



Yukon North Slope
Wildlife Conservation and Management
Plan
2021

Companion Report 4:
Aullaviat/Aunguniarvik:
Conservation Values Summary



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Companion Report to the Yukon North Slope Wildlife Conservation and Management Plan Number 4: Aullaviat/Aunguniarvik Conservation Values

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About the Companion Report

This report is a companion document to the *Yukon North Slope Wildlife Conservation and Management Plan* (WMAC (NS), 2022). The *Yukon North Slope Wildlife Conservation and Management Plan* (the Plan) is grounded in traditional knowledge and Western science. It addresses traditional use and wildlife conservation and management issues affecting the Yukon North Slope. Strategies in the Plan align with actions underway or planned by a range of agencies and organizations with jurisdiction on the Yukon North Slope.

This companion report summarizes the information that was used to support the objectives and strategies in the Plan, and provides references for the studies used in its development. The companion report draws from authoritative works, reports that synthesize knowledge and issues, and presentations of recent research findings. Sources include traditional knowledge and traditional use, scientific reports and journal articles, and management and conservation reports.

There are fourteen companion reports, addressing four selected topics of key interest as well as ten wildlife species featured in the Plan.

Companion Report Table of Contents

Selected Topics

1. Traditional Use
2. Climate Change Effects
3. Contaminants
4. Aullaviat/Aunguniarvik

Featured Species and Species Groups

- | | |
|-----------------|---------------------|
| 5. Caribou | 10. Broad Whitefish |
| 6. Moose | 11. Geese |
| 7. Grizzly Bear | 12. Furbearers |
| 8. Polar Bear | 13. Dall's Sheep |
| 9. Dolly Varden | 14. Muskox |

Each chapter is available for download at <https://wmacns.ca/what-we-do/conservation-plan/companion>.

This companion report summarizes the information that guides the objectives, strategies and conservation requirements in the *Yukon North Slope Wildlife Conservation and Management Plan*.

Companion Report: Aullaviat/Aunguniarvik

This chapter is one of four chapters on selected topics that cut across species divisions for the Plan. Information presented in this chapter is drawn from research, monitoring, and policy and planning initiatives at regional, national, and circumpolar scales. This chapter specifically summarizes the diversity of information that has been gathered on the values of the eastern portion of the Yukon North Slope, an area named by the Inuvialuit as Aullaviat/Aunguniarvik.

The body of information that it provides informs the Plan's recommendation for enhancements to the IFA-based conservation regime that applies to this area.

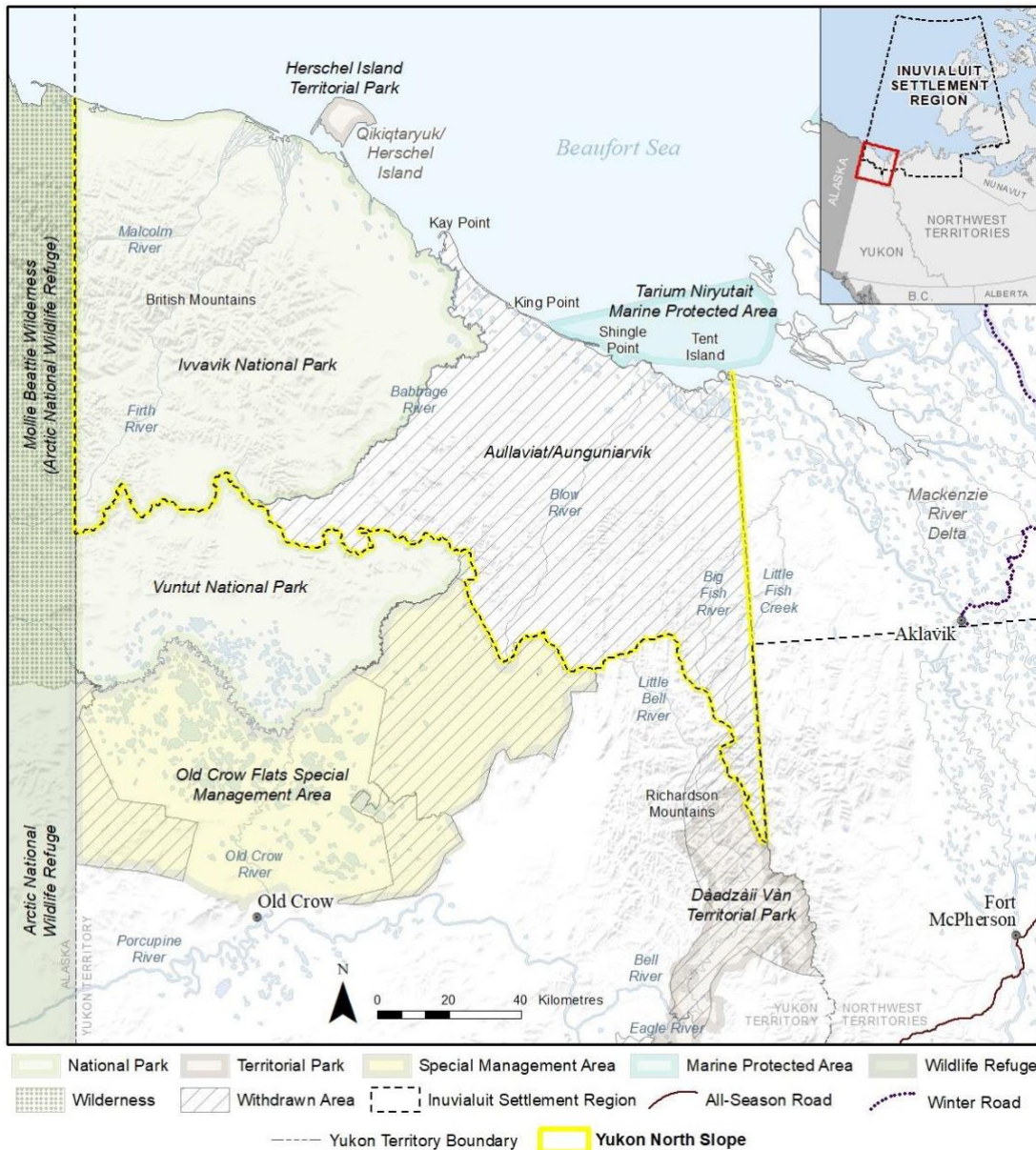
Introduction to Aullaviat/Aunguniarvik

Aullaviat/Aunguniarvik is the Inuvialuktun (Uummarmiutun dialect) name for the 840,000 ha region of the Yukon North Slope (YNS) east of Ivvavik National Park (Ivvavik NP), extending to the MacKenzie Delta and border of the Northwest Territories (Map 4- 1). Aullaviat/Aunguniarvik translates in English to 'where people and animals travel' and 'where people harvest', which succinctly summarizes some of the most important values of these landscapes. The area is also known as the 'Eastern Yukon North Slope'.

Located approximately 60 km to the east of Aullaviat/Aunguniarvik, Aklavik is the most western village in the Inuvialuit Settlement Region. The Inuvialuit of Aklavik have used coastline and inland landscapes of Aullaviat/Aunguniarvik for harvesting, traveling and cultural activities for many generations, as reflected in the Inuvialuit name for this region. The contemporary importance of Aullaviat/Aunguniarvik to the Inuvialuit in Aklavik as well as in Inuvik remains high. As the eastern portion of the Yukon North Slope is closer to these communities, it is the most easily accessed for traditional harvesting and other cultural activities. Inuvialuit primarily access the Yukon North Slope using boats to travel down the Mackenzie Delta, then along the coastline of Aullaviat/Aunguniarvik, a trip exceeding 100 km. Access in winter also occurs through snow travel, historically by dog sled, but more commonly now by snowmobile.

The *Yukon North Slope Wildlife Conservation and Management Plan* identifies a number of priorities and conservation requirements for the conservation and management of wildlife, habitat and traditional use in Aullaviat/Aunguniarvik. These include but are not limited to the conservation requirements identified for Featured Species (see Appendix 1 of WMAC NS (2021) for additional information). The Plan's priorities to support and conserve traditional use rely heavily upon the conservation of Aullaviat/Aunguniarvik.

Map 4- 1. Regional map showing the Yukon North Slope, Aullaviat/Aunguniarvik, and adjacent conservation lands.



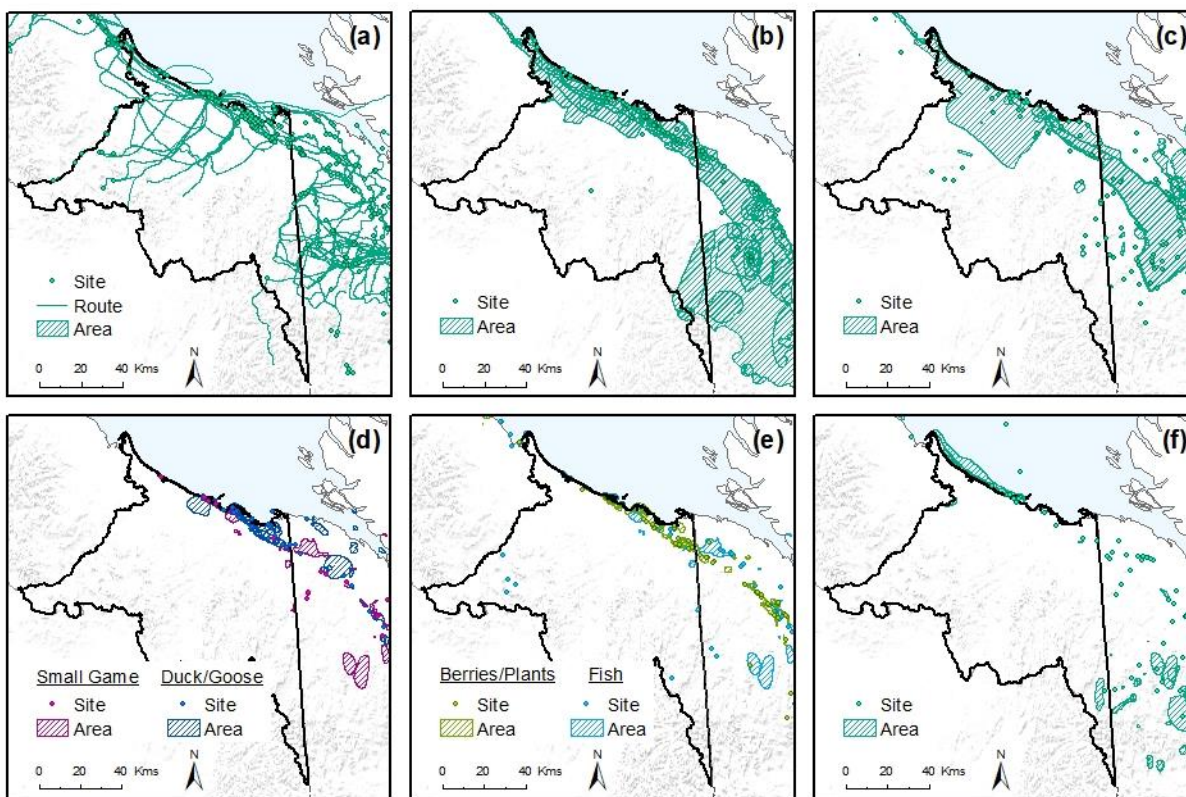
Traditional Use

The connection between Aullaviat/Aunguniarvik and Inuvialuit goes back many generations. Today, Aullaviat/Aunguniarvik provides Inuvialuit with a place to travel, connect, conduct cultural activities, pass on knowledge, and harvest, among other activities. This report focuses on harvesting activities, although it is recognized that harvest is interconnected with the above-listed traditional use activities. The harvesting opportunities provided by Aullaviat/Aunguniarvik

are summarized here primarily based upon interviews and traditional use mapping with Aklavik and Inuvik Inuvialuit land users that occurred in 2015 (WMAC (NS) & Aklavik HTC, 2018b). It is important to understand that this work is a snapshot in time, as Inuvialuit continue to adapt traditional use to changing environmental conditions and community needs. Use has shifted considerably over generations and will continue to evolve. This adaptability is supported by the diversity and health of the Aullaviat/Aunguniarvik landscape.

The prominent role of Aullaviat/Aunguniarvik in contemporary traditional use is due to multiple factors (for historical context, see the WCMP and Companion Report 1: Traditional Use). It is located in relatively close proximity to Aklavik, compared to more western Yukon North Slope landscapes. The coastal region is of particular importance as it is most readily accessed; Inuvialuit use boats to travel from the Delta and along the near-shore waters of Aullaviat/Aunguniarvik to important safe harbors, camps, and the seasonal village of Tapqaq (Shingle Point) (Map 4- 2).

Map 4- 2. Traditional use mapping with the Aklavik Inuvialuit



The traditional use research provides mapped information on important traditional and cultural activities occurring within Aullaviat/Aunguniarvik: (a) camps (tent sites), cabins, safe harbors, burial sites and travel routes; (b) caribou harvesting sites and areas; (c) furbearer harvesting sites and other wildlife harvesting areas, including grizzly bear, wolverine and wolf; (d) small game harvesting areas, including hares and ptarmigan, ducks and

geese; (e) harvesting areas for berries, medicinal plants and fish; (f) harvesting areas for Dall's sheep, moose and seal. Aullaviat/Aunguniarvik boundary is shown in black.

The seasonal village of Tapqaq and main YNS traditional camps for Inuvialuit are located along the Aullaviat/Aunguniarvik coast. Tapqaq (labelled on Map 4- 9 with English name Shingle Point) is where Inuvialuit gather during summer for several weeks of harvesting and other cultural activities. There are numerous family cabins along the point as well as up and down the coast. Multiple burial sites and other special cultural features and values are located in and around Tapqaq. **Kiññaq** (King Point) is another important camp and cabin area. Both of these areas have multiple cabins and camp sites (e.g., for tents) along the shoreline as well as inland next to the matrix of small lakes and rivers that form this most western terminus of Delta wetlands. Across Aullaviat/Aunguniarvik, 72 cabins, 88 tent sites, 25 burial sites and 17 other special cultural and historic sites were mapped in the 2018 Inuvialuit traditional use study (WMAC (NS) & Aklavik HTC, 2018b). These represent 57% of cabins, 69% of camps/tent sites, and 58% of special cultural and historic sites that were mapped across the Yukon North Slope for the recent traditional use study (WMAC (NS) & Aklavik HTC, 2018b). While most of these sites are found near coastal areas, important sites can be found throughout Aullaviat/Aunguniarvik.

Camps, cabins and gathering areas provide a base for multi-day seasonal harvesting efforts. Traditional use mapping demonstrates the link between key sites and access to the important resources of the Yukon North Slope. In addition to the major travel routes offshore used to access the Yukon North Slope from the Delta, some major travel routes follow the shoreline both on land as well as along the coastline (Map 4- 2a). Some major travel routes into the interior of the YNS follow major river systems including the Blow River and Running River from the coast, as well as Big Fish River from the NWT, but travel is not limited to these river systems. Mapping suggests much of Aullaviat/Aunguniarvik is accessed for harvesting.

Aullaviat/Aunguniarvik is where Inuvialuit and caribou meet. Caribou are one of the key species harvested on the Yukon North Slope and over 80% of the harvest sites and harvesting areas mapped in the 2018 study are located in Aullaviat/Aunguniarvik. Nearly all harvesting occurs near the coast and on the coastal plain (Map 4- 2b) with occasional harvesting further south. Harvesting is influenced by access to the Yukon North Slope, which is connected to climatic changes, local-scale weather changes, transmission of traditional knowledge, and socioeconomic factors. Harvesting occurs primarily in summer and fall and access is mainly by boat along the coast during these seasons (WMAC (NS) & Aklavik HTC, 2009, 2018b). Nearly four decades of GPS collar monitoring indicates that only a small proportion of the Porcupine caribou herd travels along the coast, with animals most frequently using the northwestern portion of Aullaviat/Aunguniarvik. This is where the majority of caribou harvesting was mapped during the study. Thus, most harvesting occurs at the edge of the primary seasonal distribution of the herd. This indicates the importance of maintaining healthy and abundant caribou, such

that the seasonal range of the herd does not constrict away from these important harvesting areas.

Aullaviat/Aunguniarvik supports the majority (78%) of furbearer and grizzly bear harvesting mapped on the Yukon North Slope for the 2018 traditional use study (Map 4- 2c). Much of the furbearer harvest documented (WMAc (NS) & Aklavik HTC, 2018b) occurs along the coastline, particularly the central coastline near Tapqaq, but grizzly bear and wolverine in particular are also harvested more broadly, including well inland into the foothills and mountains of the Richardson Mountains. Polar bear is another important harvested species, but this harvest primarily occurs on the sea ice (Joint Secretariat, 2015) and is not included here.

The harvest of waterfowl is an important component of the land-based economy for Inuvialuit, who harvest a diversity of ducks and geese. Not surprisingly, the majority of this harvest on the Yukon North Slope occurs within the Mackenzie Delta wetlands that constitute the northeast corner of Aullaviat/Aunguniarvik (Map 4- 2d). Additionally, geese are harvested in upland areas where snow geese, in particular, congregate in large numbers for staging and foraging; key upland geese harvesting areas were identified south of Tapqaq.

Small game, including hare and ptarmigan, are harvested in areas local to camps or along travel routes, including opportunistically (Map 4- 2d).

Berries and medicinal plants are harvested broadly along the coast (Map 4- 2e). Families spend considerable time and effort collecting berries, either as the primary activity or coincident with other traditional use activities (WMAc (NS) & Aklavik HTC, 2018b). Over 90% of the berry harvesting areas identified on the Yukon North Slope occur in Aullaviat/Aunguniarvik. The Delta wetlands were identified as important for the collection of medicinal plants, which are also collected in other locations along the coast; again, over 90% of the medicinal plant harvesting areas were identified in Aullaviat/Aunguniarvik.

Shingle Point is one of the best places to go because you can fish there, and hunt around from there, and if the berries grow early, then you got good places to go berry picking.

PIN 123, p. 99, (WMAc (NS) & Aklavik HTC, 2018b)

Fishing is a key traditional use of the Yukon North Slope, and 78% of the Yukon North Slope fishing sites identified during the 2018 traditional use study are in Aullaviat/Aunguniarvik. Fishing occurs all along the coast, where nets are set for a mixed fishery of species foraging and migrating along the brackish nearshore waters over summer (Map 4- 2e) (WMAc (NS) & Aklavik HTC, 2018b). Tapqaq is a central area for fishing, as well as *Kiññaq* (King Point), other bays and inlets along the coastline, and the lakes and streams within the Delta wetlands of northeastern Aullaviat/Aunguniarvik are also used. Additionally, rivers and creeks inland were identified, including Big Fish River and multiple sites along Fish Hole River and its tributaries.

Shingle Point is the best. You have a lot of access to a lot of things. You can pick berries, or you can make yourself dried fish, caribou meat, everything...That's my favourite place in Yukon, is Shingle Point, and that's where I brought up my little ones. I teach my oldest daughter how to make dry fish.

PIN 105, p. 100, (WMAC (NS) & Aklavik HTC, 2018b)

Multiple other species are harvested on the Yukon North Slope, including moose, Dall's sheep and seal, though the number of Inuvialuit study participants mapping the harvesting sites and areas for these were fewer than some of the species discussed above (Map 4- 2f). Still, these add to the diversity of Yukon North Slope traditional uses. Again, most harvesting of these species occurs primarily in Aullaviat/Aunguniarvik.

Featured Fish and Wildlife Species

Porcupine Caribou Herd (Tuktu)

A cultural keystone species of the Yukon North Slope, the Porcupine caribou herd relies upon Aullaviat/Aunguniarvik for critical seasonal habitats including calving and late summer as well as for migrating, particularly post-calving. Calving habitat is located along the western portion of Aullaviat/Aunguniarvik (Map 4- 3a), contiguous with the calving habitats found in Ivavik National Park, which themselves are contiguous with core calving grounds in adjacent Alaska in the Arctic National Wildlife Refuge. While not used heavily every year, the calving habitats in Aullaviat/Aunguniarvik are used more heavily in some years, and this has been associated with years when phenological events (e.g., onset of spring green up) occur later (Severson et al., 2021). Climate change is predicted to push calving and post-calving further west as spring phenology and snow melt occur earlier. Still, it remains important to maintain calving habitats across the calving distribution in an increasingly uncertain future that includes both climate change and a risk of development in calving habitats within Alaska.

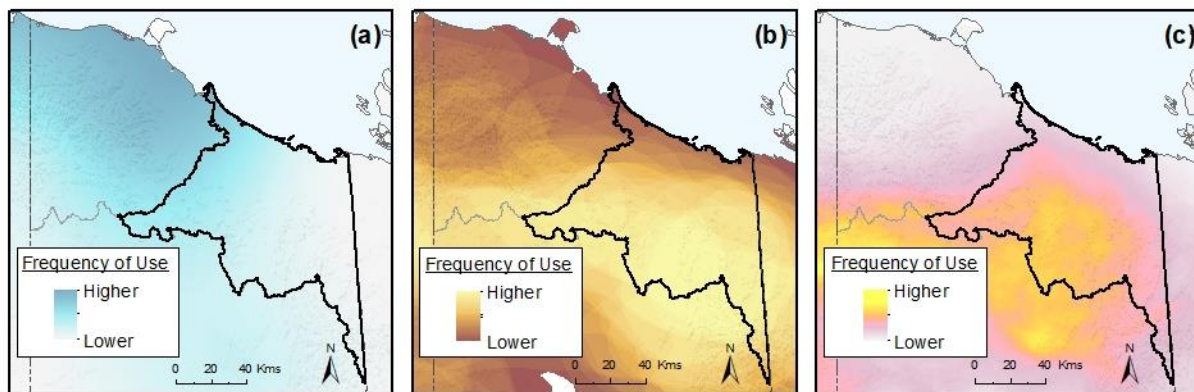
The majority of the Porcupine herd uses the southeastern portion of Aullaviat/Aunguniarvik for mid-summer foraging grounds (Map 4- 3b). This seasonal use is likely critical for weight gain prior to winter, and the highly concentrated and consistent use of this region of Aullaviat/Aunguniarvik strongly indicates that these landscapes are critical to the health and conservation of the Porcupine caribou herd (Barboza, Van Someren, Gustine, & Syndonia Bret-Harte, 2018).

Aullaviat/Aunguniarvik also provides contiguous and intact landscapes that support the annual migrations of the caribou between their wintering habitats and their calving grounds. Annual migration routes are highly variable, but compiling nearly 20 years of collar data provides insights into the landscapes used most frequently over multiple years, for spring as well as fall

migration. These data show the importance of Aullaviat/Aunguniarvik in supporting caribou migration in both the spring and fall, but with particularly intensive use of the area during the fall migration (Map 4- 3c), likely linked to the importance of the southern Aullaviat/Aunguniarvik in the mid-summer.

Conservation and management of Aullaviat/Aunguniarvik to maintain the integrity of calving, late summer and migration habitats is critical to meeting the WMCP's conservation requirements for the Porcupine caribou herd.

Map 4- 3. Selected Porcupine Caribou Herd seasonal use patterns on the Yukon North Slope



Based upon GPS collar data collected over 37 years spanning 1972 to 2016, these maps show how frequently caribou use areas of the Yukon North Slope during different seasons including: (a) calving; (b) mid-summer; and (c) fall migration. Aullaviat/Aunguniarvik boundary is shown in black.

Grizzly Bear/Akłaq

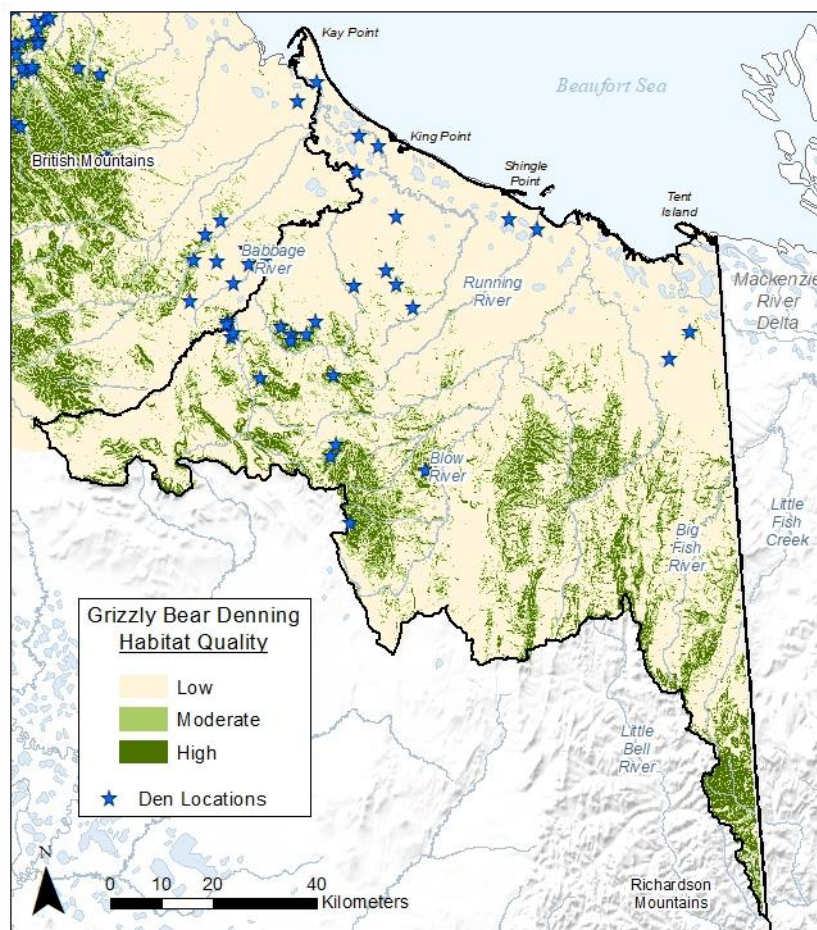
Grizzly bear is an important species when planning for large-scale conservation, because they require a diversity of ecosystems widely distributed across healthy landscapes. This becomes even more important in low-productivity northern landscapes such as the Yukon North Slope. Home ranges of northern bears, including those on the Yukon North Slope, have been shown to be larger than home ranges in southern regions (Triska & Heinemeyer, 2020).

Seasonal habitat models based on traditional knowledge and GPS collar data from bears monitored on the Yukon North Slope show that Aullaviat/Aunguniarvik supports a diversity of seasonal habitats used by grizzly bears (Triska & Heinemeyer, 2020; WMAC (NS) & Aklavik HTC, 2018a). The Richardson Mountains provide high quality denning habitat, but this critical habitat is quite limited across the larger landscape of Aullaviat/Aunguniarvik, with several documented denning areas located in very small patches of predicted habitat (Map 4- 4). Note that some dens near the coast occur in areas outside predicted habitat, suggesting bears are selecting fine scale features not captured by the regional scale modeling effort. Other seasonal habitats are

widespread within Aullaviat/Aunguniarvik, across both the mountains and the coastal plains with a consistent pattern of the highest quality habitats associated with creeks, rivers, and other mesic areas. The broad river valleys including the Blow River, Running River and Rapid Creek support important and rich summer and fall habitats.

The collar data, along with other research, shows the landscapes of Aullaviat/Aunguniarvik support multiple home ranges of grizzly bears, including reproductive female grizzly bears. They are important in contributing to the maintenance of a robust population of bears on the Yukon North Slope. Conservation of suitable denning habitats across Aullaviat/Aunguniarvik is important, as these habitats are generally limited in the region, and bears require suitable denning sites within their home ranges.

Map 4- 4. Predicted grizzly bear denning habitats based on models



The grizzly bear denning habitat model was developed from traditional knowledge. Denning sites were compiled from a diversity of sources including GPS collared bears, aerial surveys, traditional knowledge, and incidental sightings during the course of other research efforts. The map shows known denning sites compiled by the Yukon Government. Aullaviat/Aunguniarvik boundary shown in black.

Dolly Varden/Iqaluqqig

Within Aullaviat/Aunguniarvik, Dolly Varden (known locally as char) are found in the Babbage River and its tributary Fish Hole Creek, the Big Fish River and its tributary Little Fish Creek, in Fish Creek, and within the Mackenzie Delta system. Dolly Varden summer all along the coast of the Yukon North Slope, returning to rivers and creeks to winter where groundwater keeps the water from freezing. These same areas are often used for spawning and are critical for the species (Morrison, 2017). Some Dolly Varden remain in freshwater year around; this includes isolated populations that exist above barriers on the Babbage River and Little Fish Creek. Along the coast, a corridor of brackish water is used by Dolly Varden, as well as numerous other fish species, for seasonal movement and summer foraging habitats.

The western Arctic Dolly Varden population is listed as a species of special concern under the federal *Species at Risk Act*. Assessments of the populations in the Babbage River and Big Fish River systems indicate that Dolly Varden char are stable in these systems (Department of Fisheries and Oceans Canada, Fisheries Joint Management Committee, Gwich'in Renewable Resources Board, & Parks Canada, 2019), though the species is not as abundant in the Big Fish River as it was in the 1970s (Stephenson, 2003). The Aklavik Community Conservation Plan designates the Big Fish River riparian zone in the highest conservation status (Category E) and the entire watershed as Category D (of particular importance and sensitivity), primarily because of the historic and current importance of these Dolly Varden for Inuvialuit (Aklavik HTC, Aklavik Community Corporation, WMAC (NWT), FJMC, & Joint Secretariat, 2016).

Conservation of quality winter, spawning and summer habitats for Dolly Varden within Aullaviat/Aunguniarvik will contribute significantly to the overall status and resilience of this important northern fish species. The limited sites of suitable wintering habitat are critical to the maintenance of Dolly Varden within Aullaviat/Aunguniarvik river systems. Climate change can be expected to influence the hydrology of the Yukon North Slope, due to changing precipitation and temperature regimes and melting permafrost. This may affect wintering and spawning habitats that are dependent upon ground water. The near-shore Beaufort Sea ecosystems are complex. Marine ice, water currents and water mixing regimes, biotic conditions, and seasonal timing of key events all may be affected by climate change and have significant effects on Dolly Varden and other fish (Carmack & Macdonald, 2002). Monitoring of Dolly Varden abundance, condition and winter habitat may become increasingly important, to identify important changes that affect how the harvest of the fish is managed and ensure sustainability.

Geese

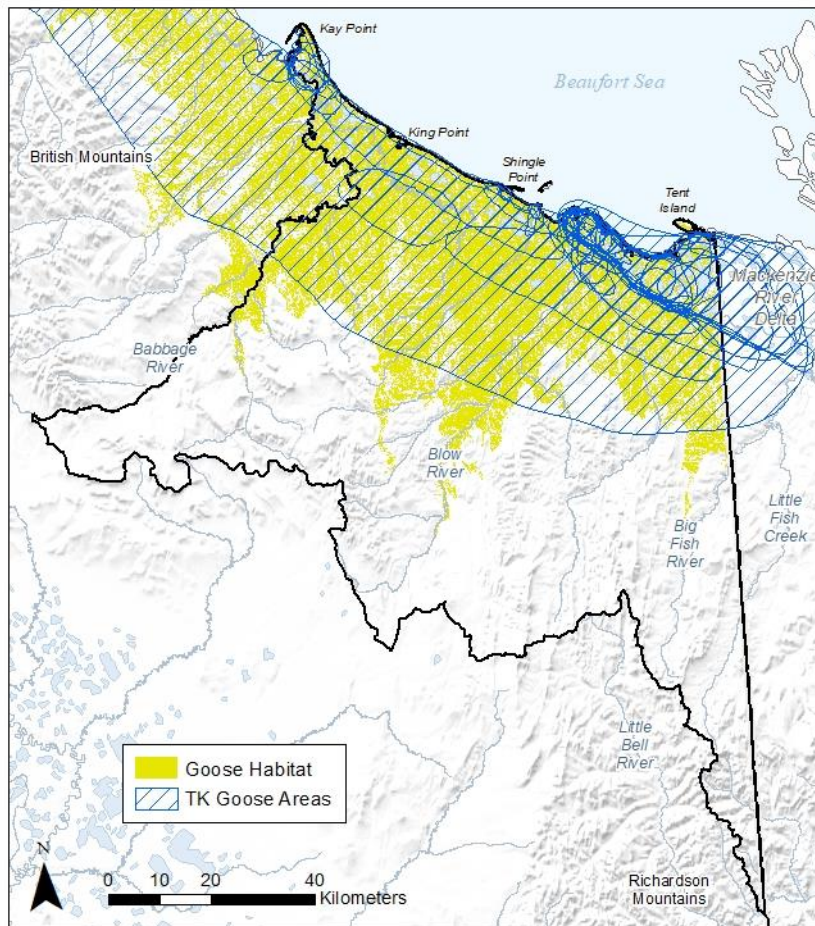
The Yukon North Slope provides important staging and stopover habitats for geese, particularly yellowlegs (greater white-fronted geese) and snow geese. Some areas are used by yellowlegs for nesting. The Delta wetlands and northern coastal plains of Aullaviat/Aunguniarvik are particularly important for geese. The Delta wetlands provide high quality foraging and nesting

habitats, and the northern coastal plains support a mosaic of wetlands, small lakes and higher ground with excellent foraging opportunities. In particular, coastal and coastal plain habitats from Kay Point east were identified as important goose foraging and staging habitat by Inuvialuit land users. The most commonly identified areas were east of Tapqaq, and yellowlegs nesting habitats were predominately in the Delta habitats of Aullaviat/Aunguniarvik (WMAC (NS) & Aklavik HTC, 2018a).

Traditional knowledge-based habitat suitability models were developed to predict the distribution of nesting, foraging and staging habitats for geese (Round River Conservation Studies, 2018). The models predict between 66 and 82% of Yukon North Slope high quality goose habitats are found in Aullaviat/Aunguniarvik. These three seasonal models were combined to estimate the distribution of moderate and high-quality habitats for multiple goose life requisites. The resulting composite map (Map 4-8) shows 67% of the highest value habitats for goose are found in Aullaviat/Aunguniarvik. These same areas were mapped by Inuvialuit land users during traditional knowledge interviews, with the Delta wetlands identified repeatedly for their importance for geese (Map 4-8).

The Aklavik Community Conservation Plan (2016) identifies the Mackenzie Delta, including the portion falling within Aullaviat/Aunguniarvik, as significant migratory bird habitat, with a management designation of Category C (Box 1). Additional recognition of the importance of Aullaviat/Aunguniarvik for geese and other waterfowl is provided by the designation of coastal habitats from Kay Point to the eastern boundary of Aullaviat/Aunguniarvik as part of the Canada's Important Bird Areas (Birds Canada, n.d.).

Map 4- 5. Goose habitat areas predicted from traditional knowledge-based habitat models and identified during traditional knowledge interviews



Three habitat suitability index models were developed based on verbal descriptions provided by Aklavik Inuvialuit land users, predicting foraging, staging and nesting habitats. The yellow on the map shows the combined high and moderate habitats from these three habitat models. Polygons (blue lines) were drawn by the Inuvialuit land users to show important goose habitat areas. This map shows the importance of the coastal plains and the particularly high importance of the Delta wetlands as identified by multiple experts. Aullaviat/Aunguniarvik boundary shown in black.

Dall's sheep/Imnaiq

The northern Richardson Mountains supports an isolated population of Dall's sheep that are separate from other sheep populations and found at the northern limit of Dall's sheep range. The northern extent of this herd occupies southeastern portion of Aullaviat/Aunguniarvik and is the only known population on the Yukon North Slope outside Ivavik National Park. Surveys and population estimates conducted since the mid-1980s indicate that the Dall's sheep population increased through the late 1990s, then experienced a decline and partial recovery. The most recent population survey in 2017 suggested a population size near 700 animals (Davison,

Russell, & Belanger, 2018), which is close to historic population estimates (Yukon Environment, 2011). The northern Richardson sheep population is isolated, with the Ivavik National Park sheep population over 200 km away and the southern Richardson Mountain population approximately 75km away (Yukon Environment, 2011). Thus, the opportunity for immigration and genetic mixing is slim or non-existent, but the isolation also may help protect the sheep population from respiratory illnesses or other significant diseases.

Dall's sheep may be affected by climate change, including changing alpine vegetation, snow conditions and predator dynamics. In the face of climate change, northern populations of Dall's sheep may become increasingly important for the viability of the species. The Northern Richardson Dall's sheep population may be buffered from some of the climate impacts that more southern populations are likely to face, and its isolation may protect it from potential new disease or parasite threats.

Polar Bear/Nanuq

Polar bears require vast landscapes, though much of their life requisites are met on sea ice. Aullaviat/Aunguniarvik is part of the South Beaufort Sea (SB) subpopulation. Polar bears are a very important species to Inuvialuit for both traditional use and cultural reasons. Polar bear are listed federally as a species of special concern (COSEWIC, 2018).

Polar bears make extensive use of the near shore ice floes off the Yukon North Slope coast including off the Aullaviat/Aunguniarvik coast (Joint Secretariat, 2015; WMAC (NS) & Aklavik HTC, 2018a). Polar bears historically could meet most or all of their life requisites on the sea ice, including denning, though they also establish land-based dens along the coast (Joint Secretariat, 2015; WMAC (NS) & Aklavik HTC, 2018a) including known denning along the coast of Aullaviat/Aunguniarvik. Polar bears also travel overland, particularly along the coast. The Aullaviat/Aunguniarvik coastal area including the northern coastal plains is identified in the Aklavik Community Conservation Plan as mainland coastal polar bear denning area, designated as a Category C (defined in Box 1).

The SB polar bear subpopulation faces an uncertain future, with climate change causing profound changes in the extent of seasonal ice floes, which is their primary habitat. Climate change may also contribute to declines in ringed seals, the primary prey of polar bears (Harwood et al., 2015; Spear et al., 2019). Polar bears may shift their distribution to find alternative prey and den locations, potentially spending more time on land. This could increase competition for habitat and resources, impacting population stability and productivity (Fischbach, Amstrup, & Douglas, 2007; Mckinney, Atwood, Iverson, & Peacock, 2017).

Thus, conservation of polar bears under rapidly changing conditions caused by climate change may increasingly depend upon secure and intact coastal and near-coast inland habitats as well as near-shore marine systems, including within Aullaviat/Aunguniarvik. Likely, bears will be required to travel further to meet life requisites. Monitoring polar bear terrestrial use and

movements is needed to understand how polar bear conservation requirements may also change.

Moose/Tuttuvak

Moose are relatively new to the Yukon North Slope, having expanded into the area from the Mackenzie Delta within the last 100 years (see Moose Companion Report). Moose are increasing in abundance in northern latitudes, as climate changes to vegetation increase the high quality browse they require, such as willow (Tape, Gustine, Ruess, Adams, & Clark, 2016). Traditional knowledge identifies that moose move seasonally in Aullaviat/Aunguniarvik: coastal areas are used primarily in the summer, with many of these animals migrating south into the Richardson Mountains and mountainous river valleys when snow has covered up shorter vegetation (WMAC (NS) & Aklavik HTC, 2018a).

Government of Yukon's Wildlife Key Areas (2014) identifies the Blow River, Rapid Creek, and the Big Fish River of Aullaviat/Aunguniarvik as important for moose, along with portions of the Babbage River on the boundary with Ivvavik National Park. The TK-based moose habitat model concurs and adds other rivers, creeks and willow-dominated habitats as important for moose across Aullaviat/Aunguniarvik. The major drainages and river valleys may also be important for seasonal migrations. There has been limited or no scientific research on the movements and habitat use patterns of moose in Aullaviat/Aunguniarvik but collar data from Ivvavik National Park suggests the importance of seasonal migration for northern moose populations.

Monitoring and research focused on moose within Aullaviat/Aunguniarvik would help fill significant information gaps about a species whose population appears to be changing relatively quickly in response to climate change. Moose may themselves subsequently drive changes, such as in predator-prey dynamics or vegetation effects, due to the ecological effect of the new and increasing numbers of these large-bodied ungulates on the landscape.

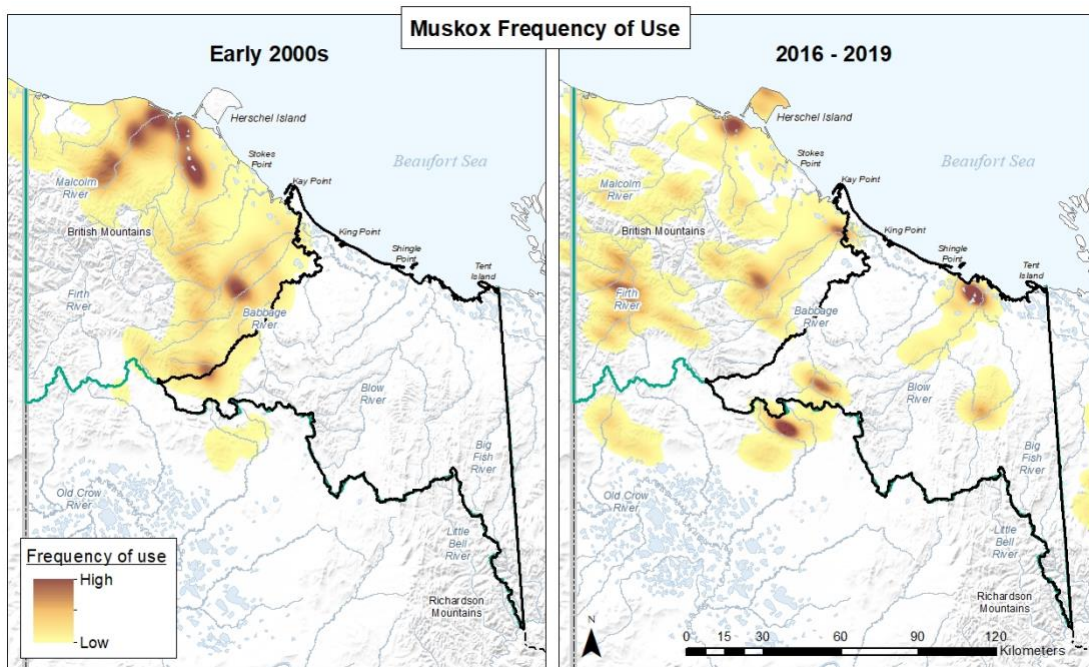
Muskox

Muskox disappeared from Alaska and Yukon in the mid 1800s and were successfully reintroduced to Alaska's Arctic National Wildlife Refuge in 1969-1970 (WMAC (NS), 2017, 2020). The population has grown to a current estimate of about 700 animals, with approximately half of these animals residing east of Alaska in the Yukon and NWT (Cuyler et al., 2019). It is estimated that approximately 400 muskoxen occur on the Yukon North Slope and in the Richardson Mountains (M. Suitor, personal communication, August 11, 2021). Muskox have been classified as Critically Imperilled/Imperilled (S1S2), following NatureServe criteria (Yukon Government, n.d.). Satellite collar monitoring suggests that muskox may be increasing their distribution in Aullaviat/Aunguniarvik (Map 4- 6), though this may be an artifact of collar bias. Regardless, muskox have been found in the area consistently, from the coastal plains to within the Richardson Mountains (Environment Yukon, unpublished data). Muskox distribution is scattered, and significant amounts of predicted high quality habitat appear to be currently unoccupied

(Carter, 2020) (Map 4- 7). Given that muskox have vulnerable status in Yukon, Aullaviat/Aunguniarvik is important as an area that offers secure and suitable landscapes to support their conservation.

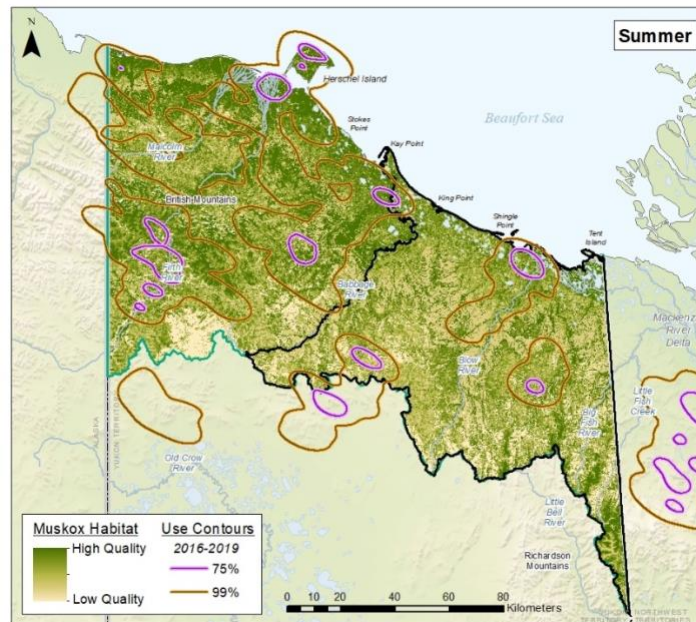
Currently, muskox in Aullaviat/Aunguniarvik are only occasionally harvested by Inuvialuit. Regional ties to this species were effectively severed by the 100 years of muskox absence. Still, Inuvialuit have expressed a consistent and keen interest in understanding muskox status and ecology on the Yukon North Slope, and a research plan has been developed to guide future research (WMAc (NS), 2019).

Map 4- 6. Frequency of use distributions of muskoxen in the early 2000s and between 2016-2019



The frequency of use by muskoxen are based on the locations of collared animals: 14 animals in early 2000s and 24 animals in late 2000s (2016-2019). The darker (brown) areas indicate the highest density of locations and therefore the most intensely used areas. Lighter areas show less intensely used areas. Aullaviat/Aunguniarvik boundary is shown in black.

Map 4- 7. Predicted habitat for muskoxen and distribution of muskoxen across the Yukon North Slope, based on GPS collared animals

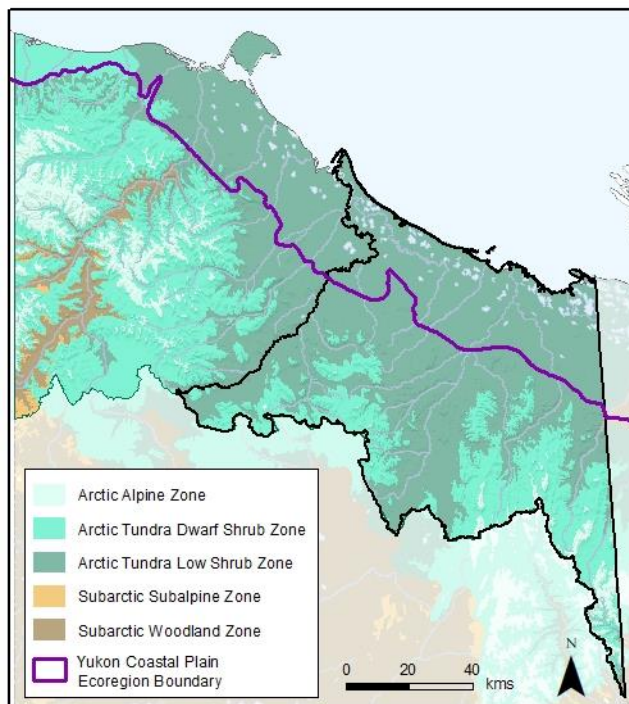


Muskox habitat model shown above was developed from data on 24 GPS collared muskox collected between 2016-2019, with the distribution of muskox also shown. The 75% distribution indicates the area in which 75% of muskox locations were found, and the 99% shows where 99% of the locations were found. Most muskox groups included a GPS collared individual, suggesting these areas are representative of recent muskox distribution. Aullaviat/Aunguniarvik boundary is shown in black.

Ecological Communities of Aullaviat/Aunguniarvik

The Yukon North Slope and Aullaviat/Aunguniarvik are predominately classified into two major ecological regions, identified as the Yukon Coastal Plains and the British-Richardson Mountains by the Ecological Land Classification (ELC) system (Statistics Canada, 2018). The Yukon Ecological Land Classification (YELC) broadly identifies similar ecological associations, but refines the classification of ecosystems that dominate the coastal plains to cover a much more extensive area of the Yukon North Slope than the Canadian system identifies (Map 4- 8). It identifies a single YELC zone for the coastal plains called 'Arctic tundra low shrub'. It breaks the mountain region into two ecological classes: 'Arctic tundra dwarf shrub' and 'Arctic alpine' zones. It shows the coastal plains ecosystems extending south within major river valleys that bisect the southern mountains (Environment Yukon, 2016). Ivvavik National Park has an additional YELC class along the Firth River called the 'Subarctic woodland zone,' which is not present in any significant amount in Aullaviat/Aunguniarvik.

Map 4- 8. Major Ecological Land Classifications within the Yukon North Slope



Major ecosystems have been defined across Canada, and identify two dominant ecoregions in Aullaviat/Aunguniarvik: Yukon coastal plains and the British-Richardson Mountains; the purple line shows the boundary between the two ecoregions. The Yukon Biogeoclimatic Ecosystem Classification (see legend) identifies a broader swath of tundra low-shrub ecosystems across the coastal plains, extending south along the major river valleys, transitioning to dwarf shrub ecosystems and eventually to alpine ecosystems. The Aullaviat/Aunguniarvik boundary is shown in black.

In the north, marine and estuary systems of the Beaufort Sea include wetland complexes of the Mackenzie Delta (the Delta) on the east side of Aullaviat/Aunguniarvik (Map 4- 9), and the shoreline complex of inlets, bays, spits, cliffs and beaches including significant coastal features such as Shingle Point, Trent Bay and Kay Point. These rich nearshore marine ecosystems support the cultural and ecological systems of the coastal regions of Aullaviat/Aunguniarvik. Moving south from the coast, a broad swath of lowland coastal plains is dominated by a mosaic of tussock tundra wetland ecosystems and numerous lakes, interspersed with streams, rivers and associated riparian habitats. Further inland, the coastal plains gradually rise. Lakes and standing water are not so abundant, and the plains eventually transition into the foothills and the mountainous terrain of the Richardson Mountains. Two major river valleys bisect the mountain range.

The coastal plains, which are dominated by cottongrass tundra ecosystems, have a short but highly productive summer (Map 4- 10), and the highest peak greenness index measured on the Yukon North Slope, even though the delayed onset and early senescence of vegetation on the

coastal plains suggests a shorter growing season as compared to more mountains portions of the Yukon North Slope (Berner, L.T., P. Jantz, K.D. Tape, 2018; Berner, Jantz, Tape, & Goetz, 2018). The high productivity of the coastal plains undoubtedly contributes to the high cultural and ecological values of Aullaviat/Aunguniarvik.

Figure 4- 1. An example of coastal habitat in Aullaviat/Aunguniarvik



©Michelle Gruben, 2016.

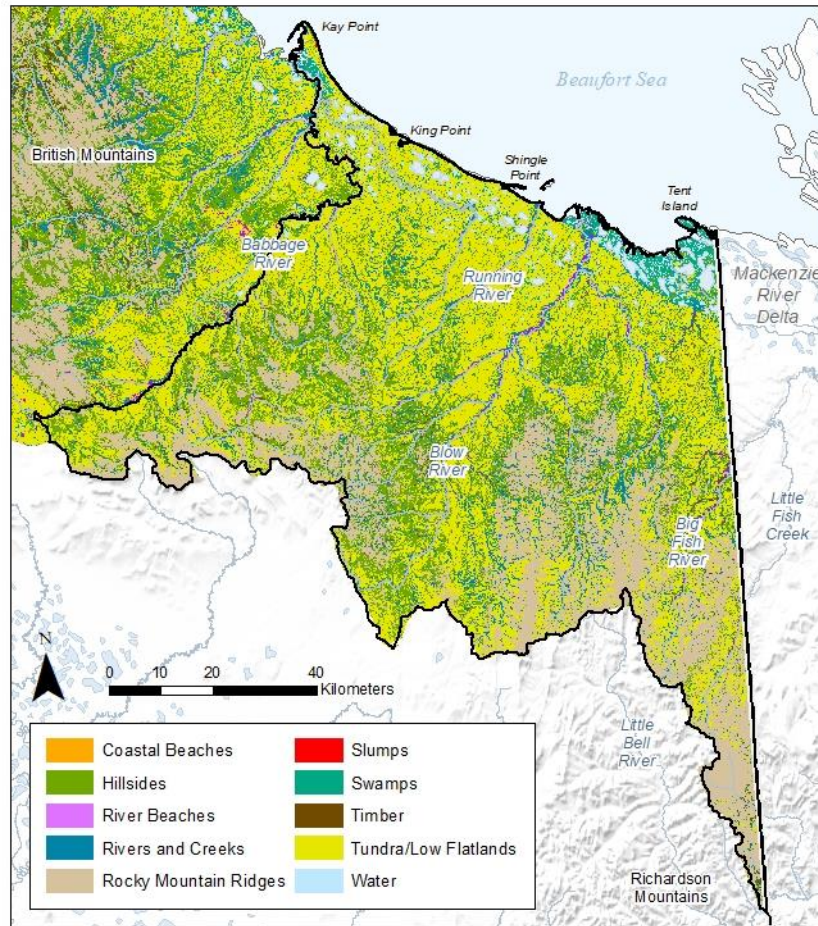
The Richardson Mountains form the southern portion of Aullaviat/Aunguniarvik, with the southern boundary defined by the east-west trending divide of this mountain range. The Richardson Mountains support dwarf shrub complexes on the lower and mid-slopes, and lichen and herbaceous communities at their highest elevations (Map 4- 9). Occasional stands of conifer are found primarily along the river corridors as well as south-facing slopes of tributaries in the Richardson Mountains.

Figure 4- 2. Admiring the view near the Blow River Pass in Aullaviat/Aunguniarvik



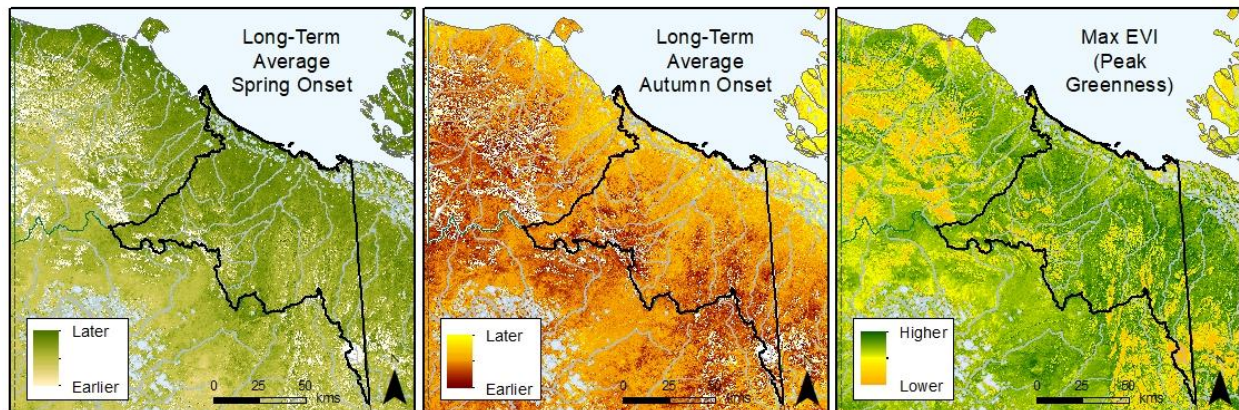
©Parks Canada/Jay Frandsen, 2020.

Map 4- 9. Major ecosystems of the Yukon North Slope, classified by Inuvialuit



The Inuvialuit used the Predictive Ecosystem Classification that identified 27 fine-scale ecosystems across the Yukon North Slope to identify 10 traditional knowledge-based ecosystems that succinctly capture the major ecological diversity of the area. Aullaviat/Aunguniarvik boundary is shown in black. Source: (WMAC (NS) & Aklavik HTC, 2018a)

Map 4- 10. Seasonal greenness indexes for the Yukon North Slope, capturing patterns of vegetation productivity



The above maps show spring onset (green-up), autumn onset (senescence), and peak greenness (EVI) (Berner, L.T., P. Jantz, K.D. Tape, 2018; Berner et al., 2018). These show that the coastal plains and river valleys dominated by arctic tundra ecosystems have a short growing season but still are highly productive, with high EVI values. Aullaviat/Aunguniarvik boundary is shown in black.

There are two major valleys that dissect the Richardson Mountains within Aullaviat/Aunguniarvik: the Babbage River that forms the eastern boundary with Ivavik National Park; and the Blow River, with a broad river valley that divides the Richardson Mountains. These river systems and the passes they have formed through the Richardson Mountains connect the coast and coastal plains to the Old Crow basin to the south. They are almost certainly important wildlife movement corridors. These two rivers receive a significant portion of the freshwater flowing from Aullaviat/Aunguniarvik. Other major rivers of Aullaviat/Aunguniarvik include the Running River, which terminates at the Beaufort Sea along the coast, and the Big Fish River, with headwaters in the eastern Richardson Mountains of Aullaviat/Aunguniarvik, draining east from the Yukon North Slope to terminate in the Mackenzie Delta.

Figure 4- 3. Running River, one of the major rivers in Aullaviat/Aunguniarvik



©Cameron Eckert, 2014.

Regional Connectivity and Conservation

Aullaviat/Aunguniarvik provides critical ecological connectivity and core habitats within a larger matrix of conserved landscapes of the western Arctic region of North America (Map 4- 1). To the west lies Ivavik National Park and Herschel Island-Qiqiktaruk Territorial Park and beyond that, Alaska's Arctic National Wildlife Refuge. To the south, Aullaviat/Aunguniarvik is adjacent to Vuntut National Park, Daadzaii Van Territorial Park and the Old Crow Flats Special Management Area. To the north lies the Beaufort Sea, with the Tarium Nirjutait Marine Protected Area abutting the shores of Aullaviat/Aunguniarvik. This estuary area of the Mackenzie Delta provides important calving habitat for beluga whales. The Mackenzie Delta, which is primarily within Northwest Territories, is North America's largest arctic delta and the terminus of Canada's largest river, the Mackenzie River, as well as the Peel River. The Mackenzie Delta is a vast and largely intact complex of wetlands, rivers, lakes and low-lying uplands that support high arctic biodiversity.

Aullaviat/Aunguniarvik is also a corridor for Inuvialuit. Historically, and still today, Inuvialuit move through this landscape to connect with people and places on the Yukon North Slope and beyond. This includes travelling to gathering spaces, like Tapqaq, and visiting relatives in Alaska. Traditional use across this landscape is described above.

With Aullaviat/Aunguniarvik located centrally amongst a regional complex of important and protected landscapes, multiple other wide-ranging species (e.g., grizzly bear) not only rely upon

Aullaviat/Aunguniarvik for quality habitat, but also for connectivity to adjacent secure or otherwise vital ecosystems.

Additional Conservation Values

Listed Species Found in Aullaviat/Aunguniarvik

In addition to the species featured in this chapter and in the *Yukon North Slope Wildlife Conservation and Management Plan*, there are a number of plant and animal species that occur in Aullaviat/Aunguniarvik that are designated as federal Species at Risk. Addressing all species is not within the scope of the Plan and Companion Reports; however, it is expected that the conservation requirements identified for featured species in Aullaviat/Aunguniarvik will contribute to conservation of species at risk in the region.

Table 4- 1. Species on the Yukon North Slope that have been assessed and/or listed under the federal *Species at Risk Act*, as of spring 2021

Species (SARA designatable unit)	COSEWIC / SARA Schedule 1 (listing) Status	Recovery Document (if available)
Caribou (Barren ground populations)	Assessed by COSEWIC as Threatened (2016); under consideration for listing	n/a – species is not legally listed
Grizzly Bear (Western population)	Assessed by COSEWIC as Special Concern (2012); listed as Special Concern (2018)	SARA Management Plan under Development
Polar Bear	Assessed by COSEWIC as Special Concern (2008, 2018); listed as Special Concern (2011)	SARA Management Plan under development
Dolly Varden (Western Arctic populations)	Assessed by COSEWIC as Special Concern (2010); listed as Special Concern (2017)	SARA Management Plan under development
Beluga (Eastern Beaufort population)	Assessed by COSEWIC as Not at risk (2004)	n/a – species is not legally listed
Peregrine falcon (<i>Anatum tundrius</i> population)	Assessed by COSEWIC as Not at risk (2017); listed as Special Concern (2012)	Management Plan for the Peregrine Falcon <i>anatum/tundrius</i> (<i>Falco peregrinus anatum/tundrius</i>) in Canada (2017)
Buff-breasted sandpiper	Assessed by COSEWIC as Special Concern (2012); listed as Special Concern (2017)	SARA Management Plan under Development
Wolverine	Assessed by COSEWIC as Special Concern (2014); listed as Special Concern (2018)	SARA Management Plan under Development
Collared Pika	Assessed by COSEWIC as Special Concern (2011); listed as Special Concern (2017)	SARA Management Plan under Development
Red-necked Phalarope	Assessed by COSEWIC as Special Concern (2014); listed as Special Concern (2019)	SARA Management Plan under Development

Hudsonian Godwit	Assessed by COSEWIC as Threatened (2019); under consideration for listing	n/a – species is not legally listed
Lesser Yellowlegs	Assessed by COSEWIC as Threatened (2020)	n/a – species is not legally listed
Horned Grebe	Assessed by COSEWIC as Special Concern (2009); listed as Special Concern (2017)	SARA Management Plan under Development
Bank Swallow	Assessed by COSEWIC as Threatened (2013); listed as Threatened (2017)	SARA Recovery Strategy under Development
Short-eared Owl	Assessed by COSEWIC as Threatened (2021); listed as Special Concern (2012)	Management Plan for the Short-eared Owl (<i>Asio flammeus</i>) in Canada (2018)
Transverse Lady Beetle	Assessed by COSEWIC as Special Concern (2016); under consideration for listing	n/a – species is not legally listed
Gypsy Cuckoo Bumble Bee	Assessed by COSEWIC as Endangered (2014); listed as Endangered (2018)	SARA Recovery Strategy under Development
Grey Whale	Assessed by COSEWIC as Special Concern (2017); under consideration for listing	n/a – species is not legally listed
Ringed Seal	Assessed by COSEWIC as Special Concern (2019); under consideration for listing	n/a – species is not legally listed

Uncommon Ecosystems of the Yukon North Slope

Predictive Ecosystem Mapping (PEM) identified 27 ecosystems within Aullaviat/Aunguniarvik, with many of these ecosystems being common across the Yukon North Slope. There are three notable ecosystems that occur in relatively limited distributions across the Yukon North Slope (covering less than 5% of the area) with the majority (61-93%) of that distribution within Aullaviat/Aunguniarvik (Aullaviat/Aunguniarvik covers 43% of the YNS area). Below, these relatively rare ecosystems are shown (Figure 4-1) and briefly described (Ivvavik PEM fact sheets, unpubl. data).

Predictive Ecosystem Mapping (PEM) uses knowledge about ecosystem patterns and relationships to predict locations of ecosystems on the landscape (Environment Yukon, 2016). The result is maps showing PEM classes. Each PEM class integrates many features, including vegetation, elevation, water, terrain, soils, and aspect.

Figure 4- 4. Photos of Predictive Ecosystem Model ecosystem classes that are relatively rare on the YNS and predominately found within Aullaviat/Aunguniarvik



PEM predicts the distribution of 28 ecosystems across the YNS, with 27 of these classes found within Aullaviat/Aunguniarvik. Three of these classes are relatively rare ecosystems with a significant proportion of their Yukon North Slope distribution found within Aullaviat/Aunguniarvik: a) herb-willow riparian; b) alder-cottongrass tussock bog; and c) heather nivation slope.

Herb-willow riparian: This is a willow floodplain habitat that is not very common. It grows along streams and is usually flooded each year. This association is found on gradual receiving slopes at a range of elevations, from sea level to 600m. This ecosystem covers an estimated 0.7% of the Yukon North Slope, and 93% of its occurrence is within Aullaviat/Aunguniarvik.

Alder-cottongrass tussock bog: These areas of shallow peat moss (20-30 cm) are found from the coast to elevations of 600 m. This ecosystem has dwarf birch, cranberries, tussock cottongrass and alder. This association is found on gradual receiving slopes at a range of elevations, from sea level to 600m. This ecosystem covers 1.7% of the YNS, with 85% of its distribution in the Yukon North Slope occurring in Aullaviat/Aunguniarvik.

Heather nivation slope: This habitat may be called Arctic or Alpine heather snowbeds. Heather snowbeds are found in areas where snow accumulates and takes a long time to melt. This ecosystem type can be identified because the snow that accumulates over winter doesn't melt until July or August. It is often at higher elevation and/or in shady areas (cool and east facing aspects). This ecosystem type tends to be small and patchy and is too cold for tree or tall shrub growth. Mountain-heather plants are always found in these ecosystems. Small willows often grow under the snowbeds but there is a lot of bare ground as well. Due to the late snow melt, these sites remain wet for much of the year. This PEM class covers an estimated 3.6% of the Yukon North Slope, with 61% of this distribution within Aullaviat/Aunguniarvik.

Climate Change Impacts to Aullaviat/Aunguniarvik

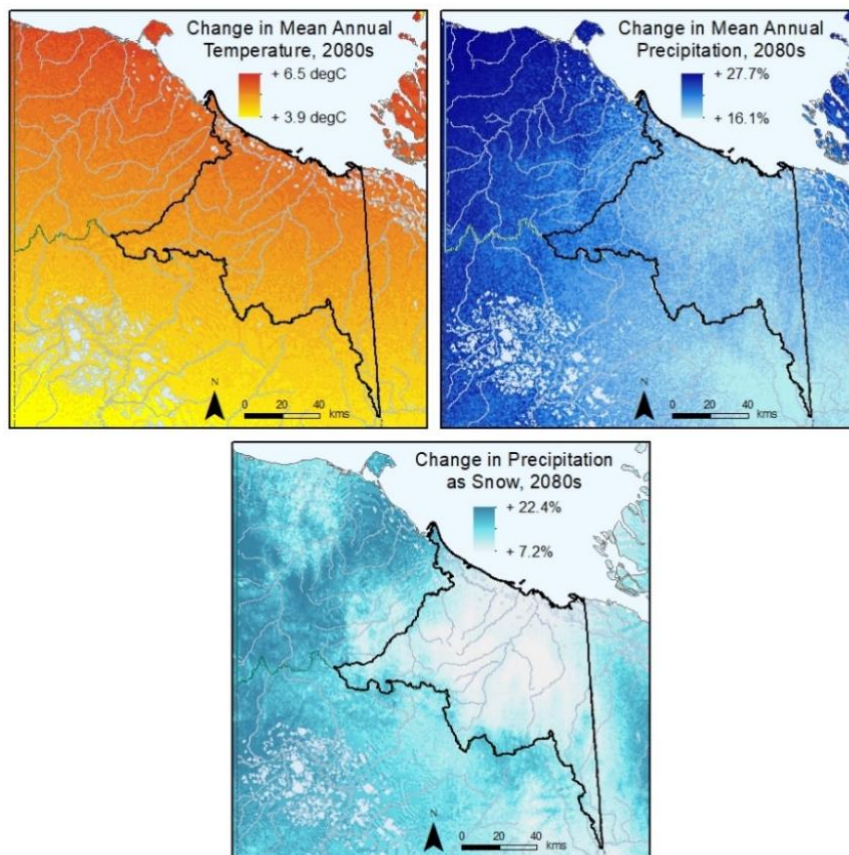
Climate change is a significant and challenging impact facing Aullaviat/Aunguniarvik and all of the Arctic. Current and predicted climate change effects to the Yukon North Slope are summarized in Companion Report 3. Predicting the impacts ahead is a difficult task, as climate change is a global process and impacts occur at different scales, from the local up to the global. Still, we can cautiously predict some impacts to Aullaviat/Aunguniarvik and interpret those predictions to understand what challenges lay ahead for conservation of wildlife, habitat and traditional use of the area.

Global circulation models are used to predict patterns in temperature and precipitation under varying climate change models; these global models can be downscaled to predict changing conditions at regional levels (Wang, Hamann, Spittlehouse, & Carroll, 2016; Wang, Hamann,

Spittlehouse, & Murdock, 2012). Temperature increases are expected to occur more rapidly at higher latitudes. This predicted pattern holds true at the regional scale for the Yukon North Slope (Map 4- 11, upper left). When it comes to predicted changes in precipitation patterns, Aullaviat/Aunguniarvik is expected to experience fewer changes to precipitation (including snowfall) than neighbouring regions, such as Ivavik National Park (Map 4- 11, upper right and lower respectively).

Modeling has been completed to provide insights into the vulnerability of Yukon North Slope ecosystems and wildlife to climate changes. Terrestrial resilience models predict the potential availability of climate refuges, which provide local refuge and favourable conditions for plants and animals even as the larger landscape changes (Buttrick et al., 2015). Climate refuges may be found in topographically diverse ecosystems because aspect, slope and other diversity provide microclimates that can serve as refuges for plants and animals as climate conditions change. These models predict that the coastal plain is particularly vulnerable to climate change. This is partly due to a lack of substantive climate refugia within this ecosystem (see Box on this in climate chapter). The relatively flat topography of the coastal plains limits the likelihood of diverse microclimates that may act as ecological refuges in a changing climate.

Map 4- 11. Predicted mean annual temperature, precipitation, and precipitation falling as snow in the Yukon North Slope in the 2080s



Downscaled global climate predictions provide regional patterns of predicted change in temperature and precipitation, as well as derived variables including the percent of precipitation falling as snow. These are predicted based on the A2 emissions scenario and a 23 global circulation model ensemble (Hamann, n.d.). Aullaviat/Aunguniarvik boundary is shown in black.

In another analysis, shifts in broad 'cliomes' were modeled (Rowland, Fresco, Reid, & Cooke, 2016; SNAP, 2012), providing additional insight into the types of changes that may be expected for the Yukon North Slope and Aullaviat/Aunguniarvik. Cliomes were identified as areas of broadly similar climate and vegetation patterns. Eight different cliomes were mapped in Aullaviat/Aunguniarvik. Future scenarios suggest that Aullaviat/Aunguniarvik will be largely dominated by two cliomes, indicating a simplification of the diversity currently found in Aullaviat/Aunguniarvik. These two dominant cliomes indicate that the coastal plains may become dominated by open shrub habitats, while the mountainous southern region transitions to a boreal forest cliome. Increasing cliome shifts suggest higher ecological stress (Map 2-4, climate change chapter). The modeling suggests that changes in the coastal plains, while pronounced, represent only one shift in cliome, and this shift is primarily an expansion of

shrubby ecosystems already present in the area. The foothills are predicted to experience the greatest absolute change, with three shifts in cliomes, including some conifer-dominated ecosystems. The southern mountains are predicted to experience two shifts in cliomes, towards a boreal forest dominated landscape.

These varying approaches to understanding the effects of climate change provide different insights into future potential changes in Aullaviat/Aunguniarvik. The coastal plains may experience relatively less 'ecological stress', as indicated by shifting cliomes, but for species specialized and strictly dependent on the current coastal plains ecosystems, there will be few ecological refuges to support them. With the Beaufort Sea as a northern border, there may be few places for them to migrate seeking ecological niches. Alternatively, the more topographically complex foothills and mountains in the southern region may experience greater change, but will also provide greater diversity of local climate refuges for plants and animals.

The most powerful mitigation to the impacts of climate change is the maintenance of healthy, resilient and connected landscapes. The intact nature of the Yukon North Slope and Aullaviat/Aunguniarvik provides the opportunity for plants and animals to shift in distribution as ecological conditions change.

Conservation Designations of Aullaviat/Aunguniarvik

There are a number of existing conservation designations that support the maintenance of Aullaviat/Aunguniarvik ecological and cultural values, with variable leverage to secure these values. A number of policy and management tools also contribute to the maintenance of Aullaviat/Aunguniarvik, as outlined in Table 12 of the *Yukon North Slope Wildlife Conservation and Management Plan*.

Inuvialuit Final Agreement Withdrawal Order

The strongest current conservation status for Aullaviat/Aunguniarvik is through the Inuvialuit Final Agreement (IFA), which established a 'withdrawal order' that removes the area from surface or subsurface development, including mineral disposition, by Order-in-Council, subject to provisions that allow consideration of developments compatible with the conservation of wildlife, habitat and Inuvialuit use. These Orders-in-Council have been in place since 1980; the IFA states that they shall be maintained.

Aklavik Community Conservation Plan designations

The most recent Aklavik Community Conservation Plan (CCP) was completed in 2016 (Aklavik HTC et al., 2016), and identified special area designations based on important wildlife habitat

and harvesting areas. There are five categories of designation, with three being of highest conservation significance: Categories C and D indicate areas of particular significance and sensitivity, and Category E identifies areas of extreme significance (Box 1).

The CCP identifies Aullaviat/Aunguniarvik as Category E, along with the nearshore waters and Ivavik National Park, the riparian zone of the Big Fish River, and the nearshore and marine area of Tarium Niryutait Marine Protection Area (Map 4- 12).

The CCP also identifies a number of areas in Aullaviat/Aunguniarvik as Categories C and D. These include the Babbage River watershed in the west, the Fish Hole and Big Fish River watersheds in the southeast region. The northern portion of the coastal plains and the coastline across the extent of Aullaviat/Aunguniarvik are identified for polar bear denning, and the Delta wetlands for migratory bird habitat, grizzly bear and polar bear denning, and subsistence harvest.

Box 1: Conservation designations of the Aklavik Community Conservation Plan

Category A: Lands and waters where there are no known significant and sensitive cultural or renewable resources. Lands and waters shall be managed according to current regulatory practices.

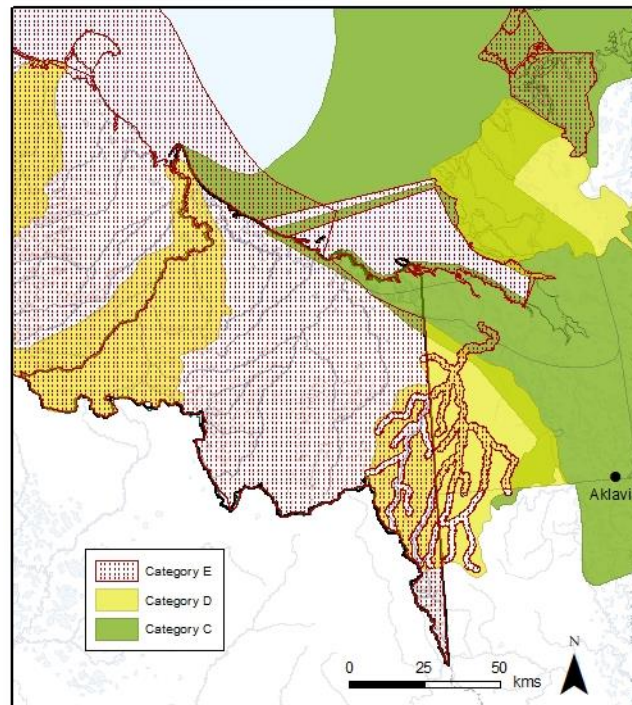
Category B: Lands and waters where there are cultural or renewable resources of some significance and sensitivity but where terms and conditions associated with permits and leases shall assure the conservation of these resources.

Category C: Lands and waters where cultural or renewable resources are of particular significance and sensitivity during specific times of the year. These lands and waters shall be managed so as to eliminate, to the greatest extent possible, potential damage and disruption.

Category D: Lands and waters where cultural or renewable resources are of particular significance and sensitivity throughout the year. As with Category C, these areas shall be managed so as to eliminate, to the greatest extent possible, potential damage and disruption.

Category E: Lands and waters where cultural or renewable resources are of extreme significance and sensitivity. There shall be no development on these areas. These lands and waters shall be managed to eliminate, to the greatest extent possible, potential damage and disruption. This category recommends the highest degree of protection in this document.

Map 4- 12. Aklavik Community Conservation Plan conservation areas within Aullaviat/Aunguniarvik



The 2016 Aklavik Community Conservation Plan identifies areas of conservation priority including Category C, D, and E classifications that identify areas important for sensitive values. Category E is the highest conservation category. The Plan identifies the entirety of Aullaviat/Aunguniarvik as Category E, as well as the riparian zone of the Big Fish Watershed. Other regions within Aullaviat/Aunguniarvik are also identified as C or D category land. Aullaviat/Aunguniarvik boundary is shown in black.

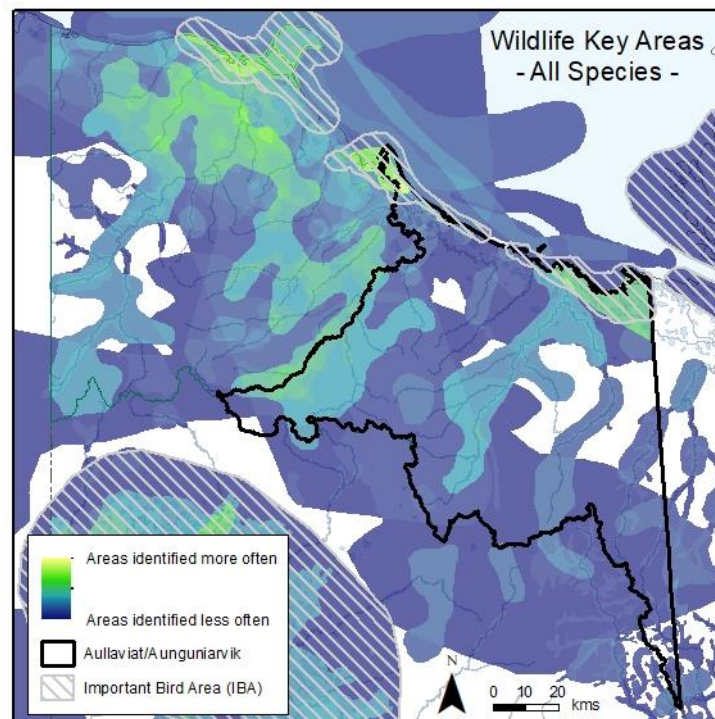
Wildlife Key Areas

The Yukon Government has developed a spatial database of areas or locations “used by wildlife for critical, seasonal life functions” (Government of Yukon, 2014, p.3). These spatial data are based on surveys as well as local knowledge. Areas are identified in Aullaviat/Aunguniarvik for a wide diversity of species, ranging from whales off-shore to Dall’s sheep in the Richardson Mountains (Map 4- 13). The Delta wetlands in the northeast portion of Aullaviat/Aunguniarvik, as well as some coastal and coastal plains areas are identified for nesting, staging, foraging and/or moulting for a diversity of birds including ducks, geese, gulls, swans, and shorebirds. Raptor, polar bear, wolf and fox denning areas are noted, and seasonal or annually important areas for muskox, moose, Dall’s sheep, and seals are mapped. This database provides an additional source of information to understand the biodiversity and wildlife values of Aullaviat/Aunguniarvik, and provides further evidence of the conservation importance of Aullaviat/Aunguniarvik.

Important Bird Areas

Important Bird Areas (IBA) is an international initiative that uses standardized criteria to identify areas of international significance for the conservation of birds and biodiversity, and provides information and tools for conservation. In Canada, IBAs are identified through a collaboration of multiple non-governmental organizations (www.ibacanada.org). There are two IBAs along the Aullaviat/Aunguniarvik coast, which cover nearly the entire length of the coastline (Map 4- 13).

Map 4- 13. Important Bird Areas and Yukon Wildlife Key Areas identified across the Yukon North Slope



Yukon Wildlife Key Areas (WKAs) are identified for multiple species and species groups. This map shows the spatial extent of all the combined WKAs with lighter shades of color showing where multiple WKAs overlap. Also shown are the Important Bird Areas along the coast. Aullaviat/Aunguniarvik boundary is shown in black.

Conclusions

This companion report presents information from Western science, traditional use and traditional knowledge studies on a suite of ecological and cultural values found in Aullaviat/Aunguniarvik. The information presented is in support of the *Yukon North Slope Wildlife Conservation and Management Plan*, which recognizes the importance of

Aullaviat/Aunguniarvik for all these values. The Plan focuses in particular on the importance of the region for: Inuvialuit traditional use, Porcupine Caribou herd calving and mid-summer habitats, Dolly Varden, and geese. The *Yukon North Slope Wildlife Conservation and Management Plan* also recognizes the regional importance of the area in light of the conservation status of neighbouring regions and their importance for featured species and Inuvialuit traditional use.

In particular, it is clear that Aullaviat/Aunguniarvik is vital to the maintenance of Inuvialuit traditional use, for providing critical habitats for the Porcupine Caribou Herd, and as a key landscape within the northern conservation complex of existing conservation areas. These values span the extent of Aullaviat/Aunguniarvik. Inuvialuit traditional use is concentrated near the coast, although use does occur throughout the region. The Porcupine Caribou herd relies on mid-summer habitat and migration corridors across the central and southern part of Aullaviat/Aunguniarvik. Inuvialuit traditional use of the Yukon North Slope is deeply intertwined with the health and annual movements of the Porcupine Caribou herd. The conservation of Aullaviat/Aunguniarvik also ensures caribou calving habitats are maintained to their fullest extent, providing the Porcupine Caribou Herd the flexibility required in an uncertain future. Considering these and other key values such as the critical habitats provided for grizzly bear, geese, and Dolly Varden, provides a compelling case for conservation.

Equally important is the contribution that Aullaviat/Aunguniarvik provides to the regional conservation system. Aullaviat/Aunguniarvik is surrounded by a matrix of territorial and national parks and marine conservation areas.

The regional values that would be at risk if Aullaviat/Aunguniarvik were functionally degraded are harder to map and identify: the free movement of plants and animals, including iconic species like caribou and grizzly bear, as well as innumerable lesser-studied and unmapped species of plants and animals that form Arctic ecological communities. The ecological integrity of Aullaviat/Aunguniarvik provides both high quality habitats for a multitude of species, as well as the opportunity for these species to move if their life requisites shift due to climate change. Indeed, the maintenance of large, connected, healthy landscapes is the best strategy for supporting ecological resilience.

Aullaviat/Aunguniarvik has already been designated under the highest conservation classification within the Aklavik Community Conservation Plan (2016), a clear indication of the interests and intent of Inuvialuit. Through the IFA, a withdrawal order is in place that protects Aullaviat/Aunguniarvik from industrial activities that would be incompatible with the IFA's stated conservation goals for the Yukon North Slope. Policies and statutes from multiple organizations and governments support the conservation vision for Aullaviat/Aunguniarvik, although these are piecemeal.

Formalizing the conservation intent of the Inuvialuit for Aullaviat/Aunguniarvik has been recommended by the WCMP, potentially through the development of an Indigenous Protected

and Conserved Area or similar. Such a designation would also provide the foundation for greater Inuvialuit governance of Aullaviat/Aunguniarvik, and advance territorial and federal recognition of the special status of Aullaviat/Aunguniarvik. A formalized designation would contribute towards Canada's goal and commitments to conserve nature, part of Canada's international commitments to the United Nations [*Convention on Biological Diversity*](#) (1992), and commitments to reconciliation with Indigenous Peoples pursuant to Canada's *United Nations Declaration on the Rights of Indigenous Peoples Act* (2021).

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