15.0 SUBSISTENCE

15.1 Definitions of Subsistence

There are many different understandings of the meaning of subsistence that often differ based on cultural upbringing.

Subsistence implies the use of natural resources for physical needs; for many, subsistence harvest activities also have a spiritual and cultural importance through a connection to the land and traditional knowledge passed down through generations. Subsistence is not only a way of life, but also the joy of living from the gifts that the Creator provides.

The NSBMC §19.20.020 defines subsistence as:

“An activity performed in support of the basic beliefs and nutritional needs of the residents of the Borough and includes hunting, whaling, fishing, trapping, camping, food gathering and other traditional and cultural activities.”

The State of Alaska statute §16.05.940(33) defines subsistence uses as:

“...the noncommercial, customary and traditional uses of wild, renewable resources by a resident domiciled in a rural area of the state for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation, for the making and selling of handicraft articles out of nonedible by-products of fish and wildlife resources taken for personal or family consumption, and for the customary trade, barter, or sharing for personal or family consumption; in this paragraph, "family" means persons related by blood, marriage, or adoption, and a person living in the household on a permanent basis.”

Subsistence, as it is practiced in Barrow and across the North Slope, is more similar to the NSB definition than it is to the state definition.

15.2 Village Area of Influence

Barrow is on the coast of the Arctic Ocean, specifically the Chukchi Sea to the west and the Beaufort Sea to the east. Barrow’s unique geographical location provides for an expansive area for marine mammal harvesting. According to a 2012 Pew Environment Group summary of marine subsistence uses as prepared by Stephen R. Braund & Associates, Barrow subsistence users travel as far as 90 miles north of Barrow and approximately 60 miles off the Beaufort and Chukchi sea coastlines. The marine mammals cited as taken for subsistence purposes in the report included beluga whales, bowhead whales, polar bears, seals (bearded and ringed) and walruses.
The subsistence hunting area also extends to inland areas south of Barrow. The subsistence traditional use area spans from Barrow to Peard Bay to the southwest and Smith Bay to the southeast. Many subsistence users have cabins where caribou, brown bear, wolf, wolverine, ground squirrel and various species of fish and waterfowl are harvested. Figure 36 depicts the Barrow Area of Influence.

The area of influence is an aggregation of traditional subsistence uses. The area of influence depicted in Figure 36 is not maximum extents that hunters will go for subsistence activities; it is a typical hunting range based on past hunting and fishing use. The area of influence can also be used to determine community stakeholders that may need to be consulted prior to activity that may affect their traditional use of the land.

The village area of influence boundary changes over time as traditional subsistence land use patterns change based on the availability of animals and fish.

**Figure 35 Whaling in Barrow**
15.3 Barrow Subsistence Harvest

Subsistence users in Barrow rely upon a vast array of terrestrial and marine mammals, fish and waterfowl. According to the NSB 2010 Economic Profile and Census Report (NSBEP&CR), nearly 95% of Barrow’s Iñupiat households use subsistence foods and nearly 60% of Barrow’s Iñupiat households receive at least half of the household diet from subsistence foods (North Slope Borough 2010). While caribou, fish, geese and ducks are part of the subsistence diet; the bowhead whale is the foundation of the Iñupiat people.

Sharing the Harvest. Community sharing is an important cultural value in Barrow and across the North Slope. One Iñupiat tradition indicative of the importance of sharing the harvest is for a young hunter to give his or her first harvest to an elder in the community that is no longer able to hunt or fish. The bountiful subsistence harvest is shared widely with people across the North Slope. The tradition is prehistoric and one way the different groups of Iñupiat ensured their collective survival.

Whaling preparation is a year around event. The coastal villages of Kaktovik, Nuiqsut, Barrow and Wainwright begin the fall whale hunt from late September through mid-October. Hunters then turn inland to traditional hunting sites for fox, wolverine and wolf, often used for making hunting gear and ceremonial parkas. Polar bear hunting also occurs from November to January. Crews begin repairing or making new boat frames and cleaning ice cellars in preparation for the spring whaling season. In March, women begin sewing the bearded seal skins for skin boats, called umiaqs. Skin sewing is very important; the whaling crews depends on careful stitching to ensure their boats stay afloat during the hunt. Whaling season begins again in the spring, typically ending in May. After Nalukataq, a festival in June that celebrates a successful whale harvest, whaling captains and subsistence hunters begin hunting a variety of marine mammals, including bearded seal, ringed seal and walrus. Caribou hunting is year-round but mostly takes place from June through September or as weather conditions allow. Caribou tendon is made into thread to sew bearded seal skins for the skin boats. The process begins again, a traditional practice of the Iñupiat people for hundreds of years.

The Alaska Eskimo Whaling Commission (AEWC) reports that there were 36 registered whaling crews in Barrow for the 2013 spring whaling season. A single bowhead whale harvested in the spring, typically feeds the entire community five times throughout the year:

- Initial captain’s open house when the whale is caught;

- The Apuŋauti - a feast on the beach held by the whaling captain’s wives to welcome the returning whalers after the whaling season is over;

- The Nalukataq - the whaling festival held in June after the successful spring whaling season ends;

- Thanksgiving church feast; and

- Christmas church feast.
15.4 Barrow Subsistence Harvest Areas

The former Minerals Management Service (now the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)) within the U.S. Department of Interior commissioned a study of regional subsistence patterns of three North Slope communities. The maps and data contained here are a result of the report, Subsistence Mapping of Nuiqsut, Kaktovik and Barrow published in April 2010 by Stephen R. Braund & Associates.

The community of Barrow is situated to allow for hunting of both marine and terrestrial animals. Marine mammals include bowhead whale, ringed and bearded seal and walrus. Birds, such as eider ducks and geese, are also common targets for subsistence hunters. Hunters also harvest fish in local rivers and lakes and in Elson Lagoon. Other resources include moose, ptarmigan, and furbearing animals such as wolf and wolverine. But the most common subsistence harvest is caribou, which crosses the tundra throughout the year.

Subsistence Harvests – Data indicates that Barrow residents primarily utilize marine mammals, caribou, fur bearing animals, birds and fish. These harvests are important to maintain and sustain the Iñupiat way of life. Figure 37 depicts the consolidated harvest areas in the Barrow, Alaska vicinity.

Figure 37 Barrow Comparative Use Areas and Harvest Sites, All Resources
Caribou (tuttu). Caribou is by far the most common harvest for subsistence hunters residing in Barrow. The data gathered by Stephen Braund and Associates indicates that Barrow residents travel significant distances inland to hunt caribou, most commonly to the Meade, Topagoruk and Chipp rivers; around Pittalukruak Lake and Alaktak River; along the coast between Peard Bay and Dease Inlet; and inland from Barrow to the Inaru and Meade rivers (Stephen R. Braund & Associates 2010). While caribou are harvested throughout the year, the most activity takes place in July, August and September as the herds head toward the coastline seeking cooler weather and fewer mosquitoes. The intensity of caribou harvest is shown in Figure 38.

Figure 38 Barrow Comparative Use Areas and Harvest Sites, Caribou
**Bowhead Whale (aqvig).** The subsistence hunt for bowhead whales is by far the most celebrated within coastal North Slope communities, including Barrow. The hunters organize into whaling crews that function as a team in harvesting bowhead whales. Each whale taken is a victory for both the crew and community as a whole.

Whales are harvested twice a year: during the spring and fall hunting seasons. The spring hunt is typically west of Point Barrow and closer to the shore; the fall hunt is west and east of Point Barrow and is generally a greater distance from shore. During the spring hunt that typically takes place in April and May, the whale crews use traditional seal skin boats, known as umiaqs, and pull harvested whales onto the sea ice. During the fall hunt that typically takes place during September, October and November, crews use power driven aluminum boats to hunt in open water.

The data regarding bowhead subsistence use by Barrow residents was derived from data Stephen R. Braund and Associates with collection of from a variety of sources dating back to 1979. Data indicate that Barrow residents will go as far as 70 miles offshore to hunt for bowhead whales. The intensity of the bowhead whale harvest is illustrated in Figure 39.

**Figure 39 Barrow Comparative Use Areas and Harvest Sites, Bowhead**

![Map E - 2 Barrow Comparative Use Areas and Harvest Sites, Bowhead](image)

**Sources:**
- **Last 10 Years:** Stephen R. Braund and Associates (SBR/A) 2010
- **1987-1989 Harvest Sites:** SBR/A and USFWS 1993
- **1987-1989 Use Areas:** SBR/A Unpublished
- **Lifetime Use Areas:** Pedersen 1979

*Other areas may have been used for resource harvesting
*Some areas shown on this map may have been used while respondents visited or lived in other communities.
Fish. Barrow residents typically fish for Arctic cisco (qaaktaq), Arctic char/Dolly Varden (paikluk/igalukpik), broad whitefish (aanaalik) and Burbot (tittaaliq). Residents indicate that Arctic cisco is mostly found near Nuiqsut and in Kuyanak Bay. August is reportedly when many Barrow subsistence harvesters fish for Arctic cisco but can be successfully fished throughout the fall. The most common places to fish for Arctic char/Dolly Varden is Elson Lagoon and along the Meade, Inaru, and Chipp rivers during the summer months. Compared to other fish species, broad whitefish make up a greater amount of a yearly harvest. Residents most commonly reported harvesting broad whitefish during the summer and fall months on the Chipp, Inaru, Meade, Alaktak and Miguakiaq rivers and near Pittalukruak, Tusikvoak and Sungovoak lakes. Burbot are often harvested in nets by those wanting broad whitefish so subsistence use areas and the harvesting months are similar.

Figure 40 indicates that Barrow residents will travel significant distances inland to harvest fish.

Figure 40 Barrow Comparative Use Areas and Harvest Sites, Fish
Birds. Barrow residents harvest several different species of geese including white-fronted geese (niqilig), Canada geese (iqsaqutilik), brants (niqilinqaq) and snow geese (kanuk). Barrow residents hunt geese along the coast from Barrow south past Walakpa Bay and at Peard Bay; around Avak Creek; and around Inaru, Meade, Topagoruk, Chipp rivers, Piasuk, and Miguakiak rivers. Some also travel to near Lake Sungovoak and Ekalgruak Lake. May and June are the most common months to harvest geese. Barrow residents also commonly hunt eiders, primary king (qiqaliq) and common (amauligruaq) eiders. Eiders are typically harvested during the same months as bowhead whales and are most often found offshore along the spit to Point Barrow, or in the western portion of Eison Lagoon.

Figure 41, below illustrates subsistence harvest areas for all wildfowl as provided by Stephen R. Braund and Associates.

**Figure 41 Barrow Comparative Use Areas and Harvest Sites, Wildfowl**
Seals. Barrow residents typically harvest two types of seals: ringed seals (natchiq) and bearded seals (ugruk). Ringed seals are not harvested in large quantities. The ringed seals are most commonly harvested while hunting for bearded seals and found close to shore between Walakpa Bay to the west and Tapkaluk Islands to the east. While ringed seals are harvested all year, the majority are taken between June and August. Bearded seals are prized for meat, seal oil and skin, which is used for constructing skin boats (umiaqs) used for subsistence whaling. The success of bearded seal harvest is largely dependent on sea ice pack; because the bearded seal follows the ice pack north past Barrow each year, poor ice conditions can make hunting difficult. Like ringed seals, bearded seals are primarily hunted during the summer months, from June through August. Figure 42 depicts the extent of subsistence areas for harvesting seals.

Figure 42 Barrow Comparative Use Areas and Harvest Sites, Seal
Walrus. Walrus (aiviq) are generally hunted in concert with bearded seals during the summer months and near the ice pack.

**Figure 43 Barrow Comparative Use Areas and Harvest Sites, Walrus**
Wolves and Wolverines. Wolf (ama'guq) and wolverine (qavvik) hunting requires long distance travel during the cold winter months. As a result, Barrow residents are less likely to hunt these animals that may be found closer to home. However, some residents reportedly travel long distances to regularly hunt wolves and wolverines. Hunting can occur anytime from October through June; peaking in March. Figure 44 illustrates the subsistence harvest area for wolves and wolverine by Barrow residents.

**Figure 44 Barrow Comparative Use Areas and Harvest Sites, Furbearers**

[Map showing comparative use areas and harvest sites for wolves and wolverines in Barrow.]
16.0 LAND USE AND ZONING

16.1 Land Ownership

The following section briefly describes the land ownership of Barrow and its vicinity. Barrow Zoning Districts are presented in Figure 46.

16.1.1 Federal Government

U.S. Air Force, Department of Defense. Approximately 4.5 miles northeast of Barrow, close to the Chukchi Sea beach frontage, is a U.S. Air Force (USAF) DEW Line site. The USAF currently maintains a ROW from BLM on 1,512 acres of land. The USAF is in the process of remediating environmental hazards there to relinquish the ROW because it no longer actively uses the land for DEW Line purposes.

U.S. Navy, Department of Defense. The U.S. Navy owns land that is located approximately about four miles northeast of Barrow and southeast of NARL. The future Tom Gordon Expressway / Uivaqsaagiaq Road that will connect Cakeeater Road to BARC will run through U.S Navy property.

U.S. National Oceanic and Atmospheric Administration (NOAA). NOAA owns property approximately five miles northeast of Barrow that is directly adjacent to land owned by USGS. NOAA operates the Earth System Research Laboratory (ESRL) that was established in 1973. ESRL measure the properties of the atmosphere related to air quality, ozone layer and greenhouse gases, especially as they related to climate changes. Located on the same site is the Atmospheric Radiation Measurement (ARM) Program that was created in 1989 by the U.S. Department of Energy (DOE). The Barrow facility was established in 1997. Barrow was chosen because the arctic has been identified as one of the most sensitive regions to climate changes on Earth. This facility provides data about cloud and radiative processes at high latitudes.

U.S Geological Survey. USGS owns property that is approximately 4.75 miles northeast of Barrow that abuts NOAA and U.S. Navy property.

U.S. Federal Aviation Administration. The FAA flight standards station is located on the north side of the Wiley-Post Memorial Airport runway.

U.S. Bureau of Land Management, National Petroleum Reserve – Alaska. Land that is located immediately south of the City of Barrow falls within the NPR-A, under the jurisdiction of the BLM.

16.1.2 Native Corporations

Ukpeaġvik Iñupiat Corporation (UIC), the village Native corporation established under ANSCA, is the primary landowner in Barrow. UIC has selected and received 175,620 acres under ANCSA sections 14(a), 12(b) and the NARL Transfer Agreement. UIC’s land holdings are bound by Point Barrow and the Beaufort Sea to the north, the Chukchi Sea to the west; and extend south to the farthest end of Sukok Lake and Lake Sungovoak; and east to Iko Bay and the northernmost portion of Lake Tusikvoak, as depicted in Figure 45. UIC has 7,177 acres
remaining to select to receive its full ANSCA land entitlement. In Barrow, ASRC owns the subsurface estate to over 175,000 acres of land beneath UIC surface estate.

One of the primary real estate holdings by UIC is NARL. The Barrow Arctic Research Consortium (BARC) has brought new life to NARL. Connecting Browerville to NARL via the planned Uivaqsaagiaq Road will likely further the revitalization.

The NSB Wildlife Management Department is currently located in Building 360 with Ilisagvik College at NARL. However, a project analysis report is underway to identify sites for a new facility for the Department. Potential sites include an addition to the BARC building and on an existing gravel pad northeast of its current location that would require demolition or relocation of existing buildings.

UIC is also developing a housing manufacturing plant at NARL to assist in remedying the housing crisis. Utilizing industrial hut 36 and outfitting it accordingly, UIC is currently developing a strategy to build traditional stick built homes in manageable sections inside the hut. Once each section is complete, the home will be transported to homesites within Barrow and potentially across the North Slope for onsite assembly.

Ilisagvik College, currently located within NARL, is investing sites for a new campus. UIC believes that keeping the College at NARL, perhaps in a new facility, would be beneficial for the students because of the potential for student training opportunities. Similarly, UIC would like to incorporate a future NSB Residential Learning Center facility at NARL to take advantage of some of the same vocational training opportunities as Ilisagvik students, including the proposed housing manufacturing plant, a future three bay garage for light and heavy duty mechanics and welding training, BARC programs and UIC Science Logistical Support Services, already based at NARL.

The siting for the College and the concept for the Residential Learning Center are still in their infancy and NARL one possible location for these facilities.
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**DISCLAIMER**

**SOURCES:**
- UMIAQ  Existing Roads
- Satellite Imagery: 2012 Worldview 2 Ortho Mosaic
- NSB GIS - Barrow Corporate Bnd., Zonning
- Conservation (C)
- Industrial (I)
- Mixed Use (MU)
- Reserve (R)
- Suburban (R)
- Science Research District

**FIGURE:**

**SCALE:**

0 0.5 1 Miles

**BARROW ZONING DISTRICTS**

**BARROW BOUNDARY**

**EXISTING ROADS**

**SCIENCE RESEARCH DISTRICT**

- BARROW
- Browerville
- Point Lay
- Warrenton
- Atqasuk
- Upper Kuskokwim
- Elson Lagoon
- Chukchi Sea
16.1.3 North Slope Borough

The NSB provides electricity, water, sewer, public health, public safety, fire protection and landfill services. The NSB owns the land under the public facilities that support these services to the community. Under the Barrow Gas Field Transfer Act, the NSB shares ownership of the Barrow Gas Fields subsurface estate with UIC and ASRC.

16.1.4 City of Barrow

The City of Barrow has limited land ownership within Barrow. The City owns land that is occupied by City Hall, the community recreation center, Piuraaqvik, boat launching ramp, Emaiksoun Cemetery and two historic cemeteries in Browerville. The City has also developed a subdivision named Block A with land that it received under its ANCSA 14(c)(3) entitlement. It has title to west of Block A that received title to under ANCSA 14(c)(3) and several tracts between the Wiley-Post Memorial Airport and Nunavak Bay. The City of Barrow owns over 50 acres of land.

16.1.5 Native Restricted Land

There are two types of protected (restricted) land for Native Alaskans: native allotments and townsite lots. Restricted land is inalienable; the property owner cannot lease, sell or convey the land, or any inherited interest in the land, without first obtaining approval from the Bureau of Indian Affairs (BIA). Generally speaking, restricted land is also not subject to state or local laws, including taxation and land use regulations, such as zoning. Native restricted land will remain tax-exempt unless changed by the United States Congress or the restrictions are removed with expressed approval by the BIA. (Kawerak Land Management Services 2014; Case, D. 2007).

Generally, restricted lots were distributed via two federal statutes: the Alaska Native Allotment Act of 1906 and the 1926 Alaska Native Townsite Act. The Alaska Native Allotment Act of 1906 authorized the Secretary of the Interior to grant individual Alaska Natives ownership of up to 160 acres of vacant, non-mineral and unappropriated land. The majority of Native allotments are near villages and along rivers, streams, lakes and coastal waters. There are only two Native allotments within ten miles of Barrow and approximately 185 within the Barrow Area of Influence (see Figure 36). In 1971, one of the provisions in the Alaska Native Claims Settlement Act (ANSCA) repealed the authority to grant Native allotments, with the expectation of those applications that had already been submitted. Native allotment land is still being conveyed by the Bureau of Land Management (BLM). (Kawerak Land Management Services 2014; U.S. Department of the Interior 2013).

The 1926 Alaska Native Townsite Act was passed by the United States Congress for the purpose of conveying public lands to Native Alaskans for homes within villages. All townsite acts were repealed by the passage of the Federal Land Use Policy and Management Act (FLPMA) in 1976 but lots that were already designed as Native restricted under the Act did not lose their status. There are at least 200 restricted lots within Barrow.

As the tribal government for Barrow, the Native Village of Barrow Realty Department is the primary entity that coordinates with the BIA in managing Native restricted properties.
Unlike other forms of property which are subject to the probate jurisdiction of state or Tribal courts, Native restricted property is completely within the U.S. Interior Department's jurisdiction. Because some restricted landowners do not always have wills that specify beneficiaries, heirs in common inherit the land, often for several generations. Some property may have multiple owners and each with each passing generation, the portions of property interest become smaller and smaller, causing the property to become fractionalized. Even without probate issues, it may be difficult to reach a consensus amongst multiple property owners, rendering a property virtually useless. Many organizations in Barrow, the NSB included, are interested in resolving probates for restricted townsite lots to take better advantage of the property and have taken steps toward resolving property ownership issues.

Native restricted land can become unrestricted. Once the restricted status is removed, the land can be taxed and it can be sold without BIA approval or oversight. For example, if a restricted property is willed to a non-native, it will be conveyed to that person in an unrestricted status. Natives that chose to leave a restricted property to a non-Native can opt to leave it as a life estate. The non-Native heir would use the property during his or her lifetime; when he passes away, the property is transferred to the second choice named in the owner’s will, thus returning it to restricted status. (Maniilaq Association Probates and Estate Services 2014). Property can also be sold to a non-Native, which removes the property’s restricted status.

There are several land use concerns with Native restricted property. If a structure on a restricted property becomes a safety hazard for the community, local land use regulations cannot require that property owners mitigate the property to remove the risk. This, coupled with fractionalization that comes with many owners, land and structures on it are often not maintained.

16.1.6 Other Institutional Landowners

The NSBSD, BUECI and the Presbyterian Church own lands on which their facilities are located.

Local municipal governments are the NSB (a home rule borough) and the City of Barrow (a first class city). Both governments have planning and zoning powers under Alaska State law. The NSB is the only entity that exercises planning and zoning powers with Barrow-specific zoning districts and zoning commission.

The City of Barrow is made up of two district areas – the original town site of Barrow and Browerville. The original town site is primarily the oldest part of Barrow; however the Cape Smythe Whaling Rescue Aid Station, located in Browerville, is one of the oldest structures in the community. Browerville is where the majority of newer development of Barrow has occurred, expanding over five large subdivision additions.

16.2 Zoning

Within Barrow there are four distinct zoning districts specifically designed to accommodate Barrow’s unique land use practices. These districts are the Barrow Mixed Use District (MU), Barrow Suburban District (S), Barrow Industrial District (I) and Barrow Reserve District (R).
The MU District is found primarily within the City of Barrow original townsite and allows a variety of uses, ranging from commercial to religious to multi and single family residential. Land that is zoned MU is allowed the most dense development of residential land in the NSB. The MU district also has the greatest number of restricted lots which has resulted in significant challenges to develop or redevelop the land after the original owner has died. Consensus among the many heirs is rare and the most likely reason the greatest development potential for additional accessible residential land will go unfulfilled.

The S District is intended to be a low density quiet residential area, encouraging development that reflects the traditional Iñupiat settlement pattern of individual family home sites. The S District is the low density alternative to the MU District, with single-family homes on large lots that have large spaces between houses and ample storage area for vehicles, boats and subsistence equipment.

The I District is intended to provide areas for airports and storage and warehousing of materials and goods in bulk. These uses which are generally not compatible with residential and commercial uses because of safety conflicts including aircraft, heavy truck and equipment traffic which is often segregated from pedestrian, residential and business traffic.

The R District is intended to provide protection for environmental resources, local subsistence and recreational opportunities and to hold lands for future infrastructure such as roads, sewer, water and power. The primary objective of the R District is protection of the environmental resources, especially watersheds, for the benefit of all residents.

Crossing the corporate limits of Barrow is the Scientific Research District (SRD). The SRD is specific to the Barrow Environmental Observatory (BEO), 7,466 acres of land reserved by UIC for scientific research purposes. Scientific land use in this area dates back to 1948 and has one of the longest records of continuous research use in the Arctic.

Outside of the corporate limits of Barrow is the Conservation District (C). Lands zoned for Conservation are intended to be kept in a natural state. Many Barrow residents depend on subsistence foods which flourish in a natural and clean environment.

16.3 Land Issues

16.3.1 North Slope Subsistence Rural Region Designation

Members of one of the tribal organization raised the concern that because Barrow’s population is approaching 5,000 people, residents might be exempt from the North Slope Region federal designation as a Subsistence Rural Region. Under the authority of the Alaska National Interest Lands Conservation Act (ANILCA) regulations established rural subsistence use on federal lands. The following regulation governs such designations:

“§242.15 Rural determination process.

(a) The Board shall determine if an area or community in Alaska is rural. In determining whether a specific area of Alaska is rural, the Board shall use the following guidelines:
(1) A community or area with a population of 2,500 or less shall be deemed to be rural unless such a community or area possesses significant characteristics of a non-rural nature, or is considered to be socially and economically a part of an urbanized area.

(2) Communities or areas with populations above 2,500 but not more than 7,000 will be determined to be rural or non-rural.

(3) A community with a population of more than 7,000 shall be presumed non-rural, unless such a community or area possesses significant characteristics of a rural nature.

(4) Population data from the most recent census conducted by the United States Bureau of Census as updated by the Alaska Department of Labor shall be utilized in this process.

(5) Community or area characteristics shall be considered in evaluating a community’s rural or non-rural status. The characteristics may include, but are not limited to:

   (i) Use of fish and wildlife;

   (ii) Development and diversity of the economy;

   (iii) Community infrastructure;

   (iv) Transportation; and

   (v) Educational institutions.

(6) Communities or areas which are economically, socially, and communally integrated shall be considered in the aggregate.

(b) The (Federal Subsistence) Board shall periodically review rural determinations. Rural determinations shall be reviewed on a 10-year cycle, commencing with the publication of the year 2000 U.S. census. Rural determinations may be reviewed out-of-cycle in special circumstances. Once the Board makes a determination that a community has changed from rural to non-rural, a waiting period of 5 years shall be required before the non-rural determination becomes effective.

Barrow's population would need to exceed 7,000 residents for the community to lose its presumptive designation as part of the North Slope Subsistence Rural Region (NSSRR). The current projections with oil and gas development occurring in the Chukchi Sea, the Barrow community would reach 7,000 residents in about 2030. Even if the number of residents exceeds 7,000 people, the community can petition the Federal Subsistence Board to retain its status as part of the NSSRR. This issue may not need to be addressed for another 20 years.
16.3.2 Historic Buildings and Structures

Birnirk Archeological Site. National Historic Landmarks are considered to have exceptional national significance quality in illustrating or interpreting the heritage of the United States. Properties are designated by the Secretary of the Interior. Currently, there are just over 2,500 historic places with this national distinction, including the Birnirk archeological site in Barrow. The Birnirk site, composed 16 mounds located near the beach, was added to the list of National Historic Landmarks in 1962. This site is associated with the Birnirk and Thule cultures, precursors to the modern day Eskimo culture.

The National Register of Historic Places is an inventory maintained by U.S. National Park Service that have been determined to be worthy of preservation based on historic or cultural significance. The National Register of Historic Places is one effort by the National Park Service’s to coordinate and support preservation of historic and archeological resources. There are several buildings and other structures in the Barrow vicinity on the National Register of Historic Places. Birnirk archeological site is on both the National Historic Landmarks designation and the National Register of Historic Places (U.S. Department of the Interior 1962; U.S. Department of the Interior 1966).

Point Barrow Refuge Station. According to the nomination for inclusion on the National Register of Historic Places inventory, the significance of the Point Barrow Refuge Station (later known as the Cape Smythe Whaling and Trading Station) is that it is “both the oldest - as well as most significant – American-built frame structure standing along the vast reaches of the Arctic Ocean between the Seward Peninsula and Demarcation Point at the Canadian Border - the northernmost outpost of the United States. The building, its management, and related events, played a significant role in commerce, whaling, fur trading, exploration, and development of the region. After 1896 this building epitomizes the extensive, colorful and important exploits of the redoubtable Charley Brower (and later of his son Tom) in association with about all of the pioneer explorers, whalers, scientists, missionaries, politicians, entrepreneurs and adventurers who visited the region.” It was added to the inventory of historic places in December 1980; the photo below is from the initial nomination in September 1980 (U.S. Department of the Interior 1980a).
Will Rogers – Wiley Post Memorial Site. This memorial site is located at the site of the fatal plane crash, approximately 13 miles south of Barrow, is included on the National Register of Historic Places. The first memorial was constructed in 1938 by public subscription of thousands of Americans and under the organized efforts of friends and admirers in Oklahoma and Texas (U.S. Department of the Interior 1980b). The second monument was constructed by a lone admirer of Will Rogers in 1953. The original memorial was moved to higher ground in 1973 and now sits next to the second memorial. The crash site was included in the historic places inventory in April 1980.

Utkeagvik Presbyterian Church Manse. The manse is the residence for the pastor of Utkeagvik Presbyterian Church, built in 1929. Dr. Henry W. Greist, who lived in Barrow from 1921-1925 and again from 1929-1936 was the church pastor as well as a physician for the community and the Manse served as both his home and an outpatient clinic. The Manse was added to the historic places inventory in October 1983 (U.S. Department of the Interior 1983).
There are other sites in Barrow that have either have the potential to be nominated for inclusion on the National Register of Historic Places or worthy of preservation without a National Register of Historic Places designation. These include:

- The current NSB Administration Building;
- The weather balloon launching building on the old Weather Station site;
- Three homes near Top of The World Hotel which were reportedly built with lumber salvaged from stranded in the ice whaling ships complete with old brass fittings;
- The former Ipalook School gymnasium that is currently used as a roller rink;
- The Presbyterian Church that was established in 1898; and
- Some elements of NARL including the main structure, possibly the old theater building, some residential Quonset huts, one or more of the industrial Quonset huts and the elevated utilidor.

16.3.3 Current Land Use

The majority of property located in the original Barrow townsite is a mix of commercial, industrial, institutional and residential development. There are a significant number of properties that appear to be abandoned due to fire, structural failure or are no longer occupied. Browerville is primarily residential, but also includes large institutional and commercial development.
Residential Uses. The majority of residences are concentrated in Browerville. There are many homes in the older section of Barrow but are mixed with offices, hotels, restaurants and other uses.

Commercial Uses. Commercial enterprises have sprung up all around Barrow and Browerville due to the permissive zoning laws in Barrow and limited space to develop around existing commercial development. Current commercial development efforts involve redevelopment of previously zoned Suburban residential land or Mixed Use land.

Industrial Uses. Most industrial activities are located around the Barrow airport, along the beach in northern Browerville or at the BUECI business complex.

Institutional Uses. The primarily institutional facilities are used for health care, museum/library, Ilisaġvik College and government offices. These facilities are dispersed throughout Barrow and Browerville.

Land use in Barrow and its vicinity is illustrated in the following figures:

- Figure 51: Barrow Land Use
- Figure 52: Browerville Land Use
- Figure 53: South Barrow Land Use
- Figure 54: UIC NARL Land Use

16.3.4 Future Land Use

Residential. Barrow, like all other NSB villages, has a shortage of available land for residential homes. UIC, as the primary landowner in Barrow, has indicated it intends to make more land available for residential use. It will be largely through UIC’s efforts that residential land becomes available.

Public Infrastructure. The City of Barrow has expressed interested in building a community freezer but has not located suitable land for this use.

ANCSA 14(c)(3). UIC has not completed its 14(c) requirements in transferring land to the local municipality.
Barrow
Atqasuk
Point Lay
Wainwright
Tasigarrok Lagoon
Lower Isatkoak Lagoon
Upper Isatkoak Lagoon

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DISCLAIMER

SOURCES:
Satellite Imagery: July/August 2012
NSB - GIS - Land Use & Parcels
*Land Use was attributed from 2014 NSB Assessor's data

scale: 0 300 600 Feet

BARROW LAND USE

PARCELS & ROWs
CORPORATION (COR)
CITY (CTY)
FEDERAL (FED)
HOUSING AUTHORITY (HAS)
NATIVE RESTRICTED (NAT)
NORTH SLOPE BOROUGH (NSB)
PRIVATE (PVT)
SHAREHOLDER (SHR)
STATE OF ALASKA (SOA)
RELIGIOUS (REL)
SOUTH BARROW

Barrow

Atqasuk

Wainwright

Chukchi Sea

Beaufort Sea

Land Use

Scale:

Figure:

UMQ: E:\GIS\Umiaq\Project\BRW_COMP_PLAN\MXD\BRW_COMP_PLAN_SB_LUC_r02.mxd

Sources:

Satellite Imagery: July/August 2012

NSB - GIS - Land Use & Parcels

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17.0 COMMUNITY PLANNING CHALLENGES AND OPTIONS

Four future development perspectives (options) were created that incorporated different potential scenarios. This section presents diagrams of the four planning options for discussion and comparison. The majority of the discussion focuses on Option 4, Consolidated. Option 4 incorporates the best aspects of Options 1, 2, and 3.

17.1 Options 1, 2 and 3

- Figure 55 Option 1: Status Quo
  This scenario shows what the Barrow community might look like if each entity or organization sought a location for its facility to meet its specific service needs based on what is available and conducted independently from other community and organizational interests.

- Figure 56 Option 2: Renewal
  This future development scenario focuses on the renewal of Barrow’s original townsite by capitalizing on existing infrastructure.

- Figure 57 Option 3: New Town Center
  This scenario looks at future growth as it expands further into undeveloped areas of Barrow with a focus on the new Samuel Simmonds Memorial Hospital as a driving force of community development.
17.2 Option 4 - Consolidated Plan

After reviewing the best features of Options 1 through 3, Option 4 was created. Several figures are included to depict the overall Option 4 configuration and details in specific areas (Areas A through G) as listed below. Locations of Areas A through G are delineated in Figure 58.

- Figure 58 Option 4, Consolidated Plan
- Figure 59 Detail Plan Area A, Central District
- Figure 60 Detail Plan Area B, Ilisagvik / NSBSD / BUECI
- Figure 61 Detail Plan Area C, State /NSB / NSBSD / City of Barrow
- Figure 62 Detail Plan Area D, Health Care / Housing / Commercial
- Figure 63 Detail Plan Area D, Health Care / Housing / Commercial, continued
- Figure 64 Detail Plan Area E, State / NSB / NSBSD
- Figure 65 Detail Plan Area F, BUECI / NSB
- Figure 66 Detail Plan Area G, NSB / NSBSD

1. Area A

The NSB has been considering constructing a consolidated office space for NSB employees. The Barrow Consolidated Office Space project analysis report (PAR) dated March 5, 2014 has been completed. The report indicates that a site of 3.2 acres is needed. While the report does not identify a location for the facility, NSB planning team members indicated that a desired location is the former Weather Service site. Option 4 supports this site choice.

This site is approximately 8.6 acres and is currently occupied by six small structures, eight lesser structures, the former weather balloon launch structure and Fire Station #1 which occupies approximately one-half acre. With the exception of Fire Station #1 these facilities are unoccupied. A dead end extension of Okpik Street projects into the property. NSB Assessing data indicates that the property is owned by UIC. It is unclear, however, if UIC has completed acquisition of this property.

Fire Station #1 may need additional space for expansion as the south airport industrial area is developed. The Fire Department's administrative offices could be relocated from the Browerville Station to an expanded Fire Station #1 to bring staff closer into the NSB central administration that would be located within the consolidated facility.

The former weather balloon launch facility is a visual icon in the community and has been mentioned as a potential site for historic preservation consideration. This facility has tourism potential if repurposed, perhaps as a restaurant or weather museum.

If Okpik Street were carried through the property, the land south of Okpik could support new housing. This portion of the property is approximately 1.24 acres and could potentially support 12 units of housing or more, depending on resident preferences. Extending Okpik Street would consume 0.83 acres of the site. If Fire Station #1 was expanded, it would be best positioned on the site facing Kongosak Street; the remaining
portion of the site would be approximately 5.3 acres, potentially leaving sufficient space on the property for both the NSB Consolidated Offices and a new daycare center, conveniently located near the workplace of parents.

The site holds a lot of potential for the community and should be master planned from a community needs perspective to maximize its potential.

2. Area B shows two sub areas.

- Sub Area 1

Sub Area 1 is a primary renewal area consisting of a combination of the former hospital site, former BIA school site, BUECI, NSB Administrative Building, National Guard site and two privately owned residential lots.

Many community stakeholders have indicated that this part of Barrow has many structures that have exceeded their useful lives, outlived their original functional purposes and are absorbing high maintenance dollars. This area is also one of the most valuable contiguous pieces of real estate in Barrow and Browerville and is a viable candidate for renewal.

The site has two facilities that have potential historic value: the former “Home of the Whalers” gymnasium, now the roller rink and the NSB Administrative Building. The site also has infrastructure and facilities: the power plant, water treatment plant, water tanks and the water distribution facility.

Some stakeholders indicated that this property should be maintained for educational purposes. Option 4 examines the opportunities of this property from multiple uses and perspectives, primarily educational uses and facilities while also considering shared facility potential.

1) The NSBSD could also benefit by consolidating its spread-out administrative functions into a single NSBSD consolidated facility. The District's central office structure is 7,596 square feet; total dispersed space is closer to 45,000 square feet, including schools.

2) The School District has been confronted with displacement of its highly successful Kiita Learning Community program for a daycare facility.

3) The School District has been charged with developing a Residential Learning Center program for students from outlying villages.

4) Some community members have expressed interest in having the former “Home of the Whalers” gymnasium preserved and restored.

5) Ilisaġvik College is investigating potential sites for a new facility.
6) A NSB Consolidated Office facility would allow repurposing the current NSB Administrative Building, potentially as a historic structure.

7) The Samuel Simmonds Memorial Hospital has moved. The medical staff housing is still used.

8) There is a common thread between the School District, Iḷisaġvik, the proposed Residential Learning Center and Kiita. Vocational education prepares students to participate in job opportunities on the North Slope and this common thread links these entities. Co-location of educational facilities on a contiguous site may provide otherwise overlooked shared facility opportunities.

9) The proposed NVB walkway could connect the High School to vocational education classrooms.

10) The contiguous site could provide northern design opportunities with potential warm linkages between educational facilities.

11) The current medical staff housing at the former hospital site has dormitory potential for Ilisagvik College and / or the Residential Learning Center. Ilisagvik’s space plan identifies a need for student / family housing at 23,447 square feet; ASNA medical staff housing is approximately 40,000 square feet.

12) The NSB Administrative Building was purportedly designed as a museum. If a consolidated NSB office facility is constructed, the Administrative Building could be repurposed into classrooms, a lecture hall and library facility for Ilisagvik College students and faculty. The former hospital and Greist Center could be demolished and replaced with a new Ilisagvik administration facility with adequate parking. Academics, administration, a kitchen and cafeteria (54,685 square feet), a new vocational educational complex identified as classrooms and labs (3,521 square feet), shop (26,827 square feet) and support space (2,916 square feet) could be accommodated on this site.

13) The former hospital site offers close access to the best recreational spaces in Barrow. The recreation needs of Ilisagvik students could best be planned using the high school and Piuraagvik facilities. Future use of a restored “Home of the Whalers” gymnasium could provide additional recreational space.

The necessary components to implement this development scenario include:

1) Resolve land ownership issues. Potential requests for ownership from the Bureau of Indian Affairs may be required.

2) Demolish the Greist Center, former hospital, warehouse and shop structures.

3) Replace medical staff housing in-kind.
4) Replace warehouse and shop functions.

5) Relocate the National Guard building.

6) Relocate BUECI office to make room for site accessibility.

7) Purchase the two residential properties on Momegana Street.

8) Construct new teacher housing (see discussion for Area C regarding multifamily housing east of Block A).

9) Construct the NSB Consolidated Office facility.

10) Remove existing teacher housing. Contractors could relocate and repurpose this housing or demolish it.

11) Demolish structures surrounding the former “Home of the Whalers” gymnasium.

12) School District warehouse functions would need to be replaced. If the Public Works shops are replaced, there would be an interim opportunity to move this function into one of the shops until new accommodations can be arranged. Alternatively, the School District maintenance facility could be expanded to include warehouse functions.

Recommendations

Should the NSB pursue this renewal option, a joint educational programming effort including NSBSD and Ilisagvik College should be conducted to maximize joint educational opportunities. Undertaking a master plan for this area is recommended.

- Sub Area 2

Barrow High School is land locked on its west side by the 29-plex apartment building.

3. **Area C has three sub areas.**

- Sub Area 1

Sub Area 1 is a potentially contiguous site that combines Ipalook Elementary School, Piuraagvik, Barrow High School, a segment of Okpik Street, the CYS facility, KBRW, the North Slope Borough School District maintenance facility and an area currently occupied by the School District bus barn and Public Works Fuel Division.

Option 4 examines opportunities of this potentially contiguous site from multiple perspectives:

1) Many members of the Barrow community expressed the need evening and weekend activities, especially for family recreation.
2) Barrow High School, as currently configured, is not meeting community needs as well as it could.

3) The ASD in its two high school PARs has attempted to respond to these issues.

The BHS Multipurpose Room Addition PAR, dated January 2010, proposed a 16,711 square feet addition. However, the PAR did not address additional parking needs, where the multipurpose room addition would fit on this congested site or how this addition would affect functional flow and defensible space planning for the school.

The Major Facility Upgrades PAR, January 2010, examines the replacement of the existing swimming pool and related equipment without considering its potential for community use.

Neither PAR included an analysis of vocational education opportunities or a potential Residential Learning Center.

4) The City of Barrow has expressed a desire to move the football field to its Piuraaqvik site.

5) The City of Barrow has consistently looked for revenue opportunities to support its daily operations.

6) The NSB Health Department has indicated that the CYS facility is too small to meet current and projected community needs, there is little space for expansion and it lacks an outdoor area for children to play.

7) The State of Alaska in its Barrow Airport Master Plan indicates that realigning Ogrook Street north from Kiogak Street to Okpik Street may be needed to provide additional parking at facilities on the north side of the airport. The realignment would provide direct access to the potentially contiguous site.

8) Moving Ogrook Street creates significant opportunities which include folding a portion of Okpik Street into this site because it would no longer need to provide access to the NSB maintenance facility and KBRW. (The buried utilidor under Okpik Street would need to remain as well as access to it).

9) Combining the replacement of the School District Bus Barn and Public Works Fuel Division structures and relocation of CYS, this site becomes unrestricted and can easily resolve school bus and parent loading / unloading areas as well as parking for larger community events.

10) The proximity of the City of Barrow facilities and Barrow High School provide an opportunity for a warm walkway connection. The potential use for these facilities becomes considerable for community events. Facility space would include three gymnasiums, the proposed school district multipurpose room, an aquatics facility in lieu of replacing the existing pool and equipment (see item 11), potential night
classes, football, ice skating, exercise classes, handball, baseball/softball, etc. Providing space for childcare while parents are engaged in other activities would also be beneficial. The City could add retail space to increase revenue, such as food service.

11) The City of Barrow and the School District could create a high school pool that would accommodate not only school events but community activities as well.

12) The City’s facilities help to provide the High School with opportunities that generally speaking are only available at large High Schools.

The necessary components to implement this development scenario include:

1) Public Works needs shop replacement facilities.

2) The School District needs a new bus barn near the Public Works shop replacement facilities.

3) The State of Alaska needs to realign Ogrook Street in the near term.

4) The Public Works building would need to be relocated and repurposed, potentially to a 29-unit apartment complex.

5) The expanded CYS facility would be relocated to the north side of Ipalook Elementary School.

6) Update both PARs for Barrow High School.

Recommendations

To maximize opportunities on this site, the City of Barrow and the School District need to coordinate the programming and master planning for this site.

- Sub Area 2

Sub Area 2 is the City owned block of land northeast of Block A. This site is ideal for multifamily housing and could accommodate displaced teacher housing from the CO2 site (approximately 33 units), Search and Rescue pilot housing needs (six units), BUECI housing needs, Health Department itinerant needs and still have additional capacity. This site would support 80 to 100 units of townhouse-style three bedroom single car garage units. Because the City owns the property, they could take the lead by acquiring leases to secure financing. School District staff has discussed an attempt to integrate teacher housing throughout the community. Constructing multi-family housing initially for teachers would not require that it always be reserved for teachers.
• Sub Area 3

Sub Area 3 includes the north side airport lease land that specifically includes potential for a new Alaska Airlines terminal and NSB Search and Rescue facility. A potential location for a new terminal is on Ogrook Street near Takpuk Street.

Recommendations

The Barrow community needs to express their preference regarding the terminal location.

4. Area D

Area D extends from Soya Street to the extension of Okpik Street and is bordered on the southwest by Upper Isatkoak Lagoon and on the northeast by heavy wetlands. This is an area for a potential town center being driven by the new hospital location, potential access between the airport and the hospital, the quantity of buildable ground and the direction of new housing development. The potential of this site extends far beyond 2035 due to its significant size.

Option 4 examines opportunities of this site from multiple perspectives:

1) Because the new hospital has been established, a long term care facility (perhaps similar to those in Nome and Kotzebue) is a likely within the timeframe of this comprehensive plan.

2) ASNA and the NSB Health Department envision this area as a future health center that, in addition to long term care facilities, would include mental health, substance abuse, assisted living and prematernal facilities.

3) UIC is considering constructing an extended stay hotel in the area near the hospital.

4) Housing development is expanding into this section of Browerville. Mixed use areas would allow small businesses a potentially more affordable location to start a business.

5) As healthcare and housing develop in this area, a daycare facility nearby would benefit residents.

6) There has been interest expressed by residents that a mall-type facility to potentially include a washeteria, bowling alley, movie theater and food court, be developed. This area is a logical location for such a facility.

7) This location near the hospital is an ideal to meet ASNA’s housing needs for medical staff (estimated at 100 units).
8) There has been discussion about developing a traditional community facility that could accommodate up to 3000 participants. The goal is a cultural gathering place that could host major local, regional or international events in a non-gymnasium environment.

The necessary components to implement this development scenario include:

1) Roads and utility extensions must be extended for further development.

2) Additional discussion is needed to ensure that all the healthcare components that are envisioned by the NSB Health Department and ASNA are discussed as a joint effort.

Recommendations

A joint effort by ASNA and the NSB Health Department is needed to clarify providers’ roles and further determine needed healthcare facilities needed. A joint master plan should follow.

5. Area E

Area E is preferred by the Police and Public Works Departments for a new Police Station and Justice Center and new Public Works Shops. The School District’s bus barn, warehouse needs and a relocated National Guard building could also be accommodated in this area.

Recommendations

1) A PAR should be prepared for NSB Public Works facility needs at this location that include a replacement of the DMS Storage Shop #3429, Heavy Equipment Shop II #3427, Heavy Equipment Shop Warehouse #3425, Light Duty Service Shop #3431 and Mechanical Building (former bus barn) #1685. The PAR would need to interpret demographic projects thru 2035 as they will likely require more equipment storage and maintenance bays, perhaps including wash bays as well.

2) A PAR should be prepared to address both bus barn and warehouse needs.

3) Should Area B renewal be pursued, the National Guard Building proposed relocation will need to be addressed with the National Guard.

6. Area F

Area F is preferred by the NSB Fire Department for Fire Station #3 and a training facility. It is also the area selected by BUECI for a redundant generator and water treatment facilities.
Recommendations

1) A PAR should be conducted to determine Fire Station #3 and training center needs and location.

2) A study of BUECI redundancy opportunities needs to be conducted.

7. Area G

Area G illustrates a proposed site for a substance abuse location, jail, detox center, police station and future AWIC facility. This location meets the locational needs of the Police Department: it is centrally located to service the community with minimum response times and it has multiple travel options in case of road blockages.

The Police Department choose the location depicted in Area E. However, Area E requires the construction of Okpik and Uula streets with utility extensions before the Police Station could begin construction. The current Police Station lease is nearing its expiration. It is likely that the NSB will have to negotiate a short term extension to accommodate development in either area E or G. Because Area G already has roads and utilities, it would provide for faster replacement.

The Health Department requested that if a new AWIC facility were to be developed, that it be located close to the Police Station.

Recommendations

1) The police station PAR should be updated and include detox and both State and Tribal courts.

2) The NSB Health Department, State Court and NVB should be included in the planning process.