

## Chapter 2

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# **Chapter 2**

## **Areawide Land Management Policies**

### **Introduction**

This chapter presents land management policies that apply to all state-owned, state-selected, and ANILCA top filed lands for each of the major resources affected by the plan. The resources identified in this chapter are fish and wildlife habitat; materials sites; public access; recreation; tourism and scenery; settlement; shorelands and stream corridors; subsistence and harvest; subsurface; transportation and infrastructure; and water. These policies apply to state land throughout the planning area regardless of the land use designation.

This chapter consists of goals, objectives, and management guidelines that apply to all state-owned and state-selected lands within the Plan boundary. Goals are the general condition the Department is trying to achieve; objectives and guidelines are specific directives that will be applied to land and water management decisions as resource use and development occurs. Additionally, this chapter presents broad management intent statements with unit-specific management intent provided in Chapter 3.

### **Definitions**

For definitions of terms commonly used in this chapter, see Appendix A, Glossary.

### **Overall Management Direction**

Management goals, objectives, guidelines, and intent are focused on maintaining and enhancing opportunities for public and commercial use of the state lands and waters while considering emerging issues related to climate change and conserving the natural resources and habitats necessary to sustain fish and wildlife populations. Access to and within state lands is maintained. Potential access routes to communities or other lands outside the planning area are identified. Lands necessary for current and future development and operation of the oil field and for state infrastructure needs are identified for retention by the State while other lands are appropriately classified for selection and potential conveyance to the Borough in fulfillment of its land entitlement. The State recommends the Bureau of Land Management (BLM) lift PLO 5150 to allow the State to receive title to its highest priority land selections within the Dalton Highway Corridor in partial fulfillment of its outstanding land entitlement. A limited amount of State land has been identified for potential sale into private ownership.

## Plan Goals

The following goals are for state lands in the planning area. The goals are listed alphabetically, and no single goal has a priority over the others. Goals are general conditions that ADNR attempts to achieve through management actions. These goals will lay the foundation for maintaining these important uses, resources, or activities, and guide use and development interests.

**Cultural Resources.** Preserve, document, and interpret Alaska's cultural resources and heritage on all lands within the State.

**Dismantlement, Removal, and Restoration (DR&R).** Through consultation with other land management and regulatory state agencies, and with input from local government, manage reuse or rehabilitation of predominantly oil and gas infrastructure, including establishing dismantlement, removal, and restoration requirements and timelines for post-lease land conditions.

**Economic Development.** Develop a minerals and energy industry which will provide stable and diverse job opportunities, increase per capita income, increase local tax revenues, and stimulate growth of non-resource based industries by managing state land, water, and resources to support a vital, self-sustaining, local and statewide economy.

**Environment and Habitat.** Where possible, avoid, or minimize the impact of uses, activities, and development on fish, bird, and wildlife habitats and the natural environment when siting commercial, industrial, or private settlement on state lands.

**Fiscal Costs.** Minimize the need for, and the fiscal cost of, providing government services such as schools or road maintenance activities when considering making lands available for private use (residential, commercial, or industrial).

**Municipal Entitlement.** Identify lands available for conveyance to provide a viable land base to municipal entities.

**Pollution Remediation.** Discharges, spills, or other releases of pollutants will be reported immediately upon discovery and remediated in a timely fashion by the responsible parties, as required by state and federal agencies.

**Public Access.** Provide access to public and private lands and resources to ensure adequate opportunities for the use of public resources.

**Public Health and Safety.** Maintain or enhance public health and safety for users of state land and resources.

**Public Use.** Provide, plan, enhance, and manage diverse opportunities for public use of state lands, including uses such as hunting, fishing, boating and other types of recreation.

**Quality of Life.** Maintain or enhance the quality of the natural environment including land, water, fish and wildlife habitat, and harvest opportunities; provide opportunities to view wildlife and the natural environment; and protect heritage resources.

**Recreation.** Encourage outdoor recreation on public lands and provide for a range of recreational experiences on state land managed for multiple uses while protecting natural resources and public access.

**Settlement.** Provide opportunities for private ownership and leasing of land currently owned by the state.

**Subsistence Harvest Areas.** Retain lands and waters where subsistence harvest occurs in state ownership to support traditional uses.

**Sustained Yield.** Manage renewable resources to maintain the long-term productivity and quality of renewable resources including fish and wildlife habitat.

**Thermokarst.** When planning new, or repurposing existing, infrastructure or other types of development, the applicant must consider and implement measures to minimize thermokarst formation. Where existing infrastructure and development exist and are not actively in use, the lessee shall maintain these sites to minimize thermokarst formation.

**Water Quality.** Provide adequate water quantity and quality to support subsistence and recreational uses; domestic, commercial and industrial uses; and fish and wildlife production.

## Plan Objectives

Objectives provided here are general and apply to all state lands and all authorized uses and activities in the planning area. The NSAP provides for multiple uses of public land, as required by statute, and the objectives provide statements of what the state will do with a resource, use, or activity based on identified goals. In the long-term, the land within the Plan boundary will be used for as many uses as possible, without eliminating or unreasonably limiting other resources.

The objectives of the NSAP are:

- To provide opportunities for oil and gas development;
- To protect local lifestyles, subsistence uses, and scenic qualities;
- To enhance connectivity of communities within and outside of the planning boundaries;
- To provide access to resources necessary for the maintenance of existing state infrastructure or development of new infrastructure;

- To maximize timely and thorough pollution remediation to minimize long-term impairment and monitoring needs according to state standards; and,
- To maintain and protect habitats that support fish and wildlife populations and areas for subsistence harvest.

## Objectives by Activity or Resource Value

The remainder of this chapter specifies objectives that apply to management decisions for each identified resource. ADNR will use these objectives when considering issuing authorizations and conveyances or making management decisions on state lands. These guidelines will also apply to lands that are currently state-selected and ANILCA top filed lands when they are tentatively approved or patented into state ownership.

Chapter 2 guidelines apply to all state land covered by the NSAP unless the Plan explicitly exempts some parcels or designations from a guideline, or the resource or use for which a guideline is intended does not exist in the parcel in question. There are few such exemptions.

## Plan Guidelines

Management guidelines identified are intended to provide specific standards, management direction or procedures to be followed by the Department in the issuance of permits, leases, or other authorizations for the use of state land or resources within the planning area. Guidelines range in their level of specificity, from giving general guidance for decision-making to identifying specific factors that need to be considered when making on-the-ground decisions. In most cases, these guidelines can be implemented through the authorization of applications for proposed uses or through agency actions. In other cases, ADNR may promulgate regulations to ensure that these guidelines can be implemented and are enforceable. Unit specific guidelines are found in Chapter 3.

- A. All authorizations for use of state land within the planning area will be consistent with the principles of multiple use and sustained yield and with the management intent in this plan.
- B. In considering authorizations for use of state land, ADNR will adjudicate applications to:
  1. minimize damage to streambeds, fish and wildlife habitat, vegetation, trails, anchorages, and other resources;
  2. minimize conflicts between resources and uses; and
  3. protect the long-term value of the resource, public safety, and the environment.
- C. If authorizations from other agencies are required, ADNR will consider issuing a permit or lease contingent upon issuance of these other authorizations.

- D. All DR&R will be completed to a level that leaves the land in a good, clean, and usable condition where infrastructure is removed and future uses are not restricted, except that if a viable plan for reuse or repurposing infrastructure is proposed in the foreseeable future, ADNR may, at its sole discretion, consider an application from another entity to make use of and maintain the repurposed infrastructure.

## **Management Guidelines by Activity or Resource Value**

The remainder of this chapter specifies guidelines to apply to management decisions. ADNR will use these guidelines when considering issuing authorizations and conveyances or making management decisions on state lands. These guidelines will also apply to lands that are currently state-selected and ANILCA-filed when they are tentatively approved or patented into state ownership.

Chapter 2 guidelines apply to all state land covered by the NSAP unless the Plan explicitly exempts some parcels or designations from a guideline or the resource or use for which a guideline is intended does not exist in the parcel in question. There are few such exemptions.

**Other Guidelines Affecting Resources.** Multiple guidelines may affect the use of individual resources. Consult guidelines in other resource sections of this chapter.

## **Plan Management Intent**

Broad management intent for state land is expressed through statements of management emphasis identified on a unit-specific basis. These statements define ADNR's near and long-term management policies (objectives, guidelines, and intent) and are based on resource and use inventories, the review of existing and potential economic trends, state authorizations, existing plans and similar resource management documents, agency review and comment, and public participation.

- A. All general domain state land within the planning area will be managed to allow for multiple use and provide for the balanced use, development, and conservation of the resources.
- B. Lands retained in state ownership will be managed to continue to provide habitats that support: maintaining fish and wildlife populations; subsistence hunting, fishing, and harvest; sport hunting and fishing opportunities; a diversity of recreation opportunities; and, development of the State's mineral and hydrocarbon resources, among other beneficial uses.
- C. Facilitate access to communities inside and outside of the planning area on routes identified through the Alaska Strategic Transportation and Resources (ASTAR) project. This is accomplished through recognition of the routes in unit specific management intent statements.

- D. State land will remain open to mineral entry unless specifically closed or affected by a Leasehold Location Order. Consequently, except areas closed through previous mineral orders, the vast majority of lands remain open to mineral entry.
- E. The designation applied to a unit identifies the recommended use for the unit. In some cases, a unit may have co-designated uses. Up to three classifications may be assigned for one unit. Consistent with the multiple use mandate, other uses may also be allowed if they do not preclude the uses designated for a management unit. This plan emphasizes minimizing land use conflicts through guidelines and intent rather than through prohibitions. However, if ADNR determines that a use conflict exists and that a proposed use is incompatible with the primary use(s), the proposed use should not be authorized, or the use should be modified so that the incompatibility no longer exists (11 AAC 55.040 (c)). Except in areas closed to mineral entry, subsurface uses are considered an allowable use but must take into consideration the effects upon surface uses.
- F. This plan designates state lands in categories that are generally consistent with current use patterns and reflect the significant resources in the planning area.
- G. This plan addresses existing land selections of the North Slope Borough in fulfillment of its municipal entitlement. Where appropriate, lands are designated into a conveyable classification. Additionally, lands necessary for the development and operation of the oil field are identified for retention by the State on the existing selections. Guidelines and intent provided by the Plan will be used to make subsequent municipal entitlement decisions to convey lands to the North Slope Borough. The North Slope Borough has identified interest in lands it may select under its municipal entitlement. Where these occur, they are noted in the Resource Allocation Tables.
- H. Where facilities, developments, and infrastructure on state lands are identified for DR&R, the State will work with appropriate regulatory agencies to determine the method and timing of repurposing or rehabilitation that is in the best interest of the State.
- I. Access across the tundra will follow standards and methods set by the DMLW through the off-road travel management program administered in the Northern Regional Land Office.

## **Other State Land**

Parcels that are donated or acquired after the Plan is adopted will be designated for the uses for which they were acquired or donated without an amendment to the plan. Lands that come into state ownership through other means will be designated and classified consistent with the designation identified in the applicable management unit or, if not so identified, according to the standards of the section, Applicability of Plan Designations and Classifications, in Chapter 4 without an amendment to the Plan or to the Land Classification



Order adopting this plan revision. This same process applies to those parcels of state land that may have been missed during the planning process and are subsequently identified as state land.

## Buffers, Easements, and Setbacks Pertaining to State Owned Waterbodies

As with other areas of Alaska, rivers and other waterbodies become important highways for local residents and visitors to the area. They provide access to subsistence fishing and hunting areas and access to traditional harvesting areas. For residents and visitors to the area, lakes, rivers, and other waterbodies offer places to hunt, fish, camp, view wildlife, and travel through the area. For moose, the river corridors provide important habitat particularly for over-wintering. Muskox concentration areas are often associated with rivers and riparian areas as well. A variety of waterbird and landbird species are seasonally concentrated along stream corridors, lakes and wetlands. The Goals, Objectives, and Management Guidelines that follow apply to all state waters throughout the planning area. Buffers, easements, and setbacks may be required on Navigable and Public waters in this plan. Typically, they will not be applied to Ancillary waters as defined in this plan as they receive very little use compared to Navigable and Public waters.<sup>1</sup>

### Goals

**Water Quality.** Protect water quality to support domestic, commercial and industrial uses, fish and wildlife production, and recreational activities.

**Water-Dependent and Water-Related Uses.** Provide for needed water-dependent and water-related uses.

**Habitat Protection.** Protect fish and wildlife habitats along lakeshores, stream corridors and wetlands.

**Recreation.** Provide opportunities for a variety of recreational activities within publicly owned stream corridors.

### Objectives and Management Guidelines

**Objective A.** Protect high value waterbodies or waterbodies that supply drinking water in a way that protects and enhances water quality and fish and wildlife habitats along stream corridors, shorelines, and waterbodies to the maximum extent practicable.

- **Guideline A-1.** *Alaska Clean Water Actions (ACWA).* In accordance with the ACWA process, ADNR will work with ADF&G and ADEC to protect and improve water quality, water quantity and fish habitat. Any development that impacts

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<sup>1</sup> Navigable and Public waters are defined in the Glossary found at Appendix A.

- anadromous fish bearing waters or resident fish streams will require a permit from ADF&G.
- **Guideline A-2.** *Protection of Land Adjacent to High Value Waterbodies.* When the management intent for state land adjacent to waterbodies (including rivers, streams, or lakes) is to protect wildlife habitat, anadromous or high value resident fish streams, or provide for intensive recreation uses associated with fishing, picnicking, hunting, camping, or other similar uses, the state should retain ownership of the adjacent uplands. Alternatively, to minimize on-going management responsibilities or for some other public purpose, a riparian buffer should be imposed either through an easement or setback. See Table 2-1 for requirements related to riparian buffers. In instances involving a land disposal, the area of a riparian buffer may be reserved as public open space to be maintained by a common interest association. Whichever method is chosen, they should be designed to minimize negative impacts on visual character, habitat value, water quality, and ensure public access. Public use sites may also be reserved during the land disposal process, along high value waterbodies to provide public access and use of the waterbody. State-owned buffers or riparian buffers may be retained along the full length of the waterbody or on segments of the waterbody determined to have high current or future use, public use, or to require habitat protection.
  - **Guideline A-3.** ADF&G, ADEC, and the ADNR Water Resources Section should be consulted when issuing or approving permits or authorizations within the planning area.
  - **Guideline A-4.** *Public Trust Doctrine.* All activities and authorizations should take into consideration and comply with the Public Trust Doctrine. For information on the Public Trust Doctrine, see Appendix C.

**Objective B.** Protect and preserve public use and public access to waterbodies to the maximum extent practicable without restricting resource development and as required by statute and regulation.

- **Guideline B-1.** *Priority of Public Uses in Stream Corridors.* ADNR will place a higher priority on protecting public use values in stream corridors than on providing opportunities for private ownership or development of land. Prior to the disposal of stream corridor lands, ADNR, in consultation with other affected agencies and the public, will assess existing and projected public use needs associated with the stream corridor. Disposals near streams that have important fish or wildlife habitat, or wildlife value, will be designed to ensure the protection of fish and wildlife and the habitat through the imposition of measures to ensure riparian protection.
- **Guideline B-2.** In making determinations as to whether a riparian area should be protected and the manner of such protection, adjudicators shall consult ADF&G. These procedures emphasize retaining such areas where a significant public interest or value exists, which is often common in riparian areas. Other methods may be used depending on the specific context, including setbacks and easements.

- **Guideline B-3. *Public Access Adjacent to Waterbodies.*** Pursuant to AS 38.05.127, legal public access will be reserved in order to protect the public's right to travel to and along the ordinary high water (OHW) of a waterbody without encouraging trespass. Permits, leases, and plans of operation for commercial and industrial uses, transportation facilities, pipelines and other water-dependent uses may be authorized on state uplands adjacent to waterbodies if their activities are consistent with the management intent for the area and if they maintain stream bank access, and protect important fish and wildlife habitat, public water supplies, and public recreation. Trails and forms of non-motorized public access are generally considered to be appropriate within these areas, if they meet the conditions listed in 11 AAC 96.025. Certain types of motorized uses may also be appropriate if consistent with 11 AAC 96.020 and 11 AAC 96.025.
- **Guideline B-4.** Where feasible and prudent, there should be setbacks between the activities described above in Guideline B-3 and adjacent waterbodies. The width of this setback may vary depending upon the type and size of the use but must be adequate to maintain public access to and along riparian areas. The amount of impervious surface created within the riparian area should be minimized.
- **Guideline B-5. *Access Easements Adjacent to Waterbodies.*** A public use easement of approximately 50 feet upland of the OHWM is to be imposed on all waterbodies as required by the requirements of AS 38.05.127, 11 AAC 51.035 and 11 AAC 51.045 for all disposals of state land or interests in state land. The public rights retained in an easement shall be identified and noted in the ADNR decision document and plat, if applicable. In areas that may be sensitive to vehicular travel, the easement should be reserved for pedestrian access only. Access easements may be used in combination with state land that is to be retained for public use or for the protection of environmental resources. In these situations, easements may be used to provide access to areas of state retained sensitive land or provide access corridors between lots or parcels within the subdivision.
- **Guideline B-6. *Protection Easements and Setbacks Adjacent to Non-Anadromous Waterbodies.*** Easements or building setbacks may be used in those instances where public recreation use is moderate or where sensitive habitat or other environmental resources exist but are not of the same importance as described under Management Guideline A-2. See the requirements for Sensitive Environmental Features Buffer in Table 2-1 when an easement is to be applied. The purpose of the easement or setback should be noted in the Department decision document and on the subdivision plat. Where a protection easement or setback is to be applied, vehicular use within the area of the easement is inappropriate and should not be authorized. Building setbacks may be used in lieu of a protection easement in those instances where it is not appropriate or necessary for the state to retain any easement rights *or* they may be used in combination with buffers, access easements, and protection easements. Building setbacks used in this fashion provide an added level of protection. See the requirements for 'Building Setback' in Table 2-1.

- **Guideline B-7. Lakeshore Public Access.** Despite the remote nature of many waterbodies within this planning area, a portion of the lakefront on lakes greater than 10 acres that have or may be expected to have public recreation and all inlets and outlets of lakes of this size shall remain in public ownership for habitat protection and public recreation. Adequate public access to these lakes shall also remain in public ownership or is to be provided through section line, 'to-and-along' easements or other types of public access easements. The amount of public ownership may vary on a site-specific basis, but, at a minimum, some portion of these lakes shall remain public. The size of the public reservation shall be appropriate to its expected long-range recreational use and relative to the size of the lake. A width of 150 feet or more measured from OHW is to be retained or protected through an easement along inlet and outlet streams.<sup>2</sup> Public use sites, created through the land disposal program, on lakes of 10-20 acres shall have at least 4 contiguous acres reserved for public access. For lakes larger than 20 acres, a public use site of at least 6 acres shall be provided.
- **Guideline B-8. Buffer, Easement, and Building Setback Widths.**
  1. The width of state retained land, access and protection easements, and building setbacks adjacent to waterbodies (lakes and streams) will vary, depending on whether the area is a retained parcel or imposed easement, and according to management intent and the specifics of the parcel under consideration. In addition, this width may vary along the area of the stream or lake that is to be protected. Establishing widths, especially for publicly retained lands, will be based on the following considerations: recreational activities to be accommodated, floodway and floodplain widths, habitat protection and management objectives, visual quality, use compatibility, prevention of erosion, or retention of a significant hydraulic resource (like a wetland).
  2. Although these widths may vary, the following criteria are provided to establish the minimum width that can be expected on various types of buffers, easements, and setbacks. They are specified here in order to establish some consistency in application and ensure a minimum level of resource and habitat protection or public access. Distances are measured horizontally landward from ordinary high water along streams and other inland waterbodies and from the line of mean high water adjacent to coastal waters. Because of the linear nature of streams and certain other habitat or hydraulic features, these minimum dimensions will apply to both sides of the feature that is to be protected. For example, the total protected area along a stream with a 100-foot setback would be 200 feet (100 feet each side). If state land is to be retained, it may be preferable to retain a larger width, often 200 feet on each side. Widths greater than 200 feet may also be warranted, depending on the specific site characteristics and the importance of the habitat or resources to be protected.
    - a) Riparian buffers along anadromous and high value resident fish streams and waters: 100 feet along each side of the anadromous waterbody or high value

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<sup>2</sup> As measured from each bank of the inlet/outlet stream. This requirement applies whether or not the stream is anadromous.

resident fish stream. Widths greater than this amount, up to 300 feet, may be authorized if, after consultation with ADF&G, it is determined that larger widths are necessary to protect fisheries, wildlife, or habitat.

- b) Buffers on other freshwater waterbodies on retained public land: 50 feet along each side of the stream or 50 feet along the shoreline of lakes.
  - c) Easements used in areas of sensitive environmental features:<sup>3</sup> 50 feet on each side of important environmental features. Distances greater than 50 feet (up to 100 feet) may be appropriate if the feature being protected is considered to be especially sensitive to disturbance and is considered a particularly high value resource; such features might include lacustrine and riverine wetlands, springs, salt licks, or geologic hazards requiring additional distance separation for public safety. Consult ADF&G if there is a question as to whether a width greater than 50 feet should be considered.
  - d) Public access easements, including ‘to and along’ easements required under AS 38.05.127, or utility easements adjacent to lakes and streams: 50 feet.<sup>4</sup>
  - e) Building setbacks: 100 feet adjacent to anadromous and high value waterbodies and 50 feet adjacent to all other waterbodies. The use of a building setback is usually not required if a riparian buffer is being imposed in an authorization. Riparian buffers preclude principal and most accessory structures within the riparian area; only water-dependent uses are authorized in these areas. For more detail see ‘riparian buffer’ in Table 2-1.
- **Guideline B-9.** *Application Requirements for Easements and Buffers Along Waterbodies and Related Environmental Features.* Table 2-1 specifies widths and other requirements for easements, buffers and public access in order to ensure consistency between authorizations along waterbodies and related environmental features. The table captures the information provided in Management Guideline B-8 but also provides guidance on when these requirements are to be applied as well as aspects related to types of uses that may be appropriate. On a case-by-case basis, widths may be wider, in order to accommodate floodplain width, bank characteristics, size of the waterbody, extent of present or expected future public use, the need to protect important environmental features, or other relevant factors. Similarly, widths can be narrower on a case-by-case basis if it is determined that the harm intended to be avoided by the requirement is not likely to occur because of site-specific circumstances. However, the strip of land must be of sufficient width to allow for public access as well as to screen the waterbody from development, where possible, with an undisturbed strip of vegetation. In all instances, requirements for easements shall be noted on the lease, patent or subdivision plat. This requirement also applies to easements described in Management Guideline B-8.

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<sup>3</sup> See table 2-1, page 2-14.

<sup>4</sup> Other types of utility easements may be less than this width, depending on the purposes of the easement.

**Objective C.** *Other Guidelines affecting Shorelands and Stream Corridors.* Nearly all the resource guidelines found within Chapter 2 either directly or indirectly affect water resources in the planning area. The most commonly affected resource sections include Public Access, Fish and Wildlife, Transportation and Infrastructure, Subsurface Resources, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.

**Table 2-1: Application Requirements for Easements and Buffers Along Waterbodies and Related Environmental Features**

Guideline/ Application	Minimum Width/ Measured from	Where it Applies	Primary Purpose	Guidelines
<p><b>1. Public Access (To and Along Easement)</b> Adjacent to all waters as required under 11 AAC 51.035.<sup>5</sup></p>	<p><b>50'</b> * Landward from ordinary high water line.</p>	<p>Along: * Lakes * Streams</p>	<p>Provide public access to and along waterbodies.</p>	<ul style="list-style-type: none"> <li>• Prohibited: Water Dependent<sup>6</sup> or Water Related<sup>7</sup> uses or structures that would obstruct passage by the public within the area of the easement. Alternate upland access needs to be provided if access is blocked.</li> <li>• Allowed: Water Dependent or Water Related structures that would not significantly obstruct passage by the public within the area of the easement.</li> <li>• 'Along' easement is to be continuous unless topography or land status prevents a continuous easement. See 11 AAC 51.045.</li> <li>• The 'To' easement has a minimum width of 50 feet but may be increased to 60 feet or more if ADNR determines that the need for increased public access to waters may justify construction of a road along an easement.</li> <li>• A section line easement can function as a 'To' easement if it provides a practical route to the shore or a river. See 11 AAC 51.045.</li> </ul>
<p><b>2. Riparian Buffers</b> Adjacent to anadromous waterbodies and high value fish streams.</p>	<p><b>100'</b> * Landward from ordinary high water line.</p>	<p>Along: * Anadromous and high value resident fish streams and lakes.</p>	<p>Protect riparian areas adjacent to anadromous and high value fish streams.</p>	<ul style="list-style-type: none"> <li>• Allowed: Water Dependent uses or structures that do not require extensive de-vegetation and/or land clearing. This requirement applies to the first 60' measured from OHW. 'Extensive' means more than 20% of affected area within the project site. Water related uses or structures that do not de-vegetate more than 40% of the affected area are allowed in areas greater than 60' measured from OHW.</li> <li>• Prohibited: Water related uses within the first 60 feet measured from OHW.</li> <li>• The width of riparian buffers may be increased along waterbodies if recreation use is heavy, a wildlife corridor needs to be provided, or if increased protection of a riparian area is warranted. Consult with ADF&amp;G on decisions to increase buffer width.</li> </ul> <p>Note: the requirements for an 'along' easement also apply within the 50' upland of OHW.</p>
<p><b>3. Freshwater Waterbodies Buffer</b> Adjacent to waterbodies that are not protected under #2 but where a significant public use or resource is determined to exist.</p>	<p><b>100'</b> * Landward from ordinary high water line along streams and lakes that are not covered in item #2 but are considered to have public significance or from the edge of the waterbodies, including wetlands, that are to be protected.</p>	<p>Along freshwater waterbodies that are determined to have public significance but where the requirements of #2 do not apply.</p>	<p>Protect areas adjacent to freshwater waterbodies that are important riparian areas or may be important for other public purposes.</p>	<ul style="list-style-type: none"> <li>• Allowed: Water Dependent uses or structures that do not require extensive de-vegetation and/or land clearing. This requirement applies to the first 60' measured from OHW. 'Extensive' means not more than 20% of affected area within the project site. Water related uses or structures that do not de-vegetate more than 40% of the affected area are allowed in areas greater than 60' measured from OHW.</li> <li>• Prohibited: Water related uses within the first 60 feet measured from OHW.</li> </ul>

<sup>5</sup> See 11 AAC 51.035 for determination of Navigable and Public Water. See also 11 AAC 51.045 for easements 'To and Along Navigable and Public Water'. Other waters may be considered on a case-by-case basis.

<sup>6</sup> Water Dependent: means a use or an activity that can be carried out only on, in, or adjacent to a waterbody because the use requires access to the waterbody.

<sup>7</sup> Water Related: means a use or activity that is not directly dependent upon access to a waterbody, but which provides goods or services that are directly associated with water-dependent and which, if not located adjacent to a waterbody, would result in a public loss of quality in the goods or services offered.



Guideline/ Application	Minimum Width/ Measured from	Where it Applies	Primary Purpose	Guidelines
				<ul style="list-style-type: none"> <li>The width of riparian buffers may be increased along waterbodies if recreation use is heavy, a wildlife corridor needs to be provided, or if increased protection of a riparian area is warranted. Consult with ADF&amp;G on decisions to increase buffer width.</li> </ul>
<b>4. Sensitive Environmental Features Buffer</b>	<b>50'</b> *** Measured from edge of sensitive environmental feature.	Areas of important environmental features. These may include hydrologic features (wetlands, marshes), sensitive habitat areas, or areas subject to geotechnical constraints.	Protect sensitive environmental features not otherwise protected under Public Access, Riparian Buffers, or Freshwater Waterbodies.	<ul style="list-style-type: none"> <li>Sensitive environmental features may include wetlands, important upland habitat, prominent scenic features, and the like.</li> <li>The imposition of this requirement is discretionary and depends on the type and value of the area or resource that is to be protected.</li> <li>Prohibited: Residential (or other) structures and associated out buildings but not including utilities or minor accessory structures.</li> <li>Buffers can be created through the use of easements or building setbacks, or both.</li> <li>Where this easement is imposed as part of a municipal entitlement action, this width is also 50 feet.</li> <li>Areas greater than 50 feet (up to 100') may be imposed on a case-by-case basis. Consult with ADF&amp;G.</li> </ul>
<b>5. Building Setback</b> Adjacent to all public or navigable waters <u>except</u> anadromous and high-value resident fish waters (see guideline 6 below).	<b>50'</b> * Landward from ordinary high water.	Non-anadromous and non-high-value resident fish: * Lakes * Streams	Protect riparian habitat including access, recreation, and water quality along all waterbodies.	<ul style="list-style-type: none"> <li>This requirement is imposed where feasible and prudent, and necessary to protect public values along the stream.</li> <li>Does not apply to exceptions listed at bottom of table.</li> <li>The imposition of this requirement is discretionary and depends on the type and value of the area or resource that is to be protected.</li> <li>It is intended that the area of the setback remain vegetated to maintain habitat values or protect riparian areas.</li> <li>Areas greater than 100 feet may be imposed on a case-by-case basis. Consult with ADF&amp;G.</li> </ul>
<b>6. Building Setback</b> Adjacent to anadromous and high-value resident fish waters.	<b>100'</b> * Landward from ordinary high water.	Anadromous and high-value resident fish: * Lakes * Streams	Protect riparian fish habitat, water quality, and recreation values along anadromous and high-value resident fish waters.	<ul style="list-style-type: none"> <li>This requirement may be imposed if necessary to achieve or protect riparian areas or other sensitive environmental features.</li> <li>The imposition of this requirement is discretionary and depends on the type and value of the area or resource that is to be protected.</li> <li>Does not apply to exceptions listed at bottom of table.</li> <li>It is preferred that the area of the setback remain vegetated to maintain habitat values or protect riparian areas.</li> <li>Areas greater than 100 feet may be imposed on a case-by-case basis. Consult with ADF&amp;G.</li> </ul>

Where widths apply: \* Freshwater areas    \*\* Tidally-influenced areas    \*\*\* Sensitive Environmental Features

For the definition of *anadromous waters* and *high-value resident fish waters* (derived from AS 41.17.950) see the Glossary in Appendix A. Exceptions that apply to items 5 and 6 above: a) Structures such as docks, bridges, and culverts whose purpose is access to or across the stream or lake; b) Water-dependent or water-related uses such as placer mining, fish culturing, and water supply intakes will be evaluated for exception on a case specific basis in consultation with ADF&G.

## Coordination and Public Notice

Consistent with the Alaska Constitution and Alaska statutes, certain actions taken by the Department such as leases, easements, and other disposals require public notice. Other actions, such as classifying and making lands available for private use, specifically require the involvement of municipalities and local residents. Where required by statutes and regulations, the Department provides notice of actions proposed on state lands and engages with local municipal and tribal entities and community members.

### Goals

**Coordination with Non-state Landowners.** Coordinate with municipal, Alaska Native Corporation, private, and other public landowners in fulfillment of the Department’s mission to, “*Responsibly develop Alaska’s resources by making them available for maximum use and benefit consistent with the public interest.*”

**Public Participation.** Provide local governments, state and federal agencies, adjacent landowners, and the general public with meaningful opportunities to participate in the process of making significant land use decisions.

### Objectives and Management Guidelines

**Objective A.** ADNR will provide notice as required by statutes and regulations and Department staff will provide public notice.

- **Guideline A-1.** *Notice for Decisions Requiring Public Notice (Under AS 38.05.945).* As required by statute, public notice will be given for decisions involving the sale, lease, or disposal of (or interests in) land, property, or resources. Notice will be given to parties known or likely to be affected by an action proposed by the state or an applicant to the state.
- **Guideline A-2.** *Avoiding Conflicts with Adjacent Upland Owners.* Before issuing a land use authorization on shorelands, tidelands, or submerged lands, ADNR should encourage applicants to use areas that will reduce the likelihood of possible land use disagreements with upland owners. ADNR will consider comments from private landowners and others before making a decision and will retain the right to issue a land use authorization over the objection of adjacent landowners.
- **Guideline A-3.** *Authority of State Plans.* This plan only applies to patented and tentatively approved state lands and federal lands that have been selected or top filed for conveyance to fulfill the State’s land entitlement under the Alaska Statehood Act. It does not affect Borough lands, state lands not managed under Title 38 of the Alaska

Statutes, other federal lands, or private lands. Boroughs have developed and will continue to develop local comprehensive plans for specific parts of the borough. These are intended to identify preferred land use patterns and development stipulations. ADNR reviews these plans in the course of developing management plans or area plans, and often makes use of their recommendations. However, while community comprehensive plans can make recommendations for state lands within their planning areas, they cannot establish land use designations or other planning requirements for state land. State land use designations are decided on a regional basis through the state land use planning process and local plans do not supersede state plans for the use of state lands.

**Objective B.** *Other Guidelines Affecting Coordination or Public Notice.* Several other guidelines may affect coordination or public notice. See other sections of this chapter.

## Fish and Wildlife Habitat

The habitat resources for fish and wildlife across the North Slope planning area have unique regional and temporal concentrations. The planning area includes terrestrial, freshwater, estuarine, and marine habitats. Arctic landscapes are currently undergoing dramatic changes due to a warming climate. These shifts in habitats are expected to continue to affect fish and wildlife populations and distributions over the course of the 20-year life of this plan making it important to evaluate how activities will affect species in the context of on-going climate change. Climate change is accelerated at northern latitudes and scientific evidence indicates threats for multiple Arctic species that breed in summer, and carry-over threats for those that rely on Arctic habitats to fatten up prior to extended migrations. Therefore, adjudicators should consult with the appropriate state or federal agency to determine the most current information on fish and wildlife resources within the planning area.

Terrestrial mammals inhabiting the area include caribou, brown bears, moose, muskoxen, Dall sheep and a variety of furbearers. Caribou dominate the biological landscape with seasonal use occurring from four different herds, the Central Arctic Herd (CAH), the Porcupine Caribou Herd (PCH), the Teshekpuk Caribou Herd (TCH), and the Western Arctic Herd (WAH). Brown bear concentrations extend from the coast south throughout the planning area. Muskox and moose are concentrated along riverine corridors with muskox to the north along the coast and moose to the south through the planning area. Dall sheep inhabit the higher terrain sweeping along the southern portion of the planning area through the Brooks Range. Furbearers and other small mammals such as arctic fox, red fox, beaver, muskrat, lynx, American mink, American marten, Alaska marmot, wolverine, wolf, snowshoe hare, arctic ground squirrel, lemmings and voles occupy available habitats across the planning area. Marine mammals inhabiting the area include polar bears, multiple seal species (bearded, ringed, and spotted), walrus, and multiple whale species (harbor porpoise, beluga, bowhead, humpback, killer, minke and gray whales), all of which are found seasonally throughout the Arctic Coast Region of the planning area. Polar bears, considered marine mammals and managed by the USFWS, occupy both marine and terrestrial habitats with concentrations occurring near the coast.

The planning area seasonally provides important breeding habitat to millions of birds, including waterfowl, shorebirds, waterbirds, seabirds, songbirds and raptors, that migrate to the Arctic every spring and summer to breed, nest, raise young and acquire energy stores prior to southward migration in the fall. Productivity of the landscape acts as a nursery for numerous bird species that migrate elsewhere and consequently impact populations globally. Suitable habitat, which varies by species, is widely dispersed and includes freshwater, marine, tundra, shrubland and riparian habitat. The highest concentrations of migratory birds in the planning area are associated with the abundant wetlands, river deltas and nearshore marine habitats of the arctic coast and coastal plain, of which waterfowl and shorebirds are the most numerous. Landbird species, however, including raptors, songbirds and willow

ptarmigan are seasonally concentrated along river corridors. Throughout the rest of the planning area, concentrations occur along river corridors and deltas, coastal plain wetlands and barrier islands.

A number of marine, freshwater, and anadromous fish species are found in the waters of the planning area, including chum and pink salmon, Dolly Varden, whitefish, Arctic and least cisco, Arctic grayling, ninespine stickleback and slimy sculpin. Due to the lack of liquid water in winter, fishes that overwinter in freshwaters have strict requirements for flow, oxygen, etc., for survival. Often these areas are small, particularly in rivers and streams, with large concentrations of fishes overwintering together in a small area. Similarly, each species has a requirement for suitable spawning areas (proper substrate size, water temperature, proximity to a spring for a consistent annual flow) and feeding areas (suitable primary and secondary production, water clarity, shelter from predators). Subsistence use of many of these fish and wildlife resources occurs throughout the planning area. See the Subsistence and Harvest section in Chapter 2 for more detail.

Within the planning area, nearly all lands and waters contribute to wildlife habitat resources, and the most important areas are identified through this plan and supported through the following goals. These goals, objectives, and guidelines lay the foundation for maintaining the integrity of these habitat areas, and guide use and development interests. This section will consider the habitat and needs of fish and wildlife species within the planning area.

## Goals

**Minimize Habitat Loss.** When resource development projects occur, avoid or minimize reduction in the quality and quantity of fish and wildlife habitat, particularly on anadromous waterbodies.

**Manage Lands to Maintain the Natural Environment.** Maintain the natural environment in areas known to be important as habitat for fish and wildlife.

**Maintain and Protect Publicly Owned Habitat Base.** Maintain in public ownership and protect habitat for fish and wildlife resources sufficient to conserve a diversity of species to support commercial, recreational, or traditional uses on a sustained yield basis; or protect a unique or rare assemblage of a single or multiple species of regional, state, or national significance.

**Contribute to Economic Diversity.** Protect fish and wildlife resources which contribute directly or indirectly to local, regional, and state economies through commercial, subsistence, personal use, sport and non-consumptive uses.

**Manage for Sustained Yield.** ADNR management of state land and resources is to be consistent with the requirements of sustained yield, as expressed in the State Constitution under Article VIII (Natural Resources).

**Ensure Access to Public Lands and Waters.** Ensure access to state lands and waters and promote or enhance the responsible public use and enjoyment of fish and wildlife resources.

**Avoid the Introduction of and Reduce the Spread of Invasive Plants, Exotic Animals and Diseases.** State lands are to be managed to avoid the introduction, and reduce the spread, of non-native invasive animals and plants as well as exotic diseases that can be detrimental to wildlife populations. This management shall be consistent with the applicable requirements of 11 AAC 34.

## Objectives and Management Guidelines

**Objective A.** Minimize impacts to fish and wildlife habitat areas, whether or not it is classified as Wildlife Habitat Land, to maintain fish and wildlife populations, production, and related public uses.

- **Guideline A-1.** Anadromous waterbodies shall be designated as Habitat (Ha). See the Anadromous Waterbodies section of Chapter 3.
- **Guideline A-2.** Impacts to fish and wildlife habitat areas should be minimized when authorizing development and infrastructure projects.

**Objective B.** Protection of fish and wildlife habitat and riverine areas, particularly the areas described in guideline B-3, shall be considered in all authorizations by the Department.

- **Guideline B-1. *Habitat Manipulation: General Requirements.***
  1. Fish and wildlife restoration, enhancement or manipulation activities on state lands, whether by ADF&G or other parties, may be used to improve habitat for certain fish and wildlife species where ADF&G determines that it is beneficial to the species or habitat and ADNR determines that it is compatible with the management intent for those lands. Habitat manipulation through controlled burning, water control, dredging practices, removal of pollution and pollution sources, or other measures may be allowed with the intent to enhance or restore wildlife.
  2. Enhancement activities likely to attract significant public use, will be designed and located to minimize the impact of additional public use on the existing recreation resources, moorage, campsites, and other resource values.
  3. The state shall manage its lands and waters to avoid the introduction, and reduce the spread, of invasive non-native plants and animals, consistent with the requirements of 11 AAC 34. Although the *Strategic Plan for Noxious and Invasive Plants Management in Alaska* recognizes this as a statewide issue, in most instances this problem is best handled at the local level. On the North Slope, the quality control and assurance of imported materials in erosion control is a particularly effective means to meet this Objective.

- **Guideline B-2.** *Alteration of the Riverine Hydrological System.* To the extent feasible, channelization, diversion, or damming that will alter the natural hydrological conditions and have a significant adverse impact on important riverine habitat will be avoided. If projects like this are proposed they will require a review and permit from the ADF&G Habitat Section and other agencies.
- **Guideline B-3.** *Protection of Riverine Areas.* Riverine areas perform a variety of important functions related to recreation, habitat protection, and water quality/quantity maintenance, and the protection of these areas is important to DMLW. Authorizations are to ensure the natural conditions of these areas are protected by avoiding, minimizing, or mitigating the impacts in any authorization that may be issued.
- **Guideline B-4.** *Allowing Uses in Fish and Wildlife Habitats (Ha).* These habitats are defined as areas that serve as concentrated use areas for a single or multiple fish and wildlife species during a sensitive life history stage where alteration of the habitat and/or human disturbance could result in permanent loss of a population or sustained yield of the species, or these habitats are highly important to the maintenance or management of a single or multiple fish and wildlife species.
  1. In the granting of authorizations within areas classified Wildlife Habitat Land, ADNR adjudicators shall acquire more detailed recent information pertaining to habitat resources and values if there is some question as to the appropriateness of the use that is under consideration for authorization.
  2. There is a distinct seasonality associated with the critical life periods of certain species; seasonality, and any associated off-season carry-over effects, shall be taken into consideration during project review and approval. Seasonality and critical life cycle stages are identified by various agency sources. Thus, it may be possible, through consultation with ADF&G and other agencies, that uses and facilities may be found appropriate within areas classified Wildlife Habitat Land if the seasonality criteria are satisfied by including mitigating measures in project design.
  3. Uses that are likely to produce levels of acoustical or visual disturbance sufficient to disturb sensitive life stages may be authorized with spatial or temporal restrictions that eliminate or minimize the disturbance during the sensitive life stage period.
  4. Uses not consistent with a plan designation and classification, or not authorized in a management intent statement, and that, if permitted, would result in the degradation of the resource(s) within areas designated “Ha”, are to be considered incompatible and are not to be authorized unless determined to be necessary and in the best interest of the state. Degradation of the resource might result from actions involving one or more of the following factors: dredging, filling, significant compaction of vegetation and sediment, alteration of flow patterns, discharge of toxic substances, or disturbance during sensitive periods.

5. If there is a question as to whether a use would be appropriate or whether it would degrade a listed resource, ADNR shall consult with ADF&G in making the determination of initial incompatibility.
  6. Non-designated uses that cause significant adverse impacts to the resources identified within a given “Ha” parcel may be allowed if:
    - a) ADNR, in consultation with ADF&G, determines that the management unit in question does not possess those attributes characteristic of a Habitat designation as defined in the plan; or
    - b) If ADNR, in consultation with ADF&G, determines that the non-designated use can be made compatible and significant adverse impacts to the “Ha” area avoided with appropriate design, siting, and operating stipulations; or
    - c) If after consideration of the above statements, the project is then found to be in the best interest of the state under AS 38.05.035(e) or similar Department authorizations, and significant adverse impacts are mitigated under Management Guideline C-4.
  7. For more information about the fish and wildlife categories used to identify Habitat (Ha) classifications and species-specific guidelines for allowing uses in Fish and Wildlife Habitats, see the *Explanation of Habitat Classifications* discussion at the end of this resource section.
- **Guideline B-5.** *Allowing Uses Outside of Fish and Wildlife Habitat Areas.* Important fish and wildlife habitat or harvest areas may exist within other classifications than “Ha.” In the granting of authorizations, ADNR adjudicators shall consult with ADF&G and the appropriate federal management agency to acquire more detailed and recent information pertaining to fish and wildlife habitat and harvest values. See *Subsistence and Harvest* resource section for more detail.
  - **Guideline B-6.** *Threatened and Endangered Species.*
    1. All land use activities will be conducted consistent with state and federal Endangered Species Acts to avoid jeopardizing the continued existence of threatened or endangered species of animals or plants, to provide for their continued use of an area, and to avoid modification or destruction of their habitat.
    2. Specific mitigation recommendations should be identified through consultation with ADF&G’s statewide Threatened, Endangered, and Diversity Program for any land use activity that potentially affects threatened and endangered species.
    3. The U.S. Fish and Wildlife Service (USFWS), Division of Ecological Services, and the National Marine Fisheries Service (NMFS) should be consulted on questions that involve endangered or threatened species of federal interest and the ADF&G Threatened, Endangered, and Diversity Program for those listed by the state.



**Objective C.** When resource development projects occur, adequate measures shall be taken in order to avoid or minimize impacts that may result in changes in the quality and quantity of fish and wildlife habitat.

- **Guideline C-1. *Balancing Impacts with Potential Development.***
  1. To the extent practicable, linear infrastructure shall be co-located to reduce the surface area of impacted lands except in situations where separation distances are required to reduce adverse impacts to wildlife movements.
  2. ADNR, in its consideration of resources and in the management of state land, shall consider the immediate and long-term impacts of such use upon fish and wildlife populations and human uses of those populations, habitat and soil degradation, and upon other forms of use that may occupy the area that is under consideration in an authorization. Uses that are not compatible with these uses and resources are to be made compatible through the use of stipulations when possible.
  3. It is recognized that the use and development of resources will create some level and area of impact. Nonetheless, the state may determine through its authorization processes that the development of specific surface or subsurface resources is appropriate, even with some level of impact, and may approve such developments, with appropriate stipulations. It is also recognized that the development of specific subsurface resources may take precedence over surface uses.
- **Guideline C-2. *Water Intake Structures.***
  1. When issuing water rights for waters providing fish habitat, ADNR will require that practical water intake structures be installed that do not result in entrainment, entrapment, or impingement of fish and will maintain instream flows needed to sustain existing fish populations. The simplest and most cost-effective technology may be used to implement this guideline when consistent with all applicable permits.
  2. Water intake structures should be screened, and intake velocities shall be limited to prevent entrapment, entrainment, or injury to fish. The structures supporting intakes should be designed to prevent fish from being led into the intake. Other effective techniques may also be used to achieve the intent of this guideline.
  3. The DMLW (Water Section) and ADF&G Habitat Section should be consulted to determine screen size, water velocity, and intake design if the intake structure is in fish-bearing waters. ADF&G will continue to determine and permit the appropriate intake structures for specific locations and projects.
- **Guideline C-3. *Transportation Routes and Facilities.*** Location of routes and timing of construction should be determined in consultation with ADF&G. Transportation corridors that intersect or cross fish or wildlife movement areas shall be equipped with appropriate crossing devices or structures to allow the free and efficient bidirectional passage of species using the corridor.

- **Guideline C-4. Mitigation.**
  1. When issuing permits and leases or otherwise authorizing the use or development of state lands, ADNR will recognize the requirements of the activity or development and the effects to habitat when determining stipulations or measures needed to protect fish, wildlife, or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of the authorization.
  2. ADNR will consult with appropriate federal agencies to develop future North Slope mitigation measures to avoid and minimize impacts to resources within the plan boundary.
  3. All land use activities will be conducted in accordance with requirements from ADNR and other pertinent agencies to avoid or minimize adverse effects on fish, wildlife, or their habitats, and on public access to those resources.
  4. ADNR, ADEC, and ADF&G may require the mitigation of any significant damage to fish, wildlife, or their habitats that may occur as a result of a project or proposal. ADNR, ADEC, and ADF&G will enforce permit stipulations and measures consistent with their authorities and enforcement capabilities.
  5. Mitigation will be required for any significant damage to fish, wildlife, or their habitats that may occur as a direct result of the party's failure to comply with applicable law, regulations, or the conditions of the permit or lease.
  6. When determining appropriate stipulations and measures, the Department will apply, in order of priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also follow these steps:
    - a) Avoid anticipated, significant adverse effects on fish, wildlife, or their habitats through siting, timing, or other management options.
    - b) When significant adverse effects cannot be avoided by design, siting, timing, or other management options, the magnitude of the adverse effect(s) of the use or development will be minimized.
    - c) If significant loss of fish or wildlife habitat occurs, the loss will be rectified by repairing, rehabilitating, or restoring the affected area to a useful state once the authorized use ceases and the Department has determined the appropriate DR&R and potential site remediation action (if any) needed for the degraded lands or waters.
    - d) ADNR shall consider replacement or enhancement of fish and wildlife habitat when steps 1 through 3 cannot avoid substantial and irreversible loss of habitat. The ADF&G will identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. In those instances when replacement or enhancement is not feasible, ADNR will consider the provision of substitute resources or environments. ADNR will consider only those replacement and enhancement techniques that are either scientifically supported or are likely to be effective and that will

result in a benefit to the species impacted by the development. Replacement or enhancement will be required by ADNR if it is determined to be in the best interest of the state either through the AS 38.05.035(e) or other authorization process.

- **Guideline C-5. *Avoidance of Conflicts with Traditional Uses of Fish and Game.*** Surface activities authorized under permit or lease that have the potential to impact local harvest activities, are to avoid significant conflicts with local subsistence harvests and other traditional uses of fish and wildlife resources. The impact of surface activities upon local harvest is to be evaluated in ADNR authorizations. These evaluations are to determine the degree of impact and, where significant impact is likely to occur, either deny the activity or impose seasonal/temporal restrictions. Prior to issuing an authorization that may have a significant effect upon habitat or local harvests, ADNR is to consult with ADF&G, the borough, and local communities to ascertain their interests and concerns. See *Subsistence and Harvest* section for more information.

**Objective D. *Other Guidelines affecting Fish and Wildlife Habitat.*** Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect fish and wildlife habitat in the planning area. The most commonly affected resource sections include Public Access, Transportation and Infrastructure, Water Resources, Subsistence and Harvest, Subsurface Resources, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.

## Species Specific Management Guidelines

**Caribou.** The Central Arctic Herd (CAH), the Teshekpuk Caribou Herd (TCH), and the Western Arctic Caribou Herd (WAH) are present within the planning area; however, other caribou herds are occasionally present in the planning area including the Porcupine Caribou Herd (PCH). The CAH occupies the central region of the North Slope. The female caribou of the CAH calve across a broad swath of the Arctic coastal plain from the Canning River drainage of the Arctic Refuge west to the Colville River. Most calves are born in areas on either side of the Prudhoe Bay oil complex. The TCH primarily occupies lands outside of the planning area, west of the Colville River, with calving concentrated in the area surrounding Teshekpuk Lake between May and late-June. The area north of Teshekpuk Lake is commonly used by the TCH for insect relief and grazing. The TCH often migrates through and periodically overwinters in the planning area. The WAH occupies the central and southwestern region of the North Slope with their range primarily existing within the Brooks Foothills region and a small area within the southern portion of the Dalton corridor region. Cows migrate to their calving grounds in the Utukok Hills between late-May and mid-June. During late-July and early-August, after calving, cow and calf groups, as well as bulls migrate east toward Anaktuvuk Pass to avoid insect harassment.

The most significant habitats include calving grounds, summer range for insect relief areas, migratory corridors and winter range. Where these areas exist, they are identified within

specific management units in the Resource Allocation Tables (RAT) of Chapter 3. The RAT and the applicable goals, objectives, and guidelines found in this Chapter are to be consulted to determine the full management intent as well as the particular temporal sensitivity of herds within each unit. If it is likely that a caribou concentration exists within the area affected by a potential project, adjudicators shall consult with ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures. Other management requirements pertain to the 'Subsurface Resources' component of Chapter 2 and should be consulted prior to authorizing locatable, leasing, or licensing activities.

**Moose.** Moose are present throughout the planning area, with various habitats being important for calving, rutting and/or overwintering. In particular, willow stands associated with river valleys and riparian areas are important winter concentration habitat. Calving typically occurs from May through June, while rutting occurs late September to October. ADNR authorizations shall include seasonal restrictions on activities that would produce significant acoustical or visual disturbance during wintering, calving (including post-calving), or rutting periods.

Moose calving and rutting areas may change over time. Adjudicators shall consult with ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Dall Sheep.** Dall sheep are present throughout the mountainous terrain and open alpine ridges within the Brooks Foothills and Dalton Corridor regions. Within these areas, sheep are widely distributed and there are numerous areas that are important for lambing, rutting, and winter habitats. Lambing typically occurs in May and June. Ewes and lambs are especially vulnerable and sensitive to disturbances (e.g., low elevation air traffic) and other environmental factors at this time. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Musk ox.** Musk ox are present in the Arctic National Wildlife Refuge, Cape Thompson, and the eastern portion of the North Slope near the Kavik River. The highest concentration of musk oxen occurs along the Sagavanirktok, Kuparuk and Colville Rivers; with the highest concentration near the Arctic coast south and east of Deadhorse and northwest of Prudhoe Bay in the area of Beechey Point. During the winter, ideal habitat is limited to areas of shallow or patchy snow where the species can forage for dried grasses, sedges, willows, and other vegetation. Preferred summer habitat includes streams and vegetated valleys with a variety of plants and vegetation. Mating typically occurs between August and October and calves are born in the spring between April and June. For nearly two decades, musk ox mortality has been increasing across the North Slope due to changes in predation, starvation, and habitat loss. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Grizzly and Polar Bear Denning Sites.** Some maternal denning sites have a recorded use dating back decades. Exploration and production activities in tundra habitat shall not be conducted within one-half mile of known occupied grizzly bear dens, unless alternative mitigation measures are approved by ADF&G. Operations must avoid known polar bear dens by one mile. If a polar bear should den within an existing area of development, off-site activities shall be restricted to minimize disturbance. Known den sites for grizzly bears can be obtained from the ADF&G Division of Wildlife Conservation and known den sites for polar bears are obtained from the USFWS. Adjudicators shall consult ADF&G and USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures. All permanent and long-term seasonal facilities shall prepare a bear interaction plan to reduce conflicts with polar and brown bears.

**Marine Mammal Haulouts.** Walrus and seal subsistence haulouts shall not be physically altered. Structures or activities that would preclude or significantly interfere with the continued use of these areas shall not be authorized and should be situated at least one-half mile from haulouts. Uses with high levels of acoustical or visual disturbance shall not be allowed within one-half mile of walrus haulouts from May 1 through December 1; and one-half mile of seal haulouts from May 1 through October 15. Consult the 'Resources & Uses' section of the Arctic Tidelands Region in the Resource Allocation Tables to determine subsistence harvest locations. Adjudicators shall consult ADF&G and may contact USFWS and NMFS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Migratory Birds.** The planning area contains a variety of habitats that are integral to the breeding, molting, nesting and foraging to numerous migratory bird species. Alaska and the Arctic Coastal Plain, in particular, serve as the northerly geographic endpoint of every major avian migratory flyway in North America and host major shorebird migrations from the Asian and Australasian flyways as well. The Alaska Wildlife Action Plan has identified 56 migratory bird Species of Greatest Conservation Concern as occurring within the planning area (ADF&G State Wildlife Action Plan 2015). For many species, the planning area includes core breeding and staging areas important to population maintenance. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (Eagle Act). Current recommendations are that disturbance of nesting habitat should be avoided for tundra, shrub and marsh habitat between June 1 to July 31, seabird colonies between May 20 to September 15 and raptor and raven cliff nesting sites between April 15 to August 15. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

Abundant field data reveal concurrent climate-related stressors that result in both breeding and in carry-over effects for Arctic migratory species. Given the list below, it is imperative to account for both the current context of climate change, as well as any additional habitat disturbance, which can result in cumulative impacts.

Some scientifically documented examples of existing climate-related stressors for birds:

1. Ecological models suggest suitable breeding conditions and habitat will decrease with time for many species.
2. Many low-lying areas are changing and drying, reducing habitat suitability.
3. River deltas are modifying sediment deposition, due to rising sea levels, more severe storms and glacial runoff, causing deltas to change and invertebrate food supplies to change, which are critical to fattening of migratory birds.
4. Shrubs and predators are expanding, making habitats less suitable and potentially more dangerous.
5. Early emergence of invertebrates creates a phenological mismatch that can reduce survival.
6. Greater variability of seasonal weather and dates of snowmelt can dramatically reduce breeding success.

**Waterfowl and other waterbirds.** The abundant wetlands, ponds and other aquatic habitats within the Arctic Coast Region provide important breeding concentrations for numerous waterbird species, including king eiders, spectacled eiders, black brant, snow geese, greater white fronted geese, tundra swans, pacific loons, red-throated loons and yellow-billed loons. The species diversity and abundance of the general area is underscored by a site not far from State land (Teshekpuk Lake Special Area), which is recognized as the most important place in the Circumpolar Arctic for breeding aquatic birds, including shorebirds. Spectacled eiders are currently Threatened under the Endangered Species Act (ESA), and yellow-billed loons are a former Candidate species. Nesting activity and habitats of both species have been documented since 1993, especially in the vicinity of oil leases, including the Colville River Delta. The Colville River, Fish Creek, Sagavanirktok River, Kuparuk River, Ikpikpuk, Chipp, and Canning River deltas provide important breeding and staging habitats. Lagoons and nearshore marine waters of the Arctic Coast Region provide important foraging habitat. Barrier islands within the Arctic Tidelands Region contain concentrations of breeding common eiders. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Shorebirds.** The planning area contains several areas important to dozens of shorebird species during breeding and post-breeding staging with at least 17 priority shorebird species (Alaska Shorebird Group, 2019). In important waterfowl and waterbird habitat, activities requiring a lease, permit, or development plan, and producing habitat disturbance or high levels of acoustical or visual disturbance from sources such as boat traffic, vegetation clearing, construction, blasting, dredging, and seismic operations, should be avoided during sensitive periods such as nesting, staging, or brood-rearing periods. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Seabird Colonies and Rookeries.** Seabird colonies and rookeries shall not be physically altered. Structures or activities that would preclude or significantly interfere with the continued use of these areas should not be authorized and should be situated at least one-half mile distant from seabird colonies and rookeries. Uses with high levels of acoustical or visual disturbance should not be allowed within one mile of seabird colonies from April 15 through August 31. Consult the 'Resources & Uses' section of the Arctic Tidelands Region Resource Allocation Tables to determine seabird colonies and rookeries likely to be present within areas of an identified tideland unit. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

**Landbirds.** Landbirds include songbirds, upland gamebirds and raptors. Although landbirds occur at relatively lower densities than waterbirds, the planning area supports a significant portion of the continental populations of several species. The Alaska Landbird Plan 2020 highlights multiple species, including the snowy owl which was recently placed on IUCN (2017) Red List of Threatened Species, and the olive-sided flycatcher which has declined both continentally and within Alaska. Other songbirds of conservation concern include gray-headed chickadees, Smith's and Lapland longspurs and northern wheatears. Songbird breed within a variety of habitats, including coastal and alpine tundra and riparian areas. Gray-headed chickadees are one of the highest priority species for ADF&G, as they are extremely limited to discrete, unique patches of poplar grove habitats, primarily within the Central Slope and Brooks Foothills Regions. Willow ptarmigan, an important species for harvest, use various portions of the planning area throughout the year where they concentrate in willow stands within river valleys.

Golden eagles, federally protected under the Bald and Golden Eagle Protection Act, use habitats throughout the planning area and appear to be important for continental populations. The best-available tracking data, recently analyzed for this management document by the FWS Western Golden Eagle Team, demonstrates that non-breeding golden eagles from multiple states utilize areas north of the Brooks Range. Approximately half of 43 marked individuals were documented on state lands within the planning area, primarily within the Central Slope and Brooks Foothills regions. The additional federal protections under the Eagle Protection Act prohibit molesting, agitating, disturbing or taking these species, their parts, nests, or eggs without a federal permit. Disturbance includes decreasing productivity by substantially interfering with breeding, feeding, sheltering behavior, or causing nest abandonment in the current or subsequent year.

Alaska also supports 100% of the U.S. breeding population of gyrfalcon, rough-legged hawk, and snowy owl, as well as large proportions of other raptor subspecies. Given the endemic nature of breeding populations, recent declines and the importance of tundra as breeding habitat, these species are worthy of consideration. Common raptors within the planning area include peregrine falcons, gyrfalcons, rough-legged hawks, golden eagles and short-eared and snowy owls. Generally, raptor nesting sites are associated with bluffs and cliffs along riverine areas, particularly the Colville River Delta and lower Colville River area have some of the highest concentrations. Snowy owls nest on tundra habitat with several concentration

areas found throughout the Arctic Coast Region. Snowy owls are on the Yellow Watchlist for Partners in Flight, which means it is a species of conservation concern at a continental scale with a declining population. Short-eared owls are in steep decline with a loss of 65% of global population from 1970-2014. Both snowy and short-eared owls were regularly detected in USFWS aerial surveys of waterbirds on the Arctic Coastal Plain since 1986. These birds represent potential breeders, given survey timing. Adjudicators shall consult with ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

### **Anadromous and High Value Fish Habitat**

Residents of the North Slope have a long history of harvesting fish for subsistence, primarily anadromous species (Dolly Varden, whitefishes *spp.*, and small amounts of Pacific salmon *spp.*), and resident species (Arctic grayling, burbot, northern pike, and lake trout). Small numbers of Arctic cod, saffron cod, and Arctic flounder are also taken but most of the total fish harvest is on species that spend at least part of their life cycle in freshwater. While subsistence harvest data is limited, research from the ADF&G, Division of Subsistence suggests that 250,000-300,000 lbs. of fish are harvested annually by the residents of Atkasuk, Utqiagvik, and Kaktovik. Research conducted by ADF&G, BLM, USFWS, UAF, North Slope Borough Wildlife Department, and NGOs has documented several aspects of the life history of fishes found on the North Slope including seasonal movements, spawning and overwintering areas, run timing, etc. for species in the Colville, Anaktuvuk, Canning, Ivishak and other river drainages. Adjudicators shall consult ADF&G and may contact USFWS to identify important areas in addition to those identified in the management units in the Plan and to determine appropriate mitigation or avoidance measures.

### **Threatened and Endangered Species**

All land use activities will be consistent with state and federal Endangered Species Acts to avoid jeopardizing the continued existence of threatened or endangered species or animals or plants, to provide for their continued use of an area, and to avoid modification or destruction of their habitat. Specific mitigation recommendations should be identified through interagency consultation for any land use activity that potentially affects threatened or endangered species. At the time of adoption, there are no Threatened or Endangered species recognized under AS 16.20.190 within the planning boundary. The U.S. Fish and Wildlife Service, Division of Ecological Services, or the National Marine Fisheries Service should be consulted for questions involving federally designated threatened or endangered species in the planning area. Federally designated Threatened (T) and Endangered (E) species are listed below.



Species	Status
polar bear ( <i>Ursa maritimus</i> )	T
spectacled eider ( <i>Somateria fischeri</i> )	T
Steller's eider ( <i>Polysticta stelleri</i> )	T
humpback whale ( <i>Megaptera novaeangliae</i> )	E
bowhead whale ( <i>Balaena mysticetus</i> )	E
ringed seal ( <i>Phoca hispida</i> )	T
bearded seal ( <i>Erignathus barbatus</i> )	T

## Heritage and Cultural

The North Slope region contains a long and rich history of human habitation. Numerous sites across the North Slope containing sod houses, graves, storage pits, ice cellars, bones, and relics attest to the historical use and presence of Iñupiat and Western people within the planning boundary. Cultural resources are generally considered “historical” in age around the 50-year mark, and therefore require further consideration under historic preservation law.

The North Slope Arctic coast served as a migration corridor for early nomads arriving from Asia across the Bering land bridge. Archeological evidence of human occupation and use of the Arctic coastal plain dates back to 10,000 B.C. The new migrants began exploring the Brooks Range foothills when glaciers began retreating to the Brooks Range. The Paleoindian period between 13,700 and 9,800 years ago, was the first widespread Native American cultural tradition that was well-documented by the archaeological record. These groups were likely small, mobile bands that hunted large game. As the environment changed at the end of the Pleistocene era and the large mammals on which they survived disappeared, the Paleoindian tradition disappeared. The Mesa site, south of Utqiagvik in the foothills of the Brooks Range, is the best documented site of the period.

The record of human existence on the North slope is characterized by several distinct cultural periods marked by changes in tool style. The environmental characteristics of the Arctic shaped Iñupiat culture into a semi-nomadic society with a tradition of whaling and an emphasis on seasonal inland hunting. This pattern of land use remained unchanged until the second half of the 19<sup>th</sup> century with the arrival of westerners, new tools, and other natural events.

The discovery of bowhead whale paths led to a dramatic increase in commercial whaling activity between 1850 and 1890. Several whaling stations were built along the coast and provided regular contact and trading with the Iñupiat population. Smallpox and influenza outbreaks decimated North Slope Iñupiat populations during the final quarter of the nineteenth century. A simultaneous decline in caribou populations resulted in famine and caused inland Iñupiat to relocate to coastal communities, such as Utqiagvik. By 1910, the population decline reduced the Iñupiat population to between 20 and 25 percent of its 1850 population.

Many traditional uses of the land continue today in the Iñupiat and Nunamiut communities and surrounding areas. These traditions, cultural practices, and subsistence lifestyle are passed down to the younger generations of Alaska Native people.

In 1900, a report by the US Navy provided the first written documentation about petroleum resources on the North Slope by verifying oil shale deposits along the Etivluk River. The U.S. Geological Survey (USGS) completed the first comprehensive survey in 1901 and published the results in 1904. The USGS report noted the presence of geological formations that could have petroleum deposits as well as natural oil seepages near Cape Simpson. The

Iñupiat people knew about the existence of oil seeps on the North Slope long before they were formally located and described by the U.S. Geological Survey in 1901. Some of the first documented petroleum deposits and oil seeps were found near Cape Simpson. Following extensive exploration work by the USGS and the Navy, producible oil was first discovered at Umiat, along the Colville River. Natural gas was first discovered at Umiat and Utqiagvik. In 1949, the South Barrow Gas field was developed. The federal government began exploring for oil in 1923 with the establishment of the Naval Petroleum Reserve No. 4.

Some of the lands used by Alaska's first people have been conveyed to individuals as Native Allotments. Within the planning boundary there are currently 145 allotments totaling almost 11,000 acres. The number and acreage will change as more allotments are conveyed under existing federal laws. Lands with heritage and cultural significance will be managed according to the following goals, objectives and management guidelines.

## Goal

**Cultural Resources.** The Alaska Historic Preservation Act establishes the State's basic goal: to preserve, protect, and interpret the historic, prehistoric, and archaeological resources of Alaska so that the scientific, historic, and cultural heritage values embodied in these resources may pass undiminished to future generations.

## Objectives and Management Guidelines

**Objective A.** Preserve, protect, and interpret the historic, prehistoric, and archaeological resources within the planning area.

- **Guideline A-1.** Identify and determine the significance of cultural resources on state land through the following actions:
  1. Cultural resource surveys conducted by qualified personnel;
  2. Research about cultural resources on state land by qualified individuals and organizations; and,
  3. Cooperative efforts for planned surveys and inventories between state, federal, and local or Alaska Native groups.
- **Guideline A-2.** Protect significant cultural resources through the following actions:
  1. The Office of History and Archeology (OHA) within the Division of Parks and Outdoor Recreation (DPOR) reviews authorizations, construction projects or land uses for potential conflict with cultural resources. The office determines if there may be an adverse effect on heritage resources and makes recommendations to mitigate these effects.

2. Cooperating with concerned government agencies, Alaska Native corporations, statewide or local groups, and individuals to develop guidelines and recommendations on how to avoid or mitigate identified or potential conflict.
  3. Require the establishment of buffers a minimum of 50' or greater around significant cultural resources as part of the overall protection process when subdividing or otherwise using state lands.
- **Guideline A-3.** If determined by OHA during an agency review of a proposed disposal that a cultural survey may be required, further coordination between OHA and DMLW prior to the land disposal is warranted. A Cultural Resources Investigation Permit is required for cultural resource contractors surveying on State land. This permit authorization is managed by the State Archaeologist within OHA. Cultural surveys shall be considered where OHA reported sites exist or where there is a high potential for such sites to exist. The extent and type of the cultural survey within the area of the proposed land disposal shall be determined by OHA in consultation with DMLW.
  - **Guideline A-4.** Recreation facilities that might subject cultural sites to vandalism because of the increased public use should not be placed adjacent to the cultural sites.
  - **Guideline A-5.** The Alaska Heritage Resources Survey (AHRS) is an inventory of all reported historic and prehistoric sites within the State of Alaska and is maintained by the OHA. The AHRS is used to identify known cultural resource sites and ensure they are addressed during a project should one be proposed where a cultural resource exists. By knowing of possible cultural remains prior to construction, efforts can be made to avoid project delays and prevent the destruction of cultural sites. While over 45,000 sites have been reported within Alaska, this is estimated to be only about 1% of the sites which may actually exist but are as yet unreported. The AHRS is not complete or static, so heritage sites, when found, should be reported to the OHA.

**Objective B.** *Other Guidelines affecting Heritage and Cultural Resources.* Many of the resource guidelines found within Chapter 2 either directly or indirectly affect heritage and cultural resources in the planning area. Other guidelines will affect cultural resources. See other applicable sections of this chapter.

## Material Sites

Material sites, commonly referred to as “mine sites” within the planning area, are areas where common variety materials such as sand, gravel, rock, crushed rock, and rip-rap are extracted and processed. Material resources are required for the construction, maintenance, and expansion of infrastructure including roads, pipelines, airports, businesses, residences, utilities, and communication facilities among other types of projects. Some material sites or material sources exist that may have been previously developed and are not currently active or are newly identified sources. Ideally, source areas are located close to a project area or area of use to reduce transportation costs; however, appropriate material sources are not located uniformly in many landscapes, so transportation distances can vary. Transportation costs increase with distance from the material source area which quickly makes their use cost prohibitive, and therefore, a lack of materials sites within a reasonable distance from projects increases transportation costs and may effectively prevent some maintenance and development activities that are necessary or desirable. Due to their importance to activities throughout the North Slope, it is recognized that the development of specific material resources may take precedence over other uses.

Within the North Slope planning area, material source areas are more readily identified in land areas adjacent to the Dalton Highway from the southern plan boundary extending north to include the foothills area on the northern flank of the Brooks Range. Where river systems are close to the Dalton Highway, material sources are also located on the shore lands and adjacent areas where sand and gravel are common and exist in a natural thawed state. North of the foothills to the Arctic Ocean, material deposits are less available near project sites. In many cases haul distances may drive costs up significantly. Current trends and outlooks for the planning period indicate that demand for materials is high and will continue to grow as exploration is conducted and oil and gas projects are authorized by local, state, and federal agencies. Material resources for this plan have been assessed with the perspective of managing a relatively scarce resource when accounting for immediate availability in project areas.

## Goals

**Retain Land for State-Owned Materials Sites.** Maintain in state ownership and make available to public and private users sufficient, suitably located materials sites to meet long-term economic and infrastructure needs of the area for material resources.

**Minimize Material Site Impact.** Sites will be consolidated to minimize impact to other resources, to the extent that is economical or practicable.

## Objectives and Management Guidelines

**Objective A.** The State will designate material sites necessary for development and maintenance of infrastructure during the planning period.

- **Guideline A-1.** All state-owned material sites designated under AS 38.05.550 will be retained in state ownership unless determined by the Commissioner to be in the state's best interest to dispose of the land.
- **Guideline A-2.** Lands with potential for production of materials necessary for maintenance of existing infrastructure, or development of new infrastructure, are identified as such and shall be retained in state ownership unless a land disposal is determined by the Commissioner to be in the State's best interest.
- **Guideline A-3.** When designating material sites, the state may include appropriate stipulations. The designation of material sites may take precedence over other surface uses.
- **Guideline A-4.** When responding to a request for a new material site designation, the highest priority should be given to using or expanding existing designated material sites when the quality, quantity, and cost of the resource is acceptable.
- **Guideline A-5.** Consideration should be given to designating material sites near present or planned infrastructure projects.
- **Guideline A-6.** Construction materials resources are required for the development, maintenance, and expansion of critical infrastructure including roads, pipelines, airports, utilities, communication facilities, and similar types of projects. Because of the importance of material resources, it may be appropriate to locate material sites within areas not already identified in this plan. Unless specifically stated in the management intent, material sites should be considered appropriate in any classification.
- **Guideline A-7.** As a general policy, material sites will not be designated in known fish spawning areas or within 100 feet of known spawning areas.
- **Guideline A-8.** Material Site Designation decisions will go through the AS 38.05.945 public notice process which includes alerting the appropriate borough, municipality, village, and Native corporation entities. When authorizing a material sale, coordinate with the Alaska Department of Transportation & Public Facilities (ADOT/PF) and ADF&G for site-specific information.

**Objective B.** Designated material sites required for exploration and development activities will be limited to the minimum necessary and will include stipulations to minimize the environmental impact.

- **Guideline B-1.** A buffer shall be provided adjacent to anadromous waterbodies. The adjudicator shall consult with ADF&G on the width of the protection area prior to issuing an authorization. See also ADF&G Pit Performance Guidelines.

- **Guideline B-2.** *Protect Area Adjacent to Anadromous or High Value Resident Fish Waterbodies.* Consultation of the following reference is advised: North Slope Gravel Pit Performance Guidelines. McLean, R.F. 1993. Alaska Department of Fish and Game, Habitat and Restoration Division, Juneau, AK, Technical Report No. 93-9, 97 pp. Document available for download at [http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/93\\_09.pdf](http://www.adfg.alaska.gov/static/home/library/pdfs/habitat/93_09.pdf).

**Objective C.** Development of upland sources should be prioritized over streambed or riverine sources to minimize impact to river systems, to the extent that it is practicable.

**Objective D.** When siting, operating, or closing material sites, maintaining other uses and resources is to be considered to the maximum extent practicable.

- **Guideline D-1.** Prior to material extraction, the adjudicator will ensure that the requirements of the permit or lease adequately protect other important resources and uses.
- **Guideline D-2.** The disposal of materials should be consistent with the applicable management intent statement and management guidelines of the plan.
- **Guideline D-3.** In some instances, areas occupied by a material site may be appropriate for reuse for settlement or another form of development. These instances are noted in the ‘management intent’ of the affected unit when reuse of the parcel for the intended use is appropriate. If this occurs, the reclamation plan shall take this into consideration and account for the possible reuse.
- **Guideline D-4.** *Land Sales in Areas of High Material Potential.* Generally, if a settlement area contains sand and gravel deposits, rock sources or other similar, high value material resources, a pit area should be identified during subdivision design and retained in state ownership for future use.
- **Guideline D-5.** Where topography and vegetation allow, material sites should be screened from roads, residential areas, recreational areas, and other areas of significant human use. Sufficient land should be allocated to the material site to allow for such screening. Rehabilitation of the site shall follow the requirements of AS 27.19.020 and 11 AAC 97.250.
- **Guideline D-6.** *Access Roads.* Roads for access to material extraction sites should be dedicated to their respective material sites and maintained for materials extraction operations.

**Objective E.** *Other Guidelines affecting Material Resources.* Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect material resources in the planning area. Other resources addressed in this chapter should also be considered.

## Public Access

Like many places in Alaska, public access on the North Slope is sparse due to the limited number of roads throughout the region. Although ground travel is enhanced significantly during the winter when the ground is frozen and ice roads can be constructed, much of the region is primarily accessed by air. The planning area is encompassed by the North Slope Special Use Area (ADL 50666) and is regulated by 11 AAC 96.014(b)(1). This regulation states that on, “all state land in townships within the Umiat Meridian, a permit is required for motorized vehicle use, unless that use is for subsistence purposes or is on a graveled road.” With few exceptions, the Dalton Highway is the only road in the planning area that is open to the public; it is also the only permanent road connecting the North Slope to the rest of the Alaska Highway System. Off-road vehicles are prohibited on land within five miles of the Dalton Highway right-of-way, with a few exceptions. See AS 19.40.210 for more information.

For a number of years, North Slope communities have expressed the need and desire for community connectivity, with either permanent or seasonal roads. Both the State and the North Slope Borough have developed projects to investigate options for connecting communities. Recently, the North Slope Borough has developed winter access snow routes to communities through its Community Winter Access Trails (CWAT) project. They have been proven successful in providing an opportunity to connect communities to the road system to allow transportation of goods and services seasonally. Concurrent with the CWAT project, the State through ADNR has taken steps to analyze conceptual transportation corridors that could meet the needs of the communities through the Arctic Strategic Transportation and Resources (ASTAR) program. The ASTAR project has provided some information related to materials necessary for route construction in addition to some conceptual route locations. Information gathered through the ASTAR project was reviewed as this plan was developed and is included as appropriate. For more information on ASTAR, a detailed story map for the project can be found at <https://www.arcgis.com/apps/Cascade/index.html?appid=ab8be9349a08477ebfb66d017e0aec8d>.

## Goals

**Public Access.** Preserve, enhance, or provide adequate access to public lands for recreation, subsistence harvest, and resource development. Provide for future trail and access needs and protect or establish trail corridors to ensure continued public access consistent with responsible wildlife and fish habitat conservation. Ensure adequate opportunities for the public’s use of public resources of local, regional, and statewide significance.



## Objectives and Management Guidelines

**Objective A.** To the maximum extent practicable, adequate opportunities for the use of public resources of local, regional, and statewide significance by the public will be ensured.

- **Guideline A-1. *Preservation of Access Opportunities.*** The Department shall preserve existing access routes, and may identify additional potential access to, through, and within the planning area. Unless there is an overriding state need, section-line easements are to be preserved. ADOT/PF is to be consulted prior to any action involving requests for the vacation of section-line easements. Vacation requests should not be granted unless it clearly be shown that there will not be a need for the foreseeable future (25 years) or if an alternative route is available of equal or better access.
- **Guideline A-2. *Access Across Land Use Designations.*** Due to their linear alignment, it is recognized that roads and trails may traverse several different land use designations. A particular land use designation is not intended to affect or preclude access. Access may be developed on all land use designations, including Habitat, Public Recreation, and Water Resources, although stipulations may be required to mitigate adverse impacts to the resources associated with these designations.
- **Guideline A-3. *Retain Access.*** Improve or preserve public access to areas with significant public resource values by retaining access sites and corridors in public ownership; reserving rights of access when state land is sold or leased; or identifying, managing and legally validating RS 2477 (Revised Statute Section 2477) rights-of-way. RS 2477 rights-of-way within the planning area that are identified in AS 19.30.400(d) or otherwise determined by ADNR to qualify as RS 2477 trails are to be retained in state ownership or made a stipulation of approval ('subject to') in the transfer of state land.
- **Guideline A-4. *Reservation of Public Use Easements.*** Before selling, leasing, or otherwise disposing of the land estate, ADNR will reserve public use easements pursuant to the requirements of 11 AAC 51.015. This section of administrative code establishes when public access easements are to be reserved and the widths of these easements. Specific standards for section-line easements are identified in 11 AAC 51.025 and for easements required under AS 38.05.127, to and along navigable and public waters, in 11 AAC 51.045. These sections of Administrative Code shall be used as the basis for the reservation of public access easements in authorizations granted by ADNR.
- **Guideline A-5. *Management of ANCSA 17(b) Easements.*** The state will identify 17(b) easements as required and ensure that public access is maintained to state lands. These easements are intended to provide access through private Native lands to public lands and waters. They are reserved and managed by the federal government. Generally, ADNR will not accept management of 17(b) easements unless the state already actively manages a portion of the trail or easement, or state management will best protect public access to state lands.

- **Guideline A-6. Access to Non-State Lands.** Reasonable access will be provided across state lands to other public and private lands. If a proposed access route is located in close proximity to a village or Alaska Native owned lands, ADNR should coordinate with the appropriate regional or village corporation holding title to the surface estate. Existing legal access will not be precluded unless equivalent access is available.
- **Guideline A-7. Access for Exploration Activities.** Access for exploration should be temporary and constructed of ice or snow unless ADNR approves of an alternative. Access will be encouraged to occur during winter months and may be approved in areas where snow and soil temperatures are sufficient to protect the ground surface. Summer off-road travel may be authorized subject to time periods and vehicle types and configurations approved by DMLW. Exceptions may be granted by the DMLW.
- **Guideline A-8. Access for Development.** When an access route is constructed for resource development over state land, public access to mineralized or oil, gas or geothermal areas, recreation, fish, wildlife, or other public resources should generally be retained. If the new resource facility is likely to be of limited duration and provides superior access to the current means of access, the state should retain the new facility for public access. If the new route or facility will not or should not provide public access due to concerns for public safety or the long-term detrimental impact on natural resources, the current means of public access should be retained. Additional access routes in some areas may lead to negative impacts on valuable resources, particularly certain renewable resources. The development of new trails should not displace current methods of access without providing alternative routes.
- **Guideline A-9. Limiting Access.** Access to state lands may be curtailed at certain times or locations to protect public safety, provide for the remediation of public use areas, allow special uses, and prevent harm to the environment, fish and wildlife.
- **Guideline A-10. Joint Use and Consolidation of Surface Access.** Multiple use and consolidation of access routes and facilities should be encouraged whenever it is feasible and prudent to do so. Surface access should be sited and designed to accommodate future development and avoid unnecessary duplication.
- **Guideline A-11. Consultation between DMLW and DOG.** Proposed access routes shall be reviewed by DMLW and DOG prior to authorization. DMLW determines if the routes or trails are required, consistent with applicable sections of statute and administrative code.

**Objective B.** To the maximum extent practicable, adequate opportunities for access to and within developing areas will be provided.

- **Objective B-1.** The Department shall consider the need for public access before selling, leasing, or otherwise disposing of the land estate. If local access needs are identified through the adjudication and agency or public review process, access trails should be reserved. This will occur through the retention of state land in public ownership or through the creation of a public use easement. Under either approach,

- the public should have the right of access within the area of state land or the public use easement.
- **Objective B-2. *Ownership.*** The following factors shall be considered by ADNR in making the decision to retain the access corridor under state ownership or to provide for public access through public easements.
    1. If the access (usually a trail within a developed or developing area) is used for subsistence purposes or is a trail route of regional significance, access should be retained in public ownership.
    2. If a route is used as access by North Slope residents, it should be dedicated to local government or established as an easement to an entity willing to accept maintenance and management responsibility. This would typically occur when the purpose is to establish access between communities or to traditional subsistence areas.
    3. If the access provides a connection to other areas and is considered of regional or statewide significance, it should be retained in public ownership.
  - **Objective B-3. *Width of Access Corridors.*** The width of the access corridor shall be determined according to its function and location:
    1. Access corridors shall not be less than 25 feet in width for pedestrian movement and not less than 40 feet if motorized movement can be expected in addition to pedestrian travel. In areas where topographic conditions restrict development, widths less than 40 feet may be considered.
    2. In all other areas, the width shall vary with terrain, function, and the need for separation from other uses, but shall not be less than 50 feet.
    3. Trails or other access facilities of statewide or regional significance shall not be less than 100 feet in width.
  - **Objective B-4. *Trail Rerouting.*** Standards for the vacation and modification of trails are identified in 11 AAC 51.065. Rerouting of trails may be permitted to minimize land use conflicts, reduce duplication in trail routings, or minimize habitat destruction. If trails are rerouted, provision should be made for construction of new trail segments if warranted by type and intensity of use. Rerouting trails shall be done in consultation with affected private users and public agencies. Rerouted trails should allow the same uses and activities as the original trail. Reroutes should not interrupt access, and reroutes should be established, open and useable for the intended uses before the original route is closed. Closed routes should be blocked off and restored. The development of new trails should not displace current methods of access without providing alternative routes.

**Objective C.** Whenever feasible, adequate public access opportunities should be preserved, enhanced, or provided without adversely impacting other resources, uses, or the natural environment.

- **Guideline C-1.** Existing roads should be used for access to material sites whenever feasible.
- **Guideline C-2. *Siting and Constructing Ice Roads, Bridges, and Causeways.*** Ice infrastructure will, to the extent feasible and prudent, be routed to avoid sensitive wetlands, avoid streams and minimize alteration of natural drainage patterns, and avoid long-term adverse effects on fish and wildlife, water quantity or water quality. If a temporary road is routed through sensitive wetlands, clean fill will be required and construction methods, which facilitate removal of the fill, will be required. Temporary roads should be rehabilitated when no longer needed for their original purpose.
- **Guideline C-3. *Siting and Constructing Permanent Roads, Bridges, and Causeways.*** Permanent roads, bridges, and causeways will, to the extent feasible and prudent, be routed to avoid sensitive wetlands, avoid streams and minimize alteration of natural drainage patterns, and avoid long-term adverse effects on fish and wildlife, water quantity or water quality, and permafrost.
- **Guideline C-4.** Access across tundra, wetlands, and other environmentally sensitive areas will be managed in a manner that minimizes damage and must be consistent with the requirements of applicable administrative regulations, including 11 AAC 96.010 and 11 AAC 96.025.
- **Guideline C-5. *Protection of the Environment.*** In the siting of regional and industrial access facilities, consideration is to be given to the effect of the proposed project or improvement on the natural environment, fish and wildlife species, and habitats identified in this plan as significant. Precautions should be taken when developing new trails or access roads to avoid critical wildlife concentration areas. ADF&G shall be consulted prior to the issuance of an authorization or development of an access route to determine whether or not significant impacts to fish or wildlife resources or their associated habitats are anticipated and can be mitigated.

**Objective D. *Other Guidelines affecting Public Access or Trail Management.*** A number of other guidelines may directly or indirectly affect access. See other sections of this chapter.

## Recreation, Tourism, and Scenery

Recreational use and commercial tourist destinations are concentrated in small areas across the planning area. The majority of recreational use is concentrated in the Dalton Highway corridor, and in areas surrounding communities in the region. The use of off-road vehicles, including all-terrain vehicles (ATVs) and snowmobiles, is prohibited within the Dalton Highway Corridor. Allowable means of access include boat, fixed-wing aircraft, foot, ski, or dog team. The front country is accessible year-round via automobile off the Dalton Highway, the Atigun Pass and Galbraith Lake; these areas are the most popular for front country recreation. The main source of backcountry access is during the summer months via the river corridors that generally flow south to north through the region. The main river corridors are the Colville and Itkillik Rivers in the western half, and the Canning, Ivishak and Kavik Rivers in the eastern half. These rivers generally are accessed via fixed-wing aircraft for drop-off of primarily inflatable boats, with the exception of the Ivishak which can be accessed via powerboat from the Dalton Highway.

Common recreation activities along the Dalton Highway include camping, hiking, boating, gold panning, hunting, and fishing. Sport and subsistence hunting also occur throughout the Dalton Highway Corridor Management Area. Hunters traverse off the Dalton Highway to hunt beyond the 5-mile management boundary with firearms, or hunt within the corridor closer to the road with bow and arrow. The area surrounding Atigun Pass is particularly popular for hunting and viewing Dall Sheep, and the slope north of Galbraith is popular for hunting caribou. Sport fishing occurs predominantly along the Dalton Highway in the Sagivanirktok River, as well as Galbraith Lake. Trapping activities are limited, but generally originate in the Chandalar Shelf area and extend east towards the Chandalar Lake area. Until recently, tourism on the North Slope has been limited but has seen increased interest. Tourism activities are generally concentrated along the Dalton Highway up to Deadhorse. Tourism activities occur in regional communities related to cultural activities, as well as for wildlife viewing for species like polar bears and whales. In general, recreation and tourism activities are increasing throughout the region.

This section will consider the recreation and tourism resources within the planning boundary. The Goals, Objectives, and Management Guidelines that follow apply to areas classified Public Recreation throughout the planning area.

### Goals

**Maintain Multiple Use.** Maintain recreation opportunities on state land and water that serve multiple purposes such as subsistence and sport hunting, local and commercial tourism, and backcountry wilderness activities.

**Contribute to Economic Diversity.** Encourage commercial development of recreational facilities and services through concession contracts, land sales, leases, and permits where public recreation needs can most effectively be provided by private enterprise, while minimizing environmental impacts and conflicts with the existing users of the area.

**Protect Recreational Resources.** Protect resources including public access, visual and aesthetic resources, as well as the isolation and unique wilderness characteristics of the planning area.

**Minimize Use Impacts.** Maintain protection of ecosystems and habitat to prevent damage caused by inappropriate recreation use.

## Objectives and Management Guidelines

**Objective A.** Manage state land within the planning area for multiple uses without eliminating, or unreasonably limiting recreation, tourism, or scenic resources.

- **Guideline A-1.** *Management of Recreation Uses on State Lands.* To the extent provided by law, ADNR is to manage recreation use and activities to enable a variety of uses and vehicle types, while ensuring that adverse impacts to fish and wildlife species and habitats are avoided or minimized, and to avoid the creation of user conflicts and if in existence, to minimize their impact.
- **Guideline A-2.** *Roles of Different Public Landowners in Providing Public Recreational Opportunities.* Generally, the State's role is to retain and manage land supporting recreational opportunities of regional or statewide significance. The state and federal governments are most capable of providing recreational opportunities that require large land areas, while local government is generally best suited for providing and managing community recreation opportunities. To recognize local government's role in providing community recreation needs, the state may transfer state land designated Public Recreation-Dispersed (Rd) or state recreation sites within or near existing communities, if the community has parks and recreation powers and if this action is in the overall best interest of the state (AS 38.05.810). The selection of these sites shall be agreed to by local government and the state and shall be contingent on the local government's commitment to develop and maintain the recreation uses, facilities, and values of these areas.
- **Guideline A-3.** *Coordination with Other Landowners and Users.* Recreation management, including the location and management of recreation facilities, will consider the current and projected future uses of lands owned by local governments and private landowners, and should strive for compatibility with adjacent current and anticipated uses.

- **Guideline A-4. *Public Use Sites.*** Uses that adversely impact public use sites or areas should not be authorized. Uses that are made available to the public, such as an airstrip development or dock, may be authorized if consistent with the management intent for the public use site or area, and if there is a demonstrated public need.
- **Guideline A-5. *Scenic Areas of Exceptional Value.***
  1. To the extent feasible and prudent, areas of exceptional scenic value are to be retained by the state and protected with easements, setbacks, or other management techniques.
  2. Authorizations issued by ADNR shall consider scenic values and such areas during the process of adjudication, and if found to be in the state's best interest, should retain or protect these areas through appropriate stipulations or management requirements.
- **Guideline A-6.** Consult with ADF&G in the siting of recreational facilities where fish and wildlife species or important habitats are present.

**Objective B.** Consider the needs of recreational use to minimize user conflict, provide for a quality experience for a range of user groups, and protect the natural values and attributes of the planning area.

- **Guideline B-1. *Private Commercial Recreation Facilities and Operations on State Land.***
  1. Lodges or other private commercial facilities and operations designed to be run as or to support private commercial recreation facilities may be authorized if the facility or operation fulfills the conditions outlined in this section, conforms to the requirements of AS 38.05.850, AS 38.05.070 and .075 or AS 38.05.073, or a management plan is prepared in accordance with AS 41.21.302(c) authorizing the facility.
  2. If authorized, the facility or operation should be sited, constructed, and operated in a manner that creates the least conflict with natural values and existing uses of the area.
  3. The commercial facility and its generated use should avoid significant adverse impacts on fish and wildlife habitat and existing uses of an area.
  4. For facilities supporting recreational fish and wildlife harvest, ADF&G should be consulted on the possible effects of increased harvest on fish and wildlife resources, and on established commercial, recreation, and subsistence users.
- **Guideline B-2. *Commercial Recreation Leasing Processes.***
  1. There are several processes for leasing state land for commercial recreational facilities under the following Alaska Statutes (AS): AS 38.05.070, 38.05.073, 38.05.075, and 38.05.810. The first three are used for commercial recreation facilities and the last is used for not-for-profit entities that provide some type of recreational use or service.

2. In particular, AS 38.05.073 is designed for creating recreational facility leaseholds. This statute requires that the regional land use plan identify areas suitable for recreational facility leasing. Given the broad scope of this plan, the determination of specific sites is impractical, although such uses are generally appropriate within most classified lands.
  3. Authorizations under AS 38.05.073 must evaluate the adequacy of the proposed recreation facility, and a final site determination and best interest finding must support this determination. Any amendments to this plan to accommodate such a commercial lease shall be reviewed by the Director of DMLW prior to or concurrent with the adjudication process.
- **Guideline B-3.** *Permits, Easements, and Leases Adjacent to Recreation Facilities.* Permits, easements, and leases may be issued adjacent to recreation facilities if the land manager determines that the two uses can be made compatible by design, siting or operating guidelines; or if the land manager determines there is no feasible and prudent alternative for the activity. This guideline also applies to sites reserved for future recreation facilities. The land manager's determination will be made after consultation with the facility manager.
  - **Guideline B-4.** Consult with ADF&G in the siting of recreational facilities where fish and wildlife species or important habitats are present.

**Objective C.** *Other Guidelines affecting Recreation and Tourism.* Many of the resource guidelines found within Chapter 2 either directly or indirectly affect recreation and tourism in the planning area. Other resources addressed in this chapter's sections should also be considered.



## Settlement

The general pattern of settlement within the North Slope planning area is primarily characterized by activities related to oil and gas development, and is therefore commercial in nature, especially in the Deadhorse and Kuparuk areas. Commercial and industrial use of the Settlement designation is used extensively in this plan. It is unlikely, given the relative isolation of this area, that extensive residential growth can be expected for the planning period. Review of available settlement locations throughout the planning area indicated that there may be areas suitable for potential remote settlement. Any proposed land conveyance would require a subsequent public process through the DMLW Land Conveyance Section.

The North Slope Borough has developed and continually updates local comprehensive plans for specific parts of the Borough. These are intended to identify preferred land use patterns and development stipulations. ADNR reviews these plans in the course of developing management plans or area plans, and often makes use of their recommendations. However, while community comprehensive plans can make recommendations for state lands within their planning areas, they cannot establish land use designations or other planning requirements for state land.

ADNR will attempt to satisfy two settlement categories within the planning area:

**Industrial or commercial development.** ADNR will sell, lease, or protect for future use suitable land for private commercial and industrial uses. Within the NSAP planning area most land designated Settlement is intended for commercial or industrial use. Relatively few parcels are suitable for possible residential development and these are indicated in the Resource Allocation Table. If ADNR sells the land, the timing of this disposal will depend upon market demand and adequate funding.

**Seasonal remote recreation opportunities.** ADNR may offer land suitable for seasonal recreation use. This land will be provided as demand warrants, subject to the availability of funding. This category of land disposal is intended to provide land, often in remote locations, for recreational needs. No public facilities and services are intended to be provided.

## Goals

**Provide Private Land Ownership Opportunities.** Provide suitable public land for transfer to private ownership for settlement purposes.

**Balance Fiscal Impacts.** Land disposals (not including remote settlements) should be sited and planned to minimize the costs of infrastructure and other services resulting from settlement.

## Objectives and Management Guidelines

**Objective A.** Plan and coordinate the transfer of state land to private ownership with other landowners to ensure the optimal use, development, and protection of area resources.

- **Guideline A-1.** It may be appropriate to provide land for private use, but such an action must be in the overall best interests of the state.
- **Guideline A-2. *Competition.*** To ensure the availability of lands suitable for transfer to private ownership for settlement purposes within the Plan boundary, the state may compete with the private sector or local governments if necessary to satisfy demand, provide market choice, or moderate unreasonably high prices.
- **Guideline A-3. *Local Plans.*** ADNR will comply with provisions of the Borough comprehensive plan and zoning ordinance (if applicable) regarding the location and density of land development except to the extent that local requirements are inconsistent with an overriding state interest.
- **Guideline A-4. *Coordination with Local Governments.*** Where state land adjoins Borough land and where both areas are designated for Settlement, consideration should be given to the coordination of land disposal programs in order to achieve economies of scale and reduce infrastructure costs.
- **Guideline A-5. *Pacing.*** Settlement offerings may be phased over 20 years, the life of this plan. The timing and extent of disposals will depend upon anticipated demand, availability of funding, the rate of community expansion, the availability of or costs to provide necessary infrastructure, and the particular land requirements of such expansion. Another factor may be whether the disposal will generate a demand for services that cannot be reasonably expected to be met by local government or community organizations.
- **Guideline A-6. *Ensure Access to Remote Settlements.*** Because remote settlement areas are almost always distant from infrastructure, it is generally not practicable to identify and develop access corridors to such areas, whether or not they are adjoined by state land or land under other ownership. However, in those limited instances where access corridors can be identified and economically developed, access should be provided. In this circumstance, it is intended that this access be accommodated even if plan designation(s) differ from that of Settlement. As part of the development of remote settlement areas, ADNR should consider the provision of staging areas, parking areas, and/or trailheads in order to accommodate landowners parking vehicles and other equipment while accessing their remote parcels. ADF&G should be consulted to ensure there will be no habitat associated impacts from parking areas or trailheads.

**Objective B.** To the maximum extent practicable, ADNR will sell, lease, or protect suitable land for private commercial and industrial uses or for seasonal residences used for recreation.

- **Guideline B-1. *Types of Settlement Land and Land Offerings.*** The nature of state land available for private ownership is influenced by both the characteristics of land designated for settlement, and the type of land sales program that makes it available. The NSAP designates certain lands for settlement and provides guidelines for land sales.
- **Guideline B-2. *Industrial or Commercial Development.*** ADNR will sell, lease, or protect for future use suitable land for private commercial and industrial uses. Within the NSAP planning area most land designated Settlement is intended for commercial or industrial use. Relatively few parcels are suitable for possible residential development and these are indicated in the Resource Allocation Table. If ADNR sells the land, the timing of this disposal will depend upon market demand and adequate funding.
- **Guideline B-3. *Seasonal Residences for Recreation.*** ADNR may offer land suitable for seasonal recreation use. This land will be provided as demand warrants, subject to the availability of funding. This category of land disposal is intended to provide land, often in remote locations, for recreational needs. No public facilities and services are intended to be provided.
- **Guideline B-4. *Areas Designated Resource Management and Minerals.*** The large areas of state land that are designated Resource Management are generally not suitable for development during the planning period. Most Resource Management areas are remote and generally unsuitable for residential development because of the presence of adverse topography, drainage, and extensive areas of wetlands that adjoin these areas. This makes the lands within the Resource Management areas difficult to develop because of the costs and difficulty of road construction in the adjacent wetlands. For these reasons, residential development during the planning period in areas designated Resource Management is considered generally inappropriate except in those areas that adjoin parcels designated Settlement, where road access has been provided to adjoining properties, or for remote land disposals that are not dependent upon access. Similar considerations exist for areas designated Minerals (or Minerals/Habitat) except that settlement/residential development to support mining exploration and/or development may be appropriate. In instances where settlement has been determined by ADNR to be appropriate within areas that are so designated, a plan amendment (to Settlement) and reclassification (to Settlement Land) will be required.
- **Guideline B-5. *Recommended Land Disposal Program.*** This plan designates five settlement areas within the Plan boundary. Areas designated Settlement are usually larger than the actual areas of the subdivision in order to provide flexibility in the design. This plan continues that custom. Consult the Resource Allocation Table in Chapter 3 for more information.

**Objective C.** When land is transferred out of state ownership for settlement purposes, the protection, management, and enhancement of other resources is to be considered to the maximum extent practicable.

- **Guideline C-1.** *Provide State Land for Important Environmental and Resource Development Purposes.* As a general policy, ADNR should retain appropriate public-use corridors, water supply areas, riparian and coastal buffer areas, roads and other public facilities, as well as other open space to create a desirable land use pattern in expanding areas. Generally, however, subdivision design should provide for the creation of an open space system designed to protect or maintain important uses and values. Depending on the context, ADNR may either protect these areas through retaining land in state or public ownership, through the imposition of a reservation of an interest in land for the maintenance of riparian values and access, or through the use of a stipulation (i.e., ‘subject to’).
- **Guideline C-2.** *Subdivision Design.* Subdivisions will be designed to preserve and enhance the quality of the natural setting and the recreational opportunities that make an area attractive to potential buyers. State subdivision design will take account of site limitations and opportunities such as slope, drainage, soils, erosion, riparian zone and coastal buffer, and other features to ensure that sites offered are buildable and can be developed without the need for extensive public infrastructure. Riparian buffers or building setbacks shall be imposed on all disposals where important riparian areas have been determined to exist. If there is some question as to whether a riparian protection area should be imposed, consult ADF&G. ADNR should review Borough subdivision requirements prior to the initiation of subdivision design.
- **Guideline C-3.** *Protect Life and Property.* Sensitive areas such as wetlands or potentially dangerous areas such as areas with unstable soil, riverbanks subject to active stream erosion, or within floodways or floodplains, should be avoided in subdivision design or protected by retaining these areas in state ownership or restricting their use through developmental reservations or restrictions. Easements or plat notes can be used for this purpose in lieu of retaining land in state ownership.
- **Guideline C-4.** *Priority of Public Uses in Stream Corridors.* Within stream corridors, ADNR will set a higher priority on protecting public use values than on providing opportunities for private ownership of land.
- **Guideline C-5.** Disposals near streams with important recreation value will be designed to protect riparian habitat and protect access to and along the stream for fishing, hiking, camping, and other recreational activities.
- **Guideline C-6.** Disposals near streams that have important fish and wildlife habitat or other wildlife resources will be designed to ensure the protection of fish and wildlife and their habitats.
- **Guideline C-7.** Before lands are disposed of in stream corridors, ADNR will assess existing and projected public use needs associated with the stream corridor, in consultation with other affected agencies and the public. Depending on the context, ADNR may either protect these areas through retaining land in state or public

ownership or through the imposition of a reservation of an interest in land for the maintenance of riparian values and access.

- **Guideline C-8.** *Protect and Enhance Scenic Features.* ADNR will design and develop subdivisions to protect or maintain unique geologic and scenic features such as cliffs, bluffs, or waterfalls. These areas should be avoided altogether or protected in subdivision design and development through the use of reservations or plat restrictions. Where scenic views exist, lots should be oriented to this feature.
- **Guideline C-9.** *Protect and Enhance Recreational, Educational, and Cultural Opportunities.* ADNR should determine the need for and retain appropriate areas for outdoor recreation, hunting, fishing, trails, campsites, boat launches, historic sites, and areas for scientific study. Areas for intensive and dispersed use will be preserved.

**Objective D.** *Other Guidelines affecting Settlement.* Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect settlement in the planning area. Other resources addressed in this chapter's sections should also be considered.

## Subsistence and Harvest

Subsistence use refers to the customary and traditional uses of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation. Subsistence use also includes the making and selling of handicrafts made from nonedible byproducts of fish and wildlife resources taken for personal or family consumption, for barter, or sharing for personal or family consumption.

The harvesting of fish, game, and other wild resources for food, shelter, clothing, transportation, handicrafts, and trade is an important part of subsistence culture for the Iñupiat and other residents within the planning area. Subsistence and harvest activities throughout the planning area are diverse, with unique regional and temporal concentrations. Subsistence use is extensive not only in terms of geographic extent but also in terms of the number and variety of species harvested and used. Oftentimes, these activities are based on important cultural traditions that are intertwined with the existence of the rural indigenous communities across the North Slope. Within the planning area nearly all lands and waters are used for traditional subsistence activities, including the harvest of fish, game, and other wild resources; however, the most important areas for these uses are specifically identified in this plan. These areas will be retained in public ownership and managed to maintain subsistence and traditional use harvest opportunities.

This section will consider the subsistence needs of rural Alaska residents that extensively utilize these resources. The Goals, Objectives, and Management Guidelines that follow apply to areas classified as Habitat with a designated use for Harvest.

### Goals

**Maintain Resource Areas.** Maintain in public ownership and protect subsistence resources sufficient to conserve a diversity of biological resources to support traditional harvest opportunities in areas that receive high levels of subsistence uses.

**Maintain Traditional Use of Resources.** Maintain resources necessary to support traditional use for cultural activities and practices.

**Manage for Sustained Yield.** ADNR management of state land and resources is to be consistent with the requirements of sustained yield, as expressed in the State Constitution.

**Contribute to Economic Diversity.** Protect fish and wildlife resources which contribute directly or indirectly to local, regional, and state economies through subsistence, personal use, and non-consumptive uses.

## Objectives and Management Guidelines

**Objective A.** Use and implement adequate protection measures to ensure the sustainability of fish and wildlife habitat, populations, and the continuation of other uses of the area.

- **Guideline A-1.** The management of state land and resources are to be consistent with the requirements of maximum use and sustained yield consistent with the public interest, as described in Article VIII of the State Constitution.
- **Guideline A-2.** Consider subsistence and harvest needs of Alaska residents and the North Slope communities that extensively utilize these resources.
- **Guideline A-3.** Consult ADF&G regarding uses and activities that potentially impact the harvest of subsistence resources in areas designated for Harvest.

**Objective B.** Maintain and enhance the natural environment in areas known to be important as habitat for fish and wildlife necessary for subsistence harvest.

- **Guideline B-1.** Maintain to the maximum extent practicable the underlying integrity of the ecological systems supporting this traditional way of life within the planning area.
- **Guideline B-2.** When resource development projects occur, avoid or minimize changes in the quality and quantity of fish and wildlife habitat.
- **Guideline B-3.** ADNR decisions are to carefully consider the effects of a proposed project or activity upon these uses and resources, and authorizations are to ensure that adverse impacts are avoided, minimized, or mitigated consistent with the requirements of this section of Chapter 2 and, specifically, with Management Objective A within areas designated for Harvest.

**Objective C.** *Other Guidelines affecting Subsistence and Harvest.* Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect subsistence and harvest activities within the planning area. The most commonly affected resource sections include Public Access, Transportation and Infrastructure, Materials, Water Resources, Subsistence and Harvest, Subsurface Resources, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.

## Subsurface Resources

The North Slope is one of the most subsurface resource rich regions in Alaska, the United States, and North America. The North Slope is the focus of many large- and mid-scale oil and gas interests. Since oil samples were collected by the U.S. Navy in the Colville River area in the late 1800s, to the time that commercial oil and gas exploration began during the 1950s, interest in the oil and gas resources of the North Slope has increased significantly. The discovery of North America's largest conventional oil field in Prudhoe Bay in 1968 and the construction of the Trans-Alaska Pipeline System (TAPS) in 1974 had a significant and continuing impact on the State's growth, development and economy. Since 1959, the oil industry has contributed \$157 billion directly to the Alaska economy, averaging roughly \$6 billion annually (AOGA 2018).

### Oil and Gas Resources

The North Slope is a rich hydrocarbon resource with great exploration and development potential. Oil and gas activities on the North Slope have occurred steadily since commercial exploration began in the 1950s and development began during the 1970s. The Prudhoe Bay oil field was discovered in 1968 and has since been deemed the largest conventional oil field in both the United States and North America. Additionally, Prudhoe Bay is one of the largest single natural gas concentrations in North America; it is probable that this resource may become economically feasible to develop. Oil production in Prudhoe Bay began concurrent with the completion of the Trans-Alaska Pipeline System in 1977. Exploration success in finding super giant and giant oil fields on the North Slope have a history of igniting a flurry of drilling activity to find analogous play types (Gregersen and Brown, 2019a and 2019b). In the year following the discovery of Prudhoe Bay, more exploration wells were drilled than any other year in north Alaska. Some of the largest producing oil fields discovered after Prudhoe Bay were the Kuparuk River field in 1969, Endicott field in 1978, Point McIntyre field in 1989, and Alpine field in 1994. Continued exploration and development activities are responsible for numerous other developed and undeveloped oil and gas fields on the North Slope. Forty-five producing oil pools and four gas pools currently exist in north Alaska. As of the date of this area plan, ADNDR actively manages thirteen oil and gas units on the North Slope. There are thirty-nine participating areas with these units representing individual hydrocarbon reservoirs. New oil and gas resources are continually being discovered through exploratory endeavors such as most recently announced oil accumulations within the Nanushuk Formation in the National Petroleum Reserve Alaska (NPR-A) and the western portion of the State of Alaska's Oil and Gas North Slope Areawide Lease Sale region. It is likely that the area of development, including infrastructure, will expand significantly in the future.

### Coal Resources

Interest in coal resources has occurred since the late 1700s with commercial development in Alaska beginning in 1855. The North Slope is one of the most coal rich areas in Alaska with somewhere between 3.5 and 4 trillion tons of high quality, locatable bituminous and subbituminous coal (Stricker et al. 2011, 4; ASRC 2013). The North Slope coal province



extends 300 miles east from the Chukchi Sea to the Canada border and is composed of coal deposits from the Kekiktuk Formation, the Nanushuk Formation, the Prince Creek Formation, and the Sagavanirktok Formation (Stricker et al. 2011, 4; ASRC 2013). Sparsely distributed coal deposits from the Kekiktuk Formation are found near Cape Lisburne, throughout the eastern Brooks Range, and in NPR-A. Coal deposits from the Nanushuk and Prince Creek Formations are found within the Chukchi Basin and the Brooks Range, as well as the area lying between the Brooks Range and the Barrow Arch called the Colville Basin. Nanushuk Formation deposits are thick within the western portion of the North Slope coal province and gradually thins towards the eastern portion of the province. The remainder of the Colville Basin is made up of coal deposits from the Sagavanirktok Formation (Stricker et al. 2011, 4).

Within the NSAP boundary, high value coal deposits can be found on State owned and/or State selected lands predominantly in the Central Slope and Brooks Foothills regions. These coal beds have high commercial and economic value due to their thermal and coking potential. Although the coal deposits within the NSAP boundary are considered high value, coal is not considered a significant resource in the planning area, and although it is possible that interest may increase in the future, at this time there is little interest in extracting these resources at this time. Coal exploration, development, and extraction are governed by a mix of statutory (AS 38.05.150 and AS 27.21.010-.260) and administrative (11 AAC 85 and 11 AAC 90) requirements, which must be followed for exploration and for subsequent extraction to be authorized.

### **Locatable Minerals**

Although the development of locatable mineral has been an important part of the settlement and economy of Alaska, there has been minimal interest and little exploration for locatable minerals in this area of the state. To date, no major mining or placer mine operations have taken place within the planning area.

## **Goals**

**Opportunities for Mineral Exploration and Development.** Provide opportunities for mineral exploration and development through state land management.

**Job Opportunities and Economic Growth.** Contribute to Alaska's economy by making subsurface resources available for development, which will provide job opportunities and stimulate economic growth.

**Environmental Quality and Cultural Values.** When developing subsurface resources, protect the integrity of the environment and affected cultural features to the extent feasible and prudent.

## Objectives and Management Guidelines

**Objective A.** Where deemed appropriate, provide opportunities for mineral exploration and development to the maximum extent practicable without jeopardizing other resources.

- **Guideline A-1. Mineral Exploration.** By statute, exploration for locatable minerals is allowed on all state lands. A land use permit is required under most circumstances. Hand prospecting and exploration activities generally do not require a permit. ADNR may determine that some forms of access will not be allowed in specific areas to avoid resource damage.
- **Guideline A-2. Open to Mineral Location.** By statute, all state lands are open to mineral entry unless specifically closed. Where an area is open to mineral location, a miner has the right to stake a mining location regardless of the surface use designation or classification. Any adverse effects of mining on surface resources or uses will be managed through compliance with state laws and regulations and the management guidelines in this plan. Except for areas designated Settlement, Public Facilities, or Water Resources, all other state land is considered appropriate for mineral exploration and development consistent with applicable state law, administrative regulation, and management intent and guidelines. Areas designated Settlement, Public Facilities, or Water Resources may be appropriate for mining activity but will likely require the use of stipulations to avoid or mitigate impacts to important public facilities, settlement areas, and large wetland complexes. Reclamation activities are directed by the Mining Reclamation Act (AS 27.19) and regulations (11 AAC 97).
- **Guideline A-3. Mineral Closures.** The decision to apply mineral location closures will be made by the Commissioner of ADNR within the standards set by Alaska Statutes. AS 38.05.185(a) requires that the Commissioner determine that mining is incompatible with a significant surface use before an area can be closed to mining. The same section of the statute requires that the Commissioner determine that a potential use conflict exists before imposing leasing requirements for development of locatable minerals. The fact that an area is closed to new mineral location will not be cause for denying access across state land. Mineral closures do not affect valid existing mineral locations.
- **Guideline A-4. Lands Closed to Mineral Entry.** State mining law stipulates that mining must be determined to be in conflict with significant surface uses before an area can be closed to mineral entry (AS 38.05.300). Since little potential conflict is expected to exist, this plan does not create any new mineral closing orders, although the current mineral closing orders will be retained since these occur within streams and land disposal areas. The management intent section of parcels designated Settlement should be consulted to determine if a management unit is affected by the leasehold location order recommendation. To determine the location of areas closed to mineral entry in the planning area consult the ADNR Alaska Mapper, available online at: <http://dnr.alaska.gov/mapper>.

- **Guideline A-5. *Leasable Mineral Development.*** State land within the planning area may be leased or opened for mineral or coal exploration and development if the Department determines it is in the best interest of the state to enter into a lease for such resources. Before authorization of a lease, the Department will determine if the surface values are significant enough to warrant restricting surface entry. The surface impacts of proposed underground mining shall be fully considered as part of the permitting process.
- **Guideline A-6.** All coal activities shall be completed in compliance with all applicable provisions provided by 11 AAC 90 and AS 27.2: The Alaska Surface Coal Mining Control and Reclamation Act.
- **Guideline A-7.** The ADNR Mining Section shall be consulted when authorizing any subsurface coal activities.
- **Guideline A-8. *Oil and Gas Resources.*** Significant oil and gas resources are present within the planning area. The planning and decision-making processes for oil, gas and geothermal resource allocation and development follow their own section of the Alaska Statutes (AS 38.05.125 through AS 38.05.184) as well as AS 38.05.035. As noted above, these processes are not included as part of ADNR area plans. State land, with few exceptions, is subject to oil and gas exploration and development, either through areawide leasing under AS 38.05.180 or by exploration licensing under AS 38.05.131. In addition, geothermal exploration and development may occur under AS 38.05.181. For this reason, the Plan does not make any allocation or development decisions regarding these resources. All decisions regarding oil, gas and geothermal resources are subject to ADNR's existing oil, gas and geothermal permitting, licensing and leasing processes.
  1. Oil and gas sales are not subject to the regional planning process; instead they follow the planning process identified under AS 38.05.180. The land use classifications of the Plan are multiple use in character and do not preclude oil and gas development.
  2. It should be noted that mineral closing orders under AS 38.05.185 do not apply to oil and gas exploration and leasing, nor do they preclude reasonable surface access to these resources. However, rights reserved under AS 38.05.125 may not be exercised until provision is made for payment for all damages sustained by the landowner (AS 38.05.130).
  3. Geophysical exploration permits issued under 11 AAC 96 will conform to the maximum extent possible with the management guidelines in the applicable plans.
- **Guideline A-9. *Offshore Prospecting Permits (OPP).*** Under AS 38.05.250, an exclusive right to prospect for deposits of minerals offshore may be granted through authorizations issued by ADNR. ADNR determines what areas will be offered for offshore prospecting. If workable mineral deposits are found offshore, the permittee must apply for a lease in order to develop the mineral deposit. A best interest finding

will be used to determine whether mining can be made a conforming use and, if mitigation is possible, determine the appropriate mitigation measures needed to protect fish and wildlife resources and values.

**Objective B.** When subsurface exploration and development is permitted, the protection, management, and enhancement of the environment, fish and wildlife species and habitat, and cultural values, is to be considered to the maximum extent practicable.

- **Guideline B-1.** To protect environmental and cultural values, ADNR staff shall coordinate applications for subsurface resource exploration and development with appropriate ADF&G, ADEC, and OHA staff.
- **Guideline B-2.** To avoid potential relocation costs due to climate change induced sea-level rise and diminished winter sea ice, minimize placement of infrastructure in coastal areas susceptible to sea-level rise, to the extent practicable.
- **Guideline B-3. *Reclamation of Mined Land.*** Reclamation activities are directed by the Mining Reclamation Act (AS 27.19) and regulations (11 AAC 97). The reclamation of mining operations, including placer mining, must meet the reclamation standards given in AS 27.19. The reclamation law provides a standard that miners must meet during and after mining. The mining operation must be conducted in a manner that prevents unnecessary and undue degradation of land and water resources and requires that reclamation occur “contemporaneously” with the mining operation. 11 AAC 97 (Mining Reclamation) details the specific requirements that must be followed. In designated habitat areas, annual reclamation will be required concurrent with mining, and will be required to restore degraded fish and wildlife habitat and prevent hazards to navigation.
- **Guideline B-4. *Mining in Fish and Wildlife Habitat.*** A permit for mining in or adjacent to designated fish habitat will require as stipulations of the permit any necessary measures that will allow the operation to meet water quality standards, statutes, and regulations governing the protection of fish, such as: levees, berms, seasonal restrictions, and settling ponds. Mining in fish habitat requires permits from ADEC and ADF&G. ADF&G permits are not required in marine waters or estuarine areas outside of the intertidal channel of specified anadromous fish streams. The intertidal channel is that portion of the bed and banks below the mean high-water level. However, a Special Area Permit issued by ADF&G is required if the project is located within a legislatively designated area, including uplands, estuaries, or tidelands. Waterbodies listed within the ADF&G Anadromous Waters Catalog (AWC) represent a fraction of those actually used by anadromous species, and documentation of resident fish streams is not centralized. Therefore, ADNR shall consult with ADF&G prior to the issuance of an authorization where stream channels are present and the likelihood of anadromous or high value resident fish is high, at least seasonally.
- **Guideline B-5. *Mining in Areas Co-Designated Minerals and Habitat.*** If this co-designation is used, it means that either high mineral and habitat values exist within

all or portions of the management unit. Mineral exploration and development are considered appropriate uses within units affected by this co-designation, although there may be sites within a management unit that may not be appropriate for mineral development. Determinations of this type are to be made as part of the regulatory/permitting processes related to the authorization of these uses. Although mineral exploration and development within the planning area are considered appropriate or may be appropriate with stipulations, mining or authorizations granted by ADNR shall carefully consider the effects of a proposed development on the area's fish and wildlife and their associated habitats within the management unit, and the short- and long-term effects on human access to those resources. Those habitats considered significant within a management unit are identified in the Resource Allocation Table in Chapter 3. Some of these habitat areas are used on a seasonal basis and activities that occur at other times of the year than these periods may be appropriate. Consult the Fish and Wildlife Habitat section of this chapter for the specific periods that these seasonal use periods occur. In all instances, consult ADF&G prior to issuing an authorization for mineral or coal exploration or development.

- **Guideline B-6.** Although mining is considered an appropriate use in areas designated Mineral or Mineral/Habitat and in areas designated General Use, there may be sites within a management unit that may not be appropriate for coal development or mining. Determinations of this type are to be made as part of the regulatory review/permitting processes related to the authorizations of these activities. It may also be appropriate in areas with other designations, except for areas designated Settlement. Although mining within the aforementioned areas is considered appropriate or may be appropriate with stipulations, mining authorizations granted by ADNR shall carefully consider the effects of a proposed mining operation on Central Arctic Herd (CAH), Western Arctic Caribou Herd, and Teshekpuk Caribou Herd (TCH) activities. CAH and TCH activities often only affect an area on a seasonal basis. Consult the Resource Allocation Table for the specific periods that such use may occur and the types of use that may be present. ADF&G shall be consulted prior to issuing an authorization for mining exploration or development.

**Objective C.** *Other Guidelines affecting Subsurface Resources.* Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect subsurface resources in the planning area. The most commonly affected resource sections include Public Access, Transportation and Infrastructure, Water Resources, Subsistence and Harvest, Fish and Wildlife Habitat, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.

## Transportation and Infrastructure

Much of the infrastructure within the planning area is in the Arctic Coast Region, reflecting the high concentration of oil and gas activities on the North Slope. Generally, the infrastructure includes ice roads, gravel roads and pads for drill sites, production facilities, camps, pipelines, and support infrastructure. Major transportation resources in the planning area include the Deadhorse Airport, the Dalton Highway, running north to south, and the Spine Road, a major gravel road running east to west in the Arctic Coast Region providing industrial access to the oil fields.

### Transportation

Transportation throughout the region varies significantly between the winter and summer months. Due to the sensitivity of the region's ecosystem and tundra, many oil and gas exploration and development activities are limited to the winter months when ice roads are built, allowing for the use and transport of large, heavy vehicles or drilling rigs. During the winter months, ice roads, ice pads, and air strips are constructed of snow and ice to supplement the transportation system across the North Slope. Ice roads and pads limit adverse impacts on the environment and the underlying tundra, decrease demand for limited gravel resources, and provide a cost-effective method for industry to access exploration and development sites.

Ground transportation throughout the North Slope planning area is centralized around the Dalton Highway, the Spine Road, and a number of small industry associated roads. The James Dalton Highway was originally built in 1974 as a haul road to provide industrial access to the newly discovered oil field in Prudhoe Bay and allowed for the construction of the Trans-Alaska Pipeline System (TAPS). The Alaska Department of Transportation and Public Facilities (ADOT/PF) is responsible for maintaining the highway and its associated structures. The primary purpose of the Dalton Highway was to support oil and gas industry activities; however, it is open to use by the public and also serves as an important transportation link for residents of local communities. The Alaska Legislature designated the Dalton Highway corridor a special use site, or Legislatively Designated Area (LDA), under AS 19.40. Numerous restrictions and stipulations are laid out in this statute and in the James Dalton Highway Master Plan, including motorized use within and outside of the highway corridor. The entirety of the corridor adjacent to the Dalton Highway from the southern planning boundary to Toolik Lake is federally owned lands managed by BLM. These lands are subject to Public Land Order 5150 and were unavailable for State selection under its statehood entitlement. Section 906(e) of the Alaska National Interest Lands Conservation Act (ANILCA) allowed the State to file future selection applications (so called top filings) on lands previously unavailable for selection; which the state did on the lands subject to PLO 5150. The lands within PLO 5150 are the highest priority selections for the state. This plan establishes management intent for these lands in anticipation of their conveyance to the state.

There are some 413 miles of industrial roads within the Arctic Coast Region, with the Spine Road being the main and most important road. The Spine Road extends out to the east and the west from Deadhorse and serves as a critical piece of infrastructure linking many of the oil and gas operations and developments on the North Slope. Although this road traverses state land, it is a private easement built and maintained by private companies in support of ongoing exploration and development activities. The Spine Road and other ancillary infrastructure is critical to development and operation of the oil and gas field. Although general public access within the oil field is restricted, when conditions allow and it is safe to do so, some limited use by local residents is allowed. For instance, residents from the communities of Nuiqsut and Utqiagvik are connected to the Spine Road during the winter via ice road or trail. More recently, the North Slope Borough has developed several hundred miles of improved snow trails as part of its Community Winter Access Trails program (CWAT). This seasonal trail system links several borough communities to the Dalton Highway. This seasonal access allows for transportation of goods to the communities reducing high barge and airfreight costs.

Air transportation is the primary, year-round mode of transportation throughout the North Slope. Each North Slope community has a designated airport that provides passenger and cargo services as well as Search and Rescue and emergency services. Most air transportation is centralized around the Deadhorse Airport and a number of small airstrips in the region. There are four airports in the Arctic Coast region, of which two are owned by the state and two are privately owned. The state owns the Deadhorse Airport and a heliport in Prudhoe Bay. The Deadhorse Airport is the main airport in the region and provides passenger, cargo, freight and fuel services that support activities in and around Prudhoe Bay. The Ugnu-Kuparuk Airport and Northstar Heliport are privately owned and operated, and exclusively service the oil and gas industry. Outside of the Arctic Coast Region, unrestricted airstrips are located at Galbraith Lake, Chandalar Shelf (Dietrich Camp), Franklin Bluff, the Kavik River Camp, the Toolik Field Station, Point McIntyre, Happy Valley, Sagwon, Echooka, Barter Island, Seal Island and Brown Low Point. Restricted airstrips are found at Point Thomson, Oliktok, Kuparuk, Badami, Alpine, Alpine CD-3, Cape Simpson, and Cape Lisburne.

Marine transportation opportunities are limited to the Arctic Coast and Arctic Tidelands Regions of the planning area. Although none of the North Slope communities have port facilities, barges are used to deliver freight to coastal communities during the summer. Currently, barges deliver goods to the communities of Wainwright, Utqiagvik, Prudhoe Bay, and Kaktovik. The oil and gas industry primarily use marine transportation barging during new facility construction and for oil spill response. Smaller vessels are used for routine access and maintenance operations. During facility construction, the oil and gas industry barges pre-built modules to the North Slope; these pre-built modules are offloaded onto massive transport crawlers and driven to location. Due to the harsh climatic conditions of the region and the formation of sea ice along the coast, marine transportation is seasonally limited; however, due to longer ice-free periods marine traffic is increasing.

ADNR initiated the Arctic Strategic Transportation and Resources (ASTAR) project in 2017. The mission of ASTAR is to “identify, evaluate, and advance opportunities to enhance the

quality of life and economic opportunities in North Slope communities through responsible infrastructure development.” When fully completed the information gathered will be compiled into a strategic plan that prioritizes community needs and looks to identify infrastructure opportunities that enhance quality of life and offer the greatest cumulative benefit to the North Slope region. While not fully completed, this plan incorporates information gathered to date through the ASTAR planning process.

### **Infrastructure**

Community infrastructure across the North Slope varies greatly between communities. While none of the villages are connected to the state road system via permanent road, all of the villages have roads. Airports provide a vital year-round link for these remote communities. Electrical power is generated through either diesel or natural gas and each community has associated infrastructure serving the homes and facilities within the villages. All community schools are within the North Slope Borough school system. All villages have solid waste sites for disposal of refuse. For additional information about North Slope communities, visit the Department of Commerce, Community, and Economic Development Alaska Community Database online at <https://dcra-cdo-dcced.opendata.arcgis.com/>.

Aside from the Arctic Coast, Arctic Tidelands, and Dalton Corridor regions, industrial infrastructure throughout the remainder of the planning area is limited and sparsely distributed geographically. Infrastructure in the Dalton Corridor region is primarily related to the maintenance of the Dalton Highway and the Tran-Alaska Pipeline System (TAPS). Infrastructure in the Arctic Coast and Arctic Tidelands regions include, but are not limited to, ice roads, roads, pipelines, utility lines and facilities, drill pads, operation camps and facilities, shoreline transportation facilities, and airports; all of which are necessary to the industry activities in the region. Much of the infrastructure found in the Arctic Coast and Arctic Tidelands regions is critical to the oil and gas industry but also plays an integral role in state and national interests and security. Where pipelines intersect with potential or existing municipal selections for conveyance to the Borough, AS 38.35 pipeline ROW leases shall be retained in state ownership.

### **Oil pads, oil wells, pipelines, facilities**

Most of the oil and gas field infrastructure on the North Slope is located on state lands within twenty miles of the arctic coast. Since oil and gas exploration and development began, more than 7,300 wells have been drilled and thousands of miles of pipelines have been installed to move oil, gas, and water to and from the field. The Arctic Coast Region is also home to a number of processing facilities, operational plants and facilities, hotels, and man camps. Much of this infrastructure either directly or indirectly supports oil and gas activities within the region. Facilities related to exploration or production are typically located on a pad – an elevated flat surface comprised of locally sourced materials (sand and rock). Currently, over 350 pads are located on state lands. Most of these pads are currently being used for oil and gas exploration and development activities, but some pads are not currently used or needed – including a number of pads with reserve pits. ADEC manages these sites through its Solid Waste Program and Contaminated Sites Program in conjunction with the NRO.



The 800-mile Trans-Alaska Pipeline System (TAPS) originates at Pump Station 1 in Prudhoe Bay and transports oil to the Valdez Marine Terminal. This pipeline runs generally parallel to the Dalton Highway and traverses a variety of terrain, crossing the Brooks, Alaska, and Chugach Ranges, with the highest point found at Atigun Pass. Of the 800-miles of pipeline, some 380 miles are buried while the remaining 420 miles are found above ground due to the presence of permafrost. Since TAPS was completed in May 1977, over 18 billion barrels of North Slope crude oil have passed through the pipeline. Oil and gas activity trends indicate that development throughout the region will likely increase in the future. Several large projects, including Nanushuk, Liberty, and Arctic Coastal Plain projects are expected to begin producing within the next few years. With the continuation and expansion of oil and gas industry activity in the region, the demand for natural resources, viable transportation options, and infrastructure will also increase.

Although still in the planning phase, the proposed Alaska Liquefied Natural Gas project (AKLNG) will originate near the Prudhoe Bay Unit Central Gas Facility. Also still in the planning phase is the Alaska Stand Alone Pipeline (ASAP) project which aims to act as a backup to the AKLNG project.

#### **Dismantlement, Removal, and Restoration (DR&R)**

Oil and gas exploration and development is essential to the Alaska economy and the relatively clean track record for the North Slope demonstrates that responsible resource development is possible. The oil fields of the North Slope are still rich in hydrocarbons and development of natural gas is a focus of the State. However, eventually there will come a point where infrastructure reaches the end of its operational life or production costs exceed production value and continued operation is no longer economically viable. This inevitable reality presents a unique challenge for the State and for oil and gas lessees. As existing infrastructure on the North Slope ages and approaches the end of its operational life, the DR&R of such infrastructure is becoming a focus. DR&R plans should be developed prior to the end of operational life to provide predictable and agreed upon outcomes for industry, the State, and local communities. Decisions made need to be clearly documented to ensure that responsible parties and the State understand rehabilitation expectations, and in some cases, expectations regarding long-term maintenance.

#### **Spill, Contaminated, and Solid Waste Sites**

Spills, contaminated sites, and solid waste sites are present within the Plan boundary. Spill and contaminated sites are areas impacted by a release of oil or hazardous substances, and are regulated under 18 AAC 75 and also by ADEC's Prevention Preparedness and Response Program (PPRP). Some spills have been transferred to ADEC's Contaminated Sites Program (CSP). Solid waste sites within the planning area include municipal landfills, as well as oil and gas-related disposal sites, and are regulated under 18 AAC 60.

Contamination and solid waste sites are cataloged within existing ADEC databases where known. These sites may be associated with oil and gas operations, early statehood military and other activities, municipal landfills, grind and inject facilities, treatment facilities, drilling waste monofills, and reserve pits. Much of the Prudhoe Bay oil and gas unit, within

## Chapter 2: Transportation & Infrastructure

the NSAP Arctic Coast Region, is subject to the Environmental Protection Agency (EPA) Resource Conservation Recovery Act (RCRA) regulations per Administrative Orders On Consent (Orders), EPA Docket No: RCRA-10-2007-0222 and EPA Docket No: RCRA 10-99-0179. Where the Orders apply, ADEC and EPA may coordinate their regulatory efforts in consultation and coordination with ADNR and other landowners.

Information on known spill, contaminated, and solid waste sites can be obtained through the following resources:

ADEC Contaminated sites database online at:

<https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/Search>

ADEC Solid Waste Sites map:

<https://www.arcgis.com/home/item.html?id=c3b5562dcd204114a30a1619ae8f5cee>

ADEC Solid Waste database of facilities:

<https://dec.alaska.gov/applications/eh/swims/search.aspx>

ADEC Spills database:

<https://dec.alaska.gov/Applications/SPAR/PublicMVC/PERP/SpillSearch>

ADNR Records: ADNR information regarding spills in the planning area, contact [dnr.nro.spill@alaska.gov](mailto:dnr.nro.spill@alaska.gov).

### **Abandoned and Derelict Vessels**

Commercial and residential goods are transported into the area seasonally via tug and barge to support communities and oil and gas industry. Other smaller vessels are used by local residents for hunting, fishing, and in support of subsistence whaling activities. This area has the potential for abandoned and derelict vessels (ADVs) on state or municipal tide and submerged lands.

## **Goals**

**Industrial Infrastructure.** Prioritize and encourage shared infrastructure and facilities within industrial areas to reduce the cost and footprint of new infrastructure.

**Community Connectivity.** Encourage opportunities for community connectivity through the development of new transportation routes, as well as through opportunities to plan industry infrastructure to support community access and use.

**Regional Transportation.** Encourage the use and development of shared ground, air, and marine transportation routes and facilities that provide for both community and industry needs.

**Economic Development.** Contribute to Alaska’s economy by improving access to various resources throughout the region to stimulate economic growth, generate job opportunities and develop community connectivity.

**DR&R and Long-term Sustainability.** Maintain current standards for DR&R as use of infrastructure components decline. Encourage the development and acceptance of DR&R plans prior to the end of operational field life that recognize the needs of local communities, multiple use land management, and minimize long-term management obligations or acquisition of liability by the State.

**Spill, Contaminated, and Solid Waste Sites.** Identify these sites early in planning or adjudicating projects to avoid complications or delays. Consistently address site response, characterization, and closure.

**Pollution Liability Prevention.** Prevent releases of hazardous substances or contamination and avoid the acquisition of pollution liability for the state. Clearly document existing liabilities and work with responsible parties prior to expiration of their authorization to characterize and clean contamination to an unrestricted use standard when technically practicable.

**Contamination Management.** Ensure sites are cleaned with a goal of achieving unrestricted use.

**Spills and Releases.** When possible, a responsible person shall investigate, contain, and perform a cleanup of hazardous substance and oil and achieve site closure per 18 AAC 75.315 in consultation with ADNR.

**Safety and Well Being.** Prioritize use of appropriate safety measures to encourage the well-being of Alaskans.

**Abandoned and Derelict Vessels.** Prevent and deter the abandonment of derelict vessels in the waters of the state and on state, municipal, and private property.

## Objectives and Management Guidelines

**Objective A. Industrial Transportation.** All transportation systems should be constructed in such a way that minimizes potential adverse impacts to the environment and surrounding resources to the maximum extent practicable without jeopardizing other resources and activities.

- **Guideline A-1. Protection of the Environment.** In the siting of regional and industrial facilities, consideration is to be given to the effect of the proposed project or improvement on the natural environment, fish and wildlife species, and habitats identified in this plan as significant. ADF&G shall be consulted prior to the issuance

of an authorization to determine whether significant impacts to fish or wildlife resources or their associated habitats are anticipated and can be mitigated.

- **Guideline A-2.** The siting of facilities is prohibited within one-half mile of the banks of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk, and Chandler Rivers, as measured by the ordinary high water mark.
- **Guideline A-3.** Development within the Dalton Highway corridor shall comply with the provisions of AS 19.40.
- **Guideline A-4.** To the maximum extent practicable, infrastructure for seasonal exploration activities including pads, roads, and airstrips shall be temporary in nature and constructed of ice.
- **Guideline A-5.** Gravel roads, pads, and airstrips may be permitted on a case-by-case basis where year-round infrastructure is warranted, in consultation with DOG and ADF&G.

**Objective B. Community Transportation.** Transportation throughout the region should accommodate and balance the needs of resource development, subsistence uses, and community connectivity.

- **Guideline B-1.** When designing or authorizing transportation systems that may affect communities, consider the potential impacts on subsistence use, health and safety, and cultural preservation.
- **Guideline B-2.** Restrictions on tundra travel should take into consideration potential unanticipated consequences, such as, increased air traffic or increased need for gravel roads and infrastructure.
- **Guideline B-3.** When designing or authorizing transportation systems that may impact North Slope communities, consult with DOG, ADF&G, ADEC, ADOT/PF, and ADNOR Northern Regional Land Office.

**Objective C. Facilities and Infrastructure.** All facilities should be sited and constructed in such a way that minimizes potential adverse impacts to the environment and surrounding resources to the maximum extent practicable without jeopardizing other resources and activities.

- **Guideline C-1.** When designing or authorizing transportation systems that may affect communities, consider the potential impacts on subsistence use, health and safety, and cultural preservation.
- **Guideline C-2.** All new pipelines and other types of linear infrastructure should be co-located to minimize the area of resource disturbance and be built to specifications to not impede fish and wildlife movements.
- **Guideline C-3.** All new facilities should be sited and designed to avoid maternal polar bear denning site habitats to the greatest extent practicable.

- **Guideline C-4.** When considering authorizations within the planning boundary, adjudicators should consult the ADEC contaminated sites map for more information regarding the locations and extent of known and potential sites.
- **Guideline C-5.** To avoid potential relocation costs due to climate change induced sea-level rise and diminished winter sea ice, minimize placement of infrastructure in coastal areas susceptible to sea-level rise, to the extent practicable

**Objective D. Dismantlement, Removal, and Restoration.** Ensure the long-term health and sustainability of state land and resources, the environment, and fish and wildlife populations and habitat in the region by implementing and enforcing current State of Alaska approved standards, policies, and procedures related to contamination and the dismantlement, removal, and restoration (DR&R) of oil and gas infrastructure.

- **Guideline D-1.** All sites undergoing DR&R will be remediated to the satisfaction of the State, with a goal of achieving unrestricted use.
- **Guideline D-2.** The North Slope Borough shall be consulted along with state and federal agencies when determining which transportation facilities should be removed and remediated. In some cases, these facilities may be left in place provided it is requested by the borough and they are not contaminated. Where this occurs, an easement must be granted for the borough's continued management of the facility.
- **Guideline D-3.** If environmental regulators make a remedial decision that results in residual contamination remaining in the environment in concentrations that are safe for some, but not all uses, then DMLW may adjudicate a Restricted Use Authorization (RUA) regarding proposed Institutional Controls (ICs), such as land use restrictions and/or engineering controls, as a Best Interest Finding under AS 38.05.035(e). If the proposed ICs are determined to be in the best interest of the state, the RUA will provide ADNR's written consent to the proposed ICs and authorize ADNR signature on an environmental covenant per AS 46.04.300. An environmental covenant does not change obligations, rights, or protections granted or imposed under law other than under AS 46.04.300 - 46.04.390 unless otherwise provided in the environmental covenant.

**Objective E. Spill, Contaminated, and Solid Waste Sites.** Ensure coordination between agencies responsible for mitigation of contaminated sites.

- **Guideline E-1.** ADNR has the lead responsibility for determining cleanup standards and the approval of cleanup plans on state land before permittees or lessees are released from further liability. ADNR will coordinate clean-up requirements with AOGCC and ADEC. This includes active and inactive reserve pits, contaminated sites, and hazardous releases to state land.
- **Guideline E-2.** AOGCC, ADNR and ADEC shall consult to determine if proposed DR&R of a facility or site is appropriate and if so, what coordination and timeframe within which it is appropriate for DR&R to occur.

**Objective F. Safety and Well Being.** Ensure long term health and safety of Alaskans by prioritizing projects that either construct, upgrade, or rehabilitate existing health & safety facilities as well as those that improve or provide access to these facilities.

- **Guideline F-1.** When considering projects ADNR should consult the ASTAR Strategic Plan to understand the opportunities that would enhance the quality of life and offer the greatest cumulative benefit.

**Objective G. Abandoned and Derelict Vessels.** Mitigate the potential impacts of these vessels to State tide and submerged lands and the habitats they support.

- **Guideline G-1.** When notified of an abandoned or derelict vessel, DMLW will identify the vessel owner and take steps to have the responsible party recover the vessel and minimize the impacts to public resources. Where the vessel cannot be recovered, DMLW will work with the responsible party to develop a plan to address the vessel that minimizes impacts to public resources.

**Objective H. Other Guidelines affecting Transportation and Infrastructure.** Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect transportation and infrastructure in the planning area. The most commonly affected resource sections include Public Access, Fish and Wildlife Habitat, Materials, Water Resources, Subsistence and Harvest, Subsurface Resources, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.

## Water Resources

The North Slope is a hydrologically dynamic area that contains a wide variety of water sources. There are a vast number of lakes, ponds, streams, and rivers present throughout the planning area. During summer months, shallow thaw lakes blanket large parts of the coastal plain while a variety of northerly flowing waterbodies originate in the Brooks Range. The planning area also includes nearshore estuarine and marine waters, comprised of a series of bays, lagoons, and a sound enclosed by barrier islands in the central Beaufort Sea. The area is also characterized by expansive wetlands. Wetlands are essential to the regulation and replenishment of stream flow and the maintenance of water quality throughout the region. These waterbodies collectively contribute significantly to the hydrology and ecology of the North Slope.

Snow is the most common form of precipitation in the region and remains on the land surface until it melts during the warmer spring and summer months. The majority of streamflow takes place during a brief two to three-week break-up period typically between late May and early June. Streamflow in all waterbodies, even the largest rivers, throughout the region comes to an almost complete stop during the unforgiving winter months (Sloan 1985). While surface water sources can be found in many places, the region's harsh seasonal climate and the presence of permafrost limits the use of these water sources for freshwater supply. In some locations, groundwater can be obtained from shallow thawed zones in permafrost found adjacent to or under streams and other waterbodies (Sloan 1985).

Major lakes in the planning area include Galbraith, Colleen, Chandler, Itkillik, Shainin, and Toolik lakes, and each support activities by a variety of users. Generally, all rivers and streams within the Plan area flow north from the Brooks Range towards the Arctic Ocean or Beaufort Sea. Major river corridors in the planning area include the Colville, Anaktuvuk, Itkillik, Miluveach, Ugnuravik, Sakonowyak, Kuparuk, Putuligayuk, Sagavanirktok, Kadleroshilik, Shaviovik, Kavik, Staines, and Canning rivers. While all of these river corridors are important to the region, some support frequent use by local residents, industry, subsistence hunters, hunting guides and recreational users. Some of the largest and most important rivers include the Colville, Sagavanirktok, Kuparuk, and Canning Rivers.

The State holds and controls all state water in trust for the use of the people of the state, maintaining legal access to and along waterbodies through easements or rights-of-way. For more information, please see the *Public Trust Doctrine* in the Appendices. Where private property along waterbodies exists, the state will manage any state-owned beds of those waterbodies up to the ordinary high water mark. Because of how the state received title to the lands in this region of the state, only the bed of the lower portion of the Colville River passed to the state under the Submerged Lands Act and equal footing doctrine. The state owns the beds of other waterbodies through conveyance.

### **Categories of Waterbodies**

For the purposes of and within this plan, waterbodies are discussed as Navigable, Public, or Ancillary, as defined below. These definitions, for management purposes, are not necessarily the same as those used for conveyance purposes.

**Navigable Waters.** Waters that, at the time the state achieved statehood, were used, or were susceptible of being used, in their ordinary condition as highways for commerce over which trade and travel were or could have been conducted in the customary modes of trade and travel on water (“navigable in fact”); the use or potential use does not need to have been without difficulty, extensive, or long and continuous. “Navigable Waters” include rivers, lakes, creeks, streams, sloughs, anabranches, bays, sounds, estuaries, inlets, straits, passages, canals, seas or oceans, or any other body of water or waterway within the territorial limits of the state or subject to its jurisdiction, that is navigable in fact for any useful public purpose, including but not limited to water suitable for commercial navigation, floating of logs, and public boating. “Navigable Waters” include all downstream distributaries, deltas and braided channels containing the flowing waters of any navigable in fact waters. “Navigable Waters” include all waters, within the territorial limits of the state or subject to its jurisdiction, which are subject to the ebb and flow of the tides. Those “Navigable Waters” in their liquid state remain navigable in their frozen state.

**Public Waters.** Waters that are not included within “Navigable Waters,” but are or could be used for recreational, commercial, mining, trapping, fishing, hunting, landing and takeoff of aircraft, industrial or other public purpose in any season in a frozen or liquid state. “Public Waters” may be meandered or unmeandered and include small lakes, perennial streams, perennial creeks, and small sloughs. “Public Waters” include waters in which anadromous fish species pass and from which fish or shellfish are or could be taken for human consumption. Those “Public Waters” in their liquid state remain public in their frozen state.

**Ancillary Waters.** Waters that due to their small catchment area, small surface area, small width, small depth, lack of anadromous or other fish population, lack of shellfish population or other limitations render them unsuitable for significant public purposes. “Ancillary Waters” mean isolated small lakes or ponds (normally with a surface area of less than 10 acres), small headwater streams or creeks with small catchment areas, intermittent streams or creeks, ditches, swales, springs, flushes, surface runoff, and ephemeral waters. “Ancillary Waters” include wetlands (areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions such as swamps, marshes, bogs, muskeg, and similar areas).

### **Uses of Water**

People, fish, wildlife, resource development, and oil and gas activities all require the use of water. Communities throughout the North Slope use water resources, such as lakes and rivers, for subsistence resources such as anadromous and resident fish and waterfowl and to supply drinking and potable water. Recreational activities and other public uses on major waterbodies have increased in some parts of the planning area. Oil and gas industry activities



utilize a significant amount of freshwater in order to support operations by allowing for the construction of temporary ice roads, ice pads, and airstrips, for the production of oil and gas resources, and for supplying drinking and potable water. The widespread use and construction of ice roads and pads has become common as their use reduces impacts to the fragile tundra of the North Slope. Although the use of ice infrastructure can be beneficial, the substantial water resources necessary for the use and construction of ice roads and pads coupled with their use being seasonally restricted, can be problematic and can result in a challenging issue for water resource management. Water resources across the North Slope shall be managed in such a way that meets the needs of users while simultaneously maintaining the long-term sustainability of the resource.

The Alaska Water Use Act (AS 46.15) states that the Department of Natural Resources “shall determine and adjudicate rights in the water of the state, and in its appropriation and distribution.” A number of water resource management practices have been established to satisfy this requirement and are also defined in AS 46.15. Basic information related to these water resource management practices can be found in the guidelines below while more specific information can be found in the Alaska Water Use Act and other applicable state statutes and regulations.

This section will consider the water resources within the planning boundary. The Goals, Objectives, and Management Guidelines that follow apply to all state-owned waters throughout the planning area regardless of land classification.

## Goals

**Water Quality.** Protect water quality to support domestic, commercial and industrial uses, fish and wildlife production, and recreational activities. Protect watersheds that supply community drinking water.

**Water Dependent and Water Related Uses.** Provide for needed water-dependent and water-related uses.

**Habitat Protection.** Protect fish and wildlife habitats along lakeshores, stream corridors and wetlands.

**Recreation.** Provide opportunities for a variety of recreational activities within publicly owned stream corridors.

## Objectives and Management Guidelines

**Objective A.** Manage water responsibly and reserve sufficient water to maintain a specified instream flow or level of water on a stream or waterbody to protect and ensure the continuation of other uses of the area.

- **Guideline A-1.** All water-dependent activities requiring the withdrawal of water within the North Slope Oil and Gas Lease Sale Area shall be completed in accordance with the Alaska Water Use Act (AS 46.15) and ADNR North Slope Water Withdrawal Guidelines.
- **Guideline A-2.** ADF&G, ADEC, and ADNR Water Resources Section should be consulted when issuing or approving permits or authorizations within the planning area.
- **Guideline A-3. *Public Trust Doctrine.*** All activities and authorizations should take into consideration and comply with the Public Trust Doctrine. For information on the Public Trust Doctrine, see the Appendices.
- **Guideline A-4.** Proposals for new developments requiring the use of a significant amount of water as defined by 11 AAC 93.035 shall submit to the Department an application for water rights or temporary water use authorizations.
- **Guideline A-5. *Process for Determining Reservations.*** Applications for instream flow reservations are submitted to the Department for adjudication following the procedures identified in 11 AAC 93.141-147.
- **Guideline A-6. *Considerations for Reservations of Water (General).*** Streams, lakes, and other waterbodies may be considered for reservations of water under AS 46.15.145. Such reservations are intended to reserve sufficient water to maintain a specified instream flow or level of water on a stream or body of water for one or a combination of purposes: 1) protection of fish and wildlife habitat, migration, and propagation; 2) recreation and park purposes; 3) sanitary and water quality purposes; and 4) navigation and transportation purposes.
- **Guideline A-7. *Priorities.*** Reservations of Water have been established according to AS 46.15.145 on the Sagavanirktok and Kuparuk Rivers (see DMLW Water Reservations webpage for current information).

**Objective B. *Other Guidelines affecting Water Resources.*** Nearly all of the resource guidelines found within Chapter 2 either directly or indirectly affect water resources in the planning area. The most commonly affected resource sections include Public Access, Fish and Wildlife, Shorelands and Stream Corridors, Transportation and Infrastructure, Subsurface Resources, and Recreation and Tourism; however other resources addressed in this chapter's sections should also be considered.