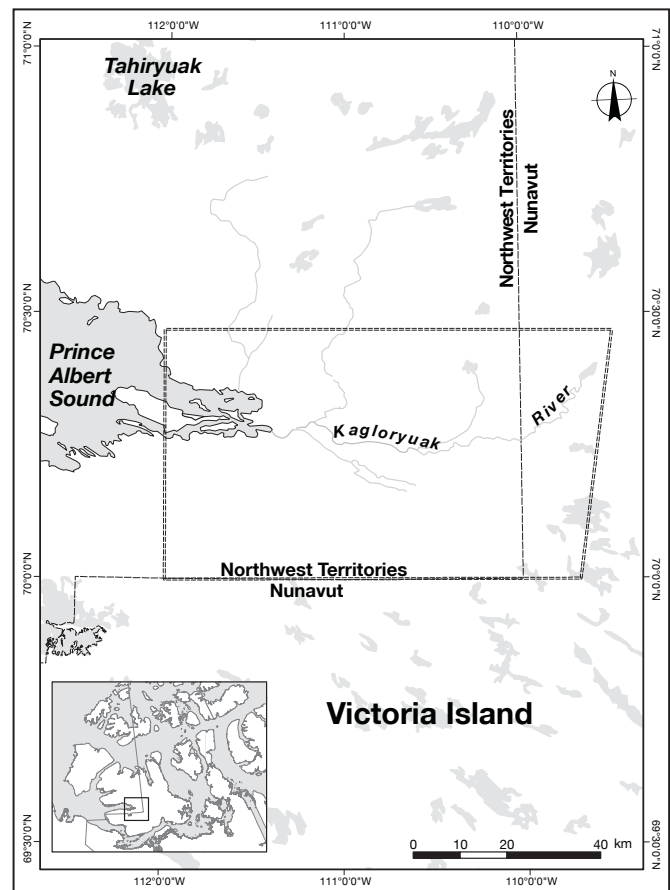
Description: This site occurs in both the Northwest Territories and Nunavut. The Kagloryuak River lies in a wide valley with extensive areas of drumlinoid ridges, as well as several well-developed eskers. The valley slopes gently westward, draining into Prince Albert Sound. Much of the at, lowland areas has a continuous vegetation cover of predominantly sedges, willows, and cottongrass (Cornish and Dickson 1996). In parts of the river valley, there are clusters of shallow ponds. Other areas, particularly to the south of the river, have lakes interspersed by drier uplands. Upland vegetative cover is discontinuous and dominated by purple saxifrage, *Dryas* spp., and arctic willow.

Kagloryuak River is within the Northern Arctic ecozone and has a mid-Arctic ecoclimate, with a summer mean temperature of 2°C, winter mean temperature of -28°C, and mean annual precipitation of 100–200 mm (Kirkwood et al. 1983; Environment Canada 1986).

Biological value: The Kagloryuak River valley is among the richest areas on Victoria Island in terms of diversity and abundance of bird life (Cornish and Dickson 1996). It provides nesting habitat for over 30 species, many of which are found in higher densities there than in other parts of western Victoria Island (McLaren and Alliston 1981; Cornish and Dickson 1996). Nesting birds generally occur in greatest densities in lowland areas where there are continuous vegetation cover and numerous ponds (Allen 1982). An estimated 6000–8500 King Eiders (2–3% of the western Canadian Arctic population) nest in the Kagloryuak River valley, occurring there in higher densities than anywhere else in the western Canadian Arctic (1.3–1.9 birds/km²) (Dickson et al. 1997). Likewise, the breeding pair density of Cackling Geese (2.46 pairs/km²) is the highest in the western Canadian Arctic. An estimated 22 500 Cackling Geese (8% of the national population) nest in the valley (Hines et al. 2000). There are also approximately 800 Sabine's Gulls, or possibly 3% of the Canadian population (Cornish and Dickson 1996).

Peak numbers of 700 Pomarine Jaegers and 1100 Parasitic Jaegers were estimated during 3 years of aerial surveys in the early 1990s (Cornish and Dickson 1996). Other species that are notably abundant are Pacific Loon (500–1000), Tundra Swan (1500–2000), Pacific Brant (500), Arctic Tern (300–400), and Snowy Owl (400 in some years). The most frequently observed shorebirds during 2 years of ground surveys in the early 1990s were Semipalmated Sandpiper and Pectoral Sandpiper, followed by Red Phalarope, White-rumped Sandpiper, American Golden-Plover, and Stilt Sandpiper (Cornish and Dickson 1996).

Sensitivities: The well-vegetated wetlands that support the highest bird densities in the area are sensitive to physical disturbance, and recovery would be slow. Most bird species are sensitive to disturbance during nesting season, when human activity could seriously jeopardize their breeding success.



Potential conflicts: There have been considerable prospecting and mining exploration on Victoria Island in recent years. Low-level aircraft traffic in support of these activities may cause excessive disturbance during critical times, such as the breeding season (May through July).

Status: None.

NT Site 6 – Cape Parry

Location: 70°12'N, 124°40'W

Size: 2.3 km²

Description: Cape Parry consists of three points at the northern tip of the Parry Peninsula, 100 km north of Paulatuk. The underlying limestone forms three outcrops of coastal cliffs that rise 20 m above sea level. The coastline has beaches of sand and gravel and is deeply incised, forming numerous bays and small inlets. The peninsula is sparsely vegetated and is dotted with small lakes and ponds. A Distant Early Warning (DEW) site was located 3 km south of Police (West) Point from the 1950s to the 1980s.

Marine currents and a variable bathymetry result in marine upwellings that produce a rich marine environment in the vicinity of Cape Parry. Offshore, a series of lead and polynya systems form annually, typically coinciding with the 30-m depth contour (Marko 1975), which provide critical habitat for migrating marine birds (summarized in Mallory and Fontaine 2004). Open water usually persists between May and November (Smith and Rigby 1981).

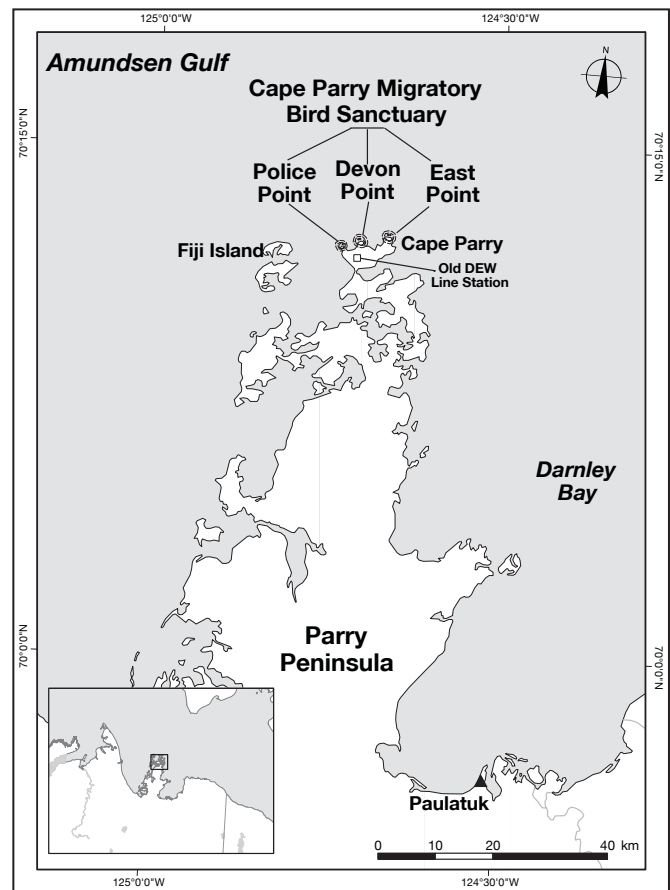
Biological value: The limestone cliffs at Cape Parry provide nesting habitat for the only Thick-billed Murre (*U. l. arra*) colony in the western Canadian Arctic (Johnson and Ward 1985) and the only colony of this subspecies in Canada. The colony is at least 1300 km from the next closest murre colonies in Alaska or Nunavut. The colony was estimated to support 800 birds in 1979, with the principal portion of the colony at Police (West) Point and secondary colonies at Devon (Central) Point and East Point. The latter sites are not occupied every year. Maximum numbers of murres counted have varied from 125 to 784 since 1953 and in 2002 were estimated at 570 birds, with birds found only at Police (West) Point (J. Charlwood, unpubl. data). Black Guillemots also occur here and apparently nest; this is one of two sites in the western Arctic where this species is thought to breed.

The recurrent leads immediately north of Cape Parry serve as a migration corridor for nationally significant populations of King Eiders, Common Eiders, Long-tailed Ducks, Glaucous Gulls, and Yellow-billed Loons (Barry and Barry 1982; Alexander et al. 1988a). There is some evidence that Ivory Gulls and Ross's Gulls may overwinter in the offshore leads in some years (Barry 1976).

The offshore areas are important for bearded seals, ringed seals, polar bears, belugas, and bowhead whales (Alexander et al. 1991).

Sensitivities: Migrating seabirds are heavily dependent upon open leads for feeding and resting. The degradation of these open-water areas could result in severe negative impacts on the birds. Offshore foraging areas for marine birds are susceptible to pollution and disturbance from increased ship traffic.

Potential conflicts: Extensive offshore drilling and ship traffic occur throughout the area, although mostly west of Hutchison Bay on the Tuktoyaktuk Peninsula (Alexander



et al. 1997). Exploitation of hydrocarbon resources in the Beaufort Sea increases the possibility of oil spills in these sensitive areas.

Status: This key site is within the Cape Parry Migratory Bird Sanctuary, an International Biological Programme Site (Site 4-11; Eng et al. 1989), an Important Bird Area in Canada (NT041; IBA Canada 2004), and part of a Key Marine Habitat Site (Site 19; Mallory and Fontaine 2004). It has been identified as Class D (“lands where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Paulatuk Community Conservation Plan (WMAC 2001).

Location: 70°10'N, 127°20'W

Size: 657 km²

Description: Harrowby Bay opens into the Beaufort Sea on the western side of the Bathurst Peninsula. This bay is the original outlet of the Horton River, which, around 1800, broke through its channel and created a new outlet and delta on the east side of the peninsula, leaving the Old Horton Channel. Recent alluvial deposits cover the area around the bay and to the north, and Cretaceous shale forms the bedrock to the south (Yorath et al. 1975). The north shore consists of low sea bluffs and gravel and sand beaches and spits, whereas the south shore is marshy. Inland from southern barrier beaches, the land rises in a series of terraces to the upland plateau that surrounds the shallow, muddy Ikpisugyuk Bay. This bay empties into Liverpool Bay along high mud bluffs near the western entrance of Harrowby Bay. The remnants of the old Horton River now consist of oxbow lakes and channels. Nearby lowlands are well vegetated with sedges and grasses.

The communities of Tuktoyaktuk and Paulatuk are situated 150 km to the southeast and southwest, respectively.

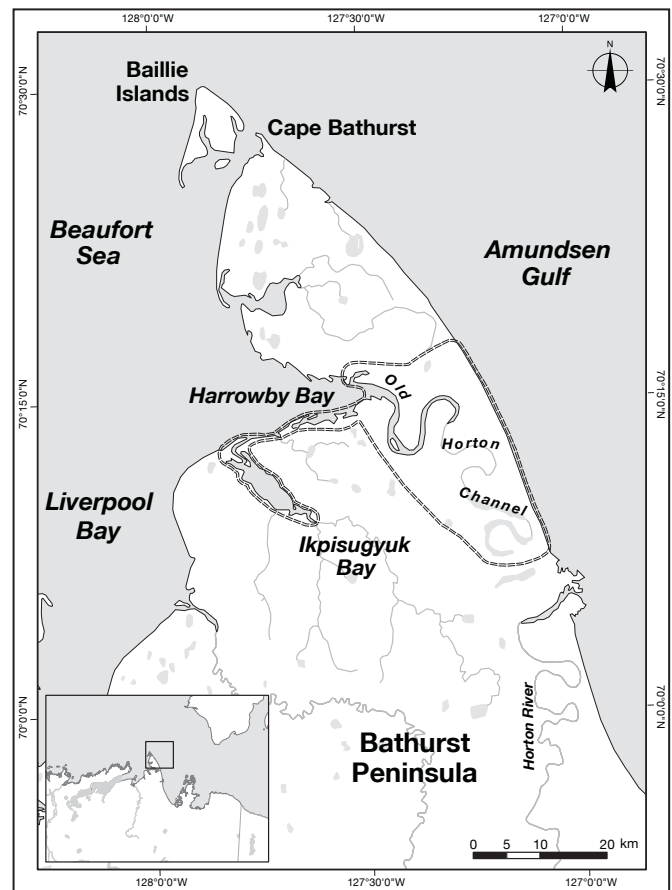
Biological value: From late June until early August, the Old Horton Channel provides habitat for 10 000–20 000 moulting, non-breeding Canada Geese (Short-grass Prairie Population; probably *B. c. parvipes*) and 5000–15 000 moulting Greater White-fronted Geese (Alexander et al. 1988a,b; Hines et al. 2000). These numbers represent up to 10% of the Short-grass Prairie Population of Canada Geese and about 2% of the Mid-continent Population of Greater White-fronted Geese. The delta at the east end of Ikpisugyuk Bay is also used by up to 1000 moulting Greater White-fronted Geese (Alexander et al. 1988a,b).

In years when spring snow conditions were poor on Banks Island, up to 5000 Lesser Snow Geese have nested near the northeast coast of Harrowby Bay. This area is also used by migrating geese in late August and early September (Barry and Barry 1982).

Thousands of Long-tailed Ducks, scoters, and, in some years, scaup moult in the waters of Harrowby Bay. Small numbers of Glaucous Gulls breed in the area (Alexander et al. 1988a,b).

Caribou calving on Bathurst Peninsula are now recognized as a unique population (the Cape Bathurst Herd). Barren-ground grizzly bears den in the area, and polar bears frequent the leads north of the peninsula. Bearded and ringed seals occur in Harrowby Bay in the summer. Beluga and bowhead whales summer in Franklin Bay, east of the Bathurst Peninsula (Speller 1975; Barry 1982).

Sensitivities: Lowland habitats and other permafrost environments are susceptible to terrain disturbance and degradation. Waterfowl and other migratory birds are sensitive to disturbance during the nesting, brood-rearing, moulting, and migration periods.



Potential conflicts: None.

Status: The key site is an Important Bird Area in Canada (NT040; IBA Canada 2004). It has also been identified as Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Tuktoyaktuk Community Conservation Plan (WMAC 2001).

NT Site 8 – Lower Anderson River (and Mason River)

Location: 69°42'N, 129°00'W

Size: 1289 km²

Description: This key site includes the land and water surrounding the lower Anderson River. The river spans the transition from spruce forest to dwarf shrub tundra and flows through a gradually widening floodplain that is flanked by river terraces. The delta of low alluvial islands, channels, and lakes extends northward into the shallow waters of Wood Bay. The surrounding landscape is generally low and rolling and is dotted with lakes and ponds. The lower river passes through sedimentary rocks of Cretaceous origin. Tundra polygons have developed in poorly drained soils around the river mouth. Vegetation of the outer delta is primarily sparse grasses, sedges, and arctic willows, whereas the land becomes increasingly vegetated upriver.

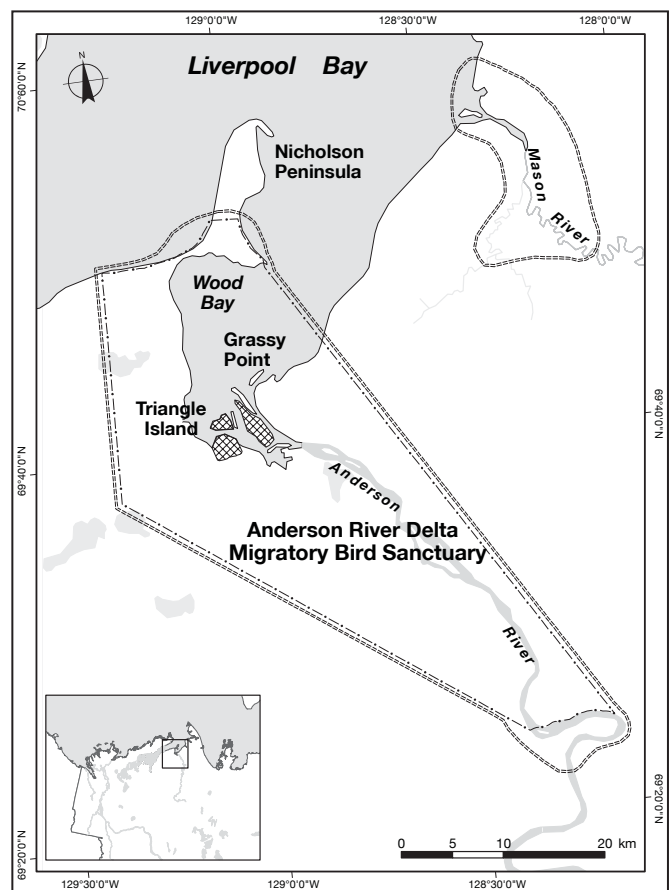
Although it is much smaller in size, the delta of the Mason River, located about 30 km northeast of Anderson River, has lowland terrain and vegetation similar to those of the lower Anderson River.

There are numerous archeological sites in the area, because the abundance of wildlife and the availability of driftwood made the area very important to the Inuvialuit. The community of Tuktoyaktuk is 150 km to the west of the key site.

Biological value: In the 1970s and 1980s, a colony of 4000–8000 Lesser Snow Geese nested on islands covering about 30 km² of the Anderson River delta. This total represented about 1% of the Canadian population of the subspecies at the time (Kerbes 1986, 1988; Alexander et al. 1988a,b; Kerbes et al. 1999). The outer delta also provided nesting habitat for up to 2500 Pacific Brant — nearly 6% of the Canadian population of this subspecies. Since the 1980s, the numbers of both Snow Geese and Brant have declined markedly (Armstrong 1998; Hines and Wiebe Robertson 2006), possibly owing to heavy nest predation by grizzly bears or vegetation changes in the outer delta. Numbers of nesting Snow Geese averaged about 1200 from 1995 to 2001, and, at most, only a few hundred nesting Brant were present during the same period (Hines and Wiebe Robertson, 2006). Large numbers of Snow Geese, bound for breeding grounds on Banks Island, stage within the key site each spring.

The inner delta supports 75 breeding pairs and 1200 non-breeding Tundra Swans, which arrive in May and leave in late September or early October. Greater White-fronted and Canada geese (*B. c. parvipes*) are scattered nesters along tributary streams, and about 1000–2000 Greater White-fronted Geese moult in the area. Snow Geese, Brant, and Greater White-fronted Geese first appear in late May and begin fall migration by the end of August.

Long-tailed Ducks, scaup, and scoters use the shores of Wood Bay for nesting and moulting, and shorebirds use the tidal flats for feeding and staging. Between 3000 and 5000 dabbling ducks moult and stage along the river valley. The variety of plant communities has resulted in a high diversity of songbirds (J.E. Hines, pers. obs.). Raptors



also nest in the delta (Barry 1967; Barry and Barry 1982; Alexander et al. 1988a,b).

The Mason River delta supports approximately 1000 moulting, non-breeding Greater White-fronted Geese, 100 moulting Tundra Swans, and up to 50 pairs of Glaucous Gulls (Alexander et al. 1988a,b). In the past, as many as 100 pairs of Brant may have nested there, but far fewer Brant have nested there in the past 10 years (J.E. Hines, unpubl. data). In the past, the delta of the Mason River was a brood-rearing area for up to 500 Lesser Snow Geese from the Anderson River delta (Alexander et al. 1988a,b), but few brood-rearing Snow Geese have used the area in more recent years (J.E. Hines, unpubl. data).

The Eskimo Curlew formerly nested in the Anderson River area. Although almost extinct, eight probable sightings were made between 1961 and 1989 in this general area, from the Anderson River delta to 140 km upriver (Gollop et al. 1986; T.W. Barry, pers. commun., in Alexander et al. 1991). Part of the Anderson River area was unglaciated, providing a refugium for some plants and insects that now exhibit a unique geographical distribution.

Barren-ground grizzly bears are common, and denning occurs in the area. The proximity of the treeline results in moose inhabiting the area during summer.

Sensitivities: Lowland habitats and other permafrost environments are susceptible to terrain disturbance and

degradation. Waterfowl and other migratory birds are sensitive to disturbance during the nesting, brood-rearing, moulting, and migration periods.

Potential conflicts: Seismic work was conducted in the area during the 1970s. Although there have been no recent activities within the key site, the cumulative effects that gas and oil activities, related industrial growth, climate change, and other environmental stressors will have on the wildlife of the region are of great concern for the long term. The Anderson River is popular for canoe trips. Most canoeing parties are picked up by boat plane at the delta, leading to possible disturbance. The key site is a popular place for spring waterfowl hunting for Inuvialuit from Tuktoyaktuk.

Status: Most of the site is within the Anderson River Delta Migratory Bird Sanctuary. It is an Important Bird Area in Canada (NT038; IBA Canada 2004) and an International Biological Programme Site (Site 43; Beckel 1975). It has also been identified as Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Tuktoyaktuk Community Conservation Plan (WMAC 2001).

NT Site 9 – Kugaluk River

Location: 69°20'N, 130°50'W

Size: 599 km²

Description: The Kugaluk, Smoke, and Moose rivers lie south of the Tuktoyaktuk Peninsula and flow into Liverpool Bay. The area is of low relief, with extensive tidal flats and sandy soils resulting from glacial deposition. Vegetation consists mainly of meadows and marshes of sedges and grasses. Campbell Island is primarily a low-lying coastal wetland. There is an archeological site in the northeastern part of the Smoke River delta. The community of Tuktoyaktuk is situated 50 km to the southeast.

Biological value: The sedge marshes and sand flats of the Kugaluk River and estuary, Smoke and Moose river deltas, and Campbell Island are important moulting areas for several species of waterfowl. As many as 10 000–20 000 non-breeding Canada Geese (Short-grass Prairie Population; probably subspecies *B. c. parvipes*) moult on the three river deltas and Campbell Island during July and August (Alexander et al. 1988a,b; Hines et al. 2000). These numbers represented as much as 10% of the Short-grass Prairie Population in the 1980s. In the 1980s, 7000–15 000 Greater White-fronted Geese moulted on the three deltas and would have constituted about 3% of the Mid-continent Population.

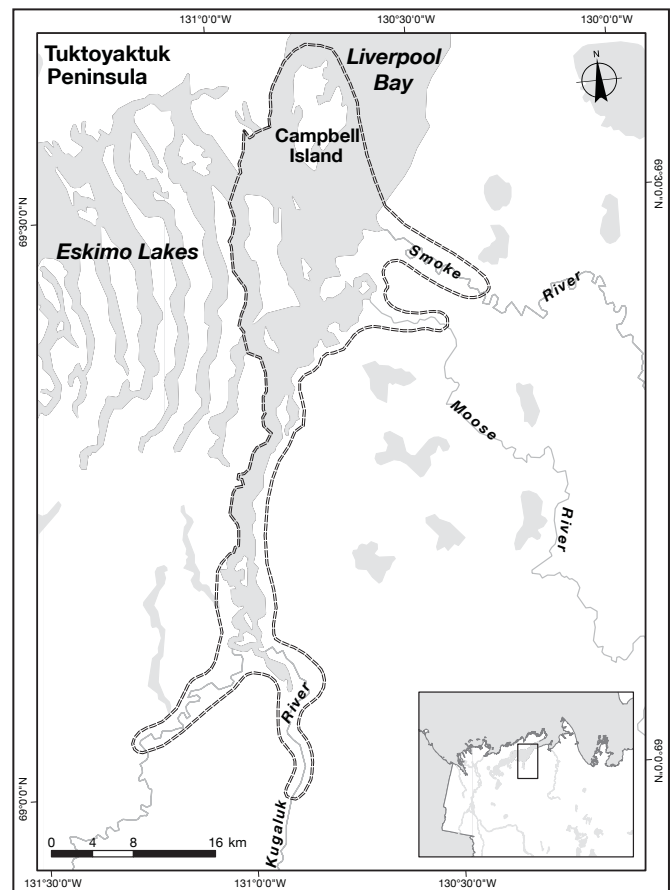
This area is one of the most important breeding areas for Pacific Brant in the western Canadian Arctic, and about 400 nesting pairs and over 3000 total birds are associated with the area (Hines and Wiebe Robertson 2006). The latter number is approximately 10% of the Canadian population of Pacific Brant.

Moderate numbers of Tundra Swans, Greater White-fronted Geese, Canada Geese, and (intermittently) Lesser Snow Geese nest in the area (Barry and Barry 1982; Alexander et al. 1988a,b; J.E. Hines, unpubl. data). Approximately 500 non-breeding Tundra Swans moult in the area as well (Alexander et al. 1988a,b). A few thousand shore-eating waterfowl, notably Red-breasted and Common mergansers as well as Glaucous Gulls, feed in the area from June to mid-August. Moulting scoters, scaup, and Long-tailed Ducks are present during mid- to late summer (Alexander et al. 1988a,b).

The area lies on a migration route of the Cape Bathurst caribou herd. Barren-ground grizzly bears, arctic and red foxes, marten, and muskrats are common. Bearded seals and occasionally beluga are observed in the Liverpool Bay area.

Sensitivities: Lowland habitats and other permafrost environments are susceptible to terrain disturbance and degradation. Waterfowl and other migratory birds are sensitive to disturbance during the nesting, brood-rearing, moulting, and migration periods.

Potential conflicts: The region has been subject to extensive seismic and exploratory drilling activity. The development of a pipeline network, compressor stations, and related facilities is likely in the near future. The cumulative effects that gas



and oil activities, related industrial growth, climate change, and other environmental stressors will have on the wildlife of the region need to be addressed.

Status: This key site is an Important Bird Area in Canada (NT037; IBA Canada 2004) and an International Biological Programme Site (Site 44; Beckel 1975). It has also been identified as Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Tuktoyaktuk Community Conservation Plan (WMAC 2001).

Location: 69°59'N, 130°01'W

Size: 581 km²

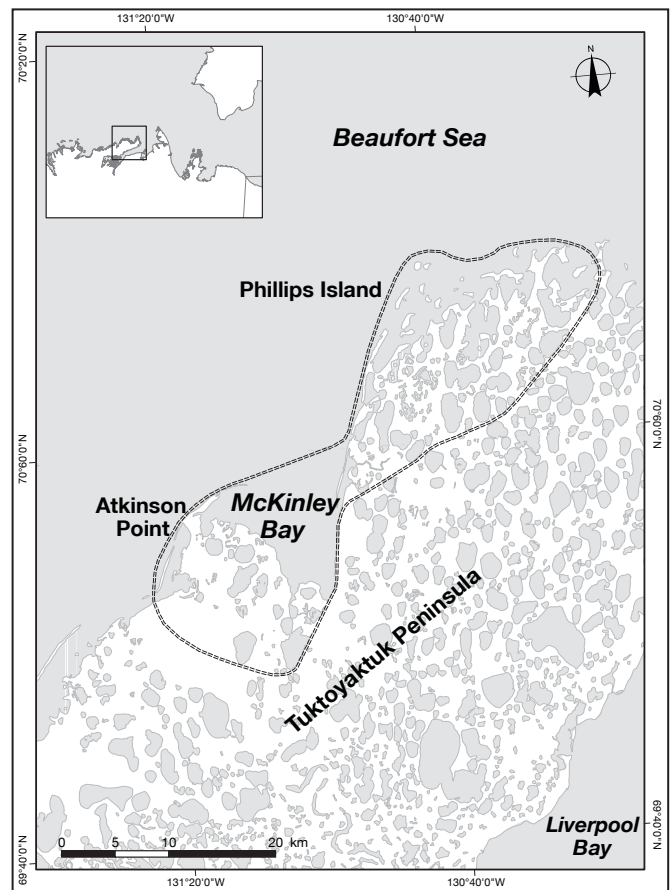
Description: The McKinley Bay – Phillips Island area is located on the northern coast of the Tuktoyaktuk Peninsula, 120 km northeast of Tuktoyaktuk. It is an area of convoluted coastline, numerous sand barrier islands, and sheltered bays and lagoons. Inland from the Beaufort Sea coast, the relief is low and the landscape is characterized by numerous ponds and lakes, abundant tundra polygons, extensive wetlands, and lowland tundra.

McKinley Bay is a large (>100 km²), shallow, and sheltered bay. Since 1979, the outer part of the bay has been used as a harbour and support base for offshore drilling operations in the Beaufort Sea. An entrance channel and mooring basin were dredged in the outer bay, and an artificial island was constructed to shelter ships. An airstrip, accommodations for crews, and a number of related facilities were constructed on the island as well. The use of McKinley Bay for harbouring ships peaked in 1982–1985, and use of the area fell off greatly in the early 1990s. Some industry-related structures and facilities used by reindeer herders also occur on the northwestern side of McKinley Bay (near Atkinson Point).

The area near Phillips Island, like much of the northern coastline of the Tuktoyaktuk Peninsula, features a diversity of coastal landforms, including bays and lagoons of various sizes, offshore barrier beaches and sand bars, projecting and recurved sand spits, muddy tidal flats and marshes, numerous islands, and sandy/gravelly shoreline beaches. The lowlands near the coast contain numerous ponds and lakes and wetland communities dominated by grasses and sedges.

Biological value: McKinley Bay and the various bays and lagoons near the coast are heavily used by moulting and pre-moulting ducks and geese. More than 10 000 diving ducks (primarily Long-tailed Ducks and Surf and White-winged scoters) use the marine part of McKinley Bay during most years (Arner et al. 1985; Cornish and Dickson 1994). Densities of diving ducks in other parts of the area are somewhat lower (Alexander et al. 1988a,b; Cornish and Dickson 1994), but, at a conservative estimate, well over 20 000 moulting diving ducks would be present in the McKinley Bay – Phillips Island area during most years. Given the high proportion of Long-tailed Ducks and scoters among all diving ducks counted during surveys in the area (Cornish and Dickson 1994), it is probable that well over 1% of the western Arctic populations of these species visited within this key site.

The area is important for over 65 species of birds from late May through September (Arner et al. 1985; Alexander et al. 1988a,b). Numerous small colonies of Pacific Brant (totalling about 200 breeding pairs) (J.E. Hines, unpubl. data) and Common Eiders (~100 pairs) nest and raise young in this area (Alexander and Hawkings 1988; Alexander et al. 1988a,b). Colonies of Glaucous Gulls, Sabine's Gulls, and Arctic Terns occur in the area as well (Alexander and Hawkings 1988; Alexander et al. 1988a,b).



The area near McKinley Bay – Phillips Island supports among the highest densities of breeding Greater White-fronted Geese in the Inuvialuit Settlement Region; as well, several hundred Greater White-fronted Geese moult in this area each year (Alexander et al. 1988a,b; Cornish and Dickson 1994; J.E. Hines, unpubl. data). Several hundred loons (mainly Red-throated and Pacific) nest in the area, and several thousand dabbling ducks are found in the area during most years (Alexander et al. 1988a,b; Dickson 1992; Cornish and Dickson 1994).

Sensitivities: Lowland habitats are susceptible to terrain disturbance. Geese and seaducks are sensitive to disturbance during the nesting, brood-rearing, and moulting periods.

Potential conflicts: The general region has been subject to extensive seismic and exploratory drilling activity. The development of gas processing plants and a pipeline network is possible in the near future. The dredging of the harbour and development of facilities at McKinley Bay could have an impact on migratory birds and their habitat.

Status: This key site has been identified as Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Tuktoyaktuk Community Conservation Plan (WMAC 2001).

NT Site 11 – Kukjutkuk and Hutchison Bays

Location: 69°43'N, 132°23'W

Size: 284 km²

Description: Kukjutkuk and Hutchison bays are located on the northern coast of the Tuktoyaktuk Peninsula, 25–50 km northeast of the community of Tuktoyaktuk. This and other parts of the northern Tuktoyaktuk Peninsula have a highly irregular coastline and diverse geographic features, including sandy barrier islands, sand spits, and sheltered bays and lagoons. Inland from the coast, the relief is low and the landscape is characterized by numerous ponds and lakes, abundant tundra polygons, extensive wetlands, and lowland tundra with numerous pingos.

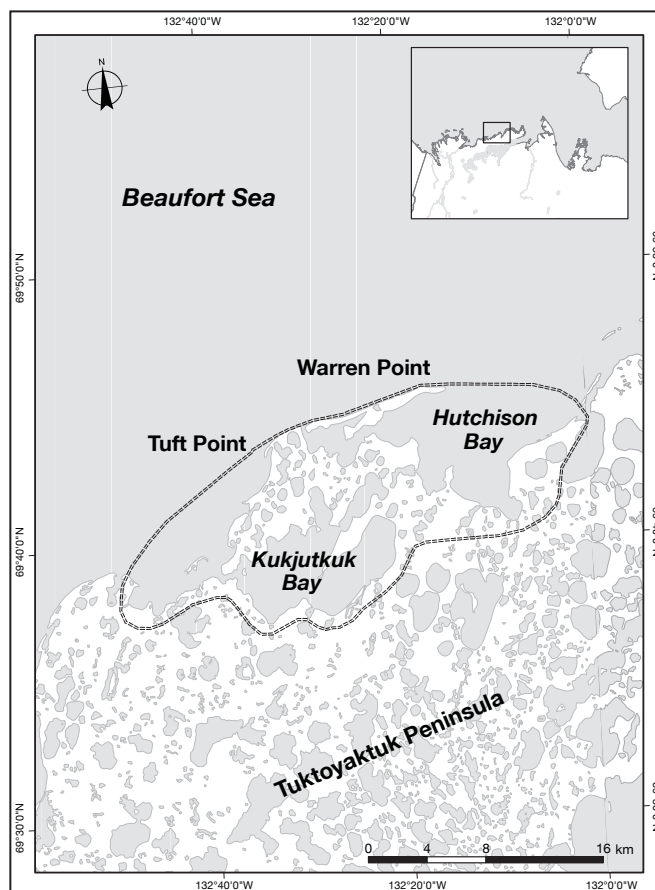
Kukjutkuk Bay and Hutchison Bay each measure approximately 100 km² in area. These shallow bays provide moulting waterfowl with protection from terrestrial predators, shelter from wind and rough seas, and, in the case of diving ducks, abundant food at an accessible depth. Nearby tundra lowlands provide abundant food in the form of grasses and sedges for moulting geese.

Biological value: The area is used by waterfowl at all times during the spring and summer but is especially important to moulting or pre-moulting diving ducks. Hutchison Bay annually supports over 15 000 moulting or pre-moulting diving ducks (mainly Long-tailed Ducks and Surf and White-winged scoters, with lesser numbers of Red-breasted Mergansers, Common Mergansers, and scaup) in late summer (Barry and Barry 1982; Sirois and Dickson 1989; Cornish and Dickson 1994). Similar quantitative surveys have not been carried out at Kukjutkuk Bay, but reconnaissance surveys suggest that moulting waterfowl are probably as numerous there as at Hutchison Bay. Thus, a conservative estimate of the number of diving ducks using the overall key terrestrial habitat site in late summer is 30 000 birds. Given the high proportion of Long-tailed Ducks and scoters among all diving ducks counted during surveys in the area (Cornish and Dickson 1994), it is probable that well over 1% of the western Arctic populations of these species occurred within this key site.

During summer, several hundred moulting Greater White-fronted Geese, 100–200 moulting Pacific Brant, several hundred Tundra Swans, and a few hundred loons (mostly Red-throated and Pacific) are found in this area as well (Alexander et al. 1988a,b; Cornish and Dickson 1994; J.E. Hines, unpubl. data).

More than 70 species of birds (including 42 confirmed or suspected breeders) are known to occur within this key site (Sirois and Dickson 1989). Several of the most frequently encountered nesting species (Red-throated Loons, Long-tailed Ducks, Greater White-fronted Geese, Northern Pintail, Pacific Brant, and Tundra Swan) are species of particular concern to resource management agencies.

Sensitivities: Lowland habitats are susceptible to terrain disturbance. Geese and seaducks are sensitive to disturbance during the nesting, brood-rearing, and moulting periods.



Potential conflicts: The general region has been subject to extensive seismic and exploratory drilling activity. The development of gas processing plants and a pipeline network is likely in the near future.

Status: This key site has been identified as Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Tuktoyaktuk Community Conservation Plan (WMAC 2001).

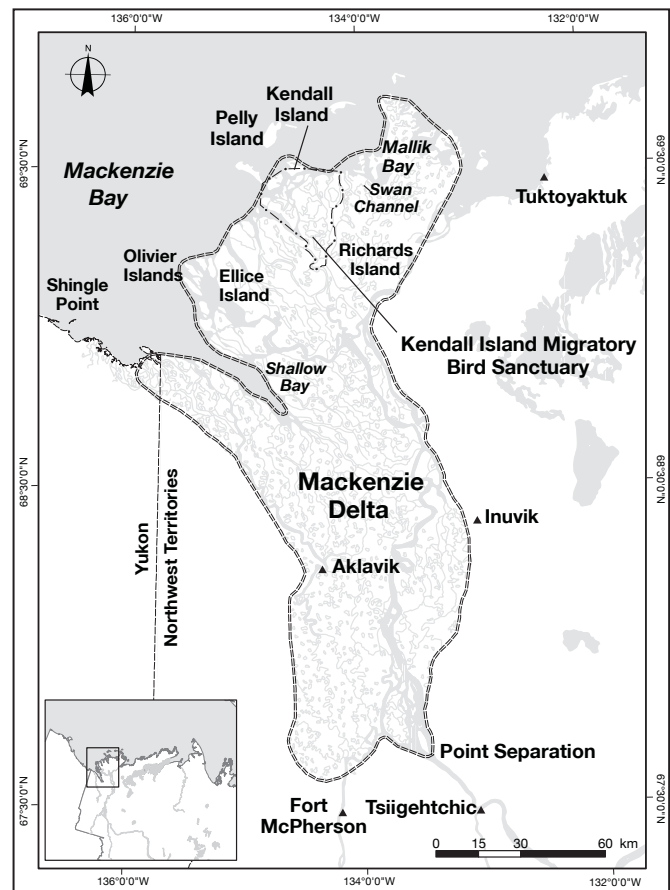
Location: 69°20'N, 135°30'W

Size: 14 248 km²

Description: This key site, which formerly included only the outer delta (Alexander et al. 1991), now includes the entire Mackenzie Delta from Point Separation in the south to the Northwest Territories–Yukon border in the west and Richards Island in the northeast. Some islands in the outer delta are remnants of the preglacial Mackenzie Delta. Much of the outer delta is covered by fluvial deposits of silt and sand. These islands of the active outer delta are generally marshy and vegetated by sedges, grasses, and horsetail; shrubs predominate on higher areas. Levees have formed along the shores of islands as a result of spring flooding. The lowlands of Richards Island are dotted with numerous lakes and ponds. The inner delta is a maze of channels and oxbow lakes. Many of the lakes and other quiet waters of the inner delta are rich in aquatic plants. Tall shrubs such as willows and alders prevail on the occasionally flooded islands and levees of the inner delta, whereas white spruce occurs on higher ground. The community of Aklavik is situated within the key site, while Inuvik and Fort McPherson lie immediately adjacent to it.

Biological value: The islands of the outer delta are important staging grounds from late August to late September for geese. Large numbers of Lesser Snow Geese congregate in this area for short periods prior to southward migration (Koski and Gollop 1974; Koski 1975, 1977a,b). Estimates in 1973, 1974, and 1976 averaged 15 000 adults and 10 000 young and were around 1% of the Canadian breeding population at that time. However, in years when the Yukon and Alaskan North Slope was snow covered, up to 10% of the Canadian breeding population may have staged for extended periods in the delta (in 1975, 152 350 adults and 170 650 young used this area). Counts in early to mid-September 1990–1993 averaged 38 600, but as many as 95 000 birds were present during one survey (J.E. Hines, unpubl. data). The fall migration route of Lesser Snow Geese leads from Banks Island to the mainland and across the Mackenzie Delta to the North Slope of Yukon and Alaska. In mid-September, the geese return eastwards towards the Mackenzie Delta before heading south. Given the “turnover” of migrating geese moving through the area, it is probable that most of the Western Arctic Population of Lesser Snow Geese uses the key site at one time or another (>10% of the Canadian population of Lesser Snow Geese). The most important areas used by fall staging geese are near Shallow Bay and northern Olivier and Ellice islands.

Between 1973 and 1976, peak numbers of staging Greater White-fronted Geese ranged from 12 500 to 23 700 birds (possibly as much as 5% of the Mid-continent Population at that time) (Koski and Gollop 1974; Koski 1975, 1977a,b). In 1990–1993, peak numbers of Greater White-fronted Geese ranged from 10 500 to 21 147 (>1% of the Mid-continent Population). The primary area used by Greater White-fronted and other dark geese was in the Ellice Island to Shingle Point area.



In 1990–1993, peak fall counts of Canada and Cackling geese ranged from 1645 to 8527 birds. Peak numbers would have exceeded 5% of the Short-grass Prairie Population during some years (J.E. Hines, unpubl. data).

It is likely that a large proportion of the Canadian Pacific Brant population migrates west through the outer Mackenzie Delta in fall, but it appears that stopovers are short in duration. From 1973 to 1976, the largest number of Brant seen during one survey was 6112, and during 1990–1993, the highest count was 3533. The peak counts would have made up as much as 20% of the Canadian population of this subspecies.

From 1973 to 1976, peak fall numbers of Tundra Swans ranged from 1900 to 3100 adults and young. In 1990–1993, peak numbers ranged from 6046 to 9714. The latter number represented about 10% of the Eastern Population of Tundra Swans. Swans concentrate around Mallik Bay, Swan Channel, and the outer section of the Kendall Island Migratory Bird Sanctuary, as well as near Shallow Bay. The Swan Channel area supports the densest concentration of nesting swans in the delta. Up to 200 nesting pairs and 1100 non-breeding adults occur there annually.

A diverse assemblage of ducks showing Arctic, boreal, and more southerly affinities occurs in the Mackenzie Delta each summer. Annual surveys carried out by the U.S. Fish and Wildlife Service, although imprecise, indicate that during the 1990s, there was an average of over 270 000 ducks present in the Mackenzie Delta during June. During

that period, an average of over 1% of the continental population of at least five species occurred in the delta (American Wigeon, Lesser Scaup, Canvasback, White-winged Scoter, and Long-tailed Duck). In addition, over 1% of the continental population of seven other species of duck occurred in the key site in some years.

Small islands south of Kendall Island support a breeding colony of Lesser Snow Geese. Since the 1950s, the number of birds nesting there has ranged from close to zero to 8300 (Barry and Barry 1982; Kerbes et al. 1999; Hines and Wiebe, 2006), the actual numbers nesting being highly dependent on spring weather conditions, flooding, and the presence of grizzly bears (which destroy many nests), as well as the actual size of the overall population. From 1995 to 2001, the number of nesting geese averaged 1120 birds, and the total number of geese associated with the colony (including non-breeders) averaged 2470 (Kerbes et al. 1999; Hines and Wiebe Robertson 2006).

Up to 40 pairs each of Brant, Tundra Swans, Glaucous Gulls, and Arctic Terns nest on Pelly Island. As many as 500 swans may also moult on the island (Barry and Barry 1982; Alexander et al. 1988a,b).

Densities of shorebirds nesting in part of the outer delta averaged over 30 birds/km² (Gratto-Trevor 1994, 1995). Local breeding numbers would have exceeded 1% of the Canadian population for several species, including Hudsonian Godwit, Whimbrel, Stilt Sandpiper, Red-necked Phalarope, Common Snipe, and American Golden-Plover. Significant numbers of shorebirds migrate through the delta in fall (Gratto-Trevor 1994, 1995), but the exact extent of use is not known (Alexander et al. 1988a,b).

Aerial surveys conducted in 1991–1993 suggest that >1% of the Canadian populations of several other species of aquatic birds (Sandhill Cranes, Glaucous Gulls, Red-throated Loons, and Pacific Loons) occur within the key site (J.E. Hines, unpubl. data).

The Mackenzie estuary is an important calving area for beluga whales, with over 16 000 belugas occurring in the estuary and nearby bays in summer (Harwood et al. 1996). Barren-ground grizzly bears are frequently sighted in the outer Mackenzie Delta.

Sensitivities: Lowland habitats and other permafrost environments are susceptible to terrain disturbance and degradation. Waterfowl and other migratory birds are sensitive to disturbance during the nesting, brood-rearing, moulting, and migration periods.

Potential conflicts: The region has been subject to extensive seismic and exploratory drilling activity. The development of a pipeline network, compressor stations, and related facilities is likely in the near future. The cumulative effects that gas and oil activities, related industrial growth, climate change, generally increased human use of the area, and other environmental stressors will have on the wildlife of the region need to be addressed.

Status: Part of this key site is in the Kendall Island Migratory Bird Sanctuary, established in 1961 to protect the breeding colony of Lesser Snow Geese. The Mackenzie Delta is an Important Bird Area in Canada (NT016; IBA

Canada 2004) and two International Biological Programme Sites (Sites 8 and 42; Beckel 1975). It has also been identified as both Class C (“lands and waters where cultural or renewable resources are of particular significance and sensitivity during specific times of the year”) and Class D (“lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year”) in the Aklavik, Inuvik, and Tuktoyaktuk Community Conservation Plans (WMAC 2001).

Location: 66°15'N, 130°00'W

Size: 4660 km²

Description: The Ramparts River wetlands are located along the lower Ramparts and upper Ontaratie rivers. The eastern edge of this key site lies 35 km west of Fort Good Hope. The wetlands are a low-lying postglacial lakebed consisting of open black spruce bog, ericaceous shrublands, floating bogs, and sedge wetlands surrounding many of the innumerable ponds and small lakes. Stands of old-growth, riparian white spruce occur along the Ramparts River.

Biological value: Thousands of nesting and staging waterfowl are known to use the Ramparts River wetlands annually. Salter (1974) found that for the Mackenzie Valley, these wetlands were in the top three in terms of the numbers of waterfowl observed. Greater and Lesser scaup and Surf and White-winged scoters were the most abundant species. Surveys in the late 1990s (D. Kay, unpubl. data) reported 20 000 Greater and Lesser scaup and 6000 Surf and White-winged scoters in wetlands adjacent to the Ramparts River during the nesting period. Accounting for missed birds, these surveys indicate that 1% of the estimated Canadian populations of both scaup and scoters were nesting in that area. In addition, the wetlands immediately north and northwest contained lower densities of scaup and scoters, but their extensive nature would account for considerably more of them in the entire key site area. The Ramparts River wetlands also provide staging habitat for additional, and likely large, numbers of scaup and scoters migrating to areas farther north. Salter (1974) recorded approximately five times the number of scaup and scoters on the wetlands during the early June migration period compared with July.

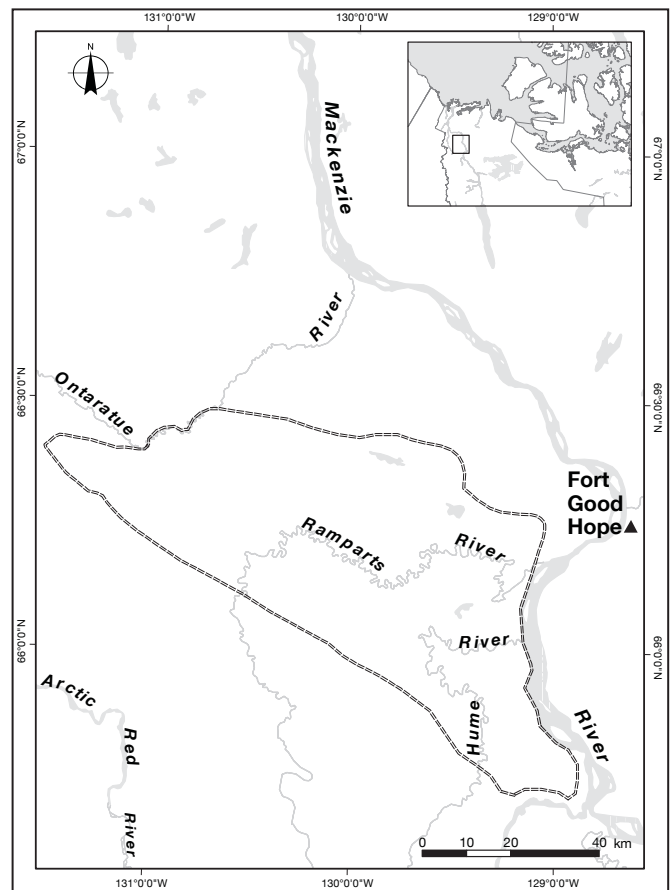
Salter (1974) and D. Kay (unpubl. data) also observed relatively high densities of Pacific Loons (3692 loons) in the wetlands adjacent to the Ramparts River as well as in the wetlands to the northwest and north (D. Kay, pers. commun.). This number is thought to represent >1% of the Canadian population of this species.

The Ramparts River wetlands also provide locally important habitat for a range of mammals, such as moose and furbearers.

Sensitivities: Waterfowl and other migratory birds are sensitive to disturbance during the nesting, brood-rearing, moulting, and migration periods. Low-lying habitats are susceptible to terrain disturbance through the disruption of natural drainage patterns and the melting of permafrost.

Potential conflicts: The area has moderate to high oil and gas potential. Extensive seismic exploration has occurred within the key site as well as surrounding areas, and several wells have been drilled. Large oil and gas leases occur immediately northwest of the key site.

Status: None. The community of Fort Good Hope is currently exploring the possibility of creating a legislated protected area that would include all, or a large portion, of



this key site. This key site was identified in the draft Sahtu Land Use Plan as a “Conservation Area” (Sahtu Land Use Planning Board 2003) and by the Sahtu Heritage Places and Sites Joint Working Group as an area that should be legally protected (Joint Working Group 2000).