Final Nanushuk Site Specific Plan

Introduction

The Department of Natural Resources (DNR) has received a request for a disposal of interest in coal totaling approximately 116,000 acres of land in an east-west belt along the north flank of the Brooks Range. Beischer and Associates, St. George Ventures, Inc, and Xplore LLC have requested coal prospecting permits covering an area extending from about five miles west of Toolik Lake on the east to three miles west of the Anaktuvuk River on the west (See Plate 1, Nanushuk Site Specific Plan and Proposed Coal Permitting Area). The DNR has prepared the Final Finding and Decision, Nanushuk Coal Prospecting Permits (ADL 418913, formerly ADL 418881) to issue coal prospecting permits over most of the requested area. This site specific plan has been written to provide a classification which will allow for permitting to proceed while protecting other resource values. A draft site specific plan was written and sent to agency review and public notice. No comments were received regarding the site specific plan. However, numerous comments were received regarding the Preliminary Decision for the Nanushuk Coal Prospecting Permits. Those comments are being carefully considered and will be responded to in a final finding and decision. The information developed for the Preliminary Decision for the Nanushuk Coal Prospecting Permits is incorporated by reference in this site specific plan.

There is currently no land classification for any land in the coal prospecting permit area. A land use plan is required by law (AS 38.04.065) and regulation (11 AAC 55.040) for most disposals of state land or of interest in state land. If the area of the intended disposal is not classified by an area plan or management plan a site specific plan is used to provide the basis for classification. The Nanushuk Site Specific Plan (SSP) has been written in part to classify approximately 192,000 acres of land in the area of the planned coal disposal, and to provide management intent for the area. The Nanushuk SSP covers all the coal permitting area plus a one-mile buffer conforming to section lines on surrounding state patented, tentative approved, and priority 1 & 2 state selected land. The buffer is intended to allow for mitigation of any issues relating to coal development within the prospecting permit area. This SSP does not classify the "doughnut hole" in the permitting area within in sections 7-24 T9S R7E, and the same sections in T9S R8E, UM. That land is not state owned or state selected.

The Nanushuk SSP and associated Land Classification Order (LCO) No. NC-10-002 classify State Lands within the Plan area as Resource Management. The Plan area is presently used for a variety of subsistence activities, including hunting, fishing, trapping, and berry picking. Although the majority of the subsistence activities are conducted in the western parts of the SSP area, the entire SSP area provides important habitat for fish and game animals. (See Chapters 5 and 6: Final Finding and Decision, Nanushuk Coal Prospecting Permits) The coal prospecting permits will provide for potential coal mining, and possibly facilities for conversion of coal to liquid fuels (See Chapter 7: Reasonably Foreseeable Effects of Coal Exploration and Mining, and Potential Mitigation Measures in Preliminary Decision, Nanushuk Coal Prospecting Permits).

There are also 23 oil and gas leases covering most of the western two-thirds of the permitting area, clearly indicating industry interest in potential petroleum development. There have been no oil or gas test wells drilled within the permitting area to date, however. The Resource Management classification will allow for multi-use management of the land with a variety of current and potential future uses.

The management intent of the Nanushuk SSP is to provide for responsible development, including potential development of coal, oil and gas, and mineral resources, while protecting wildlife, fish habitat, and other subsistence resources. Protection of water resources, both surface waters and groundwater aquifers, is an important part of the management intent.

Background Information

Location and Geographic Description

The Nanushuk Site Specific Plan area is situated along the northern foothills of the Brooks Range, in a narrow east-west belt extending from approximately five miles west of Toolik Lake to Banded Mountain, just west of the Anaktuvuk River. The Plan area covers portions of townships 8, 9 and 10 south, ranges 3 through 10 east, Umiat Meridian. (See Plate 1, Nanushuk Site Specific Plan and Proposed Coal Permitting Area) The Plan area is within the Chandler Lake and Phillip Smith Mountains quadrangles (USGS 1:250,000).

Topography within the Plan area is moderately to very rugged with elevations ranging from approximately 1,500 feet along several of the major stream drainages to 3,293 feet on Itigaknit Mountain, in the northeastern part of the permitting area. The Anaktuvuk River cuts the western edge of the area, draining the high Brooks Range to the south. The Itkillik River traverses the eastern end of the area, and the Nanushuk and Kanayut Rivers also run north-south through the west-central part of the permitting area. The area does not have many lakes. Most lakes within the SSP are less than 50 acres in size, but there are six that are over 50 acres. The largest lake is approximately 147 acres, located in section 30, T9S, R10E. None of the 50-acre lakes are within the coal prospecting permit area.

North Slope Borough and Native Corporation Interests

The Plan area lies entirely within the North Slope Borough. The nearest community is Anaktuvuk Pass, approximately 35 miles south-southwest of the western end of the permitting area. In 2007 Anaktuvuk Pass had a population of 277 (2007 Department of Commerce, Community and Economic Development Certified Population, http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm). Nunamuit Corporation is the Village Corporation established pursuant to the Alaska Native Claims Act of 1971, for the Inupiat Eskimos of Anaktuvuk Pass. Nunamuit Corporation owns approximately 92,000 acres of surface lands in and around the community. None of the Nunamuit Corporation lands are near the permitting area. However, the Arctic Slope

Regional Corporation does own sections 7 through 24 in both T9S, R7E and T9S, R8E, Umiat Meridian.

Alaska Coastal Zone Management Program

The coastal zone encompasses a buffer extending one mile on either side of anadromous streams within the Plan area. The affected anadromous streams are the Anaktuvuk, Nanushuk, Kanayut, and Itkillik Rivers, and May Creek. These streams are within the North Slope Borough Coastal District, but there is no approved district management plan. Therefore, the portion of the Plan area within the coastal zone is subject to the statewide standards (Chapter 11 AAC 112). A single agency coastal zone review has been conducted by the Mining Section of the DNR. The planned permitting has been found consistent with the ACMP.

Title/Land Status

The title abstract (below) includes State title and active oil and gas leases. Some of the land within the one-mile buffer is federally owned, but state selected, priority 1 or 2. There are no active mining claims within the Plan area, although the land is open to mineral entry.

The Hickel Highway, RST 450, traverses the Plan area along the Anaktuvuk River in sections 9, 16, 17, 20, and 21, T9S, R4E UM. The Hickel Highway is a qualified RS 2477 right-of-way.

The Nanushuk Site Specific Plan area is subject to ADL 50666, a special use designation covering the entire Umiat Meridian. This special use designation requires that operators obtain a permit for geophysical surveys, exploration, construction and off-road transportation activities. The required permit is a land use permit issued by the Land Section of the DMLW for vehicle use associated with these activities.

T9S, R3E, Umiat Meridian Sections 11-14, 23, 24 - GS 2346, Patented, Land & Mineral

ADL 389828 – Section 11-14. Oil and Gas Lease. Anadarko Petroleum, Encana Oil and Gas, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

ADL 389829 – Section 23 and 24. Oil and Gas Lease. Anadarko Petroleum, Encana Oil and Gas, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

T9S, R4E, Umiat Meridian, Sections 7-24 – GS 2346, Patented, Land & Mineral

ADL 389830 – Sections 10-15. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

ADL 389831 – Sections 7-9, 16-18. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

ADL 389832 – Sections 19-21. Oil and Gas Lease. Anadarko Petroleum, Encana Oil and Gas, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

ADL 389833 – Sections 22-24. Oil and Gas Lease. Anadarko Petroleum, Encana Oil and Gas, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

T8S, R5E, Umiat Meridian, Sections 35 and 36. GS 5057, TA (Tentative Approval) Land & Mineral

T9S, R5E, Umiat Meridian, Sections 1-3, 7-24. GS 5058, TA, Land & Mineral. Sections 25-30 and 36. GS 5058, State Selected Priority 1-2, ANILCA Topfiled.
ADL 389834 – Sections 1-3, 10-15. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

ADL 389835 – Sections 7-9, 16-18. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

ADL 389836 – Sections 19-21. Oil and Gas Lease. Anadarko Petroleum, Encana Oil and Gas, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

ADL 389837 – Sections 22-24. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

T10S, R5E, Umiat Meridian, Section 1. GS 5059, State Selected Priority 1-2, ANILCA Topfiled.

T8S, R6E, Umiat Meridian, Sections 31-36. GS 5069, TA, Land & Minerals

T9S, R6E, Umiat Meridian, All. GS 2345, TA, Land & Minerals
ADL 390225 – Sections 1-3, 10-15. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 390226 – Sections 4-9. 16-18. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 389838 – Sections 19-21, 28-33. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

ADL 389839 – Sections 22-27, 34-36. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 6/30/2012.

T10S, R6E, Umiat Meridian, Sections 1-6. State Selected, Priority 1-2.

T8S, R7E, Umiat Meridian, Sections 25-36. GS 2333, Patented, Land & Minerals
ADL 414841 – Municipal Selection, North Slope Borough

T9S, R7E, Umiat Meridian, Sections 1-6, 25-36. GS 2345, Patented, Land & Minerals

ADL 390227 – Sections 1-3. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 390228 – Sections 4-6. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL390229 – Sections 25-27, 34-36. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL389840 – Sections 28-33. Oil and Gas Lease. Conoco Phillips Alaska, Inc, Chevron USA, Inc. Lease Exp. 6/30/2012.

T10S, R7E, Umiat Meridian, Sections 1-6. State Selected, Priority 1-2.

T8S, R8E, Umiat Meridian, Sections 19-22, 25-36. GS 2333, Patented, Land & Minerals

T9S, R8E, Umiat Meridian, Sections 1-6, 25-36. GS 2345, Patented, Land & Minerals

ADL 390230 – Sections 1-3. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 390231 – Sections 4-6. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 390232 – Sections 28-33. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

ADL 390233 – Sections 25-27, 34-36. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

T10S, R8E, Umiat Meridian, Sections 1-6. State Selected, Priority 1-2.

T8S, R9E, Umiat Meridian, Sections 1-4, 9-16, 19-36. GS 5095, Patented, Land & Minerals

T9S, R9E, Umiat Meridian, Sections 3-11, 13-36. GS 2344, Patented, Land & Minerals

T10S, R9E, Umiat Meridian, Sections 1-6. State Selected, Priority 1-2.

T8S, R10E, Umiat Meridian, All Sections. GS 5102, Patented, Land & Minerals.

T9S, R10E, Umiat Meridian, Sections 3-6, 27-34, excluding portions within the Dalton Highway Corridor. GS 5103, Patented, Land & Minerals
ADL 390235 – Sections 27-34. Oil and Gas Lease. Anadarko Petroleum, Petro-Canada (Alaska), BG Alaska E & P Inc. Lease Exp. 2/28/13.

T10S, R10E, Umiat Meridian, Sections 3-6. State Selected, Priority 1-2.

All patented lands include standard reservations for ditches and canals constructed by the authority of the United States. All tentatively approved land includes right-of-way reservations for railroads and telegraph lines, with 100' and 25' ROWs on either side of center line, respectively.

Resource Values and Current and Potential Uses

The Nanushuk Site Specific Plan area currently provides habitat for fish and wildlife, and is used for a variety of subsistence activities. The area encompasses lands traditionally and presently used for economic, cultural, and social purposes, primarily by residents of Anaktuvuk Pass, but also by residents of Barrow and Nuiqsut (ADF&G, 2000). Subsistence activities vary from season to season depending on the availability of food and the ability to travel. In summer, the primary mode of transportation is by small skiff, which can navigate the shallow river channels and by ATV for overland access. In winter, snow machines provide transportation to hunting and fishing camps. Historical subsistence access routes on the North Slope follow all major rivers and skirt the coast from the Canadian border to Wainwright and beyond. The Inupiat make use of virtually all local plant and animal resources for food and raw materials.

The distribution of vegetation in the northern foothills of the Plan area is affected by soil conditions, elevation, and drainage. Moist tundra is the dominant plant community of the foothills region. It is dissected locally by river drainages. Cottongrass tussocks 6 to 10 inches high, separated by narrow channels, cover large area of rolling terrain. Other plants growing with the cottongrass include small shrubs such as dwarf birch, willows, Labrador tea, cloudberry, and a few herbs like bistort and cloudberry (AEIDC, 1975:121).

Anadromous streams in the area are the Anaktuvuk, Kanayut, Nanushuk, and Itkillik Rivers, and May Creek. These all flow north from the Brooks Range toward the coastal plain. A wide variety of fish live in these streams and in local lakes (See Chapter 5: Habitat, Fish and Wildlife in Final Finding and Decision, Nanushuk Coal Prospecting Permits). Residents of Anaktuvuk Pass often fish for lake trout during the winter. They sometimes take char and whitefish as well. The lakes most used are Shainan Lake, about 25 miles northeast of Anaktuvuk Pass; Itkillik Lake, on the upper Itkillik River about 20 miles south of Toolik Lake, and the lakes along the upper reaches of the Nanushuk River. (Pedersen, 2009) All of these fishing areas are well south of the Plan area.

Caribou are the most important game animal. The Plan area is used by portions of the Central Arctic, Western Arctic, and Teshekpuk Lake Caribou Herds. In particular, thousands of animals from the Western Arctic Herd migrate through Anaktuvuk Pass every spring and fall. Residents of Anaktuvuk Pass commonly harvest around 600 caribou each year. (See Chapter 5: Habitat, Fish and Wildlife, in Preliminary Decision, Nanushuk Coal Prospecting Permits)

Moose and brown bear are occasionally taken as well, but usually while hunting for some other species. Other subsistence hunting activities include trapping and hunting wolf, wolverine, fox, and ground squirrels (NSB, 1996:13). Residents of Anaktuvuk Pass usually trap in the area between Anaktuvuk Pass and the Dalton Highway in years when caribou concentrate in that area (Pedersen, 2009).

Berry picking is an important subsistence activity for women. Some residents of Anaktuvuk Pass will travel six hours or more on ATV to gather berries (Weber, 2001). Salmonberries (cloudberries) are highly valued as are cranberries, and blueberries (McConnell, 2001). In 1994, the NSB prepared a technical report that documented subsistence harvest data from July 1, 1994 to June 30, 1995 in Anaktuvuk Pass. In 1994, 7 gallons of blueberries, 12 gallons of salmon berries and 2 gallons of cranberries were harvested by Anaktuvuk Pass residents (NSB, 1996).

Sport harvesting of big and small game in the permitting area is managed by ADF&G, Division of Wildlife Conservation. It is unknown exactly how many animals of each species are harvested within the coal permitting area in any given year. The state is divided into 26 game management units (GMU). Sport hunting harvest statistics collected by ADF&G are not specific to the permitting area, but estimate the harvest of whole GMUs (ADF&G, 1996b). The permitting area is almost entirely within GMU 26A. A small portion of the permitting area along the Itkillik River and to the northeast of the river lies in GMU 26B. Two guides operate in the upper Nanushuk River and in the Itkillik Lake areas, with hunts for moose, bear, and Dall sheep.

No part of the coal permitting area has been systematically surveyed for the presence of archaeological or historic remains. Throughout the permitting area and adjacent land, the areas adjacent to rivers, lakes and trail systems are believed to have very high potential for historic and prehistoric sites. This expectation is based on archaeological experience in determining where people have been active and lived in the past. There are three paleontological sites within or adjacent to the permitting block requested by St George Ventures, Inc. There is also a tent ring site along the Itkillik River within the block, and a second historic site immediately outside the block. There are three paleontological sites within the Xplore LLC permitting block as well. The Beischer and Associates block contains one paleontological site, and no historic or archaeological sites. (See Chapter 2: Description, in Preliminary Decision, Nanushuk Coal Prospecting Permits)

Jim Clough, of the DNR Division of Geological and Geophysical Sciences (DGGS) has evaluated the potential for coal development within the area proposed for

coal prospecting permits. Based on all available information regarding the geology and coal occurrences in the area, and using the ranking system employed by DGGS, Mr. Clough ranked the coal potential as low for the entire permit area. (See Chapter 3: Geology and Coal Potential, in Preliminary Decision, Nanushuk Coal Prospecting Permits)

There are currently 23 oil and gas leases within the permitting area, indicating potential for future oil and gas development. However, although various companies have held leases in the area for many years, there has been no drilling thus far.

Presently, there is no settlement or industrial development within the Nanushuk SSP. Although the DGGS evaluation for coal potential is low, the interest expressed by the private sector indicates some potential for future coal development. Development could occur as conventional mining or as a coal to liquids facility. A coal to liquids facility would require a means of converting coal to synthesis gas (a mixture of carbon monoxide and hydrogen gases) followed by a processing plant to convert the synthesis gas to liquid fuels using the Fischer Tropsch Process. The more likely scenario would be that the coal would be mined by conventional methods, then converted to synthesis gas in a surface plant. The other option would be to perform underground coal gasification (UCG), converting the coal to synthesis gas in place. The UCG process is technically and environmentally challenging. However, given the appropriate geological conditions UCG offers the advantages of not having to develop a conventional mine, leaving most of the waste products in the ground, and much reduced costs.

Subsistence activities will certainly continue into the future over the Plan area. The habitats that support fish, wildlife and plant resources must be protected, and local residents must be able to continue their subsistence lifestyles unimpeded. Local access cannot be unduly restricted by industrial development.

Public Comments

No comments specific to the Nanushuk Site Specific Plan were received during the 30-day public notice period.

Alternatives

There are three alternatives for the Nanushuk SSP.

1. Classify as Resource Management Land
2. Classify as Coal Land
3. No action

Recommendation

The first alternative, classification as Resource Management Land, is recommended. The Resource Management classification will provide multi-use management allowing responsible development while protecting wildlife, habitat, water, and subsistence values.

I find that the classification of this area as Resource Management Land is in the overall best interest of the State, and hereby adopt the Nanushuk Site Specific Plan.

Approved: _____ Date: 7/22/2010

Director, Division of Mining, Land and Water, Department of Natural Resources

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of "issuance" of this decision, as defined in 11 AAC 02.040(c) and (d) and may be mailed or delivered to Tom Irwin, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. If no appeal is filed by that date, this decision goes into effect as a final order and decision on the 31st day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 is enclosed.

Appendix
Requirements of AS 38.04.065 (b)

AS 38.04.065 (b) requires that the department consider certain factors in the adoption of site specific land use plans. These factors were considered by the department in the preparation of the Nanushuk Site Specific Plan. The statutory requirements are listed below, followed by a brief description of the department's consideration of each requirement. The statutory requirements are in italics.

1. *Use and observe the principles of multiple use and sustained yield.* The Resource Management classification observes and follows the principles of multi-use and sustained yield. The management intent of this SSP emphasizes responsible development with protection of habitat, water, wildlife, and subsistence resources.

2. *Consider physical, economic, and social factors affecting the area and involve other agencies and the public in achieving a systematic interdisciplinary approach.* A wide range of physical, economic, and social factors were considered in the preparation of the SSP and associated Decision. The Nanushuk Site Specific Plan considers the resource values of habitat, water, and subsistence, as well as the coal potential of the Plan area, foreseeable effects and mitigation of coal development, and the potential economic and social effects of coal development. The comments and review gathered through the agency review and public notice (under AS 38.05.945) have been considered and responded to, resulting in an interdisciplinary review of all aspects of the Decision and SSP.

3. *Give priority to planning and classification in areas of potential settlement, renewable and nonrenewable resource development, and critical environmental concern.* There are currently no settlement areas within the Nanushuk Site Specific Plan area, and none are foreseen for the future. One priority of the classification and associated final finding and decision is to allow for possible future coal development. The other priority is the protection of present resource values and subsistence uses. The impacts and concerns of resource development are a primary focus of the final finding and decision.

4. *Rely, to the extent that it is available, on the inventory of the state land, its resources, and other values.* The DNR has never been funded to conduct and maintain a statewide land inventory. This site specific plan and the associated final finding and decision provide the inventory of state land, resources, and other values.

5. *Consider present and potential uses of state land.* The Nanushuk Site Specific Plan evaluates current land uses (habitat, subsistence) and potential future coal development. The management intent provides for a balance of responsible development while protecting existing resource values.

6. *Consider the supply, resources, and present and potential use of land under other ownership within the area of concern.* Most of the land within or adjacent to the Nanushuk SSP is already in State ownership. Some of the land within the one-mile buffer around the coal permitting area is federally owned, but that land is state selected and priority 1 or 2.

7. *Plan for compatible surface and mineral land use classifications.* This decision evaluated the classifications that would be compatible with potential coal development and existing values and uses. The evaluation was done at length in the Final Finding and Decision for the Nanushuk Coal Prospecting Permits. There is no mineral closure associated with this site specific plan or the associated final finding and decision.

8. *Provide for meaningful participation in the planning process by affected local governments, state and federal agencies, adjacent landowners, and the general public.* Substantial meaningful participation for this SSP, the associated Decision, and Coastal Zone Review have been provided through agency review, public notice, and local meetings in affected communities.

References

ADF&G, (Alaska Department of Fish and Game)
2000 Memorandum from Al Ott, Regional Supervisor, Habitat Division, to James Hansen, Lease Sales Manager, DO&G, regarding North Slope Foothills Areawide 2001, January 10.

1996b Alaska Wildlife Harvest Summary, 1994-1995. Alaska Department of Fish & Game, Division of Wildlife Conservation, Information Management Section, Wildlife Information Data Base Project, March 6.

ADNR (Alaska Department of Natural Resources, DNR)
2009 Preliminary Decision, Nanushuk Coal Prospecting Permits

AEIDC (Arctic Environmental Information and Data Center, University of Alaska)
1975 Alaska Regional Profiles, Arctic Region

NSB, (North Slope Borough)
1996 North Slope Borough Subsistence Documentation Project: Data for Anaktuvuk Pass, Alaska for the period July 1, 1994 to June 30, 1995. Prepared by Harry K. Brower, Jr., and Raynita "Taqulik" Opie, NSB Department of Wildlife Management, September 16.

Pedersen, Sverre
2009 Personal communication from Sverre Pedersen, Subsistence Resource Specialist III, ADF&G to Bill Cole, DMLW, May 7.

Weber, Vera
2001 Personal communication from Vera Weber, Anaktuvuk Pass, to Tom Bucceri, DO&G, January 9.