

Chapter 2

Area-wide Goals & Guidelines

Introduction

This chapter presents land management policies for each major resource affected by the plan: fish and wildlife, forestry, public recreation, and settlement and agriculture. The chapter also presents management policies for several land management issues: heritage resources, stream corridors and wetlands, trails and access, and transportation. These policies are presented in alphabetical order in this chapter. These policies apply to State and Borough land throughout the planning area, regardless of land use designations.

The policies are presented in two categories for each subject: goals and guidelines. Goals are the general condition the State and Borough are trying to achieve. Goals for different resources may conflict. For example, it may not be possible to have significant land sales or timber harvests and maximum habitat protection at the same time. The goals, however, do describe the ideal intentions for management. Guidelines are more specific. They are specific directives that will be applied to land and water management decisions as resource use and development occur. Guidelines are rules that the State and Borough will apply to decisions involving each resource.

Definitions

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

Area-wide Goals

The following goals are for State and Borough lands in the planning area. Goals are general conditions that DNR and the Borough attempt to achieve through management actions. The goals are listed alphabetically without priority.

Economic Development. Provide opportunities for jobs and income by managing public land and resources to contribute to a vital, self-sustaining local economy.

Fiscal Costs. Consistent with other goals, minimize the need for and the fiscal cost of providing government services and facilities, such as roads. Locate settlement uses where there necessary services can be efficiently provided.

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

Public Use. Provide and enhance diverse opportunities for public use of public lands, by residents and visitors, including uses such as hunting, fishing, skiing, dog mushing, snowmachining, and other types of recreation.

Quality of Life and of the Natural Environment. Maintain or enhance the quality and diversity of the natural environment, including air, land and water, fish and wildlife habitat and harvest opportunities; and protect heritage resources and the character and lifestyle of the community.

Settlement and Agriculture. Provide opportunities for private ownership and leasing of land currently owned by the State and the Borough.

Sustained Yield. Maintain the long-term productivity and quality of renewable resources on a sustained-yield basis, including fish, wildlife, and forests.

Transportation. Maintain an appropriate land base and area-wide regional transportation system, including trails.

This plan implements the concept of green infrastructure as a way of conserving natural areas that function as community infrastructure. It does so by requiring an extensive system of buffers along streams to protect water quality, fish habitat, and human use of the streams; and by requiring protection for wetlands; and mandating protection for trails. To further implement the concept, the plan requires that quality public land within settlement areas and on lakes be retained for public use, and requires that settlement be clustered and separated by bands of open space, which will provide benefits for recreation, and habitat/migration benefit to wildlife.

General Planning Information

By law, public land held by the State and Borough will be managed for multiple uses. There are three exceptions to this multiple use policy: land that is sold, leased, or otherwise taken from public management; land legislatively designated for a particular use (such as a park or refuge); and parcels of 640 acres or less managed under a management agreement for a particular agency purpose (such as a Department of Transportation maintenance site).

This multiple use mandate does not mean that all uses are allowed in all locations. This plan emphasizes minimizing land use conflicts through plan guidelines rather than through prohibitions. However, if the State or Borough determines a proposed use is incompatible with the designated use, the proposed use shall not be authorized or it shall be modified so that the incompatibility no longer exists.

Public land will also be managed to protect access to public resources (except when it is determined that access may be detrimental to a resource).

This plan contains no guidelines specific to mineral development as the Fish Creek Planning Area is closed to new mineral entry, and there are no known existing mining claims in the area.

This plan designates State and Borough lands in categories that are generally consistent with current use patterns and reflect the significant resources in the planning area.

Guidelines by Resource Value or Activity

The State and the Borough will use these guidelines when issuing authorizations and conveyances or making management decisions on State and Borough Land. The guidelines apply to all State and Borough land covered by the Fish Creek Management Plan unless the plan explicitly exempts units or designations.

All authorizations for use of State and Borough land within the planning area will be consistent with the management intent in this plan.

In considering authorizations for use of public land, the State and Borough will adjudicate applications to:

1. minimize damage to waterbodies, fish and wildlife habitat, vegetation, trails, anchorages, and other resources
2. minimize conflicts between resources and uses
3. protect the long-term value of the resource, public safety, and the environment.

If authorizations from other agencies are required, DNR and the Borough will consider issuing a permit or lease contingent upon issuance of these other authorizations.

Other State or Borough Land

It is possible that some parcels will be acquired by the Borough or the State after this plan is adopted. Those acquired for a specific use (i.e., an access site purchased for recreation, or private land acquired for a road right-of-way) will be managed for the uses for which they were acquired. Lands that come into public 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 *Applicability of Plan Designations and Classifications* section in Chapter 4. All of these actions may occur without a plan amendment.

Area-wide Guidelines

Fish and Wildlife Habitat and Harvest

Resource Goals

Maintain and Protect Publicly Owned Habitat

Base. Maintain in public ownership and protect sufficient suitable land and water habitats to provide for the sustained yield of fish and wildlife resources; maintain a diversity of species; support commercial, recreational, and traditional uses; protect a unique or rare assemblage of species of regional, state, or national significance.

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

Mitigate Habitat Loss. When land sale or resource development projects occur, avoid or minimize reduction in the quality and quantity of fish and wildlife habitat.

Provide Economic Opportunities and Employment.

Contribute to Alaska's economy by protecting the fish and wildlife resources that contribute directly or indirectly to local, regional, and state economies through the consumptive and non-consumptive use by commercial, sport, and personal user groups.

Avoid Introduction of and Reduce the Spread Of

Invasive Plant and Animal Species. Manage State and Borough lands to avoid or reduce the spread of non-native invasive plants and animal species. This management will be consistent with the applicable requirements of 11 AAC 34.

Management Guidelines

A. Mitigation. When issuing permits, leases or other authorizations, or otherwise authorizing the use or development of land. The State and the Borough will recognize the requirements of the activity or development and the effects to habitat to establish 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 this policy.

All land use activities will be conducted with appropriate planning and implementation to avoid or minimize adverse effects on fish, wildlife, or their habitats.

The State and Borough will enforce stipulations and measures, and will require the responsible party to remedy 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.

When determining appropriate stipulations and measures, the State and Borough will apply, in order of priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also follow these steps:

1. Avoid anticipated, significant adverse effects on fish, wildlife, or their habitats through siting, timing, or other management options.
2. When significant adverse effects cannot be avoided by design, siting, timing, or other management options, the adverse effect of the use or development will be minimized.
3. 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 condition.

The State (but not the Borough) will consider requiring 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. Replacement with or enhancement of similar habitats of the affected species in the same region is preferable. DNR will consider only those replacement and enhancement techniques that have either been proven to be, or are likely to be, effective and that will result in a benefit to the species impacted by the

development. Replacement or enhancement will only be required by DNR if it is determined to be in the best interest of the State either through the AS 38.05.035 (e) or permit review process.

The Borough shall utilize the Wetlands Land Bank to mitigate adverse affects on wetland or riparian areas.

B. Riparian Zones. Authorizations for use of riparian zones of anadromous and high-value resident fish streams shall protect the habitat and water quality from significant adverse effects.

See the *Stream Corridors and Wetlands* section in this chapter for more information about stream corridors.

C. Alteration of the Hydrologic System. To the extent feasible and prudent, channelization, diversion, damming or placement of dikes that will have a significant adverse impact on anadromous and high-value resident fish streams and lakes will be avoided.

D. Water Intake Structures. When issuing authorization to remove water from a fish stream, DNR will require installation of practical water intake structures that do not result in entrainment or impingement of fish and will maintain instream flows needed to sustain existing fish populations. Where appropriate, the simplest and most cost effective technology may be used to implement this guideline.

Water intake structures should be screened, and intake velocities will 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.

Consistent with AS 46.15.133 and AS 46.15.155, DNR and ADF&G will be consulted at the time of the authorization to determine screen size, water velocity, and intake design if the intake structure is in fish

habitat.

E. Habitat Manipulation. Habitat manipulation through water control, timber management practices, or other measures may be used to improve habitat for fish and wildlife species where ADF&G determines that it is beneficial to the species or habitat and the applicable State or Borough land manager determines that it is compatible with other primary uses and management intent.

F. Management of Invasive Plant and Animal Species. The management of invasive plant and animal species is a significant concern within the planning area. The State and Borough will manage its lands and waters to avoid the introduction of and reduce the spread of invasive non-native species, consistent the requirements of 5 AAC 41, 5 AAC 92 and 11 AAC 34. Although the strategic management plan for noxious and invasive plant species recognizes this as a statewide issue, this problem is typically best handled at the local level.

The Alaska Committee for Noxious and Invasive Plant Management developed a statewide management plan (2001). The Mat-Su Cooperative Weed Management Area (CWMA) has a strategic plan written for the Fish Creek Management Area. The Wasilla Soil and Water Conservation District has a program in place that currently concentrates on surveying areas of infestation and providing landowners with treatment options and Best Management Practices in an effort to control these species. The ADF&G has management authority over invasive fish and wildlife species. The ADF&G, Division of Sport Fish, has developed the Alaska Aquatic Nuisance Species Management Plan (2002) and the Management Plan for Invasive Northern Pike in Alaska (2007) to provide management options for aquatic invasive species. Contact the AACD or ADF&G for more information.

G. Threatened and Endangered Species.

All land use activities will be conducted consistent with Endangered Species Acts to avoid jeopardizing threatened or endangered species of animals or plants; to provide for their continued use of an area; and to avoid modifying or destroying their habitat. Specific mitigation recommendations shall be identified through interagency consultation for any and use activity that potentially affects threatened or endangered species. As of the date of adoption of this plan, there is no threatened or endangered species habitat within the Fish Creek Management Area.

The Ecological Services Anchorage Field Office of the U.S. Fish and Wildlife Service will be consulted on questions that involve federally listed threatened or endangered species.

H. Bald Eagles Activities that potentially affect bald or golden eagles will be consistent with the State and Federal Endangered Species Acts and the Eagle Protection Act of 1940 as amended. Consult with the U.S. Fish and Wildlife Service for locations of eagle nest, roost, and perch trees and for measures required to avoid disturbance.

Resource and Management Summary

Resources. Fish Creek and its tributaries are used for spawning, rearing, and as a migration corridor for rainbow trout, and coho, sockeye, and pink salmon during the various phases of their life cycles. Homestead Creek is also an anadromous stream and provides rainbow trout and coho salmon habitat. Large lakes within the planning area – Cow, Delyndia, Butterfly, Redshirt, Hock, Yohn and Flat Horn – also provide fish habitat for juvenile silver salmon and rainbow trout and other fish such as burbot, and northern pike in some of the lakes. Currently, fishing pressure in the area is light, and focuses on the lower reaches of the creeks and the lakes. Most use is by nearby residents. Use will increase once access is developed to the area. Moose and bear are also found throughout the planning area, and some hunting use of the area currently occurs.

Management. Protecting fish and wildlife habitat and the ability to view and harvest fish and wildlife is an important emphasis of this plan. Fish and Wildlife Habitat and Harvest is the primary designation in the management units that are primarily wetlands – Wetland East and Wetland West totaling 8,184 acres. In addition, it is a secondary designation in every other management unit, except those designated Resource Management, where a decision on the primary use has not been made. These secondary designations total 23,976 acres. Some of the most important management guidelines create publicly owned buffers to protect fish habitat, water quality, and recreation along the significant streams in the unit and their tributaries. These streams include Fish Creek, Homestead Creek, and the unnamed stream that flow into Flat Horn Lake. Similar buffers and guidelines protect water quality in the extensive wetlands that feeds these stream systems. Further information about resources and protection of fish and wildlife is given in the individual unit discussions in Chapter 3. See also the *Stream Corridors and Wetlands* section of this chapter.

Forestry

Resource Goals

Supply Timber. Provide wood for personal and commercial uses and to provide jobs tied to timber harvesting and processing.

Manage for Sustained Yield. Ensure that timber harvest adheres to sustained yield principles.

Support Public Recreation. Support and maintain diverse opportunities for public recreational activities in a variety of settings, and promote scenic quality.

Protect Fish and Wildlife. Protect and enhance fish and wildlife habitat.

Protect the Natural Environment. Protect air, land, and water quality.

Wildland Fire Suppression. The Alaska Division of Forestry shall continue to provide wildland fire suppression within the planning area consistent with the requirements of the Alaska Interagency Fire Management Plan.

Management Guidelines

In addition to the guidelines below, the Alaska Forest Resources and Practices Act (AS 41.17) and Regulations (11 AAC 95) provide Statewide guidance for managing forestry related activities. Commercial timber harvest must also obtain applicable permits from the Matanuska-Susitna Borough and comply with Borough timber harvest regulations. MSB 28.60 requires a Borough permit for a commercial harvest greater than 40 acres in size. These laws, regulations, and ordinances apply to timber harvest on all land: State, Borough, or private.

In addition to the requirements noted above, on State land timber harvest must also be consistent with the State's Susitna Forestry Guidelines, and DNR must develop a Forest Land Use Plan prior to any commercial timber sale greater than 10 acres (AS 38.05.112). The forest land use plan provides site-specific guidelines for that particular sale. On Borough land, harvest must comply with MSB 23.20, which also requires a site-specific timber management plan. Finally, timber harvest activities must be compatible with the guidelines in this

section and with the management intent statements and land use designations identified for each unit in Chapter 3 of this Fish Creek Management Plan.

A. Timber Harvest

1. Forest management of land designated resource management. The Resource Management designation is used in this plan where lands have a number of important resources but a specific near-term resource allocation decision is not practical, primarily because of lack of current access. As a result, the decision on a final allocation will be delayed until the future. The Upper Fish Creek and Homestead Creek Management Units have a primary designation of Resource Management and Forestry. The timber in these units is available for timber production and will be part of the timber base for calculating the Annual Allowable Cut, subject to applicable laws, regulations, and guidelines of this plan. However, timber within the Lakes Unit, which is also Resource Management, will not be included in the timber base because of the land-ownership pattern and the type of public use in the unit. Forestry is not a secondary use within the Lakes Unit.

2. Forest management of land under other designations. Units designated for Fish and Wildlife, Recreation, Agriculture, and Settlement will not be included in the long-term timber base. Timber harvest may occur in these units if it can be made compatible with the specific management intent and guidelines for these units in Chapter 3. Forestry is a secondary use for the Lower Fish Creek unit, but timber harvest must be consistent with future agricultural sales in the unit. Significant timber harvest is not expected within the Wetlands Units, Moraine Ridge, Lower Fish Creek, and Flat Horn Lake (except as noted below).

3. Timber salvaged from land cleared for non-forest use. There is no limit on the percent cover/volume that can be salvaged from clearing land for a non-forest use such as for roads, transmission lines, materials sites.

4. Cutting and gathering wood for personal use. Dead and down wood on State and Borough land may be gathered for personal use. This wood may not be used for barter, sale, or commercial purposes. Using dead and down firewood for a cooking or warming fire on State land is a Generally Allowed Use under 11 AAC 96.020, unless the area has been closed to all fires because of danger to wildfire. However, on State and Borough land harvesting of dead and down wood for personal use or for other uses still requires a permit. Live trees on public land may be available for personal use harvest, but may not be harvested without a DNR/Borough authorization.

B. Fire Hazard and Hazardous Trees.

Although the State and Borough are restricted from commercial timber harvests in specific sensitive areas (such as near eagle nests, in critical fish and wildlife habitat, and in riparian buffers), harvesting in these areas is allowed when necessary to prevent or control outbreaks of wildfire, or to remove dead and dying trees that are potential hazards to public facilities. Timber harvest, even in the restricted areas mentioned above, may be allowed if it is determined through an evaluation of risk factors, that harvest is necessary to create fire breaks and fire roads, or to remove potential hazard trees, especially near public facilities like schools, campgrounds, and near heavily settled areas. If harvesting is proposed to occur near eagle nest trees, the State and Borough should consult with the U.S. Fish and Wildlife Service during the planning process or before harvesting operations begin.

C. Transportation and access for forestry management activities.

1. General. The location, design, and development of roads shall consider multiple use values of public lands, and reflect the management intent and primary uses for the affected area. Specifically, within the Upper and Lower Fish Creek Units, design shall consider the utility of the roads for eventual residential and agricultural use, and shall be consistent with the transportation policies within this plan. The goal is to optimize long-term public use benefits from new access while minimizing adverse effects on existing public uses, including maintaining a range of recreation opportunities and wildlife habitat values.

2. Road Management and Access.

Decisions on road location should be coordinated with a Borough/State overall road plan for the area. If such a plan has not been created, road location and permanence decisions should be coordinated with the Borough and State to be consistent with likely future development plans and road location for the area. Descriptions of proposed access corridors, types of access, and proposals for road management after forest operations will be included in the State and Borough Five-Year Schedules of Timber Sales. The Forest Land Use Plan for each sale will include preliminary location of any proposed primary and secondary roads. The Forest Land Use Plan or transportation schedule shall state whether or not roads will be permanent or put-to-bed (closed and reclaimed consistent with Forest Practices Act requirements) and whether or not roads put-to-bed will be open to off-road vehicle use. Non-permanent secondary roads and spur roads will be put to bed in compliance with requirements of the Forest Resources and Practices Act.

D. Recreation Areas. Impacts on recreation and scenic values must be considered prior to harvesting. Within the Fish Creek Management Area, areas with importance to the tourism and recreation industry include the Nancy Lakes Recreation Area, Little Susitna Recreational River, and the Susitna Flats State Game Refuge. However, there is no management unit with a secondary designation of forestry adjacent to either Nancy Lakes or the Little Susitna River. Lower Fish Creek, designated agriculture with a secondary forestry designation of forestry, abuts the Susitna Flats Refuge.

AS 38.05.112 requires Forest Land Use Plans (FLUP) to contain appropriate guidelines for areas to be harvested, including road access, buffers, harvest method, etc. The FLUP will be the method for addressing site-specific recreation conflicts and opportunities. The FLUP will include identification of known trails, established open space corridors, and other public recreation sites. This plan will be consistent with the stream corridor and trail policies presented in this chapter. Most recreation activities will be concentrated along rivers, streams, and lakeshores. Waterbodies provide access routes and support recreation by boat, snowmachine, float plane, and ski plane. Water bodies are also key elements of the beauty and diversity of the landscape. On State or Borough land, the Alaska Forest Practices Act (AS 41.17.118 and .119) sets minimum standards for the harvest of timber along water bodies with anadromous or high value resident fish. Buffers vary depending on the characteristics of the water body. FRPA also requires that timber harvest on State land within 300 feet of water bodies with anadromous or high value resident fish must be consistent with the maintenance or enhancement of important wildlife habitat. Additional restrictions may be required in specific areas to protect trails and recreational use of the stream corridors. See *Stream Corridors and Wetlands* in this chapter, discussion of applicable management units in Chapter 3.

Resource and Management Summary

The planning area contains substantial acreage with high or moderate potential for commercial timber production, as a result of the presence of favorable soils, elevation and climate. While not currently road-accessible, this area is significantly closer to road access than the majority of forested State and Borough lands.

The Upper Fish Creek and Homestead Creek units, with 7,700 and 3,593 acres respectively, are designated Resource Management. These areas have soils with agriculture potential, but they cannot be developed until these areas have permanent road access. Permanent access is expected to be a decade or more away for Upper Fish Creek and likely much longer for Homestead Creek. By that time, the demand for timber, agriculture, or settlement land may change significantly from today's assessment. For that reason, the plan delays the decision about if and when to sell these areas for agriculture or settlement. In the interim, the timber will be included in the State and Borough timber base, and be available for timber harvest. To the extent practical, forestry roads will be located in a manner that may work to develop permanent access to the area, and enhance the eventual agricultural or settlement value of the areas.

The Lower Fish Creek Unit, 6,917 acres, is designated for agriculture with forestry as a secondary use. This unit, while currently inaccessible by road, is closer to developed access and likely to be the first agricultural unit to be road accessible. Timber harvest in this unit may occur but only in a manner consistent with the eventual sale of the area for agriculture. Areas to be sold for agriculture are not expected to be significantly harvested.

Significant commercial timber harvest is not expected in other units (Lakes, Flat Horn, or Moraine Ridge), except for salvage from road rights-of-way, for land use conversion, or fire protection. However, forestry is designated a secondary use in Moraine Ridge, 4,684 acres, to recognize areas reserved for community timber uses such as woodlots, as a part of the planned settlement in that unit. Forestry is also a secondary use in the Flat Horn Lake Unit, recognizing that possible future timber sales in adjoining units may partially extend into this area. See Chapter 3 for details.

An important part of the management objectives for timber harvest areas is to maintain and improve recreation opportunities in waterfront areas and the adjacent riparian and woodland areas, to protect (and even improve) habitat for species such as moose, and to maintain and enhance the scenic values of these lands. The plan protects waterbodies, fish and wildlife habitat, scenic resources, recreation, and water quality through guidelines in Chapters 2 and 3 and management intent statements for each unit. These resources also receive protection through the requirement that timber harvest be managed pursuant to Alaska Forest Resources and Practices Act (AS 41.17) and regulations (11 AAC 95), Susitna Forest Guidelines, and DNR's Forest Land Use Planning process, Borough Ordinances MSB 28.60, MSB 23.20, and other laws.

Heritage Resources

Resource Goals

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

Management Guidelines

A. Heritage Resources Identification.

Identify and determine the significance of all heritage resources on public land through the following actions:

1. Cooperative efforts for planned surveys and inventories between borough, state, federal, and local or native groups;
2. Heritage resources surveys conducted by the DNR personnel and Borough Cultural Resources Division (CRD);
3. Research heritage resources on State and Borough land by qualified individuals and organizations.

B. Heritage Resources Protection. Protect significant heritage resources through the following actions:

1. Review construction projects and land uses for potential conflict with heritage resources.
2. Cooperate with concerned government agencies, native corporations, statewide or local groups, and individuals to develop guidelines and recommendations on how to avoid or mitigate identified or potential conflict.

C. Cultural Surveys Prior to Land

Offerings. The State Office of History and Archaeology within the DNR's Alaska Division of Parks (OHA) will review plans for State land conveyance and notify DNR if there are known sites in the area being considered for conveyance. The Borough Cultural Resources

Division (CRD) will review plans for conveyance of any Borough property. Cultural surveys or inventories should be conducted prior to the design of land offerings in areas the State OHA or CRD determine have high potential to contain important heritage sites and for which information is inadequate to identify and protect these sites. The extent and type of cultural survey within the area of the proposed land disposal shall be determined by OHA or CRD in consultation with DNR and the Borough as appropriate.

D. Heritage Resources in Timber

Management Areas. The OHA and the Borough CRD will review proposals for timber management activities through the interagency review processes for the State Five-Year Schedule of Timber Sales, and Forest Land Use Plans; and the Borough Five-Year Schedule and Annual timber sale notices. These agencies will recommend archaeological surveys in timber sale areas with a high potential of heritage resources. Areas of known historic, archaeological, or paleontological sites should not be disturbed. Timber operations shall not occur within 300 feet from the boundaries of known sites unless the OHA and CRD determines, in consultation with the Division of Forestry (DOF) or the Borough, as appropriate, that certain activities can occur without significantly impacting the heritage resource. The OHA and CRD shall, within the limits of staffing and funding, assess the extent and significance of the heritage resource and work with the DOF or the Borough to develop site-specific mitigation measures to protect the heritage sites while allowing timber management.

E. Heritage Resources Adjacent to

Recreation Facilities. Recreation facilities that might subject heritage sites to vandalism because of the increased public use should not be placed adjacent to the heritage sites.

F. Heritage Sites Should Be Reported When Found. 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 protect heritage resource sites from unwanted destruction. By knowing of possible heritage remains prior to construction, efforts can be made to avoid project delays and prevent unnecessary destruction of heritage sites. While over 22,000 sites have been reported within Alaska, this is probably only a very small percentage of the sites that 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.

Resource and Management Summary

See the final section of Chapter 1 for a short overview of *Historical and Heritage Resources*.

Public Recreation

Resource Goals

Land will be provided for a spectrum of public outdoor recreation opportunities. This includes accessible outdoor recreation sites with well-designed, maintained and conveniently located recreation facilities as well as less developed and natural areas for recreation pursuits that do not require developed facilities. Specific goals include:

Accessible Public Use Opportunities. Develop a system of recreation areas, trails, waysides, rivers and sites that provide a wide range of year-round outdoor recreation opportunities for all ages, abilities and use preferences in close proximity to population centers and major travel routes. These should include places for both developed and less developed recreation.

Remote & Undeveloped Public Use Opportunities. Provide recreation opportunities on less developed land and water areas both within the State and Borough park systems as well as areas outside the systems, which serve multiple purposes.

Commercial Development. Provide opportunities for commercial development of recreation facilities and services through land sales, leases, concessions and permits where public recreation needs can most effectively be provided by private enterprise, while minimizing environmental impacts and conflicts with existing users of an area.

Space for Future Needs. Reserve accessible public lands near communities sufficient to meet existing and expected future recreation needs. Assist communities through cooperative planning, conveyance of State lands, and grant-in-aid for parks and trails within population centers.

Resource Protection. Protect scenic beauty and environmental quality.

Management Guidelines

A. Roles of Different Public Land Owners in Providing Public Recreational Opportunities. Generally, the State's role is to retain and manage land supporting recreational opportunities of regional or statewide significance. Generally, the Borough's role is to retain and manage locations of more local, community or sub-regional significance. The State and Federal governments are most capable of providing recreational opportunities that require large land areas, while the Borough and cities are generally better able to provide and manage more localized recreation. To recognize municipalities' roles in providing community recreational needs, the State should consider transferring some State recreation sites near existing communities to the Borough. The selection of these sites shall be agreed to by the Borough and the State and shall be contingent on the Borough's commitment to develop and maintain the recreational values of the sites.

B. Commercial Recreation Leasing on Public Land. The Borough and the DNR may lease lands for commercial recreation within the planning area. There are two DNR processes for leasing State land for commercial recreational facilities – one process is described by AS 38.05.073, the other by AS 38.05.070 and .075. Unless Chapter 3 of this plan specifically requires the .073 commercial leasing process for a management unit, applications may be adjudicated under either process.

C. Authorizations Adjacent to Public Recreation Facilities. Authorizations may be allowed adjacent to public recreation facilities, including community recreation sites, public use cabins, fishing sites, or trails if DNR determines that the two uses can be made compatible by design, siting or operating guidelines; or if there is no feasible and prudent alternative for the activity. This guideline also applies to sites reserved for future recreation facilities. DNR's determination will be made after consultation with the public recreation facility manager.

D. Scenic Resources. Facilities on public-owned uplands should be located and designed to blend in with the natural surroundings. Stipulations to accomplish this guideline may be attached to a development plan to address location, size, color, materials, requirements for vegetative or topographic screening, or other measures as appropriate.

Resource Allocation Summary

Background. The Fish Creek Area is located adjacent some of the more popular recreation destinations in the Matanuska-Susitna Borough. Activities in those areas – Nancy Lakes State Recreation Area, the Little Susitna River and the Susitna Flats State Game Refuge – include sightseeing, fishing, camping, hunting, snow machining and all-terrain vehicle use, and cross-country skiing. The same categories of recreation occur in the Fish Creek area, but at a much lower level due to poor access. As access is developed these uses are expected to increase. Pass-through snow machining and fishing on fly-in lakes are the dominant recreation activities today. Within this chapter, the Stream Corridors and Wetlands section and the Trails and Access section describe how the plan will maintain the major areas of recreation use in public ownership. These include the corridors along streams, the wetlands used for winter transportation, and important trails. In many cases, the management intent also provides for habitat protection.

Park Systems. While the plan includes areas intended for recreation, it recommends no additions to the State Park or Borough Park systems. As the area develops, it is likely that specific parks for settlement areas or for use with trails and streams will be appropriate.

Highways and Trails. Trails into and through the Fish Creek Planning Area are important both to adjoining communities and people from outside the area. Activities on these trails include snowmachining, cross-country skiing, hiking, hunting, and dog sledding. The Iditarod National Historic Trail System passes through parts of the Management Area. To ensure continued opportunities for public use of trails, a system of trails will be protected through public ownership of trail corridors. A State-owned corridor protects the Iditarod National Historic Trail System. If the land over

which the trail passes is conveyed an easement or other reasonable means of public access will be reserved. See also the *Trails and Access* section later in this chapter.

Rivers and Lakes. Rivers and the few lakes within the Fish Creek Area offer recreation and tourism opportunities for fishing, floating, paddling and power-boating. In addition to providing recreation opportunities, these areas are important for fish and wildlife populations. The plan requires buffers and building setbacks along waterbodies within the Fish Creek Planning Area. For additional information, see the *Fish and Wildlife Habitat and Harvest*, and the *Stream Corridors and Wetlands* sections of this chapter.

Settlement and Agriculture

Resource Goals

Residential Land Sales. Provide a pool of land available for private ownership over the long term. Although this plan and subsequent land sale decisions can identify and offer lands that have characteristics which make them suitable for year-round residences, seasonal cabins, or self-sufficient remote residences, once the land is sold the owner will decide how to use the land. For example, the State and the Borough cannot guarantee that land sold to satisfy the demand for seasonal cabins will not be used for permanent residences or for commercial purposes if regulations for the programs under which the land was sold do not preclude such uses. There are, however, some exceptions such as covenants restricting uses to agricultural uses, easements, and building setback requirements.

Agriculture. Provide for the opportunity for Alaskans to pursue an agrarian lifestyle through sale of lots with agricultural covenants and through agricultural leases. As with residential settlement, once land is sold for agriculture – even with an agricultural covenant – there is no requirement that the owner put the land into production. Both State and Borough agricultural sales include a covenant that restricts non-agricultural uses, and restricts subsequent subdivision including not allowing subdivision into parcels smaller than 40 acres. In this manner the covenant ensures that the land cannot be used in a manner that significantly diminishes its agricultural potential and reserves at least the potential for eventual agriculture use. The Borough also has a program that creates tax advantages to users who engage in agricultural activities on their land.

Compact Settlement Areas. In general, the plan attempts to create a land use pattern characterized by settlement areas separated by continuous areas of open space remaining in public ownership. Public open space provides for uses such as recreation, habitat, hunting, forest management, public access, and watershed protection.

Fiscal Impacts. Land disposals should be sited and planned to minimize the costs of infrastructure and other services resulting from settlement. Road access to land sale areas should be provided for those areas where

roads will eventually be demanded prior to the sale of the land.

Management Guidelines

A. Coordination with Local Governments. Because the State and the Borough both have land appropriate for residential and agricultural land sales, the two governments' land offering programs should be coordinated to best achieve community objectives. To this end, the State and Borough should develop a joint disposal plan. This plan could consider the Borough's fiscal planning for road extension priorities and its plans for levels of services in different areas. The disposal plan should express the community objectives to be met and how the requested capital improvement funds would support Borough-wide priorities for roads and service extensions to benefit current and future residents.

B. Agricultural Land. Land sold for agricultural purposes consistent with the designations described in Chapter 3 of this plan will be sold with an agricultural covenant to preserve the agricultural potential of the land.

C. Commercial Use of Sold Lots. Lands where fee simple interest is sold or other disposal of State or Borough interest under exchange or conveyance programs occur may be used for commercial or noncommercial purposes, unless otherwise specifically stated in sale documents.

D. Public Land within Subdivisions. Open space, parks, community trails, or recreation areas should be identified on plats of a residential subdivision. Land dedicated for this use must include enough quality land in the right location to provide areas for active park and recreation uses for the subdivision's residents and future users from surrounding areas. Particular needs include reservation of public land for trails within and through the sale area, and for access to and enjoyable use of amenity areas such as streams and lakes. Use of public waters will be protected by easements or public

land consistent with AS 38.05.127. Factors used in evaluating the adequacy of the proposed open space, park, trail, or recreation area include size, shape, topography, geology, tree cover, access, and location.

E. Regional Trails near Subdivisions. Before a land is offered for sale, the State or the Borough, as appropriate, will review commonly used trails within or near the offering to ensure that trails are appropriately buffered, necessary access easements are in place and that they remain usable or are rerouted so that use of the trails for access and recreation may continue.

F. Borough Platting Ordinance; Requirement to Build Roads. The Borough platting ordinance requires that there is “legal and physical road access provided to all subdivisions and to all lots within subdivisions.” The platting board may waive this requirement only if “no practical means of providing road access to a proposed subdivision exists and upon a showing that permanent public access by air, water or railroad is both practical and feasible” (MSB 16.20.100). To comply with this ordinance, neither the Borough nor the State may sell land within the Moraine Ridge, Upper and Lower Fish Creek, or Homestead Creek management units without providing legal and physical road access — that is, actually constructing roads to each parcel. In addition, no land within these areas is to be sold for residential subdivision use until such time as the Matanuska-Susitna Borough standard collector level road (or better) has been constructed to provide access between and among the subdivisions. Subject to platting board application and review, land sales within the Flat Horn Lake management unit may be sold without physical road access. Individuals who own land near Flat Horn Lake access their land by boat floatplane, snowmachine or ski plane consistent with Borough law.

G. Remote Cabin Site Sales; Remote Recreational Cabin Program. DNR will only sell pre-surveyed land within the Fish Creek Planning Area; remote recreational cabin program offerings (or similar stake-it-yourself programs) are prohibited within the planning area. In addition, land sales will be offered only on lands designated Settlement.

H. Erosion, Flood Control, and Pollution Prevention. All land disposals will comply with applicable Borough requirements for the mapping and protection of flood hazard areas.

Resource and Management Summary

The Fish Creek Planning Area is one of the largest undeveloped areas suitable for residential uses near the fastest growing area in Alaska - the populated area of the Matanuska-Susitna Valley. This plan ensures that areas suitable for settlement are reserved for that purpose to respond to future demand for farm land and residential development.

The plan designates land both for residential subdivisions and for agriculture. This plan designates the Moraine Ridge Management Unit for residential settlement. The management unit is 4,684 acres in size. Land sales will be designed in phases, following expansion of the road system. It is expected to be sold in road-accessible subdivisions. Green infrastructure concepts will be implemented by clustering and limiting the acreage for development; reserving community areas and green spaces nearby; and protecting trails, wetlands, streams, and wildlife corridors. The total amount of land to be sold from this unit will be decided during Borough design of the sales, but will not exceed 50 percent of the area. The plan also designates land within Flat Horn Lakes Management Unit as Settlement (4,191 acres). This unit already includes 40 private parcels. While the plan gives the Borough the ability to sell remote residential land within the unit, the management intent is to allow a limited number of additional lots with sales to maintain the remote residential use of this area as a fly-in recreational cabin designation.

The plan designates the Lower Fish Creek Management Unit (6,917 acres) for agriculture, with secondary designations of forestry, public recreation, settlement and wildlife habitat. This management intent directs this area to be developed for small-parcel agricultural lots once roads are constructed to the area. Some portions of the unit may also be sold for residential land sales as well.

The Upper Fish Creek and Homestead Creek units, with 7,700 and 3,593 acres respectively, are designated Resource Management. These areas have soils appropriate for agriculture, but they cannot be developed until these areas have permanent road access. Permanent access is expected to be a decade or more away for Upper Fish Creek and likely much longer for Homestead Creek. By that time, the demand for timber,

agriculture, or settlement land may change significantly from today's assessment. For that reason, the plan delays the decision about when and if to sell these areas. This plan expects that any eventual decision to sell land for agriculture or settlement will leave at least 35% of the productive forest lands in these units for long-term forestry; however, the eventual decisions on whether to sell land, and how much to retain for forestry will be made years into the future. In the interim, the timber will be included in the State and Borough timber base. To the extent practical, forestry roads will be located in a manner that may work to develop permanent access to the area. Also, to the extent practical, they will be located to enhance the eventual agricultural or settlement value of the areas.

None of this land is expected to be sold soon. The land cannot be developed until the road system reaches the settlement and agricultural areas (see guideline F). The requirement to build roads helps ensure that land is not sold in a manner that burdens local government with future road building cost.

Fortunately, revenue from selling residential land is expected to be greater than the cost of preparing the land for sale and constructing internal subdivision roads, especially if the sale is for small lot sizes: 2.5 acres or perhaps as large as 5-acre lots. Larger lots require more road building to get to each parcel. At larger sizes, the road costs are greater than the potential land sale revenue.

In addition to the internal road system, a major connecting road will be needed to link the land sale areas with the road coming in from the planned Little Susitna River Bridge. Expected revenue from selling residential land is not great enough to fund both internal subdivision roads and also a significant length of roadway required to reach the subdivision. Consequently, the State and Borough will likely need to build the backbone road system in this area before land sales can occur.

With respect to agricultural land, the rough estimate of road costs made for this plan indicates that the market value of smaller agricultural parcels 40-acres and less may, in some situations, be equal to the cost of internal roads to access the parcels. Smaller agricultural lots, such as 20-acre parcels, would be more likely to generate

revenue to pay for internal road costs. A mix of smaller residential lots and 20 to 40-acre agricultural lots would be even more likely to provide revenue equal to the cost of internal access roads. But like the conclusions for residential land sales, the value of the agricultural parcels is not great enough to equal the cost of building roads from a main trunk road to the agricultural units. Under existing law, the State may sell 20- and 40-acre lots for agriculture. However, the Borough requires a lot size of at least 40-acres for the land to be designated as agriculture. Therefore, when planning for a Borough agricultural sale, the Borough may consider whether a change in ordinance is beneficial to require smaller lots and to better allow the agriculture sales to pay for the required road improvements.

The intent for agriculture land sales in Fish Creek is not to establish a large scale, commercial agriculture project in the style of the Point MacKenzie agricultural project, as was the case with the earlier version of the Fish Creek Plan. Instead, the goal is to sell smaller parcels that can be used for diverse uses, ranging from small scale vegetable farms, to management of forest resources for value-added timber products. Agricultural parcels will be sold with covenants to ensure the land can not be converted into small lots or otherwise used in a way that would preclude future agricultural activities.

In summary: neither agriculture nor residential land sales (except limited sales near Flat Horn Lake) may occur before roads are built to the area. The revenue from sale of residential and agricultural land is in some situations expected to be greater than the cost of providing internal roads but not large enough to pay for the cost to build a road to the sale areas. However, a long-term timber harvest program could provide pioneer roads that would decrease the cost of all-season roads required for agriculture or residential land sales.

The plan also includes management guidelines that ensure that recreational uses and habitat values are protected during land sale design. The plan keeps streams and trails in public ownership, and requires land be kept for public uses as a part of the land sale design (see sections concerning *Public Recreation*; and *Stream corridors, and Wetlands* in this chapter).

Stream Corridors and Wetlands

Resource Goals

Water Quality. Maintain water quality to achieve and protect State water quality standards, and to protect streambeds and wetlands from degradation.

Habitat. Protect fish and wildlife habitat along lakeshores, stream corridors, and wetlands.

Recreation and Tourism. Protect and enhance a variety of public recreation, tourism opportunities and cultural resources on and along waterbodies.

Scenic Qualities. Protect the visual quality of waterbodies.

Access. Provide public access to and along State-owned waterbodies.

Resource and Economic Opportunities. Contribute positively to other uses of natural resources and economic opportunities.

Watersheds. Inventory, manage, and reserve water resources to ensure a balance between instream and out-of-stream uses.

Management Guidelines

Under State law, the bed and adjoining land up to the ordinary high water mark of all navigable lakes, rivers and streams are retained in State ownership.

A. Priority of Public Uses in Stream

Corridors. DNR and the Borough will place a higher priority on protecting public use values in stream corridors than on providing opportunities for private ownership or development of land. Land along the major stream systems in the Fish Creek area will

be maintained in public ownership. However the demand for property along streams and the practicality of protecting every tributary to the major stream systems within the Fish Creek area may mean that some land is sold along tributary systems. Land sale programs along those tributaries with important recreational values will be designed to protect access to and along the streams for public uses such as fishing, hiking, camping, and travel on trails. Similarly disposals near these tributaries with important fish or wildlife habitat will be designed to ensure the protection of the habitat.

B. Retention of Publicly Owned Buffers Adjacent to Streams and Adjacent Wetlands.

Except in the Flathorn Lake Management Unit where the intent is to provide private land along streams, land will be maintained along streams and certain wetlands to protect fish and wildlife habitat, water quality, and public access according to the guidelines below. However, a publicly owned buffer of at least 50 feet to protect the public’s right to access and travel along the water body, and the building setbacks outlined with Guideline D in this section still apply.

In addition to the minimums in the table, where the stream is incised, the public buffer will be sized to include the immediately adjoining bluff plus 50 feet for a trail. Within the Fish, Homestead and unnamed Flathorn Lake Creek systems, including their tributaries, there will be a riparian buffer that includes all land below the definable bluff along the stream plus a 50-foot- wide strip along the top of the bluff. The known stream reaches to which the table

Table 2.1 Stream Buffers

Minimum Width	Where it Applies
Minimum 200 feet, landward from ordinary high water (both sides).	Main stem of Fish Creek, Homestead Creek, and the unnamed creek into Flat Horn Lake.
Minimum 100 feet, landward from ordinary high water (both sides)	First order tributaries to the main stem of the streams noted above plus streams with anadromous fish or high value resident fish.

applies are outlined in Map 2.1. In addition, the guideline applies to any other anadromous fish or high value resident fish-bearing waterbodies that are present but not identified on the map. Finally, for waterbodies that are not anadromous and where the primary management intent is to protect the public's right to travel or provide access for utilities, a public use easement under AS 38.05.127 ("to and along") shall be applied. Access easements may be used in combination with public land to be retained for public use or for the protection of resources. In these situations, easements may be used to provide access to areas of state or borough retained sensitive land, or provide access corridors between lots or parcels within subdivisions.

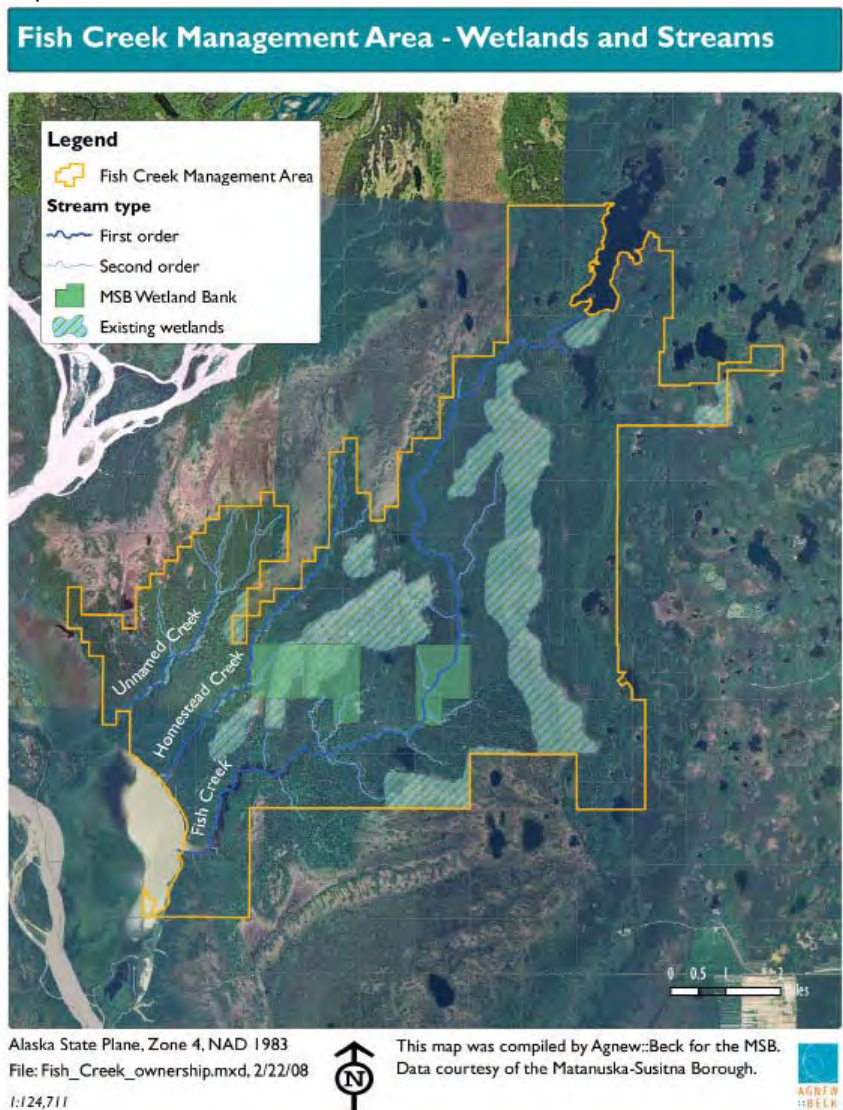
C. Buffer Width

Modifications. The minimum width of a publicly owned buffer along streams or wetlands may be increased on a case-by-case basis where it is determined that the minimum width specified in this plan is not adequate to protect water quality, fish and wildlife habitat, or public use. Widths may be narrowed 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 adequate width to allow for public access as well as to screen the waterbody from development, where possible, with natural vegetation. In addition, stipulations such as requirements in farm conservation plans, or best management practices may be an

alternative or additionally required method of achieving the purposes for which the buffer is established. Where land sales are platted adjacent to the buffer, especially agricultural and settlement land sales, the buffer width should be reviewed in consultation with ADEC and

ADF&G and, if necessary, widened to ensure adequate vegetation for filtering for the protection of protect water quality and fish and wildlife habitat from expected development uses, fertilizers, road runoff, or other potentially harmful drainage and to accommodate areas where on-the-ground information indicates greater-than-typical tree blowdown is likely to occur.

Map 2.1. Wetlands and Streams



D. Building Setbacks. Borough ordinances require a minimum setback along lakes and streams of 75 feet for buildings and 100 feet for septic systems. In this Fish Creek area a more stringent setback will apply, as outlined below:

1. Building setbacks will be a minimum of 75 feet for non-anadromous lakes and streams and 100 feet adjacent to anadromous and high-value resident fish waters.
2. Within the development setback natural vegetation shall be retained. Actions such as removal of the majority of natural vegetation, paving, use of fertilizers, or storage and maintenance of vehicles, activities that develop ruts or flowpaths for sediment to reach the water body, or other activities that would adversely impact the waterbody are not permitted. Residential structures, fences, other non-water dependent structures that will obstruct passage of recreational users or wildlife are not permitted in the development setback. Residential structures include both primary residential structures and associated buildings such as detached garages or sheds.

E. Lakeshore Public Access. A portion of the lakefront on lakes greater than 10 acres that support or may be expected to support public recreation, and all inlets and outlets of lakes of this size and capable of sustaining year-round natural or stocked fish species, shall remain in public ownership for habitat protection and public recreation. Adequate public access to these lakes shall also remain in public ownership or be provided through section line or “to and along” easements. The amount of public ownership may vary on a site-specific basis, but, at a minimum, some portion of land adjacent to 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 and allow for emergency access. A width of 100 feet or more measured from Ordinary High Water is to be retained or protected through an easement along inlet and

outlet streams. Public use sites 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.

F. Retention of Wetlands in Public

Ownership. Large wetlands generally will be retained in public ownership. Two management units in the plan, Wetlands East and Wetlands West, are mostly composed of wetlands. The designation and management intent for these units requires the wetlands be retained in public ownership. In addition, the large wetlands outlined on Map 2.1 will also be retained in public ownership to protect their significant habitat and water quality functions. Other wetlands will be evaluated on a case-by-case basis to determine whether public retention or other methods are appropriate to protect their values. The Borough has established a Wetlands Mitigation Bank within the plan area to retain wetlands, owned by the Borough, in order to mitigate future development in other areas of the Matanuska-Susitna Borough.

G. Authorizations within Riparian Zones.

Authorizations for the use of stream, river, lake riparian zones or near wetlands shall minimize adverse impacts on fish habitat and water quality. Stream riparian zones will be managed to protect fish and wildlife and their habitats, and to provide for public access and recreational opportunities. This should be accomplished by maintaining functions of the riparian zone such as short- and long-term sources of large woody debris and vegetation cover, stream bank stability, channel morphology, water temperatures, stream flows, water quality, adequate nutrient cycling, food sources, clean spawning gravel, cover, feeding areas, and travel corridors.

H. Consolidation of Waterfront Facilities.

Waterfront facilities, uses, access points, or developments will be consolidated wherever practical.

I. Instream Flow. See discussion and guidelines under *Water Resources* section of this chapter.

Resource and Management Summary

See the *Fish and Wildlife* section of this chapter for a short overview of stream resources and stream buffer policy.

Trails and Access

Resource Goals

Public Use Opportunities. Ensure adequate opportunities for public use of important recreation, public access and historic trails of regional and statewide significance. Also provide for future trail and access needs.

Local Trails. Assist in establishing local trail systems that provide access to public land and water and community facilities.

Trail Corridors. Protect or establish trail corridors to meet projected future use requirements as well as protecting current use, both for residents, and for users from outside the Fish Creek area.

Environmental Protection. Locate trails so that their use will allow for recreation use while protecting water quality in streams, lakes, and wetlands.

Management Guidelines

A. Public Use of Trails. The State and the Borough will retain a system of trails available for public use. The governments should not authorize land uses that foreclose the ability of the public to use important trails. If a land use authorization is issued, an alternate route should be identified and established before activities under that authorization prevent use on the original trail. On occasion, there are trail routes, designs, or areas where a trail authorization is not appropriate because of potential resource damage, sensitive habitats, or public safety concerns. Trail relinquishments will not foreclose legal, practical access to public lands.

B. Trails near Wetlands. The State and the Borough may authorize trails across wetlands if it is determined that the proposed activity will not cause significant adverse impacts to important fish and wildlife habitat, important ecological processes, or scenic vistas, unless a feasible and prudent alternative does not exist, and it is determined to be in the State or Borough's best interest. A trail across a wetland

may be restricted to winter use if it is determined that use will cause significant adverse impacts to fish and wildlife habitat or use will result in damage to the wetlands. Easements and rights-of-way that are issued for motorized vehicle use in summer that will not use fill should follow well-drained routes and be located away from riparian zones and wetlands wherever possible. ADF&G will be consulted to provide recommendations on easement alignment to avoid wetlands and sensitive wildlife habitats. The intent of this guideline is to avoid motorized vehicle use across wetland areas during seasons in which such use could result in paralleling trails that eventually extend outside the easement and could result in damage to wetlands and the unauthorized use of State or Borough land.

C. Off-Road Transportation. Authorization for cross-country travel will be directed toward appropriate existing hardened trails and roads. Appropriate trails are defined as having a durable surface and similar widths to the proposed mode of transportation. If no hardened trails exist, the State or Borough should authorize transport only in winter when there is adequate ground frost, snow cover or both. This kind of authorization is usually for one-time use only, i.e., for moving machinery. If the authorization is for one-time use, additional clearing that will result in additional larger vehicle use on the trail will be discouraged. This guideline does not restrict snowmachine use of wetlands in winter once adequate snow cover exists to protect the vegetation. This is an expected and allowed use by both the State and the Borough.

D. Iditarod National Historic Trail (INHT). The U.S. Forest Service, working with the Bureau of Land Management, has reserved and surveyed an easement through the Fish Creek Management Unit for the Iditarod National Historic Trail (INHT). The corridor is 400 feet wide, 200 feet either side of the centerlines. When the State or the Borough conveys lands or issues authorizations along the INHT, the authorization or conveyance will be subject

to the route (or alternate route) and a buffer along the route that ensures continuous trail links along the INHT. To minimize potential land use conflicts or the impact of the trail's existence on adjacent land uses, the corridor width may be expanded or reduced. These width adjustments, as well as rerouting of the trail corridor, may be permitted in specific instances with the consultation of the Borough, State, and ADF&G.

E. Neighborhood and Community Trails.

The following criteria should be used to determine whether a local trail should be protected by easement or public ownership:

1. If the trail is of area-wide, regional or statewide importance, connects to a public open space system, provides access to publicly owned land or major waterways, connects or continues existing trail easements, or provides alternative transportation, it will be kept in public ownership. Agencies, organizations and individuals are encouraged to identify public trails to be considered for retention in public ownership. Trails of statewide importance are defined as those that are included in hiking guidebooks, and trails of regional importance are defined as being included in the Borough's Recreational Trails Plan.
2. If the trail is to be used almost entirely for local use or by residents of a subdivision, but it provides more than just pedestrian access, for example, if it provides a multiple-use greenbelt for uses such as hiking or biking, public access should be reserved through an easement, or public ownership, or other alternate reasonable legal access route. Trails of local significance will be identified when conveyance, leasing, or conveyance less than fee simple are considered.
3. If the objective is to provide local pedestrian access that is not part of an integrated neighborhood or community trail system, an easement may be used. This

would typically occur when the purpose is to establish access between two lots in order to improve pedestrian circulation within a subdivision where a greenbelt and neighborhood trail system does not provide adequate access or where it is impractical to establish such an integrated trail system.

4. In cases of other authorizations on State or Borough lands, either a publicly owned buffer or an easement will be used to protect designated trails. If a trail has the characteristics described in 1 or 2 above, it will be retained in public ownership. If the trail has the characteristics described in 3, an easement will be reserved.

F. Standard Trail Corridor of Area-wide, Regional or Statewide Significance.

This category includes the majority of trails on State and Borough land identified in this plan. These trails generally provide snowmachine, ski, foot, dogsled and/or horse access for a variety of purposes. Some have a history of public use and can be expected to see increased use as the State's population increases. The following guidelines are intended to ensure consistent management practices on trails on State and Borough lands in the planning area while allowing some flexibility to tailor management decisions on site specific conditions.

Trails of area-wide, regional or statewide significance on State or Borough land shall be protected by a publicly owned corridor or easement that has a minimum width of 100 feet (50 feet each side of centerline). This buffer should be designed to protect the quality of the experience of the user and to minimize negative effects to adjacent lands such as noise or dust. Buffer widths may be increased to minimize land use and ownership conflicts, to protect the privacy of adjacent landowners, to separate motorized from non-motorized uses, to allow future siting of public facilities, to allow flexibility for rerouting, or to adapt a trail to provide for specific public uses or to address aesthetic or environmental concerns. Buffer widths may vary along the length of a trail

because of the above considerations. The width of a buffer on any portion of a trail should also be based on the management intent for adjacent public land as expressed through applicable land use plans. However, in no case should the width of the buffer be less than 100 feet. Timber management, land sales and other resource activities may be authorized within these buffers in order to maintain the trails and reduce trail maintenance costs, to salvage beetle-killed timber, and to reduce further death of trees along trails. Trail buffers should be designed in consultation with affected divisions of the State DNR and ADF&G, and the Borough Park, Recreation & Trails Advisory Board.

Local groups are encouraged to maintain existing trails.

G. Management of Expanded Trail Use. If timber management, land sales and other resource activity creates new access options, as is likely to be the case, the State and Borough shall develop access management strategies to ensure this new access does not lead to adverse impacts on resources, such as damage to wetlands or streams. Examples of such strategies include careful selection of the location of roads, and closing access to trail use, such as four-wheelers.

H. Identification of Trails. Prior to lease or disposal of State or Borough lands, trails that merit consideration for protection by one of the methods described above should be identified and reserved. When identifying trails, the Borough, and DNR land records information systems will be consulted. In addition, any agency, organization or individual may identify public trails to be considered for protection.

I. Land Use in Corridors. Land use activities within a trail corridor (for example, permits, leases, timber sales and material sales) should be managed so as to not adversely affect trail use over the long term or the aesthetic character of the trail. This does not preclude trail crossings

or rerouting of trails as described below.

J. Rerouting Trails. Rerouting of trails for a short distance may be permitted to minimize land use conflicts or to facilitate use of a trail only if alternate routes provide equal access and opportunities similar to the original, and there is no feasible and prudent alternative.

If trails are rerouted, provisions should be made for construction of new trail segments if warranted by type of use. Historic trails which follow well-established routes should not be rerouted unless necessary to maintain trail use. The sections of trails that have been rerouted and are no longer intended for use should be blocked off and rehabilitated to minimize erosion and promote regrowth of natural vegetation. In many areas, old survey lines have been used as all-season trails, even where the line traverses wetlands. Survey lines used as trails in the summer that cross wetlands may be closed and the trail may be hardened or diverted to other routes to minimize harm to wetlands.

K. Trailhead Reservations and Information Signs. Sufficient acreage for trailheads should be retained in public ownership to accommodate public access need, safety requirements, and provide for expected recreational use. The size and location of trailheads should be determined in consultation with DNR, ADF&G, and the Borough. These trailheads should be marked, especially the ones adjacent to or near private property to prevent trespass problems. Although the DNR does not have the means to maintain information signs at trail heads, the lack of information about land ownership is a problem. Other groups and agencies are encouraged to develop programs to identify the parts of the trails that cross public, private and Native land, and to describe allowable uses on these lands. All trails and trailheads should use standardized signage as adopted by the Borough.

L. Off Road Vehicle (ORV) Management.

There has been a rapid increase in ORV use in many locations around the Borough. Under current State regulations, ORVs may only be used on or off established road rights-of-way “if use off the road easement does not cause or contribute to water quality degradation, alteration of drainage systems, significant rutting, ground disturbance, or thermal erosion.” In addition, the regulation requires that ORV users use existing roads and trails whenever possible, and conduct their travel in a manner that minimizes any disturbance to vegetation, soil stability, drainage systems, or fish and wildlife. (See 11 AAC 90.020(a)(1)(E) and 11 AAC 90.025, however these regulations are widely violated). An authorization is required from ADF&G for any motorized travel in fish bearing streams. To prevent damage to wetlands, stream banks, and other areas with poorly drained soils, prevent erosion and wildlife disturbance or displacement, and provide access to public lands, DNR and the Borough should route frequently used ORV trails away from sensitive areas, harden them, otherwise block ORV travel in areas where damage is likely to occur, and provide alternative ORV routes around sensitive areas. Also, DNR will support Borough efforts to address this issue through local planning and ordinances provided that DNR has adequate opportunities for input into the process and proposed actions are consistent with State interests.

M. Section-line Easements. Regulation 11 AAC 96 sets out permit requirements for various uses on State land. These requirements also apply to State-owned easements along surveyed and un-surveyed section lines. Access-related activities that require a DNR permit include use or transportation of heavy equipment. However, many other access-related uses can take place without a permit. DNR offers a fact sheet called Generally Allowed Uses on State Land listing these permit-free uses under 11 AAC 96.020. The list includes travel by most types of motorized vehicle such as four-wheel-

drive vehicles, stock pickup trucks, snowmobiles, and all terrain vehicles. Also allowed without a permit is brushing or cutting a trail less than five feet wide using only hand tools such as a chainsaw and without disturbing the root system. Under these situations the requirements of 11 AAC 90.020(a)(1)(E) and 11 AAC 90.025 still apply. Above this limit, development of a section-line easement for access purposes requires authorization from DNR. Section-line easements should be surveyed before improvements are made in order to avoid trespass on adjacent lands. Through enactment of ordinances, the Borough also has the authority to regulate public uses on section-line easements so long as this does not conflict with an overriding State interest. No vacations (formal relinquishments or waivers) of section-line easements are recommended by the plan at this time. Any request for vacating section line easements must provide for alternative public access as required by existing State law and regulation.

Resource and Management Summary

See the *Access to the Project Area* section of Chapter 1 for a short overview of trail resources and trail management.

Transportation

Resource Goals

Support Plan Designations. Through coordination with other State agencies and local governments, develop a transportation system needed to implement this plan and integrate it with other area-wide transportation needs.

Minimize Costs. Design a transportation system that, when appropriate, has the lowest possible long-range costs, including construction, operations, and maintenance. Avoid unnecessary duplication of transportation facilities.

Minimize Adverse Effects. Design a transportation system and authorize vehicle uses in a manner that has minimal adverse impacts on local residents, the environment, fish and wildlife resources and movement corridors, and aesthetic and cultural features.

Promote Efficiency. Design a transportation system that uses land and energy resources efficiently and encourages compact, efficient development patterns.

Ensure Public Safety. Design a transportation system with a high standard of public safety.

Management Guidelines

The management guidelines below apply, where applicable, to above-ground utilities as well as transportation.

A. Access Plans for Land Offerings or Resource Development Projects. Before a land offering or the start of a resource development project, DNR and the Borough will work with DOT/PF to identify appropriate locations for access and will also identify responsibilities for design, construction, and maintenance of any proposed transportation facilities.

B. Roads Required. Physical road access is required before the Borough or DNR subdivides land within the Moraine Ridge, Upper Fish Creek, Lower Fish Creek, or Homestead Creek Management Units.

C. Joint Use and Consolidation. Joint use and consolidation of surface access routes and facilities will be encouraged wherever it is feasible and prudent to do so. Surface access and facilities also should be sited and designed to accommodate future development and avoid unnecessary duplication. The feasibility of using an existing route or facility should be evaluated before the use of a new route or facility is authorized.

D. Protection of Hydrologic Systems.

Transportation and utility facilities will, to the extent feasible and prudent, be located to avoid significant effects on the quality or quantity of adjacent surface water resources or detracting from recreational use of the waterway. The following guidelines apply:

1. Minimize Stream Crossings. Stream crossings should be minimized. Those in anadromous fish habitat require an ADF&G permit. When a stream must be crossed the crossing should be as close as possible to a 90-degree angle to the stream, consistent with good road alignment practices. Stream crossings should be made at stable sections of the stream channel.

2. Minimize Construction in Wetlands. Construction in wetlands, floodplain, and other poorly drained areas should be minimized and existing drainage patterns maintained. Culverts, bridge, or other structures shall be installed where necessary to enable free movement of fluids, mineral salts, nutrients and fish.

3. Rehabilitate Disturbed Stream Banks. Disturbed stream banks should be recontoured, revegetated, or other protective measures should be taken to prevent soil erosion into adjacent waters.

E. Winter Stream, Lake and Wetland

Crossing. During winter, snow ramps, snow bridges, or other methods should be used to provide access across frozen rivers, lakes, wetlands, and streams to avoid cutting, eroding, or degrading of banks. These facilities should be removed immediately after final use.

F. Protection of Fish and Wildlife Resources.

Important fish and wildlife habitats such as riparian areas, wildlife movement corridors, important wintering or calving areas, or other important habitat areas should be avoided in siting transportation routes unless no other feasible and prudent alternatives exist. Location of important fish and wildlife resources, wildlife movement corridors, concentration areas or seasonal use patterns, timing of construction and design of fish and wildlife passage structures shall be determined in consultation with ADF&G.

G. Road Pullouts. Where road corridors intersect streams, habitat corridors, or other areas of expected recreational use and tourism, sufficient acreage shall be retained in public ownership to accommodate public access, safety requirements, and expected recreational and tourism use. The size and location of pullouts shall be determined in consultation with the Division of Parks and Outdoor Recreation, DOT/PF, ADF&G, and the Borough.

H. Timber Salvage from Rights-of-Way. All timber on rights-of-way to be cleared for construction will be salvaged consistent with AS 41.17.083, and the Matanuska-Susitna Borough Revised Timber Salvage Policy.

I. Roads near Wetlands. To minimize impacts on riparian areas or wetlands, summer use roads shall be located away from riparian zones and wetlands to discourage the formation of parallel trails and very wide river crossings. Public ownership and easement requirements are defined in the Stream Corridors and Wetlands section in this chapter. The State and Borough may authorize trails or roads across wetlands if it is determined that the proposed activity will not cause significant adverse impacts to important fish and wildlife habitat, important ecological processes, or scenic vistas, a feasible and prudent alternative does not exist, and it is determined to be in the State and Borough's best interest.

J. Section-line Easements. See this guideline under the *Trails and Access* section in this chapter.

K. Railroad Corridor. The Alaska Railroad Corporation (ARRC) has proposed a new railroad route to connect Point MacKenzie with the Parks Highway railway north of Wasilla. The alternative routes proposed include one that goes north and south through the Moraine Unit of the Fish Creek area. The State and Borough shall work with ARRC to design and develop any railroad corridors through the Fish Creek area to ensure compatibility with this plan.

L. Fish and Wildlife Movement Corridors. Where road corridors intersect streams, important habitat, or movement corridors because no feasible and prudent alternative exists; fish and wildlife movement corridors will be maintained through the use of alternative designs.

Resource and Management Summary

See the *Access to the Project Area* section of Chapter 1 for a short overview of access issues and planned access improvements.

Water Resources

Resource Goals

Water quality. Manage State and Borough lands using mitigating measures to alleviate potential adverse effects on water quality

Watersheds. Make water available for the maximum use consistent with the public interest. Inventory and manage water resources to ensure a balance between instream and out-of-stream uses.

Instream Flow. Reserve adequate instream flow on a timely basis in rivers and lakes for resources and uses such as fish and wildlife, water quality, sanitation, recreational activities, navigation, and transportation before competition for competing water uses increases.

Cooperation With Other Agencies and the Public.

DNR and the MSB will cooperate with the Alaska Departments of Environmental Conservation and Fish and Game, the public and other agencies and organizations on watershed plans and approaches.

Management Guidelines

A. Instream Flow Reservations and Stream Gauging

1. Flow Reservations. DNR should consider streams and other waterbodies for instream flow reservations and stream gauging when there is an anticipated or identified threat to the water supply needed to support significant public uses, when there is significant public use, or when the fish and wildlife or other resource values of the stream are important to the residents of the State. Individuals, political subdivisions of the State, and federal agencies, as well as State agencies may apply for instream flow reservations. Under DNR's statutes, reservation of instream flow is possible for four types of purposes:

- a. protection of fish and wildlife habitat, migration, and propagation,

- b. recreation and park purposes,
- c. navigation and transportation purposes, or
- d. sanitary and water quality purposes.

DNR should consider streams and other waterbodies for instream flow reservations when the waterbody's value to a significant identified present or future public benefit is not protected by the ownership or classification of the surrounding and underlying land. DNR should consider protecting significant public instream flow uses by placing conditions in water rights and use authorizations adequate to protect these uses.

2. Process for Determining

Reservations. The process for determining instream flow reservations will include the following steps for each stream or other waterbody:

- a. Identify the management objectives.
- b. Estimate the quantity of water seasonally available by direct measurement (hydrograph), predictive methods (regional hydrographic models), or other appropriate methods.
- c. Determine the quantities of water already appropriated.
- d. In consultation with appropriate agencies and landowners, use site-specific studies or other information to determine the instream flow requirements for the resources and uses to be protected. For habitat resources this will require cooperative work and consultation with ADF&G to

identify necessary conditions for rearing, staging, reproduction, spawning, overwintering, and migration of fish and wildlife resources.

B. Specific Instream Flow Reservations.

When significant residential or agricultural land sales are planned near the three major streams in the planning area, expected water needs should be analyzed to determine potential effect on stream flow. If there appears to be a threat to stream flow, an instream flow reservations under AS 46.15.145 should be established for the affected stream. Of the three major streams in the planning area, Fish Creek and its tributaries are the first priority for this work.

Resource and Management Summary

See the *Hydrology* section of the *Physical Environment* section in Chapter 1 for a short overview of water resources.