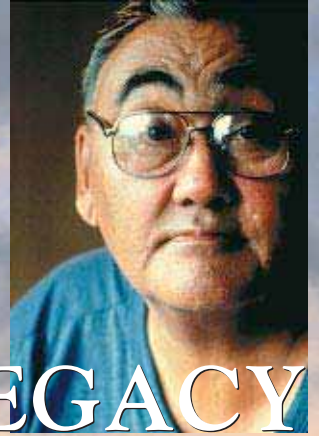
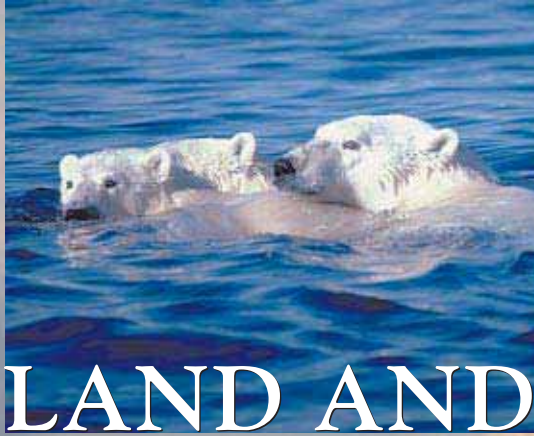


Y U K O N   N O R T H   S L O P E



# THE LAND AND THE LEGACY

T A I M A N G A   N U N A P T A   P I T Q U S I A

YUKON NORTH SLOPE WILDLIFE CONSERVATION AND MANAGEMENT PLAN  
VOLUME 1: ENVIRONMENTAL OVERVIEW  
BY THE WILDLIFE MANAGEMENT ADVISORY COUNCIL (NORTH SLOPE)

*We all stayed here and there was so much seal then.*

Sarah Meyook

*They fish when the fish were around. Some got lots of fish, some for themselves and also for dog food, for a long winter.*

Ishmael Alunik

*...they'd hunt more caribou, they'd fish more. My granny and them would be picking berries all the time...*

Renie Arey

*...What happens here will tell us something about what kind of country Canada is, what kind of people we are...*

Honourable Justice Thomas Berger

*The basic goals expressed by the Inuvialuit and recognized by Canada in concluding this Agreement are ...to protect and preserve the Arctic wildlife, environment and biological productivity.*

Inuvialuit Final Agreement

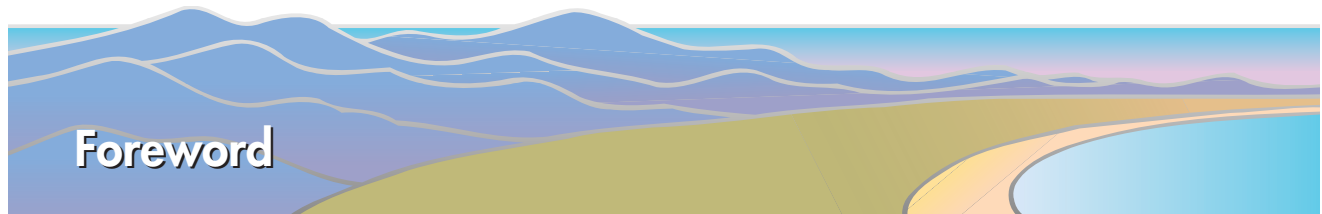
*The Yukon North Slope shall fall under a special conservation regime whose dominant purpose is the conservation of wildlife, habitat and traditional native use.*

Inuvialuit Final Agreement



Yukon Archives, E. Pasley Collection

*Inuit with white (beluga) whale.*



The Yukon North Slope is more ecologically diverse than many Arctic environments, a fact long known by the Inuvialuit, but now appreciated by many other people as well. For many years, the Inuvialuit have worked to conserve the wildlife and the habitat of the area through their use and management of wildlife. This was the goal of the Inuvialuit Final Agreement: not to change the land, but to protect it.

The land is like the people who inhabit it. It can withstand extreme natural conditions, even thrive in them. But it is vulnerable to the powerful forces and stresses of the industrial world. Experience tells us that if the region were to be damaged, the North Slope would heal only slowly, perhaps not at all. It is crucial, therefore, that human activities affecting the Yukon North Slope are managed to ensure that these activities do not harm the land and sea, its wildlife, or its people.

### **Acknowledgements**

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All Inuvialuit quotes and accompanying images are taken from the Inuvialuit Social Development Program cultural study, with permission from the ISDP.

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Back Photo: Tessa MacIntosh, NWT Government

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# YUKON NORTH SLOPE and Mackenzie Delta



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## INTRODUCTION

The Yukon North Slope is one of Canada's most inaccessible and unspoiled natural areas. There are no roads or towns; only a few "mothballed" drilling caissons and several isolated North Warning System radar sites along the Arctic coast mark the thin presence of the industrial and technological age. Seasonal hunting camps are the only reminder of a form of human occupation that is active and enduring. To understand the region, one must study the close relationships that exist among the area's unique landscapes, the animals that thrive here, and the people whose livelihood depends on them.

The ancient forces of wind, water and ice continue to shape the region. During the last ice age, when most of North America was covered by thick sheets of ice and snow, a portion of the North Slope and an area to the

south including the Old Crow Flats was not. It was a refuge, or refugium, where certain species of animals and plants escaped the onslaught of the glaciers.

When the last sheets of ice receded about 18,000 years ago, the plants and animals that had found refuge here spread out to the east, west, north and south. Over the millennia some species of animals adapted to the cold climate and survive to this day: arctic fox, tundra muskox, caribou, and grizzly bear. Others, like the wild ass, woolly mammoth, steppe bison, camel, badger, and giant beaver, died out. In time, people began to arrive, drawn by the animal and plant life. These people learned ways to live in the cold environment of the Arctic. They found ways to hunt and fish and to make clothes, shelter and heat. The North Slope became their home.



Grant MacHutchon

*Upper Firth River with cottongrass in foreground, Ivvavik National Park.*



ISDP-MH-42

Back from the trapline – notice the snowhouse in the background and the pile of traps to the right.

Just as their ancestors did thousands of years ago, the Inuvialuit of today hunt the caribou, seal, fish and whales of the North Slope and the Beaufort Sea. Archaeologists have found evidence of people living and hunting in this area for at least 5000 years and in adjacent areas for nearly 10,000 years.

In 1984, the *Inuvialuit Final Agreement (IFA)* bound the Inuvialuit and Government of Canada – together with the governments of the Yukon and Northwest Territories – to protect the land and preserve the Inuvialuit cultural identity and values in a formal land claim agreement. This Agreement has the broad purposes of providing means for the Inuvialuit to participate fully in the northern and national economy and society, and protecting and preserving the Arctic wildlife, environment and biological productivity.

The Yukon North Slope is located on the western portion of the Inuvialuit Settlement Region. It comprises all of the northernmost land in the Yukon and the adjacent Beaufort Sea. Enhancing its own grandeur are spectacular regions on all sides: Alaska’s Arctic National Wildlife Refuge to the west; the Old Crow flats to the south; and the Mackenzie River delta to the east.

This is the first of two volumes that, together, make up the complete *Yukon North Slope Wildlife Conservation and Management Plan*. Volume One introduces the ancient homeland of its original peoples. It describes the region, its natural history, and the cultural adaptations of its inhabitants. It also looks at some of the ways that the Yukon North Slope’s wilderness environment is being protected today.

Volume Two contains the technical details of its future management. Together, the two volumes provide a comprehensive view of the land as it has been, as it now is, and as it should be managed in the future according to the requirements and intentions of the IFA.

This publication was produced by the Wildlife Management Advisory Council (North Slope) — a management board established by the Inuvialuit Final Agreement (IFA) as part of a broad conservation regime for the Yukon North Slope.

The Yukon North Slope Wildlife Conservation and Management Plan is the result of a requirement in the IFA, which is protected by Section 35 of the Canadian Constitution. The plan serves as the implementation of the IFA’s Section 12 and other related provisions that affect the conservation and management of wildlife in the Yukon North Slope. The Plan is a critical step in achieving the Agreement’s vision and goals. The Inuvialuit cultural identity and values and their participation in the northern economy are directly tied to the maintenance of the Arctic’s living resources.



Robin Armour, Yukon Government

## THE POLAR WORLD

Long, cold, dark winters, short growing seasons, drying winds, little precipitation, and limited sunlight make the Yukon North Slope one of the world's most severe environments for people and wildlife. The region's ecology – the unique interactions between land forms, climate, and life – makes it one of the most interesting.

The unglaciated Yukon North Slope (that area west of the Firth River) is believed to be a surviving patch of Beringia. Beringia is the name given to an enormous tract of land, that is now most of Yukon and Alaska together with beds of the Bering Sea and Chuckchi Sea and the easternmost peninsula of Siberia. Beringia was one of three large regions which served as the chief refugia for life at the time of the maximum Wisconsin glaciation, when much of North America was a polar world. The treeless, dry, windswept landscape of today may have been covered with lush grassland supporting an abundance of animals, such as the mastodon, caribou, muskox, short-faced bear, grizzly bear, wolverine, and sabertooth cat, or it may have

been sparse tundra vegetation supporting smaller populations of these and other animals. Beringia was also a refuge for people; surviving the challenging arctic climate of Beringia would have required special skills of the original peoples.

Permafrost would have been present throughout most of Beringia and is a potent reminder today of the Ice Age. Permafrost is permanently frozen water, soil, and rock that descends deep into the ground. The top layer of the permafrost soil is the “active layer”, which freezes and thaws each year. The deeper permafrost layer remains frozen year round. During the short northern summer, the melting of the active layer provides water and nutrients for the Arctic's plants and insects. In some places, the active layer is just a few centimetres thick, limiting plant growth. Elsewhere, along river and streams, the active layer is much thicker, allowing for richer, more diverse plant life. The permafrost also extends far out into the Beaufort Sea bed.



Robin Armour, Yukon Government

Winter at Herschel Island.





Catherine Kennedy

*Midnight sun lighting on fragments of the pack ice.*

The region's shallow rivers flow north, emptying into the Beaufort Sea. Many of the rivers freeze to the bottom during the winter. Only a few warm spring-fed streams remain open, providing important habitat for fish and other aquatic organisms. At the coast, the fresh water of the great Mackenzie River meets the salt water of the Beaufort Sea, forming a shallow band of warmer, brackish water that moves slowly westward. This nutrient-rich environment provides an important feeding area for fish, moulting seabirds, and whales. The brackish estuaries or lagoons at the mouths of many streams behind the sand spits formed by marine sediments, ice, and ocean currents also represent very important habitat for fish and birds.

The appearance of the "ice age" returns every year to the Yukon North Slope in the form of the ice of the Beaufort Sea. But this ice is not a stationary, uniform expanse of white. Where currents, shore ice (frozen to the land), and pack ice meet and grind together, openings appear. Leads are long openings – or cracks – in the ice. An important lead forms every year from Alaska to Banks Island. This opening provides a migration route for whales returning from the Bering Sea, and a travel corridor and access to food for seals, polar bears, and migrating birds.

As the summer advances, the leads expand. By late June, most of the nearshore waters are free of ice. Several weeks later, though, the ice returns. By October, it is again solid. The ice near shore is anchored to the bottom and to the coastline. This shore ice extends out as much as 20 kilometres from land and does not usually move once it has formed. If the storms of late fall and early winter are severe, the ice may be crushed, left rough and irregular by the wind and water currents.



*We always just followed the caribou when they were moving. When they moved, we too would move. When you stay together sometimes it's hard to get the caribou. Never hunt one place, you have to scatter all over.*

*Amos Paul, (AP90-18A:1-2)*

**P**ermafrost may extend 1000 metres into the earth. At the surface, it has a profound effect on plants – and therefore on animals – and on the shape of the land itself. The surface freezing and thawing give rise to a number of features:

**Patterned ground** is a sign of extreme cold. Repeated freezing and thawing of the soil near the surface cause it to become sorted into a fairly regular pattern of raised polygons outlined by a network of rock-filled ditches.

**Ice-wedge polygons** result from frost cracks that extend several metres deep into the ground. The crack fills with melt-water, which in turn freezes and expands, creating ridges at the sides of the crack.



James Hawkings

*Aerial view of high centre polygons.*

**Solifluction** occurs on slopes where winter freezing causes the surface soil to rise. In the summer thaw, this soil slides downhill.

**Pingos** form when lakes drain leaving a layer of saturated soil to freeze, separating into a core of ice surrounded by soil and rock. As the ice expands, the soil is forced up, forming a mound.



## THE MOUNTAIN LANDSCAPE

The British, Barn, and northern Richardson mountains form a rugged barrier between the Yukon North Slope and the Old Crow Flats. In the British Mountains, next to the Yukon/Alaska border, mountain peaks are about 1500 metres (5000 feet). Elevations gradually diminish in the Barn and north Richardson mountains which are typically about 1100 metres (3600 feet). Valley bottoms are usually 300 - 460 metres (1000 x- 1500 feet) below the ridges in all three mountain ranges.

The British Mountains are the eastern-most extension of the Brooks Range in Alaska. The general northwest alignment of the ridges is controlled by faulting patterns. Narrow V-shaped valleys reflect the non-glacial origin of the topography. The British Mountains grade into the North Coastal Plain by way of the Buckland Hills where the relief is gentle and bedrock outcrops less frequent.

The Buckland Hills are separated from the Coastal Plain by a 120 to 245 metre (400-800 foot) escarpment. The Firth and Malcolm rivers are major drainages of the British Mountains and cut major gaps in the escarpment.

The Barn Mountains are relict mountains generated by differential erosion of bedrock formations. They consist of a cluster of isolated hills and sharp-crested peaks separated by broad valleys and plains that connect to the North Coastal Plain. At the northern edge of the Barn Mountains the escarpment is less dramatic than for the British Mountains, partly because of the rolling nature of the coastal plain at this point.

The Richardson Mountains typically have north-south oriented valleys and form a major migration route for the Porcupine Caribou Herd. The extreme northeastern



James Hawkings

*View of British Mountains and Buckland Hills from the coastal plain.*



Catherine Kennedy

*Bear flower, a favourite food of grizzly bears, is an endemic species to Beringia – that northern region which escaped the last ice age.*

extension of the range was glaciated during the last glacial period. The Richardson Mountains represent the northern extent of the Canadian Cordillera.

At higher elevations of these mountains, the dryness, the altitude, and the cold prevent plant growth. The complex ridge and valley topography create a multitude of local climate variations. Wind funnelling occurs in valleys to give locally severe wind and turbulence. These wind effects coupled with low snowfall in winter create large areas of exposed ground – ideal conditions for frost action on soils. As a result, a full suite of periglacial processes (solifluction, earth hummocks, stone

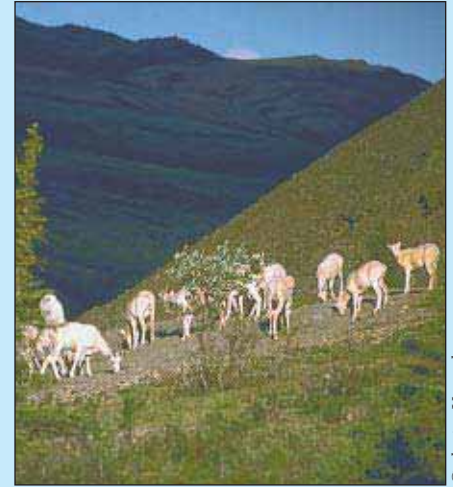
stripes, nets and circles) affect slopes and ridges throughout the northern mountains.

Vegetation patterns reflect a complex interaction of locally variable climate, topography, soil material and permafrost conditions. Most areas above 900 metres are bare rock and lichen; however, a few hardy plants persist, such as mountain avens, arctic willow and saxifrage. At lower elevations it is common to see sedges, shrubs, and heath plants covering most of the ground. Few trees grow on the mountain sides this far north. A notable exception is the south-facing slopes along the Firth River, where spruce can be found almost to the Beaufort Sea. Wolf, caribou, Dall sheep and grizzly bear are found in the variety of habitats that comprise the northern mountains.



*There was people going down from Aklavik too. They always go down and stay at Ukiivik there. There was lots of people going down to Ukiivik to hunt whales. Then all summer they stored food. [...] mid-July, they go whaling all summer long. Then they leave for Aklavik. They don't stay there long. They would take off towards Tapqaq [Shingle Point] to hunt caribou also to pick berries too in August... That is how we were, just hunting all the time.*

Rhoda Allen, (RA91-15A:11)



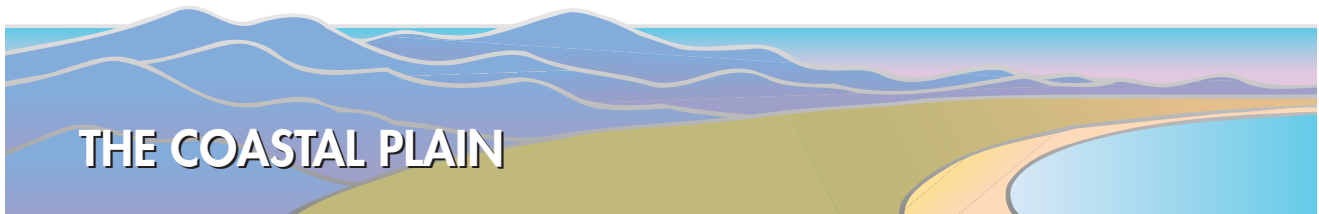
Catherine Kennedy

The Dall sheep of the British and Richardson mountains are the Yukon's northernmost and most isolated sheep population. Four types of habitat are crucial to Dall sheep survival on the Yukon North Slope: lambing cliffs, mineral licks, winter ranges, and seasonal movement corridors. In the British Mountains, all four habitats are represented in Ivavik National Park.

Gyrfalcons are a prominent feature of the Arctic where they are a year-round resident. These large birds of prey are well adapted to northern living with feathered leggings, down feathers and eyes suited to low flight. Gyrfalcons rely on ptarmigan as their principal prey.



Norman Barichello



## THE COASTAL PLAIN

The North Slope derives its name from the gently sloping coastal plain. The passage of the glaciers on the eastern portions of the plain makes these areas different from the western portions.

West of the Firth River is a low, unbroken plain that was untouched by the glaciers. Evidence of this refuge from the ice age consists of the absence of glacial-related features and the presence of a number of plant species whose only other occurrence is in Siberia; those that occurred in the glaciated portions of the Arctic were eliminated by the great ice sheets.

The coastal plain east of the Firth River was ice-covered during the last glaciation (Wisconsin). The ice gouged out many shallow lakes and ponds as the ice sheets advanced and retreated.

Along the coastal plain permafrost lies close to the surface and the slight slope of the plain results in wet, soggy ground during the summer. The treeless landscape is dominated by dwarf shrubs and low-lying plants. Cottongrass tussocks cover much of the ground. From a distance, tussock tundra looks like a smooth stretch of pasture. It is not; even walking is difficult.

The coastal plain offers a variety of habitats for birds. In the drier upland areas, golden plover, lapland longspur, and arctic tern nest and rear their young. The lower wetlands are important to ducks, geese, swans, and shorebirds. Some species, such as northern pintails, oldsquaw, and tundra swans, nest along the lakes. Many species use this area as a staging ground. For example the entire western Canadian Arctic population of lesser snow geese – several hundred thousand birds from the



James Hawkings

*Lesser snow geese, white phase.*



James Hawkings

*In the fall, lesser white-fronted geese, brant, and snow geese move to the North Slope to prepare for their southward migration. For a few weeks in late August, almost a million birds are on the Yukon coastal plain, feeding and staging.*

nesting grounds on Banks Island and the mainland – feeds furiously on the plain to gain the necessary weight to make the long migration south.

Wildlife, including caribou, moose, grizzly bear, polar bear, and muskox seasonally travel across the western coastal plain. Fox and wolf den in the river banks in warm, well-drained areas of the western plain.

For the Porcupine Caribou Herd, the coastal plain, both in Alaska and Yukon, is a vitally important post-calving area. It offers tender, new green plant growth for the caribou to forage on, as well as a delay in the season of insect harassment. Nose bot flies, warble flies and mosquitoes harass the caribou to such an extent that the caribou will cease eating and seek places where there is relief. The caribou seek high country in the mountains when the insect season is at its peak.



*We picked berries long ago around here and up on the hills. I remember that the berries were yellow. We put them in whale stomach bags. When we filled our bags we [would] start home. They tasted very good when they came from the whale stomach... Then later, we put them in the wooden barrels... That is how we used to pick berries.*

*Sarah Meyook, Tapqak (Shingle Point),  
July 14, 1990*

Relative to the south, only a small number of plant species have adapted to life in the Arctic, but those that have do very well and cover vast areas of the north. Plants must overcome the dual problems of freezing and drying out in the chilling winds and low temperatures. They must also adapt to cold soil and a short growing season. Trees survive only in the river valleys where there is shelter from the wind and reduced permafrost permits their roots to grow.



Norman Berrichello

Cottongrass

Most plants overcome the challenge of the cold and dryness by growing close to the ground where the winds have less effect; they are also commonly “furry” to insulate the leaves from the wind and to retain moisture. Plants along the Yukon North Slope bloom in a hurry to take advantage of the brief abundance of pollinating insects and bees. Many hedge their bets by reproducing asexually as well in, case the insects are not successful.



Norman Berrichello

Lousewort

## BRAIDED RIVERS and LAGOONS

The Mackenzie, Babbage, Blow, and Firth rivers have a profound effect on the environment of the Yukon North Slope. The Firth Delta and the nearby Malcolm Delta are large fans built up on alluvial silt-sand that has been carried down from the mountains in the rivers.

The muddy flats are cut through with streams crossing one another until they reach the sea. The deltas are regularly flooded by tides and storms that surge in from the Beaufort Sea. As a result, there is little vegetation near the sea. Further inland, mud and sand form beds that attract salt marsh vegetation. Sedges also cover the large wet terraces. Willow thickets are common in the upper deltas.

The Babbage Delta is formed by the winding and twisting channels of Deep Creek and the Babbage River. It slopes gently toward the ocean. Protected from the wind, this delta does not flood as much in the spring as do the others on the Yukon North Slope. Many small ponds can be found in the active part of the delta.

The delta of the Mackenzie River extends into the Yukon and joins with that of the Blow. These are similar to the Babbage Delta but there are more ponds, lakes, and river channels. Much of the area is flooded each spring, covering the sedges, grasses, mosses, and shrubs that grow here. Lichen can only be found on higher ground.

These river deltas are important waterfowl habitat. Many species of ducks and geese nest on or near them. More tundra swans nest in the Yukon portion of the Mackenzie Delta than anywhere else. As well, large flocks of non-nesting swans can often be seen in the Babbage and Mackenzie deltas.

In summer, moose and muskox frequent the river corridors, making this one of the very few areas in North America where moose and muskox occur together. Muskox have not been seen in any significant numbers on the Yukon North Slope for most of the last century. The herd—recent “immigrants” from Alaska—numbered over 146 animals in 1995.



Robin Armour, Yukon Government

*Aerial view of the Blow River flowing northward to the Beaufort Sea.*



Robin Armour, Yukon Government

*Drying dolly varden charr (Qalukpik)*

Coastal features at the mouths of these rivers – such as beaches, spits, islands, and lagoons – are very important areas for waterbirds on the North Slope. Gravel covers most of these areas and driftwood from the Mackenzie River dots the beaches. Eiders, gulls, and terns use the spits and small islands for nesting. Thousands of red-necked phalaropes stage on the spits and lagoons along the coast. Sea ducks, such as the scoter and oldsquaw, rely on these protected waters as safe places to feed while they moult.

The rivers, lakes, and lagoons across the Yukon North Slope provide spawning, overwintering, and rearing habitat for several important species of freshwater fish. In places where warm groundwater flows into the rivers during the winter, they remain open and productive. Dolly varden charr and grayling take advantage of these warm waters to spawn, feed, and overwinter. Two of these popular fish holes are located in the Babbage and Firth rivers. Toward the eastern portion of the North Slope, several species of whitefish tend to use the deeper lakes connected to the coast by short, deep river channels for spawning and overwintering.

During the spring and summer young fish of many types use the warm, rich lagoons formed behind the sand spits along the coast to feed and grow. These fish leave to go back upstream or out to sea before the winter's ice reclaims these brackish waters.



*Here in Delta there's lots of rabbits and some ptarmigan too and in the spring there is muskrat and there's lots of places where you could go [fish] hooking. That is why we never leave here too. Because too there is nothing for us in coast... We stayed in the Delta here because [...] all year round we could set snares... In the coast there is nothing to hunt in the winter, no rabbits too. There's only some ptarmigans, that's all there is, just ptarmigans.*

*Fred Inglangasuk, (FI90-5B:4)*

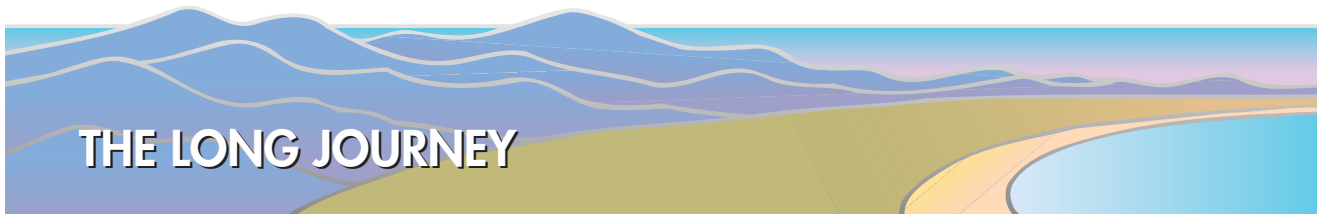


James Hawkings

*Oldsquaw are a common coastal duck.*

Each spring, thousands of ducks nest in the North Yukon. While most breed in the Old Crow Flats and in the Mackenzie Delta, some fly further north to the coastal plain. Scaup, oldsquaw, and northern pintail are very common. Common eider are also found on the coast, usually on coastal spits and islands. Joining the ducks are tundra swans and loons that breed on the coastal plain and along parts of the outer Mackenzie Delta.

In July and August, the numbers of ducks, geese, and swans increase dramatically as the birds leave their nesting areas to fly further north to the Yukon North Slope. The nutrient-rich wetlands, deltas and coastal bays provide welcome shelter for the birds as they undergo their annual moult. Tundra swans gather in the deltas of the Babbage and Mackenzie rivers and Phillips Bay on the coast. Some moulting ducks join the swans in these areas but most are found in and around the protected waters of Workboat Passage. In this relatively small area, more than 10,000 birds may be seen at one time.



## THE LONG JOURNEY

### **Caribou of the Porcupine Caribou Herd**

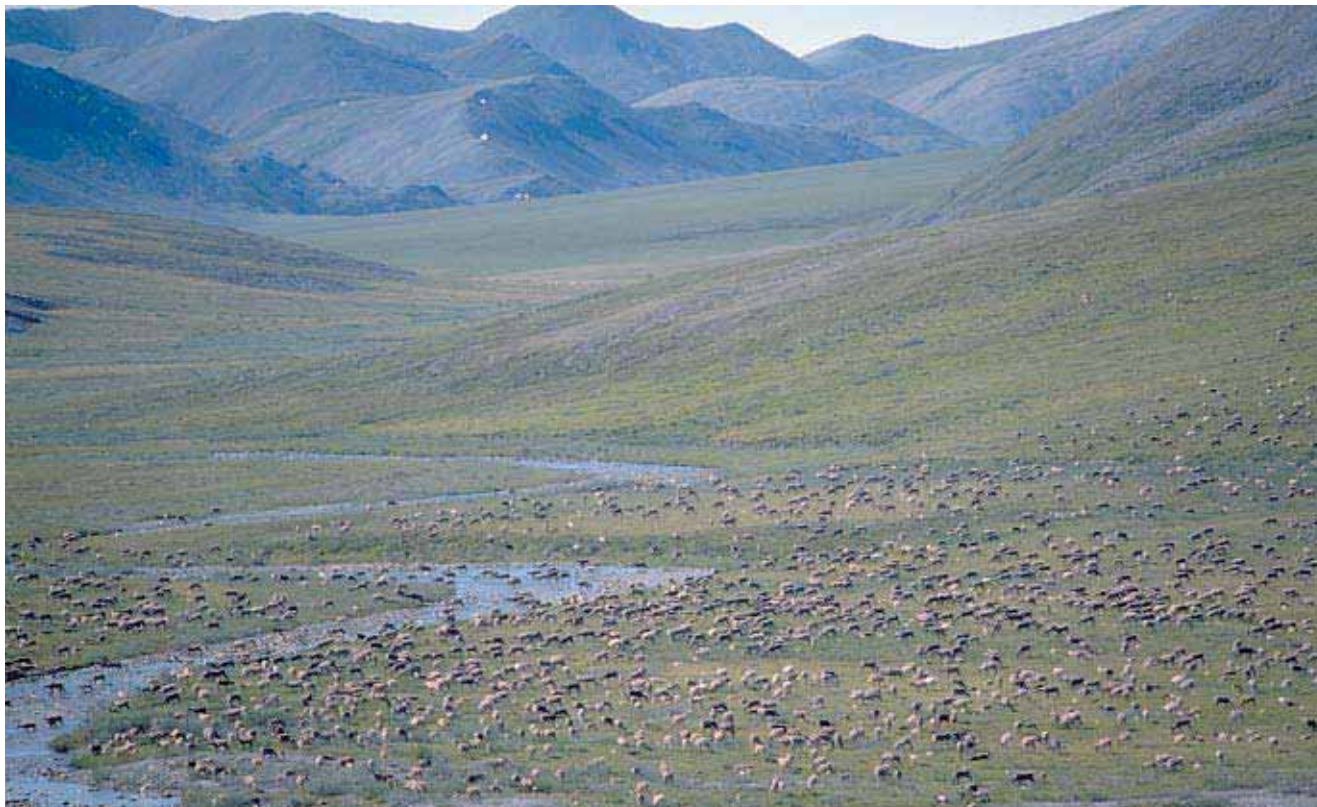
No species is a greater reminder of the enduring importance of the North Slope habitat than the caribou of the Porcupine herd. The herd numbers more than 150,000 caribou. It uses a range of approximately 250,000 square kilometres. In early spring, the cows trek northward from their wintering grounds through deep, soft snow to time their arrival Alaska's Arctic National Wildlife Refuge. The other is along the foothills of the British Mountains, west of the Firth River on the Yukon North Slope.

In years when spring is late and the snow remains deep, the calving grounds in Canada are particularly important. The pregnant cows crowd together on the calving grounds and all give birth within a very short time.

When the calves are just a few weeks old, they normally

leave the calving grounds with their mothers and move to the coastal plain where insect hatching is delayed by the cool, coastal weather. By early July migration begins again – normally toward the British Mountains – after the cows and calves have joined up with the bulls and juveniles to form a number of large groups. The herd moves into the foothills of the southeast part of the British Mountains. The cool, windy elevations of these provide some relief from the biting insects. In early fall, small groups of caribou begin the journey back to the wintering grounds south of treeline in Alaska and Yukon. Choosing a lichen-rich winter diet, the caribou seek places where favourable snow conditions allow them access to food.

The caribou form an essential link between human survival and the North Slope natural environment. The



Norman Barichello

*The Porcupine Caribou Herd on its summer range.*





Norman Barichello

Pregnant cows arrive first on the North Slope and coastal plain to calve. Calves are born within a few days of each other, with most born on June 7. The main predators are grizzly bears and sub-adult golden eagles. Cold and wet weather can also threaten the calves' lives.

people of Aklavik, Fort McPherson, Old Crow, Dawson City, Tsiigehtchic (Arctic Red River), Fort Yukon, Kaktovik, and Arctic Village rely heavily on the Porcupine Caribou Herd for food and to supply the materials they have traditionally used to make clothes and shelter. Over many generations, the people in these communities have adapted their lives to the migration of the caribou. If the caribou were to die out, their way of life would also vanish.

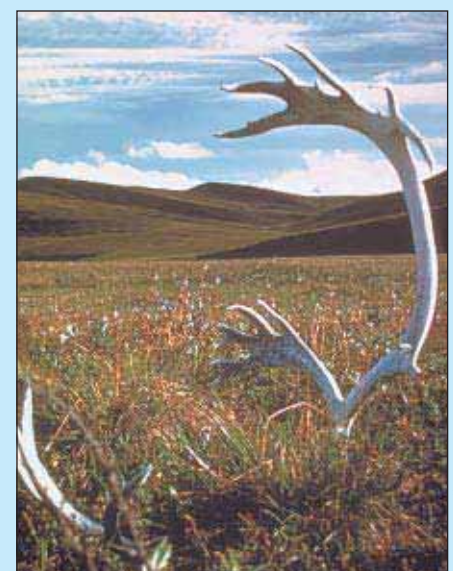
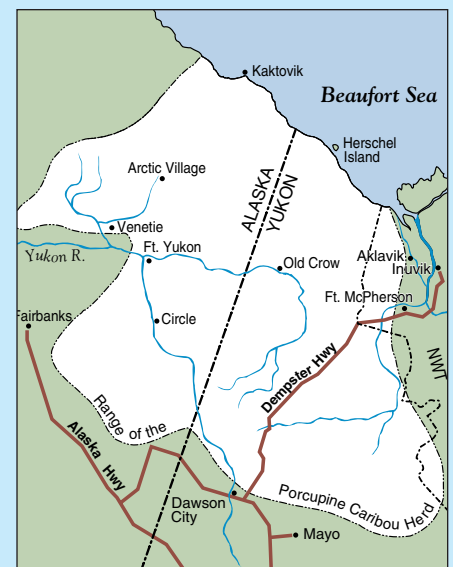
The Inuvialuit land claim agreement established Ivvavik National Park to protect the Canadian calving grounds of the Porcupine Caribou. To conserve the herd, it is vitally important to protect the herd's habitat. Protection of calving and post calving areas in Alaska remains critical to the herd's survival and the people who depend on it.



*Above Shingle Point, them hills (Richardson Mountains), that's where they used to hunt. Then when they'd get caribou they'd make dry meat and they'd put some in the blubber. They'd get everything ready for the winter. We'd be there, get enough things. Then we'd head back towards the Delta...*

*Renie Arey, Aklavik, July 12, 1990*

Caribou are an integral part of the northern way of life, providing both food and materials. Traditionally, both Inuvialuit and Gwitchin cultures have revolved around the migrations of caribou herds. Before firearms came to the North, the caribou were hunted with bows and arrows, spears, knives, and by using "caribou fences." Traditionally, every part of the caribou was used; some of these uses have now been replaced by modern implements.



Don Russell

With caribou, both sexes have antlers. Unlike horns of sheep or goats, antlers are grown and shed every year.



## EDGE OF THE CONTINENT

The greatest diversity of marine wildlife in the Yukon North Slope is near the shore. Though the area covered in the Wildlife Management and Conservation Plan includes an ever-narrowing strip of the Beaufort Sea between the borders of Alaska and the Northwest Territories, the spectrum of life also narrows as the distance from land increases.

The northern third of the Beaufort Sea is permanent ice pack. The middle third opens only during the summer. The southern third is strongly influenced by freshwater currents from the Mackenzie River and by its proximity

to land. It is because of these conditions that most of the region's marine life is found here, at the edge of the continent.

The productivity of the coastal marine waters is aided by the moderating influence of warmer fresh water from the Mackenzie and other North Slope rivers. The fresh water from these rivers, however, does not mix easily with sea water. It becomes a surface layer of warm, fresh, muddy water that stretches as far west as Herschel Island. The effect of this layer of fresh water is greatest during and just after spring breakup. Wind and currents,



Robin Armour, Yukon Government

*Shingle Point, once a permanent settlement, is now a traditional whaling camp used seasonally each summer by Aklavik residents.*



ISDP-MH-28

*Butchering beluga whales, from left: Rhoda Aluniq, unidentified child, Minnie Natmak, Sarah Lennie, in front with ulu: Kinoolyun, behind: Tukpan*

such as the Beaufort Gyre, affect the dispersion and mixing of the river water offshore.

During the winter and spring months, ringed and bearded seals are commonly seen on the nearshore ice. Their predator, the polar bear, and scavengers such as the arctic fox can be seen following the seals. As the ice breaks up, polar bears move north following the retreating ice and their prey while the arctic fox turns south, returning to its denning areas on the mainland.

The marine waters of the Yukon North Slope also provide good habitat for whales and fish. Marine species of fish, such as cod and sculpin, spend all their lives in the sea. Other species of fish that spawn in fresh water, but spend time in saltwater as well, are also found here. These include the arctic cisco, inconnu, broad and lake whitefish and dolly varden charr. Both freshwater species that can tolerate some salinity, such as arctic grayling and round whitefish, and marine species that can tolerate brackish water, such as fourhorn sculpin and arctic cod, gather along the coast to feed on the abundant invertebrates.



*...When they come back with a whale, that is how the people long ago hunt together; they make everything same for everyone and they get the same amount...*

*Martha Harry, (MH91-16A:9)*

The coastal waters of the Yukon North Slope provide important habitat for whales. The bowhead and the beluga winter in the Bering Sea. With spring break-up, both species follow the open leads in the Beaufort Sea as they move eastwards.

The bowheads spend the summer in offshore waters but on their return migration, in the fall, some of the whales come close to the coastline. They can be seen in the nearshore waters off Komakuk Beach, around Herschel Island and Ptarmigan Bay, and along the coast between Kay Point and Shingle Point. These areas are rich in zooplankton, the tiny marine organisms the bowhead eats.



Peter Poole, NWT Government

Beluga whales aggregate in the Mackenzie River estuary during July, ranging as far west as the Shingle Point area. During and after the estuarine aggregation period, beluga make extensive use of the offshore waters and are commonly seen in nearshore areas as well. The return migration takes place through both coastal and offshore waters during August and September, passing westward offshore of the Yukon en route to the Bering Sea.

Both bowhead and beluga whales are traditionally hunted by the Inuvialuit.

## AN INUVIALUIT HOMELAND

Four thousand years ago, a people whose ancestry can be traced back to the Siberian Neolithic appeared on the North Slope. Archaeologists identify these people as the Paleo-Eskimo. They and their Inuit descendants were the first people to successfully adopt a way of life that allowed survival in the arctic coastal environments.

The Paleo-Eskimos lived on the mainland, hunting and fishing. These people were characterized by archaeologists by the delicate stone and bone tools they used for hunting and for domestic activities. They did not use boats. Archaeologists believe the Paleo-Eskimos lived mainly on caribou and salmon and seal, which were hunted from the ice edge.

About 1000 years ago, changes occurred in the way people hunted for food. Sea mammals became the basis of life. Harpoons, with bladder floats attached to tire the wounded animal and keep it from sinking, were used to hunt seals and whales. Evidence of the use of dogs appeared for the first time in Thule sites.

Some researchers think that the first people to hunt on the open Arctic seas were descended from the first people to live on the North Slope. Others say that a new group of people – the Thule – migrated eastward and displaced the original people. However the Western Thule culture can first be documented about 1000 years ago.

About 800 years ago, the climate began to cool again. Ice formed faster and melted more slowly. The Western Thule people found it harder to move about the sea, forcing them to change the way they hunted and fished and become more dependent on the wildlife resources of the land. They returned to techniques of ice-edge hunting of whales.

Although there is uncertainty about the Thule's origins, it appears that they were the ancestors of the present-day Inuit. The Inuit include many closely-related groups who share the tools and skills necessary to fish and hunt seals, beluga, bowhead, caribou, and other land animals. The Inuvialuit are one of the groups of Inuit.

The Inuvialuit have long called the North Slope home. While most now live in communities such as Aklavik, Tuktoyaktuk, Inuvik, Paulatuk and Sachs Harbour, many return every year to hunt caribou, whales, seals, sheep, moose, and bears, to trap furbearers and to fish. They still use the traditional gathering places in the mountains and along the coast.

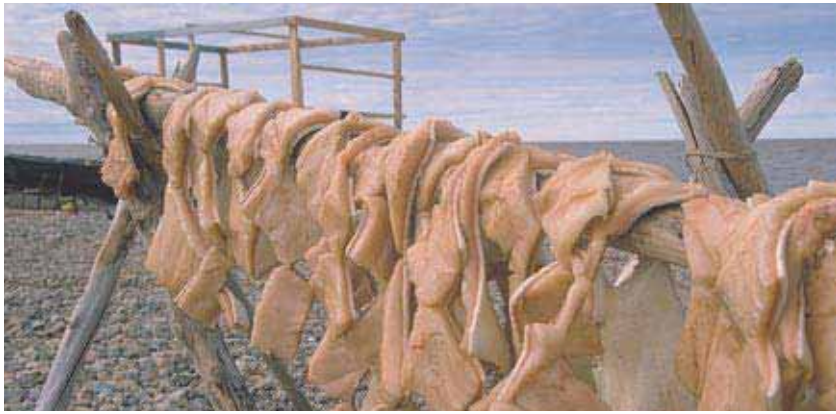
Many of these areas have been in use for hundreds of years: about 200 Qikiqtarukmiut (small island people) used to winter at Qikiqtaruk, on Herschel Island at the present site of Pauline Cove. They had smaller winter settlements at Escape Reef, Shingle Point, west of Sabine Point, near King Point, Stokes Point, and on Herschel Island sandspit and Avadlek Spit.

Before break-up, the people moved out of their sod and drift-wood winter houses into hide tents. They hunted seals with kayaks and bladder darts while the water was open. They hunted caribou by driving small groups of animals into fenced-in areas where they were killed.



Yukon Archives, D. W. Gillingham, R. Finney Collection

*Inuit family at Herschel Island, 1925, standing in front of small canvas-covered structure.*



L.A. Henderson

*Muktuk, the skin and fat of whale, is a northern delicacy as much as a food staple. Here it is being air dried, to be eaten later.*

Along the coast, people fished with nets made from the baleen of the bowhead whale. In July, some people would travel east to the Mackenzie Delta area to hunt beluga whales. In the late summer and fall, waterfowl and bowhead whale hunting were important. In the fall, the people also prepared for winter by fishing, sealing, and caribou hunting.

The coastal people had strong trading networks, stretching from North Alaska through to the central Arctic. Each spring, the Qikiqtarukmiut travelled west to trade furs, sealskins, and oil. In return they got iron, knives, and beads at Point Barrow and on Barter Island. With the eastern peoples they exchanged products that might have included beluga whale skins, blubber, muktuk and meat, baleen from bowhead and ivory from walrus, early European trade goods, and other goods for copper, meteoric iron and lamp stone.

The record of the pre-history and early history of the Inuvialuit and their ancestors is incomplete and inclined toward speculation because it is largely unwritten and grounded in limited empirical evidence. Our scientific knowledge of these peoples and how they lived on the North Slope, because it is fragmented and uncertain, must make way for a traditional knowledge that is maintained and enriched by Inuvialuit oral accounts. The Inuvialuit views of their pre-history could represent a useful counterbalance to more “scientific” views. Inuvialuit elders today are being sought out through oral history projects to provide their own accounts and explanations of their origins and their past on the Yukon North Slope.



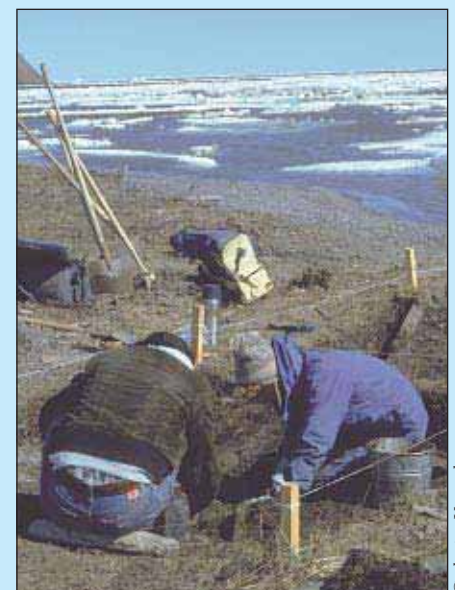
*While there was a connection from the island to mainland, they called them Nuvuraqmiut [“people of the Point”]. They called them that when the island was part of mainland and Nunaluk. And after it became an island, they called it Qikiqtaruk. Then, the Siglit called them Qikiqtarukmiut [“people of the Island”].*

*Jean Tardiff, (JT90-16A:6&9)*

Important Thule sites on the Yukon North Slope are located at the mouth of the Firth River, at Engigstciak about 50 kilometres up the Firth River, and one on Herschel Island. Thule people, who arrived on the North Slope about 1000 years ago, were adept at techniques of open-water whaling.

The Thule probably followed the bowhead whales as they moved eastward with the warming climate. While the Thule relied heavily on the bowhead, they also made use of caribou, muskoxen, waterfowl, and fish.

Kayaks and umiaks were central to the Thule way of life. With these the Thule could hunt bowheads, some of which were as much as 20 metres in length and 22 tonnes in weight. One whale could provide food for many people for much of a year. Each animal produced many thousands of pounds of meat, muktuk (skin), and oil. Bone and baleen was used for shelter and tools. Because of the importance of the bowhead, the Thule built small, semi-permanent camps at kill sites.



Catherine Kennedy

*Excavation of Thule site on Herschel Island.*

## FORCES FROM THE SOUTH

For hundreds of years, the Mackenzie Inuit traded with their neighbours, the Inupiat to the west, the Inuit to the east and the Gwitchin to the south.

Direct contact with western culture did not begin until the late nineteenth century when the Inuvialuit guided Tuchfield to the safe moorings of Pauline Cove on Herschel Island. As a result, Herschel Island would become the centre for whaling in the Western Arctic. From 1890-91, when the first American whale ships overwintered at Herschel Island, until 1907, when the market for whale products collapsed, the western Canadian Arctic was the scene of massive and rapid changes in the local economy and population. At the peak of the whaling era, nearly 2000 whalers, Alaskan Eskimos, Gwitchin, and Mackenzie Inuit lived at Pauline Cove.

Whalers brought exposure to firearms and other European trade goods. They also participated actively in the fur trade, promoted white fox trapping, and placed a heavy demand on wildlife resources. Commercial whaling almost wiped out the entire western population of bowhead whales, and caribou, hunted for food and hides, declined in numbers along the coast.

Diseases carried by whalers caused severe illness and death. By the early 1900s, many of the Mackenzie Inuit had died from flu, colds, and other diseases. The great world flu epidemic following World War I also took a great toll. According to researchers, of the 2500 alive in 1850, only 150 Mackenzie Inuit remained when American whalers left the area.



Yukon Archives, R. Finney Collection

*Inuvialuit schooners moored at Herschel Island, the major trading centre in the western Canadian Arctic during the late 1800s and the early 1900s.*



ISDP.MH-9

“Showing me some of the furs, Ilaviniq and Ole Anderson.”

Many of those who survived and were most actively involved in commercial whaling returned to trapping and trading. They turned their attention to the Mackenzie Delta where the fur trade was growing. As it grew, independent trading posts were established in the Delta and along the Yukon coast. The people traded muskrat, white fox and other furs for western goods at posts at Shingle Point and on Herschel Island. After World War I, the fur industry boomed and southern fashion trends created a strong market for northern furs, particularly white arctic fox. Fortunes were made. Many families owned schooners, which today would represent a quarter to a half-million dollar investment.

Though people utilized imported goods and technology, traditional activities continued to play an important role in their daily lives. In the spring, they went sealing. In the summer, they hunted beluga; in the fall, caribou, waterfowl, and fish. The people still visited and camped at the meeting places at Herschel, Shingle Point, King Point, and Head Point, as well as travelling to places outside of the North Slope, such as Toker Point, Atkinson Point, Tent Island, and Kitigazuit.



My dad used to tell me he'd seen ships when he was younger. He said he has seen some of those whale ships get up to 500 white whales a day...And there was that many. My dad said there was so many whales that time, sometimes they were close to the mouth of the Mackenzie, even from way out they could see them all over, just all over. Right along the ice, even those bowhead whales, seal and walrus, lots of them.

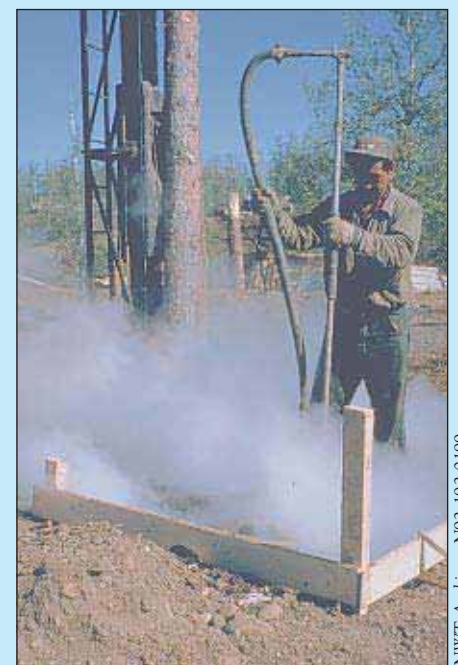
There was no oil companies those days. Those people they used to call those 'white people oil' because they used that oil, for their light and their machines. They wanted that oil, there was lots of it there.

Peter Thrasher, Aklavik, July 10, 1990

Outside the North, times and fashion changed. Demand for short-haired furs such as muskrat grew, while the demand for long-haired furs such as the arctic fox dropped off. The trading post at Shingle Point was closed in 1929. The one on Herschel Island closed in 1938. The Shingle Point school, built in 1920 by the Anglican Church, closed in 1936 when a new facility was opened in Aklavik. More people moved into the Delta area to hunt and fish. Aklavik became a major centre.

In the 1950s, the armed forces arrived and constructed the DEW (Distance Early Warning) line, a system designed to warn North America of a possible nuclear attack.

In 1961 the town of Inuvik was created as the new government centre. People were encouraged to move to Inuvik and many did, but many remained in Aklavik.



NWT Archives, N92-192:0199

Footings being steamed into the permafrost during the construction of Inuvik

## A NEW WORLD

The lives of the Inuvialuit and the Alaskan Inupiat have always been closely intertwined by family ties, trade and the sharing of common wildlife resources. Today many common interests and shared concerns remain. The development and conservation issues that have emerged to face the Inupiat on the Alaska North Slope are echoed for the Inuvialuit on the Yukon North Slope. Since the 1950s, the Inuvialuit, like their Alaskan neighbours, have come into increasing contact with southern society. This is largely the result of government growth and oil and gas exploration.

In 1968 oil and gas were discovered at Prudhoe Bay, Alaska, triggering similar exploration in the Canadian Beaufort Sea. In 1974, Canadian Arctic Gas Pipelines

Ltd. proposed the construction of a natural gas pipeline from Prudhoe Bay, Alaska, and the Mackenzie Delta to southern markets. In 1976 Dome Petroleum began exploring the Beaufort Sea for oil. In 1979, Dome studied nine potential harbour sites along the Arctic coast to support oil and gas development. Their study concluded that King Point would be a good place for a deep harbour.

During the last decade, government regulatory agencies have received other proposals. In 1982, Gulf Canada wanted to build a temporary oil and gas exploration support base at Stokes Point. In 1983, Peter Kiewit and Sons Co. Ltd. proposed a sandstone quarry, a harbour facility, and an all-weather road near King Point.



James Hawkings

*Oil and gas exploration in the Beaufort Sea was most active in the 1970s and 1980s.*





Robin Armour, Yukon Government

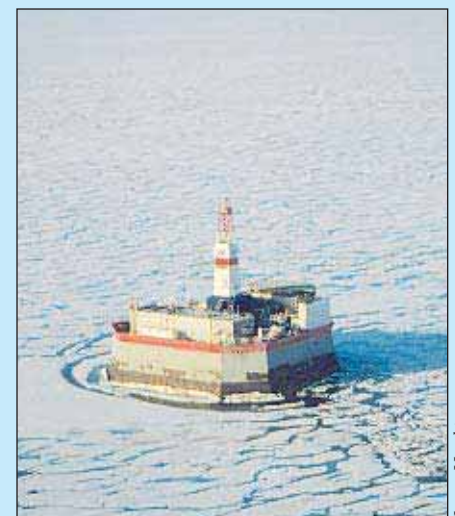
*Fear of airborne nuclear attack from the USSR led to the installation of numerous radar stations across Alaska and northern Canada between 1951 and 1958, such as at Komakuk Beach (BAR-1) on the Yukon north coast. This Distant Early Warning (DEW) Line station ceased operations in 1988. A number of DEW Line stations have been upgraded with unstaffed short range radar installations.*

While most of the proposals have been for developing parts of the coastal area, some mining firms have explored and staked deposits inland. This activity took place mainly during the 1960s and 1970s. Mining is not new here. Gold prospectors were active on the Yukon North Slope as early as 1897. Uranium and lazulite deposits were staked later.

In the face of growing pressure for access to the area's natural resources, many groups have urged the protection of the Yukon North Slope. But the early proposals for conservation of the North Slope in both Alaska and the Yukon were born not as a response to development, but as a recognition of the overriding conservation values of the area and its ecosystems.

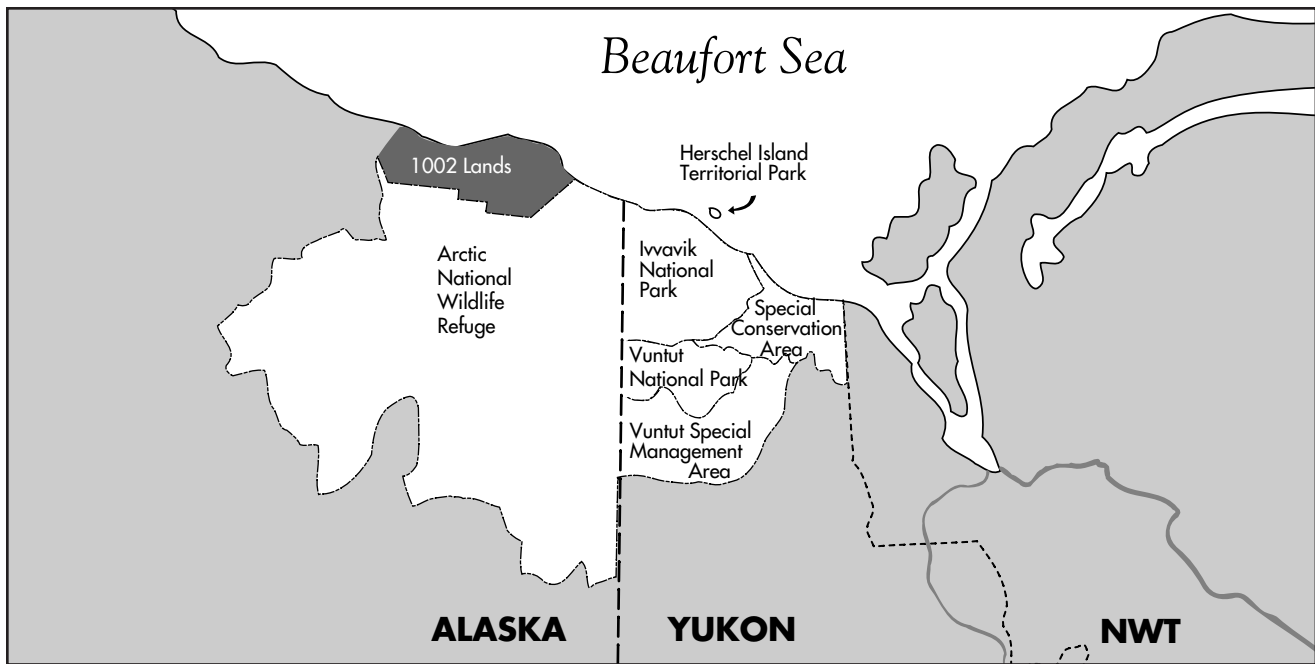


*It was a surprise to the people, you know. They're supposed to get information from Yukon and our government said there was jobs down there at Early Warnings. So they went to work and they never knew they were coming...*  
 Ishmael Alunik, (IA91-14A:12)



James Hawkings

*Beaufort Sea hydrocarbon drilling unit.*



Map of the Yukon North Slope showing neighbouring areas with various degrees of protection.

The first formal proposal for a north Yukon reserve came in the 1920s from biologist Olaus Murie who, after conducting field studies on Porcupine caribou, feared for the future of the area. Since then, many voices have argued for the establishment of national parks, wildlife sanctuaries, and other types of national and international reserves encompassing both the Yukon and Alaska North Slope and a large area of northeastern Alaska.

Research work in northeastern Alaska to document these conservation values and requirements was carried out through the 1950s by the National Parks Service, biologists, including the Muries, and noted zoologist Aldo Stark Leopold. Their studies were supported by the Wilderness Society, the Conservation Foundation, and the New York Zoological Society. This growing recognition of the value of the area led in 1960 to the creation of the 8.9-million-acre Arctic National Wildlife Range (ANWR) in Alaska.

Subsequently, ANWR supporters pressed Canadian officials to support the creation of an international wildlife range by establishing a parallel conservation regime for the Yukon North Slope. Winston Mair, director of the Canadian Wildlife Service at the time, met with U.S. Fish and Wildlife officials to develop plans for a reserve on the Canadian side, but the initiative failed to secure the necessary political support and was abandoned.

This situation changed with the discovery of oil and gas in Prudhoe Bay and the opening of the Canadian Beaufort to

exploration activities. Pressure to protect the range of the Porcupine Caribou Herd and to establish a wildlife reserve in the Northern Yukon mounted. In 1970 the Arctic International Wildlife Range Society was established to work for the creation of the Canadian range and the protection of the Yukon North Slope. Many non-profit conservation organizations added their support.

In 1977 the Canadian government published the Report of the Mackenzie Valley Pipeline Inquiry. The report was prepared by Mr. Justice Thomas Berger, following long talks with northerners and experts. The report advised against building a pipeline across the Yukon North Slope. It asked the federal government to create a special wilderness park in the entire northern Yukon including the Old Crow Flats and the North Slope. This report marked a turning point for the aboriginal people and the people of Canada. The native people received recognition with respect to their values in their homeland. In 1978, as a consequence of Berger's report and the Inuvialuit Land Claims Proposal (made on the same day), the government of Canada "withdrew" all of the recommended area from further oil and mineral development.

The challenges faced by the Inuvialuit over the past 200 years show a people with a remarkable resilience and determined spirit. They have also shown how the Inuvialuit's strong ties to the land shaped their past and will undoubtedly influence their future.

## TO THE PRESENT

### Inuvialuit Final Agreement

The first comprehensive land claim agreement north of 60 was signed between the Inuvialuit and Canada on June 5, 1984. It was the culmination of over nine years of work and negotiation. A major issue for the Inuvialuit during the negotiation of the Inuvialuit Final Agreement (IFA) was protection of the Yukon North Slope. The Inuvialuit made it clear that conserving the land and its wildlife was more important than developing it. As a result in, 1978 the Minister of Indian Affairs and Northern Development announced that 3.8 million hectares of the northern Yukon were being closed to new development. Responding to the conservation concerns of the Inuvialuit and many other Canadians, the Canadian government withdrew the land north of the Porcupine and Bell rivers to the Arctic Ocean coast for a national park and other conservation purposes. This land would eventually contain a new national park, which was later called Ivvavik National Park, a territorial park on Herschel Island, and other conservation areas set up under the Inuvialuit Final Agreement and the Council for Yukon Indians/Old Crow agreement.

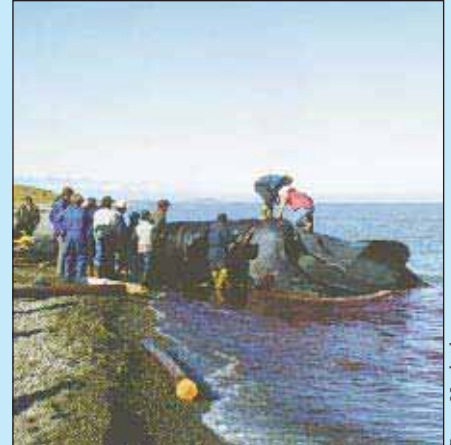
In addition to the dedication of certain areas for parks, the IFA continued the Withdrawal Order for the rest of the Yukon North Slope and it remains an important conservation tool. A developer must have permission to occupy land or to remove resources from the land. The Withdrawal Order suspends the normal power of government to grant such permission. This power could be reinstated by changing the Withdrawal Order but only by following the requirements of the IFA. Clearly, the Final Agreement pre-

vents any single group from deciding unilaterally about land use on the Yukon North Slope. Public comment, Inuvialuit recommendations, and conservation objectives would all have to be considered before any changes could be made.

The IFA also established the Wildlife Management Advisory Council (North Slope) and the Fisheries Joint Management Committee to ensure that the Inuvialuit and the governments work together to manage the area.



Tessa MacIntosh, NWT Government



Bruce Hambridge

In 1991, the Inuvialuit from Aklavik secured a permit from Fisheries and Oceans Canada to take one bowhead whale, thus reviving their traditional bowhead hunt. On September 4, 1991, a 37-foot bowhead whale was landed on Shingle Point. None had been hunted and landed in Canadian waters since the 1920s.

Commercial whaling of bowhead whales at the turn of the century decimated the western Arctic population. Through conservation measures, the whales have increased in abundance to a healthy population of at least 7500. The Alaskan Inupiat are allowed an annual harvest of over 40 bowhead whales. Thus the Inuvialuit request to hunt one bowhead whale for subsistence use was not a conservation issue. Through the IFA, the Inuvialuit have an aboriginal right to harvest a bowhead.

## TO CONSERVE AND PROTECT

As part of the Inuvialuit Final Agreement, the Inuvialuit and the government negotiated the creation of a national and a territorial park on the Yukon North Slope to ensure conservation of those areas. As well, the Agreement called for the creation of wildlife management agreements promoting cooperation between governments and native harvesters.

### **Ivvavik National Park**

Ivvavik National Park is 10,168 square kilometres of the western part of the Yukon North Slope. It is the first Canadian national park created by a land claim. Requirements for the new park were established in the Inuvialuit Final Agreement and made official in the National Parks Act.

The park has some unique environmental and cultural features. These include the 10,000-year-old Firth River canyon, an important early archaeological site at Engigstciak near the

coast, and two others where the first Thule Eskimo remains have been found. There are also some ancient caribou fences used by the coastal people for hunting.

Most of the park is land that was ice-free during the Wisconsin Ice Age. The park includes arctic tundra of the coastal plain, alpine tundra in the British Mountains, and boreal or taiga forest.

The park is home to the most northern herd of Dall sheep, to grizzly and polar bear, and to a growing muskox population. Geese and other waterfowl raise their young here. The coast is used as a calving ground and as a refuge from biting insects by the Porcupine Caribou Herd. The park's name, Ivvavik, emphasizes the importance of its wildlife and, in particular, of the Porcupine Caribou Herd. It is an Inuvialuktun word meaning "a place to give birth and raise young."



Robin Armour, Yukon Government

Visitors to Ivvavik National Park enjoy the tremendous hiking opportunities.



Catherine Kennedy

Restored buildings stand as vestiges of the whaling and trading era of Herschel Island while a recently constructed building provides a summer home for the park rangers.

The Inuvialuit Final Agreement made Ivvavik a wilderness park because of its cultural and environmental value. Consequently, little development has taken place in the park. Under the new IFA/National Parks Act regulations, some development, such as the hydraulic gold mine at Sheep Creek, had to stop.

Today, the only “industrial” user of the park is the Department of National Defence. It still has two automated short range warning stations in the park: one at Stokes Point and the other at Komakuk Beach. These sites, however, are temporary and will likely only be used for the next 20 years or so.

Most development in the park has come from tourism. Several small companies use the park, mainly during the summer when they bring small numbers of rafters, hikers, and wildlife viewers to the area.

### **Herschel Island Territorial Park**

Like Ivvavik National Park, Herschel Island Territorial Park was a result of the Inuvialuit Final Agreement. Herschel Island was the first territorial park created by the Yukon Government.

For many years Herschel Island was used by the Inuvialuit as a base for hunting, sealing, and whaling and it is still used seasonally by the people. The buildings used by the whalers at the turn of the century preserve memories of one of the most important events in the recent history of the Western Arctic.

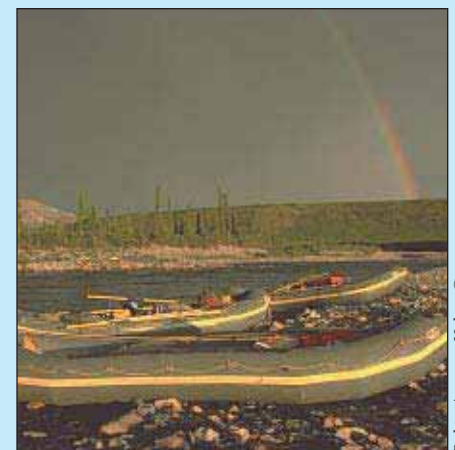


*That is the way the old people are. If you don't get up early the animals would know and it's hard to get them. So, soon as I was awake I would go out and go back in because I want to get some things in my traps. I'll always remember these words that as soon as we awake in the morning to go out.*

Sarah Meyook, (SM90-3B:1-2)

One of the goals of the Inuvialuit Final Agreement is to enable Inuvialuit to be equal and meaningful participants in the northern and national economy and society. Specifically, opportunities for economic activities in Ivvavik National Park should be provided to Inuvialuit on a preferred basis.

Rafting opportunities in Ivvavik National Park exemplify these provisions. Of the 20 available departure dates for commercial rafting trips on the Firth River each year, 50 percent are reserved for Inuvialuit use. Those companies using the non-reserved uses trips are encouraged to have an Inuvialuit Benefits Plan. The efforts of rafting companies to support the northern economy, through such things as buying supplies locally and hiring Inuvialuit guides, for example, is encouraged and rewarded through the process of allocation of rafting trips.



Robin Armour, Yukon Government

Herschel Island is the North Slope's largest island and lies five kilometres offshore, almost directly opposite the Firth River. Formed of marine sediments and ice, the island rises sharply from the ocean. Many species of wildflowers can be found in wind-sheltered areas and the warmer, well-drained valleys. The wetlands near Pauline Cove are important nesting grounds for shorebirds and waterfowl. Some mammals and birds, such as the arctic fox and the rough-legged hawk, are quite common. Others, such as the snowy owl, caribou, or wolf, may be seen occasionally.

Little development exists on Herschel Island. Several land navigation towers and a few basic tourist facilities have been built on the island. The only part of the park that may be developed for tourist-related facilities is next to Pauline Cove, also the location of historical artifacts and ruins.

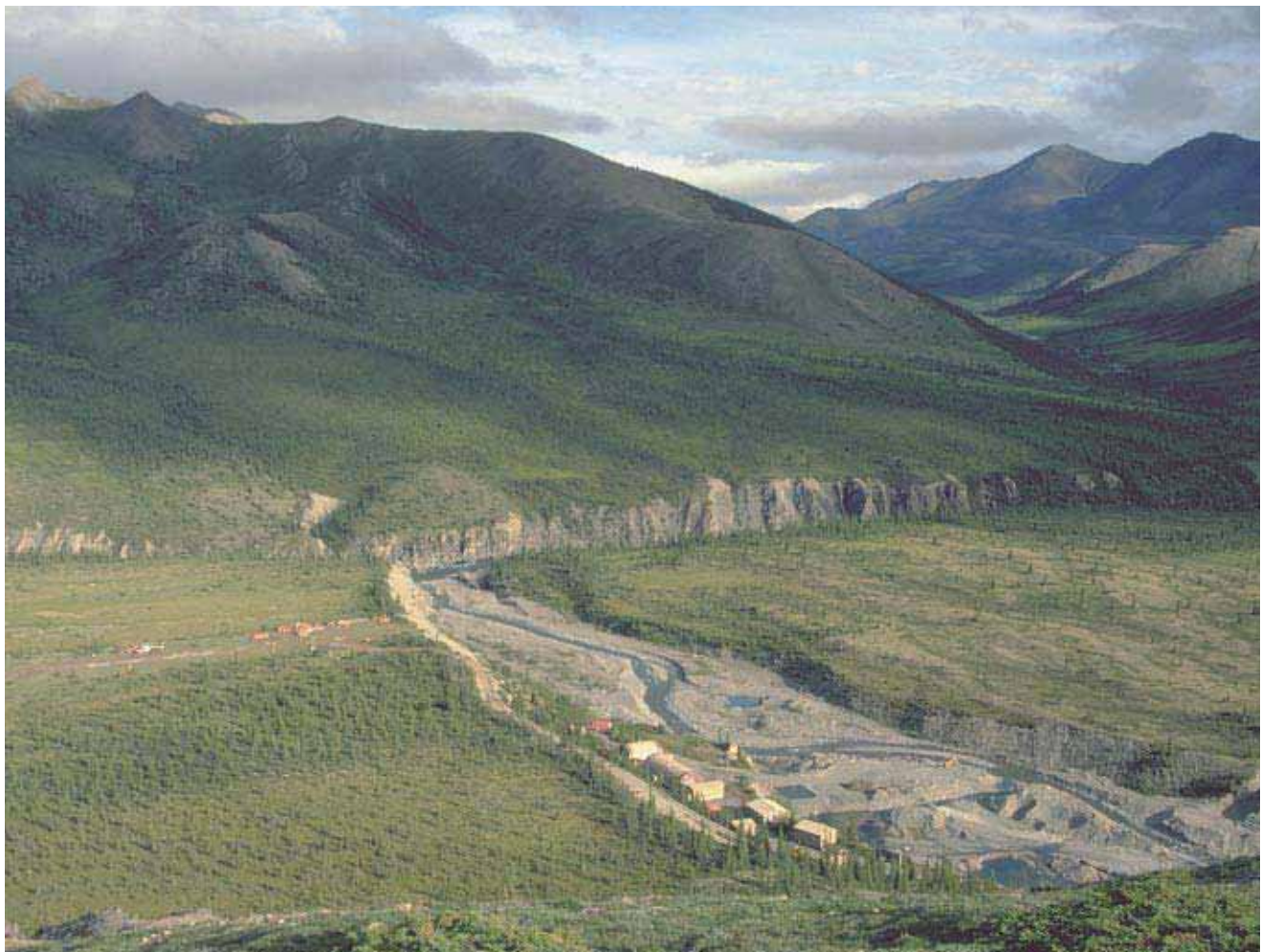
Tourists are the biggest users of the island. Its whaling history, natural beauty, and remoteness make Herschel a desirable tourist destination. Although the number of visitors to

the island will probably continue to increase, cost and unpredictable weather will restrict the number that will visit in any given year.

### **Porcupine Caribou Management Agreements**

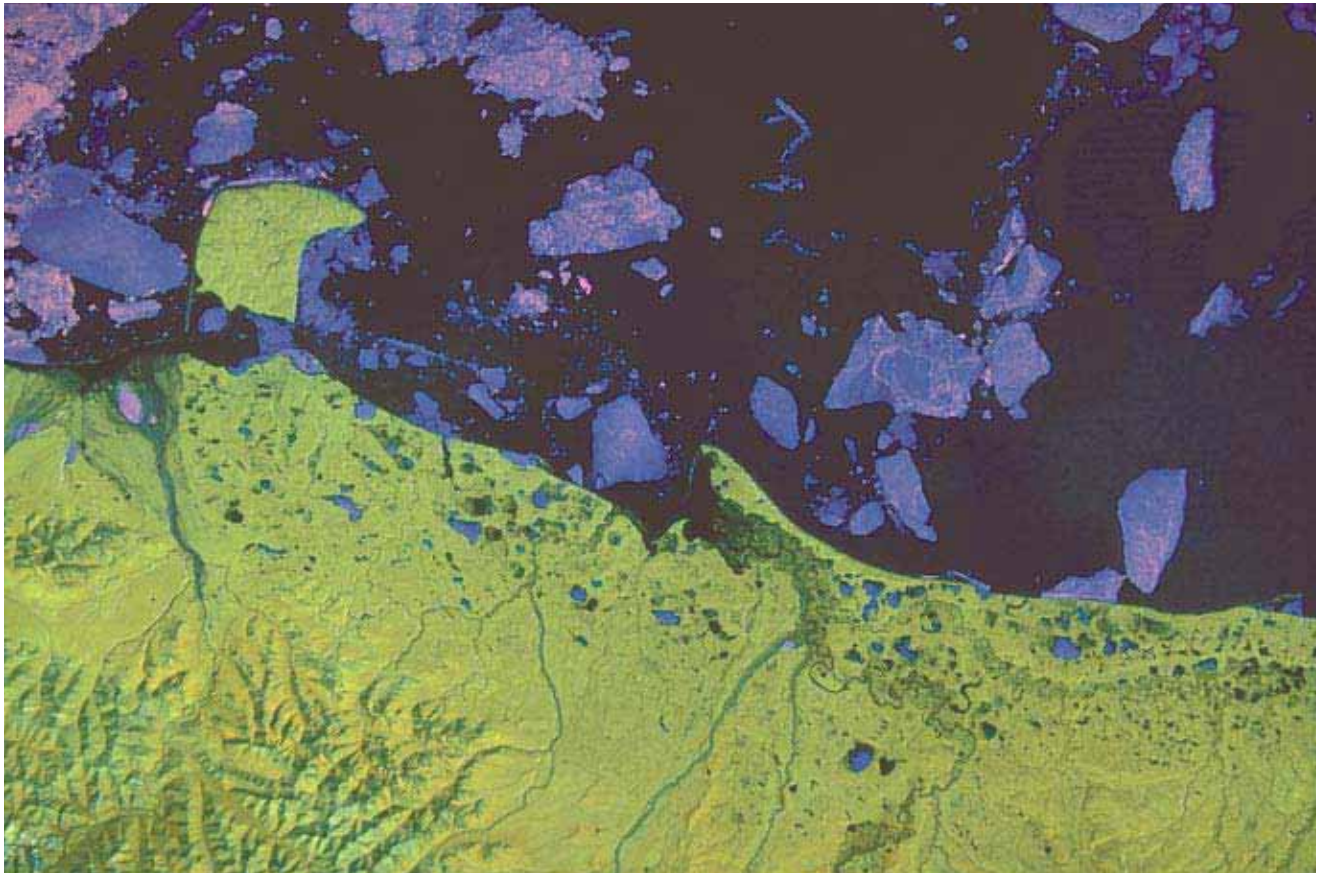
In 1985, as required by the IFA, the Porcupine Caribou Management Agreement was signed in Canada by the governments of Canada, Yukon and the Northwest Territories, the Inuvialuit Game Council, the Council for Yukon Indians, and the Dene Nation and the Metis Association of the Northwest Territories. This agreement established the Porcupine Caribou Management Board as the principal instrument for herd management in Canada.

In 1987, Canada and the United States signed an international conservation agreement for the Porcupine Caribou Herd. This agreement established the International Porcupine Caribou Board to jointly manage the herd in areas of shared interest and concern.



D. Murray

*Parks Canada's Sheep Creek operations centre and air strip in Ivvavik National Park*



Above, satellite image showing Yukon's North Slope and Herschel Island amid the ice floes of the Beaufort Sea.

Below, boat and buildings at Pauline Cove, Herschel Island.



Robin Armour, Yukon Government

## TO MANAGE

The Yukon North Slope is now managed as a special conservation area. Traditional native use of the area for hunting, trapping and fishing is guaranteed. The western part of the Yukon North Slope is a national park on the mainland and territorial park on Herschel Island. The area east of the Babbage River is a “controlled development” region to be managed by the strict terms of the Inuvialuit Final Agreement. There are no existing oil, gas or mineral rights in the area, and the Withdrawal Order prevents any from being issued.

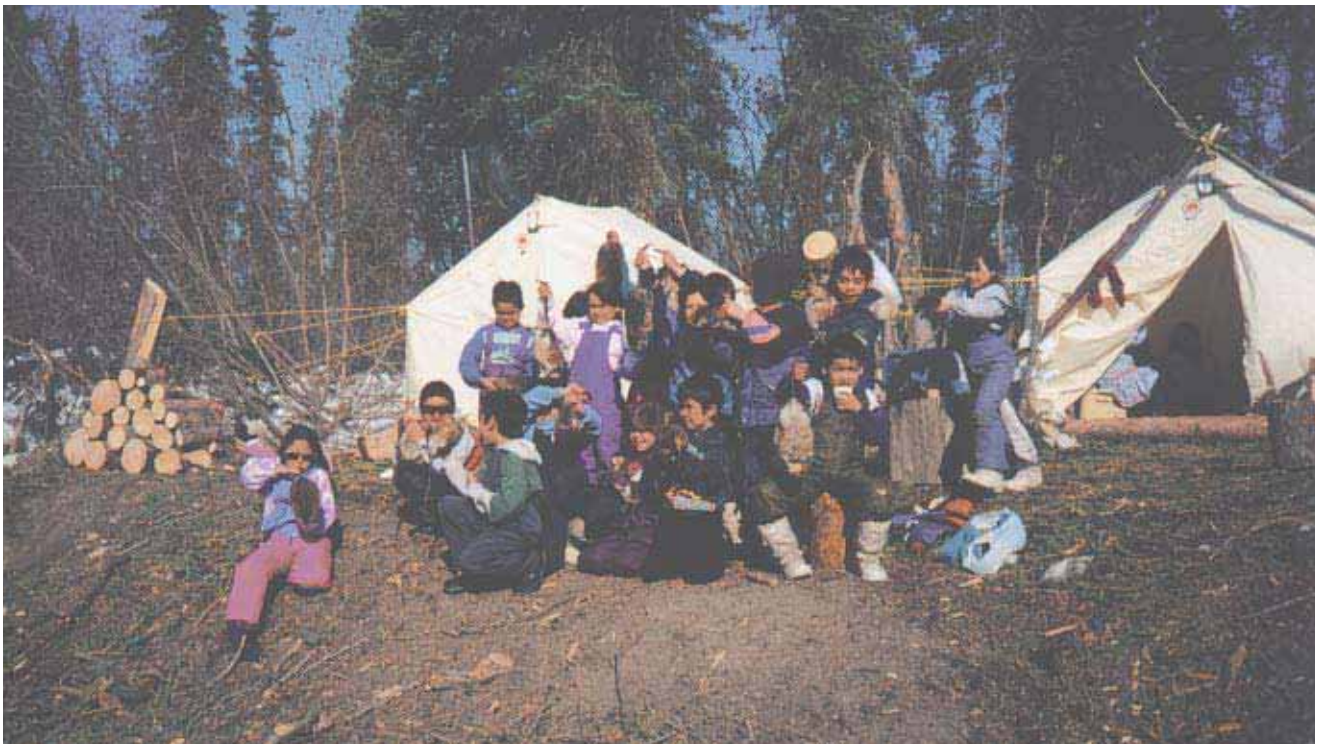
Only development that will not hurt the environment will be considered. In special and exceptional cases, a project that might cause damage could be allowed if the Environmental Impact Review Board and the Government of Canada believe that its importance for all Canadians is more than the importance of protecting the Yukon North Slope in the interests of conservation.

The Inuvialuit Final Agreement has given northerners the means to protect the Yukon North Slope environment. Some of these are described below.

### **Environmental Screening and Review**

Before any development activity can occur, it must be carefully reviewed by the Environmental Impact Screening Committee. No permits or licenses can be issued until this occurs.

In the planning stage, developers must give the Committee a project description. The Committee will then decide if the project might harm the environment, wildlife, or native use of the area. It also judges if the project might affect the Inuvialuit who depend on the health of the Yukon North Slope environment.



Charlie Soutpy

Children from Aklavik at culture camp proudly holding muskrats that they trapped.





Stefan Himmer

*In the Inuvialuit Settlement Region, grizzly bears are managed through a plan developed by the Inuvialuit Game Council, each of the six Hunters and Trappers Committees, Wildlife Management Advisory Councils and government managers. Hunting of grizzly bears is regulated by quota through bylaws passed by the Hunters and Trappers Committees and government regulations.*

Projects judged to be safe can be approved. If the Committee believes the project might threaten the environment, wildlife, or native use of the area it will ask for a more detailed public review of the planned project from an agency of its choice. A government environmental review agency or the Environmental Impact Review Board established by the Inuvialuit Final Agreement will be used.

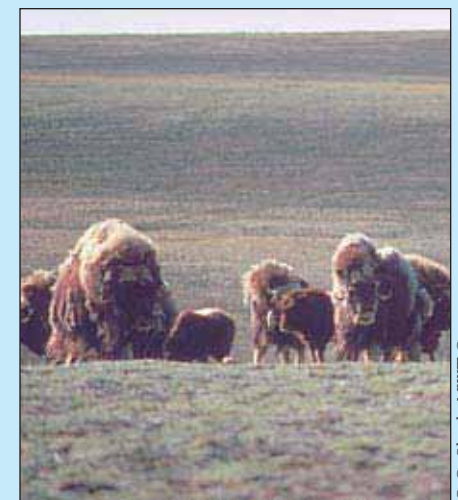
### **Wildlife Compensation**

Even if a development project plan is judged to be “safe” or if it is permitted to proceed with terms and conditions, it must always perform so as not to impair the environment, wildlife, and harvesting activities of the Inuvialuit. If the development proves to be detrimental to any of those values the responsibility of the developer is to minimize all damages and restore the wildlife and environment to its original productivity.



*“...we used to kill caribou in the summer time...my grandfather used to make ice house and put all the caribou meat in there for the winter. In winter we could eat it from the ice house. Meat all year around.”*

*Fred Inglangasuk, Aklavik,  
July 10, 1990*



C.C. Shank, NWT Government

*Muskoxen — a new inhabitant to the Yukon North Slope or on the comeback trail?*

**P**olar cattle or arctic bison were names given by northern explorers to muskoxen. And while the muskox may appear to be sheeplike and cattlike, its closest living relative is the golden takin, a goatlike mammal of the Himalayas

The muskox (Umingmak) is an animal of the arctic tundra. It feeds on willows, sedges and grasses north of the treeline.

There seems to be no living memory of muskoxen in the northern Yukon, although muskoxen were in northern Alaska in apparently low abundance prior to their extirpation in 1850-60. They were reintroduced to mainland Alaska in 1969-70. The population expanded rapidly and individuals dispersed into the northern Yukon where the population was estimated at 146 animals in a March 1995 survey. The muskox population is distributed primarily within Ivavik National Park. Inuvialuit hunters, Parks Canada and Yukon wildlife managers will be monitoring the abundance and distribution of muskoxen in northern Yukon in future years.

## CHALLENGES FOR CONSERVATION AND MANAGEMENT

The fragile environment of the North Slope is affected by developments of all sizes, whether small tourist activities or large-scale oil and gas operations.

In exceptional circumstances, oil and gas development can result in blowouts or spills. Tourism can harm wildlife and its habitat and interfere with Inuvialuit harvesting. Footsteps from hundreds of curious visitors can be a major source of erosion. The same logic holds true for toilet paper, tin cans, and fire pits. And because of its very nature, the North Slope recovers slowly from any environmental damage.

### **Maintaining the Natural Environment**

The Yukon North Slope has a variety of ecosystems. The area's plants and animals must be extremely hardy to survive in the Arctic climate, but they are also easily

threatened. Their ability to recover and adapt to sudden change is limited.

For example, on the tundra, footprints may take weeks or more to heal. Once uncovered, permafrost melts quickly. This can cause permanent scarring and habitat damage, forcing animals to abandon an area. It is essential that the fragility of the Yukon North Slope be recognized if its plant and animal life are to be preserved.

### **Preserving Traditional Inuvialuit Customs**

A major goal of the management plan is to make sure that traditional activities continue to flourish and that the Inuvialuit will always have the natural resources they need. The quantity of fish and animals taken for food and clothing is carefully controlled so that there will continue to be plenty of fish to catch and animals to hunt.



Robin Armour, Yukon Government

*These tundra scars are signs of past vehicular activity at a time when little attention was given to the effects on the vegetation and subsequent permafrost melt.*



Tessa Muchtosh, NWT Government

Michelle Furlong carries her baby in a traditional Indian baby belt.

Keeping animal populations healthy sometimes means setting rules to make sure that the environment itself is protected, especially crucial habitat areas. The Aklavik Hunters and Trappers Committee, the Inuvialuit Game Council, the Wildlife Management Advisory Council (North Slope), the Fisheries Joint Management Committee, and the federal and territorial governments work together to manage wildlife and its habitat for the future.

### Dealing with Outside Forces

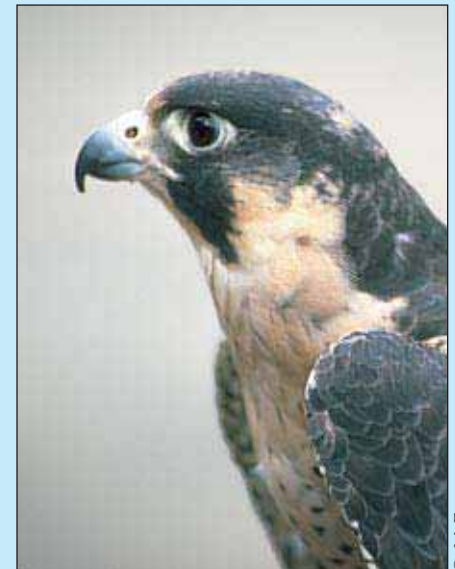
The measures identified in this plan concentrate on the Inuvialuit Settlement Region. The North Slope can be threatened from outside the region. Indeed, scientists have learned that pollutants from elsewhere can make their way into the northern ecosystem and, once there, are hard to correct. And there is the growing threat of global warming, another problem created in the south but of great consequence to the North where the effects of temperature changes are likely to be felt the most.

Because of wind and ocean currents, what happens in one part of the world often affects other areas. That is why preserving the Yukon North Slope from harmful conditions around the world is such a challenging job.



*Every summer we would go down and I'm going to go again this summer. I can't stay in town and it's because we never make living here too...*

*Jean Arey, (JA91-17B:2)*



C. McEwen

Between 1980 and 1991 there were no longer tundra peregrine falcon nests producing young on the Yukon North Slope. The decline of this bird is perplexing. Scientists believe that pesticides used in farming on the bird's southern wintering grounds may have contaminated the food supply of the falcon. If this is the case, it is troubling evidence of the vulnerability of the northern environment. In 1985, biologists started a cross-fostering program – releasing peregrine falcons into gyrfalcon nests. A similar recovery program has been started in the Alaska National Wildlife Refuge. In 1989 one known eyrie supported a pair of peregrines, and in 1992 three territorial pairs and one productive nest were located on the Yukon North Slope.

This race of peregrine falcon survives in good numbers in the Northwest Territories.

Peregrine falcon, tundra race



Tessa MacIntosh, NWT Government

*Aklavik Drummers, from left to right: Colin Gordon, Alec Gordon and Danny A. Gordon.*

### **Industrial Activity**

The Yukon North Slope is sandwiched between two of North America's largest oil and gas regions. To the west is Prudhoe Bay, Alaska, the largest oil and gas field in North America. To the east and north is the Mackenzie Delta and Beaufort Sea. Geologists believe it is likely that further discoveries will be made in both regions.

Currently, there is little likelihood of any drilling for oil or gas on land or offshore in the Yukon North Slope, but the region could be affected by drilling elsewhere and by the transportation of these fuels to southern markets.

To the west, the United States government may allow drilling for oil in the Arctic National Wildlife Refuge. This could result in a second oil field on the American portion of the North Slope.

In Canada, the Canadian National Energy Board approved export licenses for Mackenzie Delta gas. At issue now is when and how the gas will be developed and moved.

In the past, some people have proposed that the best way to move oil or gas from Alaska and the Mackenzie Delta is by pipeline across the Yukon North Slope. They have also proposed that one or more deep-water ports might be built on the Yukon North Slope to service tankers and other ships required for offshore oil and gas development.

Before development of any kind would begin or even approvals for proposals, these projects would be studied carefully by the Environmental Impact Screening Committee. Public hearings or reviews carried out by independent agencies such as the Environmental Impact Review Board, set up under the Inuvialuit Final Agreement, would also be held to consider all public interests in light of the conservation objectives established in the Inuvialuit Final Agreement.

### **Military Development**

In the 1950s, three Distant Early Warning (DEW) stations were built along the coast. The site at Stokes Point was later abandoned. Shingle Point remains active and Komakuk was converted to another facility later.

In 1990, the military constructed two short-warning radar stations at Stokes Point and Komakuk Beach as sites in Canada's North Warning System. The Department of National Defence plans to use the stations for two decades, possibly longer. The sites are thought to present little environmental threat. They are unstaffed and operate automatically.

Proper storage of fuels and other materials ensures that the areas remain clean and healthy. Nevertheless, these sites need to be regularly monitored to make sure they pose no threat.

# WILDLIFE CONSERVATION AND MANAGEMENT

The Inuvialuit Final Agreement represents a negotiated legal resolution of the diverse interests of many different people in conservation and development on the Yukon North Slope. It outlines the elements of a conservation regime for the area. It recognizes at their centre the traditional use of wildlife by the Inuvialuit on the Yukon North Slope and the need for a healthy environment that will allow this wildlife and the people who depend on it to flourish.

The Agreement introduced to the area a new approach to wildlife management based on cooperation between users and managers. In the Yukon North Slope this means defining new roles and functions and jurisdictions for many people and institutions involved in wildlife management.

The Inuvialuit Final Agreement, through a variety of means, sought to integrate:

- government and harvester wildlife management interests, institutions, and knowledge,
- wildlife management jurisdictions,
- wildlife management with habitat management,
- the management of wildlife, land, and commercial development.

The Agreement required the preparation of this Wildlife Conservation and Management Plan for achieving these ends. The purpose of this Plan is to give practical effect to the conservation regime established for the Yukon North Slope. Volume Two of this plan attempts to do just that.



Parks Canada staff carry out behaviour watches of grizzly bears as part of a study of grizzly bear use of the Firth River valley.

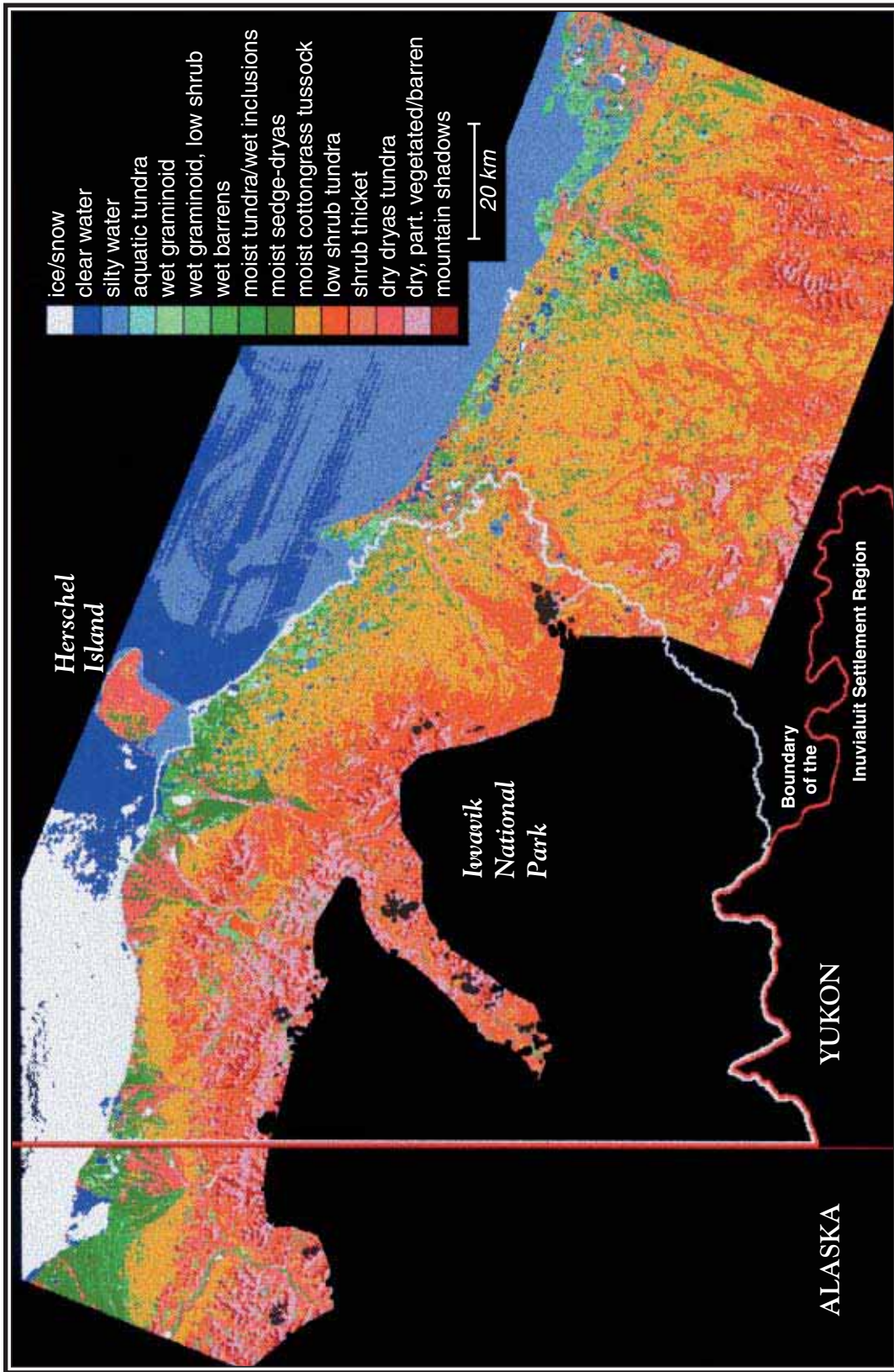


Norman Barichello

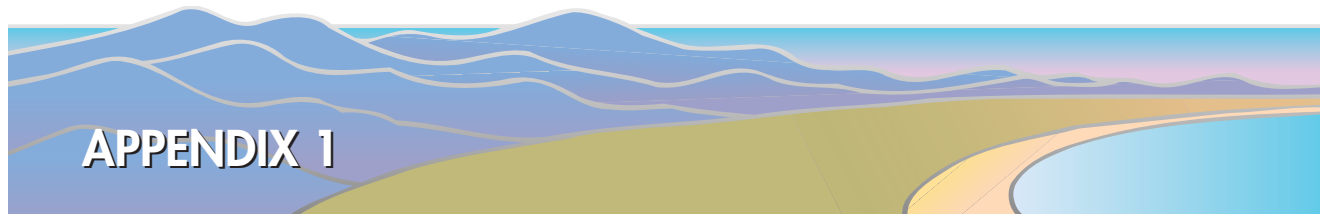
**R**anging over the pack ice off the north coast, polar bears (Nanuq) search out the breathing holes of their favoured food, the ringed seal. Most polar bears live on the Beaufort Sea ice far north of the Slope and are rarely seen on land. Only when the ice is blown south by the wind or pushed by currents are these bears seen on the North Slope.

Male polar bears do not usually den in the winter, though they may scratch out temporary dens when the weather is very harsh. Pregnant female bears move to favoured maternity denning areas in the fall. Most den on the offshore ice. A small number, however, seem to prefer to den on the coastal parts of Ivvavik National Park and Herschel Island Territorial Park.

Polar bears have always been important to the Inuvialuit. The number of bears taken each year is carefully watched by the Inuvialuit and the Inupiat as well as by the Canadian and American governments. Harvest of the southern Beaufort polar bear population is shared equally between the Inupiat and the Inuvialuit with a quota of 38 bears each. In Canada, a portion of the harvest quota can be sold to sports hunters.



*Classified vegetation map for the North Slope (black areas = no data available)*



## **Yukon North Slope Wilderness Charter**

*...What happens here will tell us something about what kind of country Canada is, what kind of people we are...*  
Honourable Justice Thomas Berger

Each environment that supports a people and forms the foundation for culture is exceptional. For the Inuvialuit people who call the Yukon North Slope home, this environment is special. And while the Yukon North Slope nourishes traditional native societies, it is also central to the identity of those of us living in this hemisphere, particularly Canadians. The North infuses our art and literature, our aspirations and myths. It contributes to our economy. Both traditional and new cultures of the hemisphere have been shaped and nurtured by the region. In turn, the nature of our cultures influences the integrity of the land.

The Yukon North Slope is an impressive and awesome land and marine environment where brooding mountains recede into a broad coastal plain, eventually giving way to protected lagoons and a narrow band of offshore water that is bounded by the permanent pack ice in the offshore Beaufort Sea. This region forms an important part of the natural global heritage, containing features that make it biologically and ecologically significant. And in an era when environments and complete ecosystems around the world are disappearing altogether or being irrevocably harmed because of human activity, the Yukon North Slope is unique: it is still wild.

Yet like almost every corner of the globe, the Yukon North Slope faces industrial development. Some of the proposed developments could place the region and traditional ways of life at risk. In the face of these risks to the land and their way of life, the Inuvialuit undertook negotiations with the federal government. In 1984 the Inuvialuit Final Agreement was signed and the Western Arctic (Inuvialuit) Settlement Claim Act was passed giving the Agreement the effect of law. This historic land claims settlement provides for various conservation measures, and states: "The Yukon North Slope shall fall under a special conservation regime whose dominant purpose is the conservation of wildlife, habitat, and traditional native use" and that no activities that may significantly affect wildlife, habitat or harvesting may be permitted unless public convenience and necessity outweigh conservation or native harvesting interests.

This charter expresses the basic goals for conservation in the Yukon North Slope. The commitment of those of us living in this hemisphere is required to ensure the well-being of the Yukon North Slope. This charter calls upon all North Americans to help protect this Arctic wilderness.

## **VISION STATEMENT**

We acknowledge the inherent value of this land and sea. We acknowledge our responsibility in ensuring that our activities do not sacrifice the integrity of the land and sea. In recognizing the importance of the Yukon North Slope to the biosphere, we commit ourselves to its protection. To protect this land and sea is our right as it is our responsibility.

Furthermore, we assert our rights to and responsibility for a whole and healthy environment. This includes the opportunity and capability, for this and future generations,

to develop economic, social, cultural, and spiritual values based upon the land.

We assert our rights to cultural diversity and the right to maintain and develop traditional ways. We believe that the land should not be sacrificed to any single human endeavour nor for the particular interests of a single culture.

We undertake these rights and responsibilities to help ensure our survival and for the protection of the Yukon North Slope.

## **PREAMBLE**

Whereas:

- 1) among the most ecologically unique and biologically productive areas of the Arctic exist in the Yukon North Slope;
- 2) healthy and vital wildlife populations live in the Yukon North Slope, including polar and grizzly bears, wolves, arctic fox, and muskoxen;
- 3) the Yukon North Slope provides a habitat integral to wildlife populations, including vast numbers of migratory birds and the Porcupine Caribou Herd;
- 4) offshore waters of the Yukon North Slope provide summering grounds for beluga and bowhead whales, as well as the key overwintering, spawning, and rearing areas of many fish species;
- 5) the Yukon North Slope is the traditional home of the Inuvialuit whose culture has relied upon the careful protection of its wildlife and habitat for upwards of 10,000 years;
- 6) disruptions to the northern environment are exceptionally damaging;
- 7) proposed industrial developments could threaten the ecological balance of the Yukon North Slope and the relationship between people, especially native peoples, and the land and sea;
- 8) pollutants transported from distant sources, such as heavy metals and PCBs, accumulating in high densities in the polar regions, endanger the health of the people and environment of the Yukon North Slope; and,
- 9) any degradation of the Yukon North Slope would impoverish all of humanity.



Robin Armour, Yukon Government



Be it resolved that:

- 1) individuals, public interest groups, co-management groups, governments, and industries commit themselves to ensuring the conservation of the Yukon North Slope;
- 2) the protection of wildlife, conservation of habitat, and traditional native use be paramount in decisions about activities in the Yukon North Slope;
- 3) all development proposals be publicly reviewed to determine their effect on wildlife, habitat, and opportunities for traditional harvesting;
- 4) access to resources and information be guaranteed and participation in decision-making be promoted to ensure that communities and individuals of the Yukon North Slope are empowered to protect their environment and develop in a sustainable manner;
- 5) development opportunities and decision-making which ensure the viability of traditional cultures be promoted;
- 6) principles of public participation, and anticipation and prevention of environmental problems be applied in making decisions;
- 7) opportunities to build alliances with people and governments throughout the circumpolar region to promote conservation be pursued;
- 8) action be pursued and information provided to the public on transboundary issues – such as climate change and the long-range transport of pollutants – affecting the Yukon North Slope;
- 9) human activity on the Yukon North Slope be limited, at least, to the ability of the environment to regenerate and avoid collapse or decline of any species.



Stefan Himmer

## APPENDIX 2

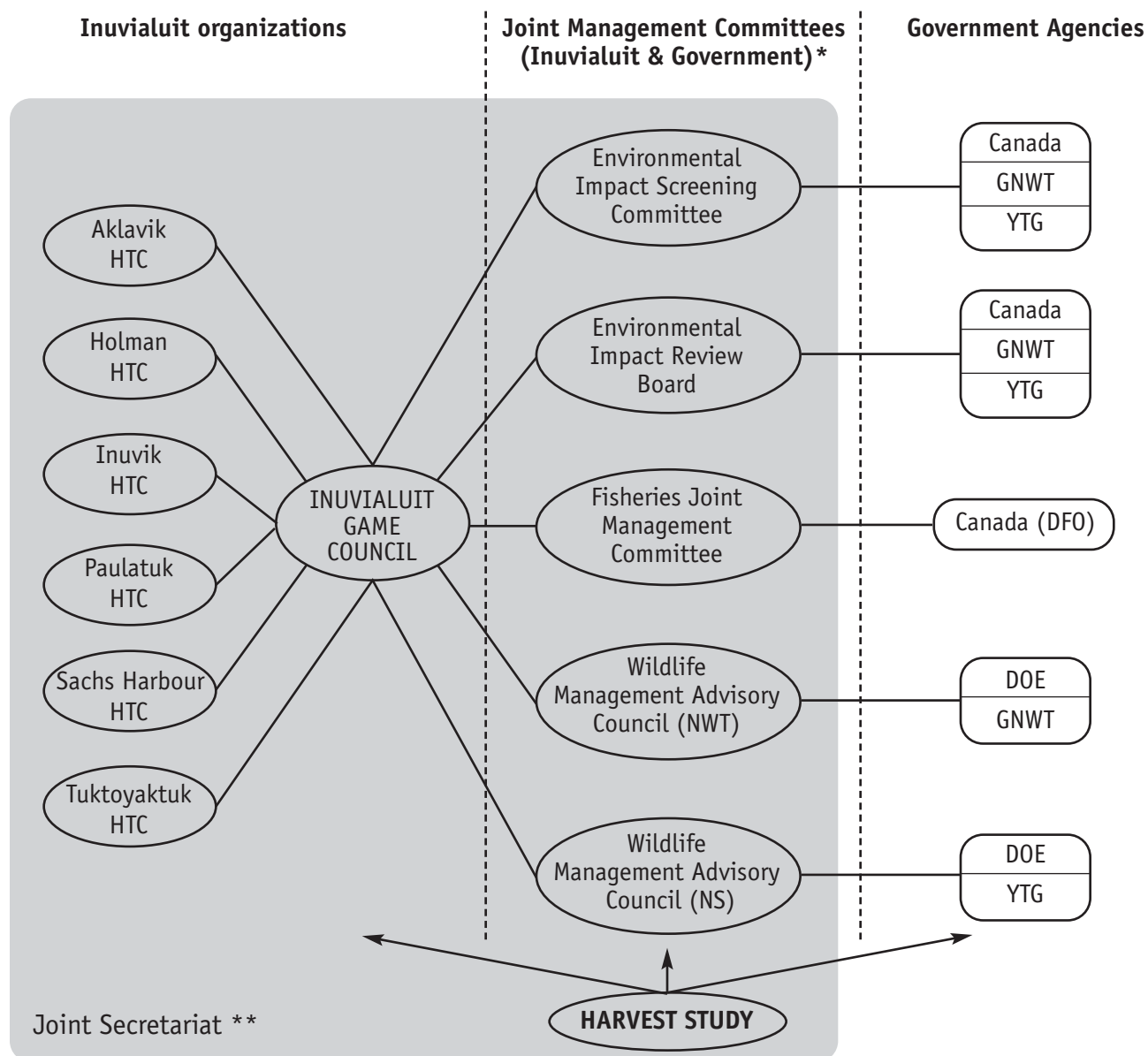
### Chronology of Conservation and Development Initiatives

- 1920s ■ Biologists Olaus and Mardi Murie call for special protection of northern Yukon and habitat of Porcupine Caribou Herd.
- 1950s ■ United States constructs DEW sites at Stokes Point, Shingle Point, and Komakuk Beach.
- 1960 ■ United States establishes 8.9-million-acre Arctic National Wildlife Range on Alaska North Slope.
- 1968 ■ Atlantic Richfield strikes oil and gas at Prudhoe Bay, Alaska.
- 1970 ■ Conference in Whitehorse leads to Arctic International Wildlife Range Society to promote protection of North Slope.
- 1972 ■ DIAND Minister Jean Chrétien announces policy of “balanced development” for the North.
- Canadian Arctic Gas Pipelines Ltd. proposes to build gas pipeline from Prudhoe Bay across North Yukon to Mackenzie Delta, down the Mackenzie Valley, and across Alberta to continental United States.
- 1974 ■ Mr. Justice Thomas Berger is appointed to inquire into and report on the terms and conditions that should be imposed in respect of any right-of-way for proposed Mackenzie Valley pipeline.
- 1977 ■ Berger Report on the Mackenzie Valley Pipeline Inquiry recommends a 10-year moratorium on building of any pipeline in Mackenzie Valley until land claims are settled; also recommends a wilderness park be created in the North Yukon.
- COPE land claim proposal, *Inuvialuit Nunangat*, presented to Canada, presents the Inuvialuit view as to the resolution of the North Slope questions.
- National Energy Board in their Reasons for Decisions on Northern Pipelines rejects Canadian Arctic Gas proposal for a North Slope pipeline as environmentally unacceptable and says a pipeline should be constructed either along the Dempster Highway or along Mackenzie Valley.
- 1978 ■ DIAND Minister Hugh Faulkner withdraws 15,000 square miles (38,700 square kilometres) north of the Porcupine and Bell rivers (includes Old Crow Flats and the arctic coast) under *Territorial Lands Act* for creation of national [wilderness] parks and other conservation purposes.
- Land Claim Agreement-in-Principle is reached between federal government and Committee for Original People’s Entitlement (COPE) which provides for national wilderness park on the entire Yukon North Slope.
- 1979 ■ Parks Canada proposes North Yukon National [wilderness] Park in northwestern section of withdrawal area.
- Department of Environment (Canadian Wildlife Service and Parks Canada) proposes a combined North Yukon National Park in the west and a National Wildlife Area in the east.
- 1980 ■ Federal government announces Federal Petroleum Incentives Program to encourage increased exploration in frontier areas such as the Beaufort Sea.
- Northern Yukon Resource Management Model produced by Government of the Yukon suggests a multi-use resource management zone for eastern section of Yukon North Slope, permitting port and road development.
- United States passes *Alaska National Interest Lands Conservation Act (ANILCA)*, expanding the Arctic National Wildlife Refuge.
- 1982 ■ Beaufort production plans are announced by Gulf Canada Resources, Dome Petroleum, and Esso Resources. The companies identify two sites along the Yukon’s north coast—Stokes Point and King Point—as two possible shorebase sites. An all-weather road connecting the deep-water port and a quarry site near Mt. Sedgewick is also proposed.
- Beaufort Sea Environmental Assessment Review Panel struck to review socio-economic implications of hydrocarbon production and transportation.
- Gulf Canada Resources applies for a land use permit to construct a temporary five-year marine support base at Stokes Point.

- 1983 ■ Peter Kiewit and Sons Ltd. and ACZ Marine Drilling Contractors apply for land use permit to build a road, quarry, and port development near King Point, between Kay Point and Shingle Point on the North Slope.
- Members of North Slope Project Review Group considering the Gulf and Kiewit application agree King Point is most likely choice site for a permanent deep water port and there is a need for land use planning in the Beaufort Sea region; Minister rejects Gulf and Kiewit applications on the basis that they would jeopardize land claims of CYI and COPE and are inconsistent with national wilderness park plans for the area.
- Beaufort Sea Environmental Assessment Panel recommends that no port facility or supply base be permitted west of Kay Point.
- 1984 ■ Inuvialuit Final Agreement signed and *Western Arctic (Inuvialuit) Claims Settlement Act* brings Agreement into force creating a special management area on the Yukon North Slope and establishing Northern Yukon National Park as a 10,170 square kilometre national wilderness park.
- Environmental Impact Screening and Review process established in the Settlement Act.
- 1985 ■ Canada Porcupine Caribou Management Agreement is signed by federal and territorial governments, the Inuvialuit Game Council, CYI, Dene Nation and Metis Association of the NWT to ensure conservation of Porcupine Caribou Herd.
- 1987 ■ Final Environmental Impact Statement on Arctic National Wildlife Refuge, Alaska Coastal Plain Resource Assessment: Report and Recommendations to the Congress of the US; Secretary of Interior recommends that an area be opened in Arctic National Wildlife Refuge to petroleum leasing and exploration.
- Canada and the US sign Agreement of Conservation of the International Porcupine Caribou Herd.
- Herschel Island Territorial Park is established as Yukon's first territorial park.
- Canada submits a document to the U.S. Congress opposing development of the coastal plain, and informing the Americans that should development proceed, they could be held in violation of four international conservation agreements.
- 1988 ■ Northern Accord Agreement-in-Principle proposes giving the territorial governments more control over and benefits from northern oil and gas development.
- National Department of Defence proposes construction of short-range radar stations on the North Slope under terms of North American Air Defense Modernization Project.
- Inuvialuit Game Council and North Slope Borough Inupiat from Alaska complete Polar Bear Management Agreement.
- 1989 ■ National Energy Board gives conditional approval to export of 9.2 trillion cubic feet of arctic gas over 20 years beginning in 1996, subject to environmental assessment provisions.
- Special review sponsored by the Inuvialuit Regional Corporation to evaluate the siting and construction of short-range radar facilities recommends that Environment Canada approve the Stokes Point project subject to consent of Inuvialuit and subject to conditions respecting compensation, site monitoring, and gravel procurement; also makes recommendations concerning the monitoring of construction at Komakuk Beach and the abandonment procedures at that site.
- 11 million gallons of crude oil spills from the tanker *Exxon Valdez* in Alaska's Prince William Sound.
- First Inuvialuit Arbitration regarding the exclusion of Komakuk from the National Park.
- 1990 ■ DIAND calls for nominations for new oil and gas rights in western portion of Beaufort.
- Environmental Impact Review Board releases its review of Kulluk drilling program for the eastern Beaufort Sea and expresses concern about the state of preparedness of industry and government with regard to a well blow-out.
- Beaufort Sea Steering Committee submits recommendations to the Minister of DIAND on issues relating to government preparedness for an oil spill resulting from an oil well blowout in the Beaufort Sea.
- 1992 ■ Northern Yukon National Park renamed Ivvavik National Park.
- 1993 ■ Second Inuvialuit Arbitration alleging DND non-compliance with memorandum of understanding for the inclusion of Komakuk in Ivvavik National Park.
- Land use permit application to process beach driftwood, to construct a winter road, sawmill and campsite at Shingle Point.
- 1994 ■ DND grants a land use permit to Driftwood Lumber, later suspends it, pending screening by EISC who then refer proposal to EIRB.
- 1995 ■ Approval from EIRB of proposal from Driftwood Lumber to conduct driftwood logging operation at King Point and construct ice-road from King Point to Inuvik and process logs at sawmill in Inuvik.

# APPENDIX 3

## Organization of environmental and wildlife management bodies pursuant to the Inuvialuit Final Agreement



\* Participation is 50% Inuvialuit and 50% Government

\*\* Provides administrative, technical, and logistical support to the organizations and committees.

GNWT–Government of the Northwest Territories; YTG–Yukon Territorial Government;

DFO– Department of Fisheries & Oceans; DOE– Department of the Environment

HTC – Hunters and Trappers Committee