TANANA VALLEY STATE FOREST MANAGEMENT PLAN

2025 REVISION

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF FORESTRY & FIRE PROTECTION

THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Natural Resources
OFFICE OF THE COMMISSIONER
550 West 7th Avenue, Suite 1400
Anchorage, AK 99501-3561
Main: 907.269-8431
Fax: 907-269-8918

ADOPTION OF THE 2025 TANANA VALLEY STATE FOREST MANAGEMENT PLAN

The Commissioner of the Department of Natural Resources finds that the Tanana Valley State Forest Management Plan meets the requirements of the following Alaska Statutes and Titles and hereby adopts this plan:

AS 38.04.005 (Policy for use and classification of lands)
AS 41.17.230 (State Forest Management Plans)
AS 41.17.400 (Act creating the Tanana Valley State Forest)
11 AAC 55.010 - .030 (Land Planning and Classification)

Department of Natural Resources (DNR) will manage state land consistent with this plan. This plan will remain in effect from the date signed until superseded by a future revision.

John Boyle, Commissioner
DEPARTMENT OF NATURAL RESOURCES

28 May 2025
Date

PREFACE

In July of 1983 the Alaska Legislature created the Tanana Valley State Forest. It was the second of three forests in the Alaska State Forest System, created just one year after the Haines State Forest. It was in 2010, nearly three decades later, that the Southeast State Forest was added to the system.

The Tanana Valley State Forest encompasses almost 1.8 million acres of boreal forest. It is the largest of Alaska's state forests and stretches the length of the Tanana Valley from Tok to Manley Hot Springs. It lies adjacent to the main roads and waterways of the Tanana Valley and is near the majority of the population that lives in the area. As a result, it has consistently been managed with a focus on multiple uses.

Management of the region's forest resources has occurred in varying degrees since the 1960's, but the creation of the State Forest in 1983 ushered in a new era of forest management for Interior Alaska. A region-wide forest inventory was initiated in 1983 and the first forest management plan was completed in 1988. Since the 1960s, the commercial timber sale program has grown slowly. The number of harvested acres has varied on an annual basis from a few hundred acres to over a thousand acres in some years due to a high market demand for white spruce sawtimber.

The previous Tanana Valley State Forest Management plan was completed in 2001 and guided activities for more than two decades. The effort to revise the 2001 plan began in 2020 and has been a collaborative effort involving numerous stakeholders.

PLANNING TEAM

This document was created by a stakeholder planning team coordinated by the Alaska Department of Natural Resources, Division of Forestry and Fire Protection.

Alaska Department of Fish and Game

Audra Brase

Julie Hagelin

Todd (Nik) Nichols

Tom Paragi

Department of Environmental Conservation, Division of Environmental Health, Drinking Water Program

Charley Palmer

Kalah Statz

Chris Miller

Department of Natural Resources, Division of Forestry & Fire Protection

Jeremy Douse
Ashley List
Trevor Dobell-Carlsson
Geneva Preston
Kevin Meany
Andrew Allaby
Bret Foster
Matt Stevens
Kato Howard
Miho Welton
Jason Moan
Dan LaBarre
Elizabeth Fernandez

Department of Natural Resources, Division of Mining, Land and Water, Northern Region Lands Section

Dianna Leinberger

Nikki Potter

Department of Natural Resources, Division of Parks and Outdoor Recreation

Ian Thomas

ACKNOWLEDGMENTS

The Alaska Division of Forestry & Fire Protection (DOF) is grateful to those collaborators who provided content, feedback, and attention to this revision process. Many thanks to the Tanana Valley State Forest Citizen's Advisory Council for their time and participation in the planning and review process, and to all the Alaskans who made time to participate in public meetings and share your comments to help us refine this document.

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CHAPTER 1: INTRODUCTION

PURPOSE OF THE TANANA VALLEY STATE FOREST

Although there have been significant changes in the use of the Tanana Valley State Forest (TVSF) and the surrounding economic and physical environments, the purpose of the State Forest has not changed.

The TVSF was established under AS 41.17.400 on July 1, 1983. The legislature described the purpose of state forests as:

"The primary purpose in the establishment of state forests is timber management that provides for the production, utilization, and replenishment of timber resources while allowing other beneficial uses of public land and resources" (AS 41.17.200).

And clarifies that state forest land *"shall be retained in state ownership." (AS 41.17.210(b))*

Because AS 41.17 specifies that the Tanana Valley State Forest shall be retained in state ownership, the TVSF Management Plan does not identify lands for disposal. However, if legislation specifically authorizes the University of Alaska to select land within the State Forest, it will supersede AS 41.17. The law also addresses the composition of State Forests: *"The governor may propose to the legislature the establishment of state forests consisting primarily of commercially valuable forest land determined by the governor to be necessary for retention in state ownership for management under the principles of multiple use and sustained yield ...." (AS 41.17.210(a)).* In compliance with this section, the TVSF boundaries were designed to encompass mostly forestland with potential for commercial value. Lands along the major clear water rivers were generally excluded from the State Forest, even though some very productive forestland is found along the clearwater rivers.

The wildlife management objective of the TVSF is "*the production of wildlife for a high level of sustained yield for human use through habitat improvement techniques to the extent consistent with the primary purpose of a state forest" (AS 41.17.400(e)).*

AS 41.17.200-.400 provides additional direction on management of the state forest. The law directs the Department of Natural Resources (DNR) to prepare a management plan for the state forest that *"must consider and permit the uses described in AS 38.05.112(c)."* These uses are:

- commercial timber harvesting, including related activities
- harvesting of forest products for personal use
- fish and wildlife habitat, including:
  - identification and protection of important wildlife habitat
  - retention of riparian, wetland, and ocean-shoreline vegetation critical for fish and wildlife habitat
  - classification of water bodies according to physical characteristics
- silvicultural practices, commercial timber harvest, and related activities that maintain and enhance the quality of fish and game habitat
- uses of forest land for non-timber purposes, including:

  - recreation, tourism, and related activities
  - mining, mining claims, mineral leaseholds, and material extraction
  - uses of fish and wildlife
  - agriculture, including grazing,
  - other resources and uses appropriate to the area, including compatible traditional uses
- soil characteristics and productivity
- water quality
- watershed management

Under AS 41.17.200, DNR may "restrict the public use of the land and its resources, including timber, fish and wildlife, and minerals, only when necessary to carry out the purposes of [the Forest Resources and Practices Act]." Further, "if the commissioner finds that a permitted use is incompatible with one or more other uses in a portion of a state forest, the commissioner shall affirmatively state in the management plan that finding of incompatibility for the specific area where the incompatibility is anticipated to exist and the time period when the incompatibility is anticipated to exist together with the reasons and benefits for each finding."

In addition, AS 38.04.200 states that DNR *"may not manage state land, water, or land and water so that a traditional means of access for traditional outdoor activities is restricted for the purpose of protecting aesthetic values [...] unless the restriction or prohibition is:*

- for an area of land, water, or land and water that encompasses 640 contiguous acres or less
- temporary in nature and effective cumulatively less than eight months in a three-year period
- for the protection of public safety and public or private property
- for the development of natural resources and a reasonable alternative for the traditional means of access across the land, water, or land and water for traditional outdoor activities on other land, water, or land and water is available and approved by the commissioner or
- authorized by an act of the legislature

PURPOSE OF THE MANAGEMENT PLAN

The Alaska Forest Resources and Practices Act directs the Department of Natural Resources to prepare a forest management plan for each state forest (AS 41.17.230). This plan will guide long-term, active management of the forested lands within the TVSF and identifies the policies that will be followed. It establishes the process that the Department of Natural Resources will use to review and address proposed uses of State Forest land by the public, industries, and other government agencies. This forest management plan addresses uses of forest land from a multiple use perspective and includes timber production as well as nontimber purposes including recreation, tourism, mining, mineral exploration and leasing, uses of fish and wildlife, and other uses. Because of this broad scope this plan also establishes rules or guidelines aimed at allowing various uses to occur with minimal conflict. Finally, the plan is designed to provide management flexibility as conditions change and additional resource data becomes available.

RELATIONSHIP TO OTHER MANAGEMENT PLANS

Several other land use plans will affect or be affected by the TVSF Management Plan:

DMLW Area Plans. The TVSF falls across two DNR area plans, the Yukon-Tanana Area Plan (YTAP, 2014) and the Eastern Tanana Area Plan (ETAP, 2015). These two area plans establish land management direction for much of the state land adjacent to the State Forest. The State Forest plan was developed to be consistent with DMLW area plan policies.

Fairbanks North Star Borough Comprehensive Recreational Trail Plan. The Fairbanks North Star Borough Comprehensive Recreational Trail Plan inventories trails of regional and statewide significance in the Borough. The plan presents detailed policies and specific recommendations for trail management within and outside of the State Forest. The trail plan does not supersede the TVSF Management Plan.

Five-Year Schedules of Timber Sales. The DOF annually prepares a Five-Year Schedule of Timber Sales for each area office -- Fairbanks, Delta, and Tok -- under AS 38.05.113. These schedules "*provide a timeline that identifies timber sales, their amounts, and their locations*." The Schedules also list planned transportation routes to access proposed timber sales and reforestation projects for each area. The Schedules are intended to "*provide the public and the forest products industry with a basis to comment on future sale offerings*." They also provide an opportunity to coordinate forest management activities among different landowners. Draft Schedules are published for public, industry, and agency review and are reviewed with the TVSF Citizens' Advisory Committee prior to adoption.

Forest Land Use Plans (FLUPs). The DOF must prepare a FLUP for each timber sale greater than 10 acres, except for salvage harvests on land that is cleared for non-forest use (AS 38.05.112). A FLUP describes the harvest methods, access, reforestation plan, and multiple use provisions for the proposed sale. Each FLUP must consider the same list of uses required for the TVSF Management Plan (AS 38.05.112(c)); see "*Establishment and Purpose of the Tanana Valley State Forest*," above). Draft FLUPs are published for public, industry, and agency review prior to adoption.

Community Wildfire Protection Plans (CWPPs). Several communities that are adjacent to or surrounded by the TVSF have CWPPs that are active or in the process of being renewed including: Delta Junction, Dry Creek, Tok and the Fairbanks North Star Borough. CWPPs are created collaboratively with all the parties responsible for fire protection in the vicinity of each community. These plans do not supersede the TVSF Management Plan.

Interagency Fire Management Plan. Alaska Interagency Wildland Fire Management Plan. DNR, along with other state and federal agencies and Alaska Native corporations, has developed an interagency fire management plan for Alaska. This plan identifies the appropriate level of wildland fire suppression for all lands in Alaska. In some areas, wildland fires are actively suppressed to protect life, property, or valuable resources. In other areas, wildland fires are allowed to burn to improve wildlife habitat, decrease long-term risks of severe wildland fires, and reduce the costs of fire suppression. In the Tanana Valley State Forest, Critical Protection areas have been identified where immediate and aggressive fire suppression efforts are taken to protect life and property. Critical protection areas are typically close to residential areas and cover about 1% of the State Forest. Full Protection areas also receive immediate suppression efforts to protect high value resources where fire may adversely impact resource management objectives. Full protection areas follow the major highways in the Tanana Basin, and

where there are valuable resources close to access. About 79% of the State Forest is in full protection. Modified Action areas are those with high value resources where land managers may consider trade-offs of acres burned versus suppression costs. Fires are attacked immediately, but land managers guide the suppression effort. Modified protection areas cover 15% of the State Forest. Limited Action areas are those where fire is beneficial or benign, or firefighting costs are greater than fire damage. In these areas, fires are monitored, but no suppression action is taken except to prevent fires from burning onto higher value land. About 5% of the State Forest is in limited protection areas. Fire suppression levels are reviewed annually among the agencies and major landowners. For additional information on fire management topics in this plan, see the Fire Management parts in the Scientific Resources and Timber Management sections of Chapter 2, and the Fire Disturbance section of Chapter.

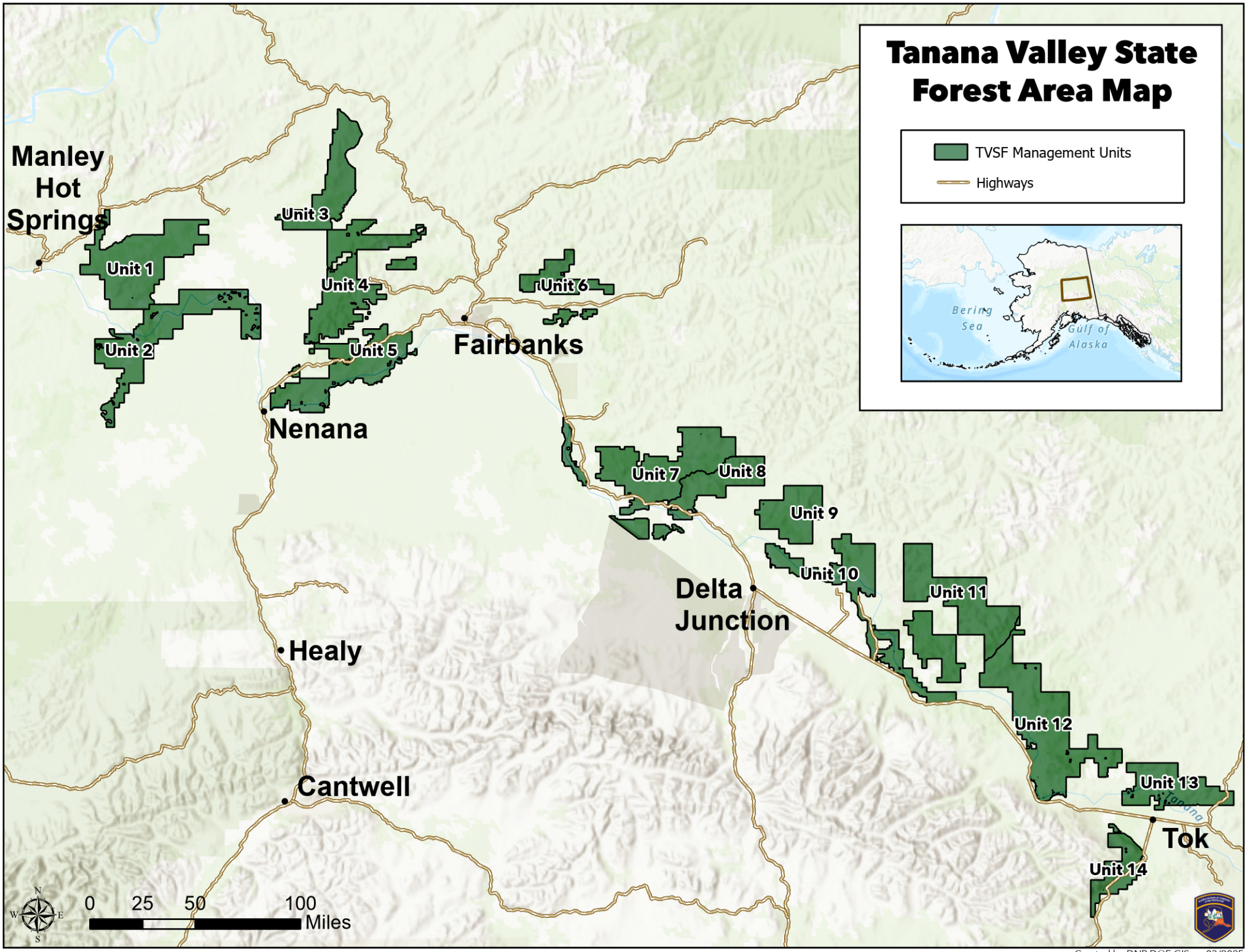
Activities or uses not directly addressed by the TVSF Management Plan or the above related plans should be considered subject to the same provisions for General Land Use Activity as described in Section 11 AAC 96.020 – Generally Allowed Uses.

PROCESS USED TO DEVELOP THE PLAN

The planning process is designed to ensure participation by the public and government agencies, to provide opportunities for review and amendment of the plan. An outline of the planning process is provided below.

1. **Identify Issues:** In some cases, an amendment occurs in response to an administrative directive, either from the Governor or the DNR Commissioner. Other times, DOF draws on the experience of State Forest resource foresters, local expertise, and public insight to identify ways that a current plan is not able to effectively guide management decision-making for a State Forest.
2. **Determine necessary level of revision:** Based on the proposed changes to the plan document, DOF decides whether an amendment, minor change, or special exception is the best process for capturing those changes. An amendment is an edit that "permanently changes the forest management plan by adding to or modifying the basic management intent for one or more of the units or subunits, by changing allowed or prohibited uses, guidelines, or policies".
3. **Announce amendment** intentions with the public.
4. **Prepare draft plan:** Create a draft plan that reflects resource values, as well as public and DOF goals. DOF and other agencies review the first draft and settle any land use conflicts that remain or propose the best alternatives for public review.
5. **Agency review of draft plan:** DOF collaborates with other agencies including Department of Natural resources (DNR) Division of Parks and Outdoor Recreation; DNR Division of Mining, Land and Water; and Alaska Department of Fish and Game Habitat office in the amendment process. A draft of the management plan is shared with these agencies for review before it is made available to the public.
6. **Adjust plan content** based on agency comments.
7. **Public review of draft plan:** The draft plan is released for public review. Public meetings are held to provide the public an opportunity to comment on the draft plan and to identify parts that need to be changed. Public review drafts are open for comment for at least 30 days.
8. **Prepare issue response summary:** Agency and public comments are reviewed, and the draft plan is revised as necessary. The final plan and Issue Response Summary are prepared for public review.

9. **Prepare the plan for publication:** Review agency and public comments and revise the plan.
10. **Approve plan:** The Commissioner of the Department of Natural Resources approves and signs the plan.
11. **Implement plan:** The plan guides management decisions for lands within Tanana Valley State Forest.



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CHAPTER 2: FORESTWIDE MANAGEMENT POLICIES

INTRODUCTION

This chapter describes the overarching management policies for each of the major resources, land categories or management concerns affected by the plan:

A. Cultural Resources
B. Water Resources
C. Riparian and Instream Flow Management
D. Fish and Wildlife Habitat
E. Forest Health and Climate Change
F. Carbon Offset Projects
G. Hazardous Fuels
H. Grazing and Agriculture
I. Private Land
J. Scientific Resources
K. Subsurface Resources
L. Timber Management
M. Non-timber Forest Products
N. Tourism
O. Recreation
P. Trails
Q. Public Access
R. Transportation

For each topic, the information is divided into goals and specific management guidelines. Goals represent the general conditions the Division of Forestry and Fire Protection (DOF) is trying to achieve, while management guidelines are specific courses of action that will be applied to management decisions. These policies apply to state-owned land within the Tanana Valley State Forest (TVSF). They do not apply to other adjacent State, Federal, or private lands.

The following terms have specific meaning in the context of this plan and are used frequently in this chapter. Additional definitions are in Appendix A.

Consultation: Under existing statutes, regulations and procedures, the Department of Natural Resources informs other groups of its intention to take a specific action(s) and seeks their advice or assistance. Consultation is not intended to be binding on a decision; it is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

Feasible: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors.

Feasible and Prudent: Consistent with sound engineering practice and not causing environmental, social, or economic problems that outweigh the public benefit to be derived from compliance with the standard which is modified by the term “feasible and prudent”.

Goal: A general statement of intent, usually neither quantifiable nor having a specified date of completion. Goals identify desired long-range conditions.

Guideline: A specific course of action that must be followed when a resource manager permits, leases, or otherwise authorizes use of state lands. Some guidelines state the intent that must be followed and allow flexibility in achieving it. Guidelines also range from giving general guidance for decision-making or identifying factors that need to be considered to setting detailed standards for on-the-ground decisions.

Policy: An intended course of action or a principle for guiding actions. In this plan, DNR policies for land and resource management include goals, management intent statements, management guidelines, planned activities, implementation plans and procedures, and various other statements of DNR's intentions.

Shall: Requires a course of action or set of conditions to be achieved. A guideline modified by the word ‘shall’ must be followed by resource managers or users. If such a guideline is not complied with, a written decision justifying the noncompliance is required (see Appendix B, Finding of Incompatibility).

Should: States intent for a course of action or set of conditions to be achieved. A guideline modified by the word 'should' states the plan's intent and allows a resource manager to use discretion in deciding the specific means for best achieving the intent or whether circumstances justify deviation from the intended action or set of conditions. A guideline may include criteria for deciding if such a deviation is justified.

Will: Same as ‘shall’ (above), however, when the word 'will' refers to a planned management activity by DNR or another agency, the carrying out of this activity is contingent on available funding.

A. CULTURAL RESOURCES

GOALS

Cultural Resources
In accordance with the Alaska Historic Preservation Act of 1971 (AS 41.35) it is the policy of the state to preserve and protect the historic, prehistoric, and archeological resources of Alaska from loss, desecration, and destruction so that the scientific, historic, and cultural heritage embodied in these resources may pass undiminished to future generations.

Examples of cultural resource sites that could be encountered include (but are not limited to): historical cabin remains (collapsed, standing, or foundations); historic trails; adits; dredges or other mining equipment; cultural depressions or pits; graves or cemeteries; prehistoric tools or artifacts; and paleontological (fossilized) remains.

MANAGEMENT GUIDELINES

Cultural Resource Identification
DNR identifies and determines the significance of cultural resources in the Tanana ValleyState Forest through:

1. Cultural resources surveys conducted by qualified DNR personnel or pre-qualified and agency approved professional organizations.
2. Encouragement of research on cultural resources within the Tanana Valley State Forest by qualified individuals and organizations.
3. Cooperative efforts between state, federal, and Alaska Native groups for planned surveys and inventories.

Cultural Resource Protection
Protect cultural resources through the following actions:

1. Review proposed land uses and management activities for potential conflicts with cultural resources values.
2. Cooperate with concerned government agencies, Alaska Native organizations, statewide or local groups, and individuals to develop guidelines and recommendations on how to avoid or mitigate identified or potential conflict.

Cultural Resources in Timber Management Areas
The Division of Parks and Outdoor Recreation Office of History and Archaeology (OHA) will review proposals for timber management activities through the interagency review processes for the Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales. 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 determines, in consultation with the DOF, that certain activities can occur without significantly impacting the cultural resource. The OHA will, within the limits of staffing and funding, assess the extent and significance of the cultural resource and work with the DOF to develop site-specific avoidance, minimization, or mitigation measures to balance heritage preservation needs with timber management. In the event that staffing or funding limitations prevent OHA personnel from performing these surveys, they may be contracted out to qualified cultural resource professionals.

Report Cultural Sites 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 Office of History and Archaeology (OHA). The AHRS is used to protect cultural resource sites from destruction. By knowing of possible cultural resources prior to the start of a project, efforts can be made to avoid project delays. Only a very small portion of the state has been surveyed for cultural resources and therefore the possibility remains that previously un-reported resources may be located within the project area. Should inadvertent discoveries of cultural resources occur during a project, activities in the area should cease and OHA notified to evaluate whether the resources should be preserved in the public interest (as specified at Section 41.35.070[d]). While over 22,000 sites have been reported within Alaska, this is probably only a very small percentage of the sites which may exist but are as yet unreported. The AHRS is not complete or static, so cultural sites, when found, should be reported to OHA.

ACTIVITY SUMMARY

This plan lists cultural sites within the Tanana Valley State Forest (Table 2.1). DPOR's Office ofHistory and Archaeology (OHA) has more information on the type and location of each of thesesites, so that impacts on them may be avoided or mitigated. The sites are identified by number, rather than by name or location, to protect them from vandalism.

Table 2.1. Cultural Sites Identified within Tanana Valley State Forest.

Unit	Number of Sites	AHRS Number
11	2	XBD-00023, XBD-00024
South of Tanana River, east of Delta River, on western portion of landform	11	XBD-00313 to XBD-00321, XBD-00327, XBD-00328
South of Tanana River, east of Little Delta River	1	XBD-00166
10A	4	XBD-00074, XBD-00077, XBD-00081, XBD-00201
10C	2	XMH-00246, XMH-01236
10D	2	XBD-00023, XBD-00024
8A	8	XBD-00014, XBD-00063, XBD-00065, XBD-00172, XBD-00173, XBD-00131, XBD-00331, XBD-00409
8B	1	XBD-00004
8C	2	XBD-00246, XBD-00363
9A	1	XBD-00019
6	4	FAI-00113 to FAI-00116
2D	1	FAI-02177
2E	4	FAI-00076, FAI-00621, FAI-02177, FAI-01447
3A	3	LIV-00031, LIV-00569, LIV-00788
3B	7	LIV-00556, LIV-00732, LIV-00748, LIV-00776, LIV-00780 to LIV-00782
4D	4	FAI-00013, FAI-02102, FAI-02202, FAI-02385
5A	6	FAI-00215, FAI-00216, FAI-00437, FAI-00438, FAI-02179, FAI-002263
7A	1	XBD-00296
7B	7	XBD-00012, XBD-00124, XBD-00169, XBD-00175, XBD-00176, XBD-00331, XBD-00409
7C	3	XBD-00011, XBD-00042, XBD-00168
10C	2	XMH-00394, XMH-01481
12B	8	TNX-00066, TNX-00203, TNX-00204, TNX-00244 to TXN-00248
13A	1	TNX-00118
13B	1	TNX-00238

B. WATER RESOURCES

GOALS

Water resources within TVSF include surface and ground water. These resources represent potential sources of drinking water, habitat, recreation, and hydroelectric power. Alaska's Forest Resources & Practices Act (FRPA), AS 41.17, specifies that "the [DNR] Commissioner shall protect riparian areas from the significant adverse effects of timber harvest activities on fish habitat and water quality." Management of riparian areas is the primary tool DOF uses to address water quality within TVSF.

The primary water resource goals in TVSF include:

1. The adequate preservation of fish habitat by maintaining a short- and long-term source of woody debris, stream bank stability, channel morphology, water temperatures, stream flows, water quality, adequate nutrient cycling, food sources, clean spawning gravels, and sunlight (AS 41.17.115(a)
2. Ensure the water use classes and subclasses identified at 18 AAC 70.020(a)(1) are protected.
3. Consideration of water resources and water quality in designing the construction of roads, bridges, culverts, and other infrastructure necessary for forestry activities within state forest lands.

MANAGEMENT GUIDELINES

State water quality standards (WQS) are specified under 18 AAC 70. Water quality standards establish the goals or uses of water the state wishes to protect, narrative and/or numeric criteria (e.g., chemical substances or eroded soil) used to determine attainment, and provisions pertaining to how WQS will be implemented. Land activity upstream of a site in TVSF may affect the water quality within TVSF boundaries. This might require operations within TVSF to accommodate additional water quality stipulations, even if the original source of pollution is outside TVSF boundaries.

Impaired Waters and TMDLs

A waterbody that exceeds a certain threshold of pollution (i.e., criteria) may be designated by the DEC as Impaired Waters. A waterbody identified as impaired is subject to recovery plans which may include a Total Maximum Daily Load (TMDL). A TMDL identifies the amount of pollutants that a waterbody can assimilate while maintaining compliance with water quality standards. Operations within or upstream of TVSF may affect the TMDL for a body of water. While there are no waterbodies identified as Impaired within TVSF boundaries, Impaired Waters are present within the Tanana Valley and may affect management standards for waterbodies within TVSF. Information describing identification and remediation of Impaired Waters is available through the DEC Water Quality webpage. (https://dec.alaska.gov/water/water-quality/).

Drinking Water Source Protection

The DEC regulates public water system sources of drinking water, which includes both surface water and

groundwater sources. These sources are identified and managed using Drinking Water Source Protection (DWSP) Areas. Activities upstream, or upgradient, of or affecting tributaries of, or groundwater used for, drinking water sources can negatively affect those sources of water and the communities that rely on them. Possible effects on downstream, or downgradient, water quality should be considered when planning land activities within DWSP Areas for public water system sources. Information about drinking water protection and links to DEC's interactive drinking water protection webmap are available through the DEC Drinking Water Program webpage (https://dec.alaska.gov/eh/dw/dwp/).

Fueling, Spills, and Contamination

Guidance for prevention and preparedness, as well as the Alaska Inland Area Contingency Plan, outlining a framework for incident response in the case of a hazardous material spill, are available through the DEC Division of Spill Prevention and Response at https://dec.alaska.gov/spar/ppr.

ACTIVITY SUMMARY

Table 2.2. impaired waters within Tanana Valley. The following waterbodies do not pass within TVSF boundaries, but may be tributary to water within the State Forest[1].

WATERBODY	POLLUTANT OF CONCERN	RECOVERY PLAN OR TMDL
BIRCH CREEK	Turbidity	Upper Birch Creek Turbidity TMDL
CROOKED CREEK	Turbidity	Crooked Creek Watershed TMDL
DEADWOOD CREEK	Turbidity	Crooked Creek Watershed TMDL
KETCHEM CREEK	Turbidity	Crooked Creek Watershed TMDL
BOULDER CREEK	Turbidity	Crooked Creek Watershed TMDL
UPPER GOLDSTREAM CREEK	Turbidity	Goldstream Creek TMDL

[1] This information sourced from AK DEC Integrated Water Quality Monitoring and Assessment Report https://dec.alaska.gov/water/water-quality/integrated-report

C. RIPARIAN AND INSTREAM FLOW MANAGEMENT

GOALS

For the purposes of this document, a riparian area, as defined in AS 41.17.950, is "the area 100 feet from the shore or bank of an anadromous or high value resident fish water body on state land managed by [DNR]." Instream flow refers to the rate of water moving through a waterway at a given time. Different levels of flow are targeted when managing a body of water depending on the services it is intended to provide. Water is an important resource for fish and wildlife habitat, recreation, and other human uses. These ecosystem services can be reduced or damaged by effects such as erosion or temperature changes that can result from use or disturbance. In an effort to minimize the negative impacts of land use in or near riparian areas of TVSF, DOF maintains the following goals in relation to management of waterbodies and their surrounding riparian ecosystems:

1. **Recreation:** Provide opportunities for a variety of recreational activities within publicly owned stream corridors, including remote and developed recreational activities.
2. **Fish and Wildlife Habitat Use:** Protect riparian fish and wildlife habitats and maintain existing human uses of fish and wildlife resources.
3. **Water Quality:** Protect water quality to standards established by DEC.
4. **Forest Products:** Where consistent with the above goals, and with the Forest Resources and Practices Act, provide for the harvest of timber from riparian forests.

MANAGEMENT GUIDELINES: RIPARIAN ZONES

Forest Resources and Practices Act and Regulations

The Forest Resources and Practices Act establishes and provides standards for riparian areas for forestry operations in the Northern Region (AS 41.17.118(a)(3)). The Act (AS 41.17.115-119) and regulations (11 AAC 95.260-280) also establish best management practices to prevent adverse impacts from forestry operations on fish habitat and water quality.

Special Management Zones

The areas adjacent to bodies of water are managed primarily to protect or enhance recreational values, significant fish and wildlife habitat, human uses, and water quality. Special Management Zones (SMZs) are planning tools that can be used to define mitigation practices allowing potential land use or development in sensitive habitat that might otherwise be prohibited. SMZs can be applied to side channels, sloughs, and backwaters. See Table 2.3 for a list of waterbodies indicated as habitat for anadromous fish or high value resident fish species.

The width of an SMZ will be determined on a case-by-case basis, depending on the values present in a riparian zone and the uses that are anticipated in that zone. In all cases, however, a SMZ will extend a minimum of 100 feet landward from the ordinary high-water mark of a lake or stream.

Uses Allowed in Special Management Zones

11 AAC 95.275 outlines allowable uses within riparian areas in TVSF. To the extent feasible and prudent, commercial and industrial uses, transportation facilities, and pipelines will be located outside of SMZs unless these uses are water dependent. Where it is not feasible and prudent to exclude these uses from SMZs, other measures must be developed in coordination with ADF&G and DMLW to meet the intent of these guidelines. Timber harvest may occur in SMZs if it is sited and designed to be consistent with the riparian standards specified in AS 41.17.118(a)(3) and with the primary recreation, fish and wildlife, and water-quality goals stated above.

All land use authorizations and management activities in SMZs shall provide for public access to and along public and navigable stream sides and lakeshores.

Alteration of the Hydrologic 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.

Soil Erosion

Soil erosion will be minimized by restricting the removal of vegetation adjacent to streams and by stabilizing disturbed soil as soon as possible.

Structures in Fish Habitat

See the "Structures in Fish Habitat" part of the Fish and Wildlife Habitat section of this chapter.

Water Intake Structures

See the "Water Intake Structures" part of the Fish and Wildlife Habitat section of this chapter.

Transportation Facilities in Floodplains

See the Transportation section of this chapter.

MANAGEMENT GUIDELINES: INSTREAM FLOW MANAGEMENT

Streams and Uses to Consider

Streams and other waterbodies should be considered for instream flow reservations when an identified need exists to support significant public purposes, or when the resource values of the stream are exceptional.

Under AS 46.15.145, reservation of water for instream flow is possible for four types of uses:

1. Fish and wildlife habitat. Habitat type and significance may be determined by consultation with ADF&G.
2. Recreation and park purposes.
3. Navigation and transportation purposes.
4. Sanitary and water quality purposes.

Other uses of water such as hydropower where water is diverted, impounded, or withdrawn are covered by statutes (Water Use Act) and associated regulations (AS 46.15and 11 AAC 93.010 - .970).

ACTIVITY SUMMARY

Over 150 bodies of water and their tributaries or outlets have been identified within the TVSF as having significant fish, wildlife, recreation, or water values that will be protected within a Special Management Zone (Table 2.3). Activities and uses adjacent to or across unlisted waterbodies will be subject to interagency review and appropriate guidelines in the Forest Land Use Plan or the applicable permit review process.

Table 2.3. Waterbodies with designated special management zones.

Waterbody	Sub-Unit
Unit 1	
Hutlinana Creek (A)	1A, 1B
Baker Creek (A)	1B
Tolovana River (A)	1C
Lake 303	
Pothole Lake System	
Unit 2	
Tolovana River (A)	2D, 2E
Kantishna River (A)	2A
Iksgiza Lake	
Oblique Lake	2B
Tanana River (A)	
Unit 3	
Tolovana River (A)	
Tatalina River	3A, 3B
Unit 4	
Chatanika River (A)	4A
Washington Creek	
Hayes Creek (A)	
Goldstream Creek	4C, 4D
Unit 5	
Tanana River (A)	
Goldstream Creek	5A
Unit 6	
Chena River (A)	
Little Chena River	
Anaconda Creek	
Jenny M Creek (A)	
Mullen Slough (A)	
Unit 7	
Tanana River (A)	
Salcha & Little Salcha Rivers (A)	
Redmond Creek	7B, 7C
McCoy Creek	7C
Unit 8	
Tanana River (A)	
Clear Creek (A)	8A
Tenderfoot Creek (A)	
Rosa & Keystone Creeks	8A, 8B, 8C
Caribou Creek	8C
Kiana Creek (A)	8E

Waterbody	Sub-Unit
Unit 9	
Goodpaster River (A)	9A
Shaw Creek (A)	9A, 9B
Rapid Creek & Liscum Slough	
Lake 992	9B
Unit 10	
Tanana River (A)	
Bluff Cabin Creek (A)	10A
Clearwater Creek (A)	
Clearwater Lake Outlet (A)	
Onemile Slough (A)	
Goodpaster River (A)	10A
South Fork Goodpaster River (A)	
Volkmar River & Lake	10A, 10C
Twelvemile Lake	10C
Black & George Creek	
Unit 11	
Volkmar River & Lake	
Healy River	
Unit 12	
Tanana River (A)	
Sand Creek	12A
Billy Creek & Lakes	
T Lake	
Mansfield Creek & Lake	
Fish Lake	
Bear Creek	
Round Lake	12B
Robertson River (A)	
Unit 13	
Tanana River (A)	
Porcupine Creek	13B
Unit 14	
Tok River (A)	
Little Tok River	
Clearwater Creek	

*(A) designates anadromous water body.

Note: This list is updated with the addition of anadromous water bodies only. Other high value resident water bodies should be considered but may require a committee review.

D. FISH AND WILDLIFE HABITAT

GOALS

Wildlife Management
Manage the Tanana Valley State Forest consistent with the Forest Resources and Practices Act, which states, "The wildlife management objective of the Tanana Valley State Forest is the production of wildlife for a high level of sustained yield for human use through habitat improvement techniques to the extent consistent with the primary purpose of a state forest...." (AS 41.17.400(e)). Creation of early seral habitat to enhance harvestable surplus of game species also benefits many non-game species by simulating natural disturbances, such as upland fire and riparian flooding.

Manage Habitat Base
Manage the habitat of sufficient suitable lands and waters to provide for the diverse habitat needs of fish and wildlife resources to maintain or enhance public use and economic benefits while maintaining the natural range of species and habitat diversity of the Tanana Valley State Forest.

Ensure Access to Public Lands and Waters
Ensure access to public lands and waters where appropriate to promote or enhance responsible public use and enjoyment of fish and wildlife resources. Access improvements should be designed to match the public use objectives for the area under consideration. See also guidelines in the Public Access section of Chapter 2.

Mitigate Habitat Loss
When resource development projects occur, reduction in the quality and quantity of fish and wildlife habitat shall be mitigated, following the steps set forth in Management Guideline I, and using proven fish or wildlife habitat enhancement techniques where appropriate. The State Wildlife Action Plan (ADF&G 2015) is incorporated in the Alaska Forest Action Plan, which has a section on Forest Resource Strategies that addresses threats to forest resources (DOF 2020:64). Guidance is provided in the strategies to maintain and improve fish and wildlife habitat (DOF 2020:67-68). This includes activities recommended in the 2015 State Wildlife Action Plan as well as those specific to boreal forest wildlife in the Tanana Valley (Paragi et al. 2020).

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

Improve Wildlife Habitat
Enhance the value of habitat to fish and wildlife species through water control projects or through vegetation manipulation, including burning, crushing, timber harvest, and other management practices, such as those described for boreal forests in the 2020 Alaska State Forest Plan (AK DOF 2020:68).

MANAGEMENT GUIDELINES

A recent literature review (Paragi et al. 2020) endorsed the continued consultation between ADF&G and DOF on forest management strategies to meet habitat needs of wildlife species in managed forest. Objectives may include public desires for enhancing habitat of harvested wildlife species, DOF desires for mitigating wildlife species damage on seedlings during post-harvest or post-fire regeneration, or conservation needs of non-game species that are determined to be declining at local, regional, or distribution-wide scales. Stand-scale consultations will continue during development of the FLUP to guide practices during harvest and reforestation. Landscape-scale consultations will continue during development of the FYSTS for scoping spatial options in wood harvest to meet desired outcomes in stand type pattern or connectivity as the road network and area of managed forest expands over time based on market demands.

Activities in Important Waterfowl Habitat

Activities that require adjudication and/or plan of operation and may produce high levels of physical, acoustical, and/or visual disturbance in or adjacent to important waterfowl habitat will, to the extent practicable, be avoided during sensitive periods for waterfowl (typically May – September). Where avoidance is not feasible, ADF&G will be consulted for assistance identifying important habitat and measures to avoid or mitigate significant impacts to waterfowl and/or their habitat from activities such as boat traffic, blasting, equipment operations, or seismic operations. For activities that produce permanent or significant adverse impacts to waterfowl habitat such as construction, placement of utility lines and/or dredging and filling, ADF&G and the U.S. Army Corps of Engineers, Alaska District, will be consulted to determine if permits will be granted (i.e., activity will not cause significant adverse impacts to waterfowl habitat or no feasible alternative exists), and if restrictions or mitigation measures are required. For activities and/or structures not fully regulated via permits, such as transmission lines, ADF&G will be consulted for assistance with measures that address placement, orientation, and marking for visibility of lines that will mitigate direct impacts to waterfowl.

Special consideration should be applied to trumpeter swans and common loons and their nesting habitat (May – September; Baldassarre 2014), given their sensitivity to disturbance and state designation as a Species of Greatest Conservation Need (ADF&G 2015). Where feasible and prudent, all land use activities in or near trumpeter swan nesting habitat, including the granting of leases or permits, will be conducted to avoid disturbance to swans or detrimental alteration to the habitat. Leases or permits may include seasonal restrictions on activities to avoid disturbance to swans. Consultation with ADF&G will be necessary to identify nesting habitat and determine appropriate guidelines to follow and activities to avoid (e.g., construction of transmission lines in trumpeter swan habitat).

Structures in Fish Habitat

Permanent or temporary structures in fish-bearing waters shall be designed, constructed, and maintained to comply with the requirements of Alaska Statutes AS 16.05.841, 871, and 881 to minimize or mitigate impacts on passage for all species of fish. Any structure or activity associated with the structure should not have adverse effects on anadromous fish or their migration, spawning, and rearing habitat. Water withdraw structures shall be deployed, screened, and intake rate limited to prevent the

entrapment, entrainment, or impingement of fish. ADF&G Habitat must be contacted prior to any activities occurring in fish-bearing water bodies (including water withdrawals and stream crossings) to determine if a fish habitat permit is required.

Threatened and Endangered Species

All land use activities should be conducted consistent with state endangered species statutes (AS 16.20.180--.210) and the federal Endangered Species Act to avoid jeopardizing the existence of threatened or endangered species of fish or wildlife or their use of an area, and to avoid modification or destruction of their habitat. The State of Alaska also aims to prevent the need for listing under the federal Endangered Species Act by proactively mitigating threats and reversing declines through the State Wildlife Action Plan (ADF&G 2015), administered through ADF&G's Threatened, Endangered and Diversity Program.

No species listed as endangered by the State of Alaska or the U.S. Fish and Wildlife Service (USFWS), or as threatened by the USFWS, currently occur in the Tanana Valley State Forest. However, as of the writing of this document, three terrestrial species known to occur in the Tanana Valley State Forest are undergoing a Federal Species Status Assessment, which is the formal process that considers wildlife for listing under the Endangered Species Act (ESA). The species include two small mammals, the Little Brown Bat (*Myotis lucifugus*) and Northern Bog Lemming (*Synaptomys borealis*), as well as McKay's Bumblebee (*Bombus mckayii*). Depending on the outcome, further actions may be needed, and federal review of other species (e.g., declining boreal songbirds) appear likely in future.

Little Brown Bats are common forest dwellers, and though we know little about populations in interior Alaska, those in the continental U.S. may be at risk from White Nose Syndrome, a deadly fungal infection, that kills bats during hibernation. Northern Bog Lemmings are naturally uncommon to rare and associated with a variety of boreal forest habitats, including mesic areas of spruce forest with mossy understory and forest openings, such as meadows and fens. McKay's Bumblebee is a newly recognized northern species that was previously considered a subspecies of the Western Bumblebee (Bombus occidentalis). Monitoring efforts in Alaska are underway to understand habitat use, though bees often use mixed boreal forest edge and bluff habitats including those in disturbed, riparian areas with flowering forbs and shrubs (Fulkerson et al. 2021).

Land use activities that could potentially affect State endangered species, or Species of Greatest Conservation Need (SGCNs; ADF&G 2015), will be identified as part of interagency consultations during review of forest land use plans or other land use plan or permit actions. A preliminary list of SGCNs likely to occur in the Tanana Valley State Forest is provided in Appendix 1 of Paragi et al. (2020: 101-105). The USFWS recommends minimizing forest disturbance to reduce "incidental take" of forest birds, including many SGCNs between 1 May-15 July (https://www.fws.gov/alaska-bird-nesting-season).

Eagles and falcons

Activities that potentially affect bald and golden eagles will be consistent with the Bald Eagle Protection Act of 1940 as amended. Bald Eagles nest along the Tanana River in large trees. For activities within ¼ mile of known bald or golden eagle nest sites, refer to the bald eagle land management practices for Alaska. Current guidelines and locations of nests, as well as technical advice on conducting activities near eagle nest sites, should be obtained from the Northern Alaska Fish and Wildlife Field Office of the

USFWS (https://www.fws.gov/program/eagle-management/eagle-permits). The recommended practices are designed to prevent human disturbance to eagles, particularly during the nesting season. Specific activities that are likely to cause disturbance to eagles include major land uses such as logging, the development of new commercial and industrial sites, mining, and road construction. During the critical nesting period (defined in Alaska as 1 March-31 August), human activities such as human entry into the primary nesting zone (330 feet from the nest) and low-level aircraft operations may also cause disturbance to eagles. Leaving a few mature trees standing in harvest areas near the river and sloughs can benefit reproduction of eagles and other raptor species.

Although peregrine falcons are no longer listed under the federal Endangered Species Act, the USFWS encourages the continued conservation of these species by applying protection measures during the nesting period. They nest along the Tanana River and its tributaries in the Tanana Valley State Forest. The recommended protection measures, as well as technical advice on conducting activities near peregrine falcon nest sites, can be obtained from the Northern Alaska Fish and Wildlife Field Office of the USFWS (https://www.fs.usda.gov/database/feis/animals/bird/fape/all.html). Activities that may disturb nesting peregrines (1 May- 1 September) are low-flying aircraft, other noisy activities, ground level activities, and construction near nest sites during critical nesting times. In addition, activities that could have negative impacts throughout the year (not only during nesting periods) include habitat alterations, construction of permanent facilities, and pesticide use.

Habitat Enhancement

Habitat manipulation through burning, water control, timber management practices, or other measures may be used to improve habitat for certain fish and wildlife species where feasible and compatible with other primary uses. Enhancement practices will not result in significant conflicts with a subunit's primary management intent. To the extent feasible, sinuosity of timber sale boundaries increases edge effect for a given cut size to benefit wildlife species that use multiple stand ages, and sinuosity visually mimics natural disturbance patterns better than straight edges. In the 2020 Alaska Forest Action Plan (AK DOF 2020:68), Section 1.3 "*Maintain and Improve Fish and Wildlife Habitat*" highlights five principles and guidelines for boreal forest (Paragi et al. 2020) that maximize opportunities to enhance wildlife habitat while managing for timber. These voluntary approaches can proactively reduce risk of wildlife species becoming endangered and avoid the need for federal oversight under the Endangered Species Act.

Mitigation

1. When authorizing the use or development of state lands, the Department of Natural Resources and the Department of Fish and Game will evaluate the requirements of the activity or development and the benefits or impacts it may have to habitat when determining stipulations or measures needed to protect fish and wildlife or their habitats. The costs of mitigation relative to the benefits to be gained will be considered in the implementation of this policy.
2. All land use activities should be conducted with appropriate planning and implementation to avoid or minimize foreseeable or potential adverse effects on fish and wildlife populations or their habitats.
3. The department shall enforce stipulations and measures and will require the responsible party to remedy any significant damage to fish and 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.

4. 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 and 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 adverse effect of the use or development shall be minimized.
    c. If significant loss of fish and wildlife habitat occurs, the loss shall be rectified, to the extent feasible and prudent, by repairing, rehabilitating, or restoring the affected area to a functional state.
    d. DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps "a" through "c" cannot avoid substantial and irreversible loss of habitat. The Department of Fish and Game will clearly identify the species affected, the need for replacement or enhancement, and the suggested method for addressing the impact. Replacement 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 interest of the state. Replacement may include structural solutions such as creating spawning or rearing ponds for salmon, creating wetlands for waterfowl, or non-structural measures such as research or management of the species affected, legislative or administrative allocation of lands to a long-term level of habitat protection that is sufficiently greater than that which they would have otherwise received, or other management practices to increase habitat productivity.

ACTIVITY SUMMARY

Although all lands within the State Forest serve as fish and wildlife habitat to some degree, the DNR will manage especially important habitat lands to maintain fish and wildlife production and related public use.

Fish

Waterbodies within the Tanana Valley State Forest support subsistence, sport, and personal use fisheries. Fish habitat and fisheries conservation (catch, harvest, and release) values are of primary importance within and immediately upland of streams and lakes containing anadromous and high value resident fish species (Arctic grayling, northern pike, burbot, whitefish, etc.). Special Management Zones and Riparian Standards protect important spawning and rearing habitat and resident fish populations (see the Riparian and Instream Flow Management section of this chapter). Within these zones,

development activities will be permitted only if they are determined to have minimal impact on the fish, their habitat, and water quality or be of overriding public benefit.

Wildlife

Land in the Tanana Valley State Forest provides habitat for moose, caribou, bears, furbearers, raptors, waterfowl, upland birds, and other animals. Wildlife resources are used by tourists and residents for hunting, trapping, and non-consumptive uses, such as viewing. Timber harvest and other development activities will be designed to mitigate adverse impacts on important wildlife species and habitats. Paragi et al. (2020) provides best practices for managing boreal forest habitat for both timber and wildlife resources.

Pursuant to AS 41.17.400(e), ADF&G's Division of Wildlife Conservation may manipulate various tree species (spruce, willow, paper birch, aspen, and balsam poplar) in the State Forest to increase available moose browse and begin staggered rotations of hardwood forest beneficial to ruffed grouse and other early- to mid-successional wildlife species. Examples of techniques that may be used are tractor crushing of riparian willow and bulldozer shearblading or felling of hardwoods. ADF&G and DOF monitor these treatments for habitat benefits and cost-effectiveness. Habitat enhancement projects will be listed in the Five-Year Schedule of Timber Sales or by some other public process.

The proliferation of shrubs and deciduous tree saplings that can occur after timber harvest in mature coniferous forests of the Interior may be of high quality for moose. Based on vegetation responses observed after fire in the boreal forest, any increase in nutritional quality or palatability of new growth for moose might be temporary. However, a significant increase in the availability of browse is usually maintained for 20 to 30 years after harvest, especially where browsing pressure is heavy enough to slow stand succession toward mature forest. The amount of browse produced for moose depends on many factors, including stand characteristics, silvicultural practices, and the harvest system.

Other wildlife, such as insect-eating birds and raptors, can help reduce the risks of destabilizing herbivory events, such as damage from irruptive insects and small mammals, while providing viewing opportunities for tourists and residents. Paragi et al. (2020: Table 2) highlighted management suggestions that promote beneficial activity of avian predators. For example, retaining forest patches with late-seral features across harvested areas. This provides predators with snags and cavity trees needed for nesting and hunting in a manner that mimics natural disturbance, such as fire.

Finally, voles disperse fungal spores that facilitate seedling establishment, regeneration and tree growth (Paragi et al. 2020). Retaining dispersed woody debris in open harvested areas facilitates vole movement into, and soil innoculation of, areas where conifer regeneration is desired (Paragi et al. 2020: Table 2). In central Alaska, vole herbivory is generally not extreme (Paragi et al. 2016: 122-123).

E. FOREST HEALTH AND CLIMATE CHANGE

The Tanana Valley State Forest is home to many forest insects and tree diseases. Most are inconsequential and pose little to no risk to the growth or potential value of trees within the forest. Many others, however, have the potential to decrease growth or cause decay, dieback, or mortality. Paragi et al. (2016, 2020) recommended wildlife-based management strategies to reduce the risk of insect irruptions when trees are weakened by environmental stressors (e.g., drought, fire, or floods), by maintaining a diverse suite of birds that act as insect predators. Birds can also target key pests, such as woodpecker predation of bark beetles. The following information describes the most damaging and/or common of these damage agents and their respective mitigation strategies, where applicable.

Bark Beetles and Woodborers

The TVSF is home to Alaska's two most damaging spruce-killing bark beetles, spruce beetle (*Dendroctonus rufipennis*) and the northern spruce engraver (*Ips perturbatus*). Both preferentially attack white spruce in Interior Alaska, with black spruce being considered a rare host. Large scale outbreaks of spruce beetle periodically occur in Southcentral Alaska, though spruce beetle outbreaks are uncommon in Interior Alaska. There, the northern spruce engraver, often referred to simply as *Ips*, has historically been the bark beetle more commonly associated with mortality in white spruce. Ips activity is often associated with stressed or damaged trees, such as those impacted by windstorms, fire, or erosion along streams. Spruce beetle outbreaks can occur in the Interior, but have been uncommon, as overwinter survival of the beetles can be impacted by the extremely cold winter temperatures and other factors.

Spruce trees killed by bark beetles or other stressors like fire, or even live spruce harvested during the growing season, are attractive to a variety of secondary woodboring insects, including ambrosia beetles (*Trypodendron* species) and the spruce sawyer beetle (*Monochamus scutellatus*). In high enough numbers, the galleries in the wood created by the larvae of both secondary woodborer species can impact merchantability and may also be of concern if logs may be exported. Additionally, the galleries created by other secondary woodborers, such as metallic woodborers and woodwasps, may also affect merchantability.

GOALS

Insects and Diseases

Protect forest resources from economically damaging insect outbreaks and disease through active forest management and silvicultural treatments. While native insects and diseases are part of the boreal forest ecosystem, severe outbreaks can reduce timber availability and negatively impact forest uses.

Climate Adaptation for Forest Health and Resilience

Enhance forest resilience to climate change by managing for changing conditions, sustaining ecosystem health, and preparing for climate-related disturbances. Interior Alaska's forests are increasingly affected by climate change (Alaska State Forest Action Plan 2020). Adaptive management will sustain ecosystem services and economic value into the future**.** The updated forest management plan allows flexibility to adapt as new information emerges. Encouraging multiple age classes, harvesting with consideration for

forest health, and ensuring successful regeneration of appropriate tree species are key strategies for maintaining resilient and sustainable forests.

MANAGEMENT GUIDELINES

The following sections describe major forest health threats and recommended mitigation strategies.

Bark Beetle Mitigation

To minimize the potential for bark beetle outbreaks in the Tanana Valley State Forest resulting from harvest operations, felling of white spruce or creation of white spruce slash should be avoided during and immediately preceding the spruce beetle and northern spruce engraver flight periods, if possible. The flight periods of these two beetles typically begin when temperatures reach about 60°F in the spring (often May) and continue into July. Immediately preceding the flight period, in this context, could mean a month or more before the beetle flight begins and is dependent on the relative temperatures and how quickly the cut material dries such that it is no longer suitable for bark beetles.

If cutting white spruce during or immediately preceding the beetle flight period, white spruce logs or slash (greater than 4" in diameter) resulting from project operations should be processed (e.g. milled, debarked, chipped, processed for firewood, or burned) before the next beetle flight period. The following guidelines provide more detailed recommendations.

- If suitable equipment is available, debarking of the logs and slash is preferred. Debarking will destroy the bark beetle habitat and will be most effective if the logs are debarked no later than mid-July. Prompt debarking will also limit the suitability of the logs and slash for some species of secondary woodborers.
- If cut white spruce are not promptly removed from the site, the logs should be bucked into manageable bolts (logs) and stacked into tight triangular decks of 10-15 bolts. Decks can be placed in the woods but should be placed away from residual white spruce.
- Any operations in or near white spruce should be conducted to minimize root compaction and/or mechanical damage to the lateral roots or trunks of residual trees.

Within the Tanana Valley State Forest, as within forests elsewhere in the Interior, a primary forest health concern is the potential future impact of spruce beetle. Spruce beetle outbreaks in the Interior have historically been rare, with populations presumably kept in check by extremely cold winter temperatures and other factors. Increasingly mild winters associated with climate change, however, could result in conditions conducive to better overwinter survival of spruce beetles in the region. Likewise, warmer temperatures could result in an earlier start to the beetle flight period and/or longer beetle flight periods. Increased stress on host trees could also affect their susceptibility to attack. To help evaluate these possibilities, climate researchers at UAF have been developing models (https://uaf-snap.org/project/modeling-spruce-bark-beetle-outbreaks-in-a-warming-climate/) to predict what spruce beetle impacts in the Interior may look like in future climate scenarios.

Defoliating Insects

The genetics of spruce budworm in Alaska are complicated, but at least two species are present, eastern spruce budworm (*Choristoneura fumiferana*) and spruce budworm (*Choristoneura orae*); both occur within the Tanana Valley State Forest. They are essentially indistinguishable and are generally collectively referred to as spruce budworm. Though outbreaks have been infrequent, spruce budworm has the potential to cause damage within the Tanana Valley State Forest. Spruce budworms can cause defoliation, top-kill, and growth losses. If the damage is severe enough over multiple consecutive years, though uncommon in Alaska, tree mortality is possible.

The hardwood tree and shrub species present within the Tanana Valley State Forest can be affected by myriad defoliating insects, the most dominant of which is typically aspen leafminer (*Phyllocnistis populiella*), a moth that affects quaking aspen and other *Populus* species; willow may occasionally be affected. This insect is commonly in outbreak across much of the Interior and within parts of the Tanana Valley State Forest each year. While the damage from this insect does not typically cause mortality, multi-year outbreaks can lead to reduced growth rates and branch dieback or top-kill. The stress imparted on the tree by repeated impacts from this insect, when coupled with other stressors such as drought, likely influence susceptibility to the mortality-causing aspen running canker (*Neodothiora populina*)[2]. An additional defoliator that can occasionally cause extensive defoliation in quaking aspen is the large aspen tortrix (*Choristoneura conflictana*), which may also affect understory birch or spruce during outbreaks. Like many of our hardwood defoliating insects, however, outbreaks are typically short-lived, often lasting only 2-3 years before disease, predators, or other factors cause populations to crash. Large aspen tortrix-affected trees may even reflush with new leaves in the same season.

Defoliation of birch trees may also periodically occur within the Tanana Valley State Forest. Several potential defoliating species feed on birch and may cause defoliation when populations are high, including birch leafrollers (multiple species), birch aphids, and the spear-marked black moth (*Rheumaptera hastata*). Outbreaks of the spear-marked black moth have historically occurred about every 15-17 years, but like other defoliators, have been very short lived. The invasive amber-marked birch leafminer (*Profenusa thomsoni*) and late birch leaf edgeminer (*Heterarthrus nemoratus*) are also present throughout much of the Tanana Valley State Forest. Reduced growth is possible with multi-year severe outbreaks of these late season defoliators, but in low to moderate populations their damage is largely aesthetic.

With outbreaks often short-lived and long-term damage being limited for many of these defoliators, mitigation for these defoliating insects is not typically warranted.

Tree diseases

Aspen running canker (*Neodothiora populina*) is an aggressive tree disease known to occur in both the Interior and Southcentral. Of several ecoregions surveyed by researchers, disease incidence was found

[2] Ruess RW, Winton LM, Adams GC (2021) Widespread mortality of trembling aspen (Populus tremuloides) throughout interior Alaskan boreal forests resulting from a novel canker disease. PLOS ONE 16(4): e0250078. https://doi.org/10.1371/journal.pone.0250078

to be highest within the Tanana-Kuskokwim Lowlands ecoregion. Many Tanana Valley State Forest parcels occur within or adjacent to this ecoregion. This disease was first documented around 2014 and the causal agent was not previously known to science. Small diameter aspen trees in mature aspen stands appear to be most heavily impacted. Affected trees often die within one to two years and there are no known mitigation tactics.

Tomentosus root rot (*Onnia tomentosa*) occurs within the Tanana Valley State Forest and can affect all native conifers in the region, though white spruce and black spruce are most commonly affected. This disease, which spreads from tree to tree through root contact, can cause growth reduction, butt rot, and mortality and stay alive long after the host trees have died. Thinning should be avoided in infected stands. If restoring suspected tomentosus root rot pockets, to limit losses, keep newly planted spruce at least 10 feet from any known inoculum source or plant hardwoods.

Numerous stem decays affecting confers, hardwoods, or both occur throughout the Interior and may be observed within the Tanana Valley State Forest. These include, among others, brown crumbly rot/red belt fungus (*Fomitopsis pinicola* complex), Artist's conk (*Ganoderma applanatum*), and red ring rot (*Porodaedalea pini*).

Invasive plants

Even in the most remote locations, an increase in activity means increased potential for introduction of invasives species. Increased road access, machinery traffic during treatment implementations, and potential recreational use of State Forest lands all have the potential to facilitate the spread of invasive species. Managing Foresters may consult guiding documents, for example, the Alaska Plant Materials Center *Strategic Plan for Invasive Weed and Agricultural Pest Management and Prevention in Alaksa* (https://plants.alaska.gov/invasives/strategic-plan.htm), for information describing SOA protocols for invasive species prevention and mitigation.

University of Alaska Anchorage's Alaska Center for Conservation Science maintains the Alaska Exotic Plants Information Clearinghouse (AKEPIC), a database of geospatial information for non-native plant species in Alaska (https://accs.uaa.alaska.edu/invasive-species/non-native-plants/). This resource is available for predicting the presence of invasive plants in potential management sites or reporting observations of invasive species in the field.

Forest management practices that involve machinery, hand crews, seedlings or growing substrate, seed, or other external influences on a site are potential sources of invasive species introduction and reasonable prevention or mitigation efforts should be embedded in the design of these practices where possible.

An adaptive management approach will allow foresters to cater management decisions to the specifics of Alaska's environmental characteristics and take advantage of lessons learned in the process. By emphasizing updated information, such as future National Climate Assessments (https://nca2023.globalchange.gov/chapter/29/) or models produced by credible organizations like UAF Scenarios Network for Alaska & Arctic Planning (https://uaf-snap.org/) or researchers (Sundquist, Lutz et al 2024), and monitoring outcomes of current practices, managing foresters can keep forestry practices

relevant to the landscape as it continues to change. The opportunity to base subsequent decisions on outcomes of employed best management practices allows managers to respond to unpredictable outcomes and document the decision process for future learning. Other natural resource and economic fields may be affected by rapid or unpredictable environmental change, which may reveal opportunities for forestry practices or forest products to offer solutions.

ACTIVITY SUMMARY

Surveys and Monitoring

Each year, USDA Forest Service Forest Health Protection and DOF Forest Health staff coordinate forest health aerial detection surveys or use comparable ground-based or satellite imagery-based surveys across the state. For Interior Alaska, the Tanana Valley State Forest is among the priority areas covered by those surveys. DOF Forest Health staff provide an annual summary of forest damage documented during those surveys to Tanana Valley State Forest managers and once finalized, the spatial data from these surveys is available across the agency and publicly.

Tanana Valley State Forest managers should coordinate with DOF Forest Health staff when special forest health monitoring projects are needed. Past special monitoring projects within or near the Tanana Valley State Forest have primarily focused on monitoring bark beetle populations in response to windstorms, fuel treatments, or land clearing effort.

F. CARBON OFFSET PROJECTS

In 2023, legislation was enacted allowing the State to use its lands and natural resources for carbon management projects, including through the Carbon Offset Program authorized under AS 38.95.400 – AS 38.95.499. The Carbon Offset Program enables the State to implement carbon offset projects on State land, including in the TVSF. Carbon offset projects are defined under AS 38.95.499(4) to include, relative to the TVSF, "afforestation, reforestation, and similar land and resource management measures that mitigate greenhouse gases by maintaining or increasing the carbon stock on state land."

Lands within a State Forest or within a unit of state forest are managed under specific requirements set out in AS 41.17.220, which under subsection (4) may include a carbon offset project undertaken under AS 38.95.400 - AS 38.95.499. AS 41.17.220 specifies that, if applicable, land within a State Forest shall be managed under a carbon offset project undertaken by DNR. AS 41.17.230(a) requires DNR, when preparing a forest management plan under AS 41.17.400(b), to consider and permit uses of forest land for carbon offset projects. AS 41.17.230(g) requires carbon offset projects to be consistent with the applicable management plan, requires the management plan to identify the land appropriate for the carbon offset project, and authorizes DNR to amend a forest management plan to allow for carbon offset projects. This management plan is amended to designate all land classifications in the Tanana Valley State Forest as available for carbon offset projects, unless specified otherwise. Specific information about prohibited or limited uses can be found in the Land Use Summary Tables in Chapter 3.

GOALS

Provide opportunities for carbon offset projects on State lands within TVSF that are compatible with the primary purpose stated in AS 41.17.200 while managing TVSF in accordance with guidance and regulations specified in AS 41.17, the Alaska Forest Resources and Practices Act.

Create economic opportunity for local and state economies by

- generating revenue to the State's general fund and revenue to fund community and utility grants for renewable energy heat and power projects (AS 38.95.430 requires 20% of the revenue generated from carbon offset credit sales be deposited into the Renewable Energy Grant Fund) through the sale of carbon offset credits
- creating jobs locally and increasing the use of local support services.

Create other co-benefits for local communities by providing ecosystem benefits like improved water resources and habitat and by providing improved fishing, hunting, subsistence, recreation, and scenic opportunities.

Manage for Multiple Use. As appropriate, maintain opportunity and access for a range of uses within lands managed for carbon offset projects.

Forest health and productivity. Provide opportunities for the application of forest management practices to maintain or enhance the carbon sequestration and storage capacity of forested lands within TVSF.

MANAGEMENT GUIDELINES

The DNR Office of Project Management & Permitting (OPMP) Carbon Offset Program is responsible for planning, developing, and implementing carbon offset projects on State land, including within the TVSF. Carbon offset projects in the TVSF are subject to the requirements of AS 38.95.400 – AS 38.95.499 (Carbon Offset Program) and 11 AAC 78 (Carbon Offset Projects on State Land), including:

Identification of potential carbon offset projects. Potential carbon offset projects within the TVSF will be identified by DNR or by recommendations from other State agencies, local governments, non-profits, tribal entities, private companies, or other members of the public.

Evaluation of potential carbon offset projects. DNR will determine whether to proceed with a potential carbon offset project by considering the economic effects, revenue potential, compatibility with other land uses, and other factors. Reforestation on carbon sequestration projects was initially considered early in market scoping (Alden 2001). Recent modeling of forest dynamics under climate scenarios included outcomes of decreasing biomass potentially important to offset evaluations (Sundquist et al. 2024).

Best Interest Findings for carbon offset projects. DNR must make a written finding that a carbon offset project serves the State's best interests before developing a project. The best interest finding is based on information, material facts, and issues identified in the evaluation process and during public review and comment.

Registration and management of carbon offset projects. DNR will manage a carbon offset project in the TVSF in a manner consistent with a carbon registry's standards, protocols, and methodologies. AS 38.95.499(10) defines "registry" to mean an organization or program that registers and issues carbon offset credits for carbon offset projects. A carbon registry is an independent carbon crediting program that enforces standards to ensure that carbon benefits (i.e. greenhouse gas emission reduction or removals from the atmosphere) from a carbon offset project are real, measurable, permanent, and verifiable.

Requirements for Carbon Offset Projects. AS 38.95.410 limits the term of a carbon offset project to 55 years; requires that State land used for a carbon offset project, to the extent practicable, remain open to (1) the public for access, hunting, fishing, and other generally allowed uses and (2) other resource development; and requires that State land used for a carbon offset project remain open to mineral exploration and development.

G. HAZARDOUS FUELS AND PRESCRIBED FIRE MANAGEMENT

GOALS

As stated in AS 41.15.010 - 41.15.170, it is the responsibility of Alaska DNR to provide protection from wildland fire and other destructive agents, commensurate with the values at risk, on the TVSF. Where possible, the Division of Forestry and Fire Protection intends to use proactive measures to manage vegetation, or hazardous fuels, in a way that can mitigate the risks of wildland fire, while also achieving desired resource management conditions.

The Division of Forestry and Fire Protection maintains the following goals with respect to hazardous fuels and prescribed fire management on the TVSF:

1. Protect human life.
2. Reduce and mitigate risks of damage to communities, structures, natural and cultural resources due to wildland fire.
3. Enable fire to function in its ecological role and maintain the natural fire regime where appropriate.
4. Incorporate vegetation management techniques into Timber Management Plans to reduce and mitigate risks of damage from wildland fire.
5. Minimize adverse environmental impact of fire suppression activities.
6. Encourage Alaska-specific fire-related research.

MANAGEMENT GUIDELINES

Fire plays an important role in the health and function of Alaska's forests. While wildland fire is a key factor in maintaining ecosystem productivity, it can also present a serious threat to human life and property. Land management is one method to address this contrast and helps fortify lands against the complexities of balancing the ecological benefits of fire with protecting areas of wildland-urban interface (WUI).

Multiple land management tools have been derived from extensive research and scientific publications. Land management tools are used to help address fuels management questions ranging from local to landscape scales. Fire management options are one of those tools and are described in the Alaska Interagency Wildland Fire Management Plan. Each fire management option defines what the initial response to new fire starts within an area should entail. The designated fire management option for an area of land will influence the level to which vegetation is managed in that area. For example, Critical Protection Areas should be considered for intensive fuels management routines, while Limited Action Areas may receive no treatment consideration at all. See Table 2.4 for descriptions of Fire Management Options and a short description of the level of response appropriate for each option in the event of fire. Fuels projects on the TVSF are subject to the same planning process as timber sales. Reference the Timber Management section in Chapter 2, Section L for more information.

Table 2.4. Fire Management Options and Their Approximate Percent Area in TVSF.

Protection Level	*Description*	*Level of Response*	*Approximate % Area*
Critical Protection	Typically near residential areas	Immediate and aggressive fire suppression efforts to preserve life and property	1%
Full Protection	Follow the major highways in the Tanana Basin, and where there are valuable resources close to access	immediate suppression efforts to protect high value resources where fire may adversely impact resource management objectives	79%
Modified Action Areas	Contain high value resources where land managers may consider trade-offs of acres burned versus suppression costs	Fires are attacked immediately, but land managers guide the suppression effort	15%
Limited Action Areas	Areas where fire is beneficial or benign, or firefighting costs are greater than fire damage	fires are monitored, but no suppression action is taken except to prevent fires from burning onto higher value land.	5%

Prescribed Burns

In some areas, land use or natural resource objectives may be met using prescribed fire. For example, prescribed fire may be used for improving or creating wildlife habitat, reducing hazardous fuels, or simulating ecological succession on local or landscape scales. The policy that governs prescribed fire activities within the TVSF can be found in Chapter 2800 of the DOF Policies & Procedures Manual. Prescribed fire activities on the TVSF can only be implemented with the DNR's approval through a formal prescribed fire planning process. Prescribed fire activities are also subject to Alaska DEC regulations regarding smoke management and allowable acreage to be burned. For more information on prescribed fire, see the Alaska Interagency Fire Management Plan, the Alaska Department of Environmental Conservation webpage, and Alaska Division of Forestry and Fire Protection webpage.

Vegetation Treatment Methods

According to AWFCG's *Fuel Model Guide to Alaska Vegetation*, the vegetation profile of an area can be used to a certain extent to predict the behavior of fire, should it occur in that area. This information can be used to make informed decisions in planning efficient and economically feasible hazardous fuel management projects. Hazardous fuel reduction treatments are accomplished using two cutting methods: conventional and mechanized. The conventional method entails using hand-held tools, like chainsaws and brush cutters, to cut vegetation. The cut vegetation is typically consolidated into brush piles by hand under this treatment method. The mechanized treatment method utilizes heavy equipment to cut and remove vegetation from the treatment area. Common heavy equipment used on

hazardous fuel reduction projects includes bull dozers, excavators, shear blade, roller chopper, mastication heads and chippers.

By nature, a timber sale involves changing the vegetation structure in an area. In many cases, this includes thinning or clearing of high-resin fuels such as black and white spruce, and a resulting transition to hardwood regeneration stands. Hardwood stands tend to be less susceptible to wildfire, and the succession patterns following a timber sale may have lasting effects on the fire behavior in an area. These effects are considered when planning timber sales and should be described in the FYSTS. For areas outside of timber sales, vegetation is managed as feasible and prudent in accordance with the Alaska Interagency Fire Management Plan and Alaska DNR guidelines. The *Fuel Model Guide to Alaska Vegetation* can be accessed through the Alaska Wildland Fire Coordinating Group webpage (https://fire.ak.blm.gov/administration/awfcg.php), and resources such as landfire.gov provide access to geospatial layers representing features such as fuels, vegetation, or disturbance history to aid in management decision-making.

Community Management

Resources such as Community Wildfire Protection Plans (CWPP), Firewise, and Firewise Communities exist to help communities in making decisions regarding fire prevention and planning practices. Template CWPPs and Firewise educational materials are available through the Alaska Wildland Fire Coordinating Group and the DOF. The Fairbanks North Star Borough, Delta Junction and Tok all have developed CWPPs. Those CWPPs include wildland fire risk assessments, hazard mitigation tactics, and emergency response plans that directly relate to the management to the TVSF.

Research

Development of technology and methods for hazardous fuels management is inevitable. The TVSF may be identified as a location suitable for future hazardous fuels research. Should a research project be proposed on TVSF lands, managing foresters should consult existing wildland fire science publications from credible institutions, such as the University of Alaska or the Alaska Fire Science Consortium. Placement of projects on the landscape should be coordinated with the Fire and Fuels branches of the AK DOF to limit redundant or conflicting projects and to reasonably predict the effects of a project at that site. Expectations surrounding land conversions, timber resource utilization, and implications of proposed projects on the local timber base will be developed at the discretion of managing foresters at the time of project proposal.

ACTIVITY SUMMARY

To date, there has been a small amount of hazardous fuel break work within the forest boundary. A few shear blade and shaded fuel break units have been successfully implemented within the TVSF boundary. Many hazardous fuel breaks have been installed immediately adjacent to or within the proximity of the TVSF. These installations impact decision-making within the management boundary, especially regarding wildfire risk assessments and wildland fire management. As stated above, timber sales can be considered as hazardous fuels reduction.

H. GRAZING AND AGRICULTURAL ACTIVITIES

GOALS

Provide Grazing and Agricultural Opportunities

Provide land for agricultural activities such as grazing, haying, or crop harvesting within Tanana Valley State Forest while maintaining or enhancing the productive capability of the soil. Lands leased for grazing and agriculture shall be managed and utilized in accordance with approved practices for range management and soil conservation.

Fuels Management

Utilize grazing where appropriate to support the development, maintenance, or enhancement of naturally and artificially created fire breaks and wildland fire fuels management.

MANAGEMENT GUIDELINES

Use of State Land for Grazing

Agricultural activities that may include conversion of forest to non-forest or create private property rights are incompatible with the primary purpose of the state forest. Beyond the generally allowed use applications described in 11 AAC 96.018, improved or unimproved pasture grazing may be allowed in the State Forest provided the following criteria are met:

1. Land areas meet appropriate classifications according to regulation specified in 11 AAC 60.010.
2. Improved pasture grazing is known to be consistent with the management intent of the area.
3. Resulting activities will not cause access problems such as blocking trails or restricting access to public lands. If an area is fenced, gates are generally required to allow trail access. Even where trails are not present, gates are often required at specific points. Restrictions would be noted in Range Management or Grazing Operations Plan.
4. A statement is obtained from the USDA Natural Resources Conservation Service indicating that the soils are suitable without draining for improved pasture grazing.
5. Fencing of the area will generally be required. Riparian habitat adjacent to water bodies with public recreation values of regional or statewide significance, habitat values, or watershed values shall be protected by fencing, unless other feasible and prudent methods are determined.
6. At the discretion of DNR, in consultation with ADF&G, all improvements must be removed when a lease is terminated.
7. DEC recommendations regarding possible nonpoint source pollution problems are addressed.
8. Livestock feedlots are prohibited.
9. All activities are subject to a management plan.

Key Habitats

Grazing and other agricultural activities will be prohibited in Dall sheep and high-value grizzly bear habitats, Research Natural Areas, and portions of the state forest intended to protect fish and wildlife habitat and water quality, including Special Management Zones and Wetland Setbacks. In other areas, grazing will be permitted on a case-by-case basis on compatible sites (e.g., grass meadows in areas of low natural tree stocking) if consistent with the management intent of the area, and after consultation with ADF&G concerning diseaseand habitat risks to local wildlife populations.

Multiple Use

Lands used for grazing will be managed as multiple use lands to support a variety of public benefits, including fish and wildlife habitat and harvest, water quality maintenance, public recreation, public access, and wildland fire fuels management (11 AAC 60.130).

Grazing lands will be managed to ensure sustainable forage for domestic stock and wildlife, and in compliance with applicable regulations affecting grazing permits. Cultivation of nonnative forage crops is not permitted, and any seed used must be free of species listed in 11 AAC 34.030 *Prohibited and Restricted Noxious Weeds.*

Public access across and public use of grazing or agricultural lands may not be limited by persons holding grazing leases or permits unless approved in writing by the Department.

Grazing Permits and Leases

A grazing lease or permit issued by DNR is required for any person who releases livestock on state lands beyond generally allowed uses under 11 AAC 96.025(3)(D). Permits may be issued for 5 years. Short-term leases may be issued for up to 10 years. Permits may be issued wherever grazing is not prohibited provided fish and wildlife and other significant resources or uses are not adversely affected.

Permits or short-term leases, rather than long-term leases, should be issued in areas especially susceptible to soil erosion or water quality degradation, environmentally sensitive areas, areas with potentially conflicting uses, or areas where the level of activity and investment by the lessee does not require a long-term commitment of the land. These areas will be identified through DNR's range management plans.

Long-term leases may be issued where grazing is a designated use and where the level of activity and investment by the lessee is significant enough to require a long-term commitment of the land. Long-term leases will establish reasonable utilization standards that, if not met, may be cause for cancellation of the lease.

The requirements stated in these guidelines will be implemented through appropriate lease and permit stipulations. In addition, standards in permits or leases will follow the fencing guidelines developed cooperatively by the DNR, NRCS, and ADF&G to minimize impacts to fish, wildlife, and recreation uses.

Range Management Plans

Where grazing is anticipated to be a significant, widespread land use with potential for creating environmental harm, DNR will develop range management plans (RMP) before issuing grazing leases or permits in consultation with ADF&G, NRCS, DEC, and Soil and Water Conservation Districts. DNR will determine where range management plans are appropriate based on consultation with other affected agencies, including ADF&G. Best practices to reduce risk of introducing invasive species or pathogens shall be specified in range management plans. Mitigation practices for invasive plants exist in reforestation recommendations and in Standard Operating Procedures for wildland fire suppression.

Grazing Management Plans

In order to obtain a permit or lease, a Grazing Management Plan (GMP) must be submitted to the DNR. Grazing Management Plans are comprehensive outlines describing where animals will be grazed, the type and number of animals expected to graze, management practices, and plans to maintain multi-use management, including public access on grazing lands. Best practices to reduce risk of introducing invasive species or pathogens shall be specified in grazing operations plans. Once approved, GMPs are submitted to DNR Division of Mining, Land & Water to make the final decision about issuing authorizations. For more information, or to begin the permitting process, contact the Alaska DNR Division of Mining, Land & Water Northern Regional Office.

Standards of Approval for Grazing Management Plans

Approval will be based on consideration of the potential effects of grazing on vegetation, water quality, riparian lands, soil stability, disease transmission, livestock-predator conflicts, and competition between wildlife and stock for forage. DNR, in consultation with affected agencies, may require that appropriate measures be specified in a grazing operations plan to minimize adverse impacts. Where applicable, GMPs will be approved only when they comply with the existing range management plan for an area.

Modification of Grazing Management Plans

Modification of grazing management plans may be required if grazing activities are determined to cause significant degradation to the range or wildlife habitat, including water quality, soil stability, or sustainable forage for stock and wildlife. Determination that modification of a grazing management plan is necessary will be made by DNR in consultation with the lease or permit holder, DEC, and ADF&G.

ACTIVITY SUMMARY

There are currently no active grazing permits in the State Forest.

I. PRIVATE LAND

The Tanana Valley State Forest adjoins private land owned by Alaska Native corporations, Alaska Native allottees, and other individuals. In some areas, past state subdivisions abut the State Forest. Private owners may be affected by forest management activities and forest access.

GOALS

Minimize negative impacts of State Forest activities on adjacent privately owned land.

MANAGEMENT GUIDELINES

Resource Development Near Private Land

Timber, recreation, road, and other development activities near private land (which includes Alaska Native allotment and other Alaska Native lands) will be designed to avoid conflicts with landowners to the extent feasible and prudent. The DOF will consider using selective harvest or other partial cutting techniques within 200 feet of private land and consider potential impacts of roads on adjacent private land when planning forest road locations. During the public review process for the proposed activity, DNR will attempt to contact all private landowners whose land adjoins a proposed timber sale area, road, or other development project.

Alaska Native Allotments

A small number of parcels within the TVSF are identified as available or pending Alaska Native Allotments. The DOF will manage unadjudicated lands identified for Alaska Native Allotments within the TVSF as if they are privately owned until the adjudication process is complete. Once a parcel is adjudicated, it will be managed according to the decision to convey or retain ownership of the parcel. If an allotment parcel is retained in state ownership, it will be managed according to the primary purpose of this plan and the goals and guidelines described in this chapter**.**

J. SCIENTIFIC RESOURCES

GOALS

Research Natural Areas
Maintain ecologically representative or unique sites in a natural state for observational research, education, and environmental monitoring.

Experimental Forests
Provide forest land for forest research that involves site manipulation or long-term observation.

Other Scientific Values
Provide opportunities for scientific investigation and education within the Tanana Valley State Forest that will help increase knowledge of the environment and the impact of various land use activities.

MANAGEMENT GUIDELINES

Research Natural Areas
Research Natural Areas (RNAs) are intended to provide sites within which baseline ecological research and education can be conducted. It is intended that these areas be maintained in their natural state as much as possible.

Incompatible Activities and Uses: The activities in the list below require an authorization to occur and can be prohibited by not issuing a permit. The second list of activities are those that are not now restricted, that do not require a permit, and are therefore much harder for the DNR to monitor and control. Those uses would only be regulated if a problem developed with a specific activity. In addition, the second list is not a complete list; it is only a list of examples of activities that could be incompatible with other activities.

The following activities will typically not be authorized unless they are found to be consistent with the management intent for the RNA. Authorizations will be conditioned to protect RNAs from incompatible activities.

Incompatible activities that require authorizations:

a. Timber harvest
b. Material extraction
c. Developed recreation
d. Improved pasture or unimproved grazing
e. Trapping cabins
f. Introduction of species not endemic to the area
g. Commercial collection of non-timber forest products.

Currently, DNR does not expect incidental individual activities to impair RNAs. However, if Generally Allowed Uses (11 AAC 96) threaten the integrity of a RNA, DNR may establish a Special Use Land designation (under 11 AAC 96.010) in the future to regulate individuals' activities within RNAs. The Special Use Land designation is consistent with the TVSF Management Plan, and may be established without an amendment to this plan. Examples of activities that may be regulated include:

Examples of activities that may become incompatible.

a. Use of all motorized ground vehicles, such as snowmachines, tracked vehicles, four-wheel drive vehicles, pickup trucks, automobiles, and motorcycles off established rights-of-way.
b. Campfires and warming fires.
c. Gathering of dead and down wood, and collection of other plant materials.
d. Camping on vegetated sites.
e. Digging or excavating
f. Disturbance or removal of vegetation including brushing survey lines or trails, cutting or removing vegetation.
g. Driving livestock.
h. Placing of markers or stakes.

Access through Research Natural Areas: An RNA shall not block access to or use of other resources. When access through a RNA is necessary (if there is no other feasible and prudent access route to resources beyond the RNA), roads will be designed and located to protect the features for which the RNA was designated, as much as possible. Roads will be designed in consultation with researchers or research agencies with a known interest in the RNA.

If DNR-authorized research is being done in the RNA, and if the researcher has notified DNR of the nature and location of their research, the researcher must be consulted before other authorizations are issued to avoid impacts to research. Access through the RNA will be designed to avoid impacts to the research site whenever possible.

The entity building the road will be required to sign the entry and exit points from the RNA.

Posting of Incompatible Activities: Signs may be posted at likely entry points to RNAs. The signs will list activities that are regulated or are incompatible with the RNA.

Mineral Exploration: Mineral exploration will be conducted in RNAs so that scientific values are minimally disrupted. Surface geophysical or geochemical surveys must show positive results before heavy equipment is permitted to operate within prospecting sites or mineral claims. Results of such surveys will be made available to the general public.

Fire Management: The DOF will consult with appropriate research agencies in planning fire suppression activities, except for initial attack, within RNAs. For additional information on fire management topics in this plan, see the Interagency Fire Management Plan section in Chapter 1, the Fire Management part of the Timber Management section of Chapter 2, and the Fire Disturbance section of Chapter 4.

Hunting and Trapping: The RNAs are open to fishing, hunting and trapping. Hunting and trapping of certain animal species of scientific interest may be restricted temporarily during periods of study. Should a research project for the RNA be conceived that requires temporary restrictions or changes to hunting, trapping, fishing, or ADF&G management activities during the period of the study, DNR shall cooperate with the appropriate division(s) of ADF&G to evaluate the proposed restriction and if necessary take measures up to and including interaction with the State Board of Game or Board of Fisheries to enact necessary restrictions.

Existing Right of Ways: A number of pipeline right-of-way leases and applications run through and adjacent to RNAs. Management of RNAs is subject to valid existing rights.

Experimental Forests

Bonanza Creek Experimental Forest: The USDA Forest Service, Pacific Northwest Research Station, has management authority for the Bonanza Creek Experimental Forest (Subunit 5B). As outlined in the lease granted to the Forest Service by the Department of Natural Resources (Appendix D), the Forest Service must approve all activities in the Experimental Forest, including timber harvest, road construction, and mineral exploration and development.

Research and demonstration forest under University of Alaska direction: The University of Alaska tentatively received title to approximately 4,007 acres in Tok as the result of legislation passed in 2005. A legal challenge to the legislation occurred, and as part of the court ruling, these lands reverted to the DMLW for management and are no longer part of the land entitlement for the University. Prior to this action the University collaborated with the DOF, as part of their studies on boreal forest systems, to establish and maintain several permanent forest research plots and an experimental tree species trial. These lands are included in the operable area, but the DOF intends to work with the University to reserve the study areas from harvest unless it is determined the research projects would be aided by active management.

Other Research Activities

Researchers are encouraged to notify the DNR of the location of their research area, and the type of research being done. A permit is not required for research that only involves Generally Allowed Uses. However, if DNR has been notified, the research site can be protected from disturbance by development activities.

ACTIVITY SUMMARY

Research Natural Areas

Six RNAs that total 12,191 acres have been set aside in their natural state for scientific and educational purposes (Table 5). Currently, there are no permits issued for research activities on the RNAs.

Table 2.5. Designated Research Natural Areas.

Research Natural Area	Subunit	Acres
Oblique (Tschute) Lake	2B	2,990
Caribou Crossing	2C	1,251
Rosa-Keystone Dunes	8B	3,243
Shaw Creek Tamarack	9B	1,910
Volkmar Bluffs	10B	1,894
Johnson Slough Bluffs	10D	903
Total		**12,191**

Bonanza Creek Experimental Forest

The USDA Forest Service, Pacific Northwest Research Station has renewed the lease and continue to manage the 13,596 acres for use as an experimental forest for manipulative and observational forest research. Although management authority for the Bonanza Creek Experimental Forest rests with the Forest Service, resources within the forest remain the property of the state until 2055 when the property will be conveyed to the University of Alaska.

Other Research Activities

Forestry research activities in the TVSF include permanent sample plots, selected yield plots, and Forest Inventory and Analysis plots established by the University of Alaska Fairbanks and the U.S. Forest Service. Other activities, either on-going or completed in the last 20 years, include meteorological studies, salmon monitoring studies, seismic monitoring, and permafrost observatories by the University of Alaska Fairbanks, ADF&G, and Woodwell Climate Research Center.

K. SUBSURFACE RESOURCES

GOALS

Mineral and Energy Supplies

Make metallic and nonmetallic minerals, coal, oil and gas, materials, and geothermal resources available to contribute to the energy and mineral supplies and independence ofthe United States and Alaska.

Economic Opportunities

Provide stable job opportunities and stimulate economic growth by making subsurface resources available for development. Land in Tanana Valley State Forest is managed for the efficient and

environmentally sound development of subsurface resources, siting of infrastructure to support subsurface resource development, and disposal of tailings.

State Revenues
Establish a stable source of state revenues.

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

State Support for Mining
Aid in the development of infrastructure (for example, ports, roads, or railroads) andcontinue to provide technical support to the mining industry.

Note: For goals on salvaging timber prior to development activities, see the Timber Management section, Management Guideline G., Salvage of Timber from Land Clearing.

MANAGEMENT GUIDELINES: MINERAL AND COAL DEVELOPMENT

Implementation of AS 38.05.255(a) provisions on timber
Pursuant to AS 38.05.255(a) and mining rights regulation 11 AAC 86.145(a), all lands within the legislatively designated boundaries of the Tanana Valley State Forest are “timberlands”. The locator or holder of prospecting sites, mining claims, or mineral leases must contact the DOF prior to using or clearing timber from timberlands. DNR may determine additional stipulations to be included in a land use permit or plan of operations approval regarding the clearing, use, salvage or acquisition of timber on a case-by-case basis.

Mineral and Coal Exploration
State land in the Tanana Valley State Forest may be leased or opened for coal prospecting permits if DNR determines it is in the best interest of the state as required by AS 38.05.035. Before a permit is issued, DNR will determine if the surface values are significant enough to warrant restricting surface entry. Decisions on surface entry for coal adjacent to streams will be made in consultation with the affected agencies.

Open to Mineral Location
Under AS 41.17.230, the Tanana Valley State Forest management plan is required to consider and permit uses of forest land for nontimber purposes including mineral location. Recognized exploration methods for locatable minerals will be allowed within the TVSF unless specifically closed or limited by a mineral order, leasehold location order, or special use designation. See Chapter 3 Unit Summary tables for information about limited or prohibited uses within TVSF. DNR may determine that some traditional forms of access will not be allowed in specific areas to avoid resource damage. Where an area is open to mineral entry, a miner has the right to stake a claim 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 intent and guidelines of this plan.

Reclamation of Mined Land

Land use permits and plans of operation for mineral development and gravel extraction will specify reclamation measures to meet the standards given in AS 27.19. 11 AAC 97 details the minimum requirements for land reclamation during and after mining, though DNR may determine additional stipulations on a case-by-case basis. Determination of the specific measures to be taken and whether a performance bond will be required will be done in consultation with the affected agencies. Specific measures may include storage and reuse of topsoil; disposal of overburden; regrading of tailings and revegetation; re-establishment of natural (not necessarily original) contours; re- establishment of natural drainage systems; long-term erosion control measures; and removal of equipment, improvements, and other human-caused changes.

Access for Mineral and Coal Development

Existing roads and trails should be used to provide access to mine sites wherever feasible. Regulations for miscellaneous land use permits require that access be managed so that damage is minimal. Where coinciding with existing or reasonably foreseeable future timber harvest access routes and operations; DNR may stipulate performance standards for construction and maintenance of access roads or trails be no less stringent that those required under AS 41.17 and associated regulations. Access across tundra, wetlands, and other environmentally sensitive areas will be managed to minimize damage (see the Transportation section of this chapter).

Unauthorized Use of State Lands

DNR will place a high priority on taking appropriate action against construction of illegal structures that block public access or other unauthorized use of public lands for private purposes. This will include taking appropriate action against mining claimants who use their claims for facilities that are not necessary for prospecting, extraction, or basic mining activities. In carrying out this policy, emphasis will be placed on unauthorized uses that obstruct significant settlement, public recreation, or other public uses or obstruct public access.

Control of Visual Impacts

Guidelines will be developed as necessary through the land use permit or leasing process to minimize the adverse visual impacts of mining especially in settled areas, recreation areas, and in areas viewed from roads. In such areas, guidelines should minimally consider the following items: control of solid wastes; removal of vegetation; siting of mining structures, tailings and overburden; roads; and rehabilitation of mining sites.

Approval of Plans of Operation

DNR may approve plans of operation required for locatable mineral leases if the plans adequately address the guidelines of this plan and DNR has consulted with and carefully considered the recommendations of ADF&G and DEC. Violation of the plan of operations is cause for enforced cessation of operations if, after a reasonable period of time, a negotiated solution cannot be reached with the operator, or a violation is repeated.

Guidelines for the application of locatable mineral closures

Locatable mineral closures are the most extreme management tool that can be used by DNR to resolve subsurface and other resource conflicts. AS 38.05.185(a) requires that before an area of state land can be closed to mining or mineral location, except as provided in AS 38.05.300, the commissioner must make a written finding that mining would be incompatible with significant surface uses. The area to be closed to mineral entry and location will be limited to the minimum necessary to protect the continued productivity and availability of the surface resources being protected.

Guidelines for the application of the locatable mineral leasing program

State land may not be closed to mining or mineral location unless the commissioner makes a finding that mining would be incompatible with significant surface uses. The acquisition of rights to locatable minerals may be restricted to the leasehold location system where the commissioner determines that mining would present potential conflicts with significant surface uses. Mineral leasing is preferred over mineral closure as a management option to resolve conflicts between mineral development and other significant surface uses.

Prior to restricting the acquisition of rights to locatable minerals to the leasehold location system, DNR is required to identify potential conflicts between mineral development and other significant surface uses that need protection and issue a Finding of Incompatibility. DNR will consult with ADF&G and DEC in the development of any leasehold location order stipulations needed to protect those other resources.

Resource values that may conflict with coal or mineral development

The decision to apply mineral closures or locatable mineral leasing will be made by the commissioner within the parameters set by the 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 statutes requires the commissioner to determine that a potential use conflict exists before requiring the development of locatable minerals under a lease (see Appendix B, Finding of Incompatibility).

In some circumstances, the commissioner may find that the following categories of resource values require locatable mineral leasing or closure, or prohibit coal leasing and prospecting to protect their continued productivity and availability. In other circumstances, care during mineral development is all that may be necessary to protect these resources. The degree of conflict that could occur between mining and any other resource value is impossible to predict in all circumstances. Therefore, the following categories or resource values will be evaluated to determine if locatable mineral closure, locatable mineral leasing, prohibition of coal leasing or prospecting, special land use designation, or another management option is needed to protect the continued productivity and availability of the resource in conflict.

Lands With Significant Commercial, Industrial, or Public Use Values

- Lands with significant coal, oil and gas, timber, or other commercial potential.
- Lands recognized as future transportation corridors where access for pipelines, road, railroads, utility corridors, or other surface transportation infrastructure could be blocked or

impeded by mining claims. (After the alignment is established, areas will be reopened if there is surplus land.)

- Lands and waters that provide unique or unusual opportunities for the human use and enjoyment of fish or wildlife, including fishing, hunting, trapping, photography, and viewing.
- Lands and waters that provide significant recreation opportunities, such as clear water rivers that are now or are expected to be important for recreation, key public access sites, and recreation facilities.
- Lands and waters with significant scientific or educational value.
- Lands and waters that are the watershed of a community water supply.
- Sand and gravel pits, stone quarries, or other significant known material sites that might be lost to public use if mineral claims were staked.

Lands With Significant Fish or Wildlife Resources

- Lands and waters that support protected species of plants, fish, or wildlife (such as bald or golden eagles), threatened and endangered species.
- Lands and waters that support production or maintenance of fish or wildlife speciesthat have significant economic, subsistence, recreational, scientific, educational, or cultural values or that have been given special protection through state or federal legislation or international treaty.
- Other lands and waters not included above that are known to support unique orunusually large assemblages of fish or wildlife.

MANAGEMENT GUIDELINES: OIL AND GAS

Generally, oil and gas exploration, development, and production will be encouraged on state lands. Impacts on other important uses and resources will be managed through appropriate mitigation measures developed during the permitting and leasing processes.

Oil and gas guidelines are not addressed here. Oil and gas guidelines specific to a particular management unit are in Chapter 3. DNR's statewide policies for oil and gas are found in the Five-Year Oil and Gas Leasing Program and specified under AS 38.05.180. Specific stipulations for oil and gas exploration, development, and production activities will be developed and applied on a case-by-case basis foreach oil and gas lease sale through DNR’s existing practices.

MANAGEMENT GUIDELINES: MATERIALS

Preferred Materials Sites

When responding to a request for a material sale or identifying a source for materials, the highest priority should be given to using existing upland material sources. Using materials from wetlands, lakes,

and the active[3] or inactive[4] floodplain of rivers or streams should be avoided unless no feasible alternative exists. Sales or permits for gravel extraction will not be permitted in fish spawning beds. Material extraction from water sources may also be regulated by the Corps of Engineers. Material sites should be located as near as is feasible to the location of material use in order to minimize construction and maintenance cost of transportation facilities.

Material Extraction from Extensive Areas
Material extraction from wetlands, lakes, or stream corridors (including the active and inactive floodplain) should occur only after design consultation with ADF&G, DOT/PF, DPOR, DGGS, and DEC.

More information regarding material extraction in sensitive areas is available in Gravel Removal Studies in Arctic and Subarctic Floodplains in Alaska and accompanying Gravel Removal Guidelines for Arctic and Subarctic Floodplains in Alaska (USFWS, 1980a and 1980b). This guidance is generally followed in TVSF in addition to the design consultation required above, to minimize negative impacts of material extraction on other resources and uses.

Maintaining Other Uses and Resources when Siting and Operating Material Sites
Before allowing the extraction of materials, DNR will ensure that the requirements or stipulations give adequate protection to other important resources and uses including, but not limited to existing water rights; water resource quantity and quality; navigation; fish and wildlife habitat and harvest; timber resources; recreation resources and opportunities; historic and archaeological resources; adjacent land uses; and access to public or private lands. The disposal of materials should be consistent with the applicable management intent statement and management guidelines of this plan.

DNR determines if other existing material sites can be vacated and rehabilitated as a result of opening a new material site.

Rehabilitation. Current material sites within the TVSF are co-designated for Forestry and Material uses. At the close of a material site, management designation of that site will return to Forestry. Rehabilitation of materials sites must meet the requirements of AS 27.19.020 and 11 AAC 97.250(a). Design and closure of material sites should consider potential for future recreational use, such as swimming. For additional guidelines that affect material extraction see policies under the Mineral and Coal Development Guidelines in the Subsurface Resources section of this chapter.

ACTIVITY SUMMARY

More than 99 percent of the State Forest will remain open to locatable mineral location and leasing. Locatable mineral closures will be placed on campgrounds and other significant recreational development; the Trans Alaska Oil Pipeline right-of-way is closed to mineral location.

[3] Active floodplain - the portion of the floodplain that is flooded frequently; it contains flowing channels, high-water channels, adjacent bars, and usually little or no vegetation.
[4] Inactive floodplain - the portion of the floodplain that is flooded infrequently; it may contain high water and abandoned channels and is usually lightly to heavily vegetated.

Mineral exploration and development in the 24,993 acres (1.4 percent of the State Forest) that comprise the Bonanza Creek Experimental Forest and the six designated research natural areas is subject to a leasehold location order. Mining will be restricted in these areas if it will negatively impact the overriding scientific values of the areas.

L. TIMBER MANAGEMENT INCLUDING FOREST RESOURCES PROTECTION.

GOALS

Economic Development

Contribute to Alaska's economy with a diversified forest products industry that provides a range of job opportunities, net revenues to the state, competitively priced products and increased per capita income, while ensuring that personal use needs of all Alaskans are met within the capabilities of the land. Emphasize support of Alaskan value-added businesses when designing and offering timber sales in the State Forest.

- Provide a reliable supply of raw timber to the market.
- Stimulate local and state economies by generating royalties to the State's general fund, creating jobs locally, and increasing use of local support services.
- Generate revenue such that the AK DOF can self-support perpetuated forest management operations, including the salaries of resource forestry personnel and practices such as site preparation or tree planting.
- Bring Alaskan communities closer to independence from imported energy sources and materials.

Management of Tanana Valley State Forest Timber Resource

Actively manage Tanana Valley State Forest (TVSF) to provide for production, utilization, and replenishment of timber resources through silvicultural practices. Ensure a high level ofsustained timber productivity by maintaining a mosaic of forest types and stand ages characteristic of the boreal forest in Interior Alaska. TVSF is managed to sustain a variety of resources dependent on forest ecosystems.

The diverse resources and uses in the TVSF reflect the history of natural and human disturbances in Alaska's interior, the forest, and the context in which the TVSF boundaries base were selected. The configuration of TVSF reflects the statutory requirement that it be composed primarily of commercially valuable forest.

Decades of forest research by the Forest Sciences Department at UAF and the Boreal Ecology Cooperative Research Unit (formerly known as the Institute of Northern Forestry), US Forest Service, Alaska Fire Science Consortium and international researchers provide the foundation for resource management decision-making. DNR continues to incorporate new research into management strategies as information becomes available. Information on natural and human disturbance history and ecological processes is constantly changing, and this plan is based on available information at the time of publication. To support sustained production of multiple resources and forest uses, DOF best practices are selected to maintain the range of forest types and stand ages naturally occurring in the Tanana Valley.

MANAGEMENT GUIDELINES

Timber Management Principles

As a state forest, the primary purpose of the TVSF is active timber management (AS 41.17.220). While meeting this purpose, Lands within the TVSF are intended to be managed for multiple use consistent with AS 41.17.060, unless specific uses are explicitly prohibited.

Sustained Yield-Timber and other resources in the TVSF are managed using principles of sustained yield, as required by the State Constitution (Art. VIII, sec. 4) and Alaska statutes (AS 41.17.220). For the purposes of this document, sustained yield is defined as the "achievement and maintenance in perpetuity of an annual or regular periodic output of the various renewable resources of the state land consistent with multiple use" (AS 38.04.910). The DOF's policy is to define "regular periodic output" as output over a ten year period. Harvests may exceed the allowable cut only in unusual circumstances as described by the Alaska Superior Court (First Judicial District) in their decision SEACC vs. Alaska, 1983. Departures are allowed for salvage cuts where trees have been killed or damaged, because dead trees are not part of sustained yield. Proposals for salvage sales will be subject to public and interagency review through the FLUP process. DOF will also include salvage sales on Five-Year Schedules whenever possible. Salvage sales may be excluded from a Five-Year Schedule under AS 38.05.117 when waiting for the Schedule will cause substantial losses of economic value on salvage sales.

Annual Allowable Cut-Management tools are required to plan practices that will support a sustained yield of forest resources. The Annual Allowable Cut (AAC) is one such tool, describing the volume of timber that may be harvested from a forest under optimum sustained yield management (Stoddard and Stoddard, 1987). The amount of timber harvested each year will vary and may be more or less than the annual allowable harvest figure for the State Forest. However, at no time will the total amount of timber harvested exceed the combined annual allowable harvest in a ten year period. In other words, if harvests in year one and year two are each five times the annual allowable cut for the state forest, there will be no harvest during the next eight years. The allowable cut is determined using a combination of the most recent and accurate forest inventory data available and Geographic Information System (GIS) analysis. The timber base considered for this calculation includes legislatively designated state forest lands, as well as forest classified state-owned lands.

The annual allowable cut calculation is not a decision document, but a technical calculation based on information from the management plan and forest inventory report. Revisions to the annual allowable cut shall be made as changes in land ownership or designated uses occur.

The allowable cut is developed in three steps:

1. **Forest Inventory:** To determine how much timber can be removed on a sustainedyield basis, the forested area is spatially defined. Next, a forest inventory is conducted to determine the species, distribution, quality, and quantity of the trees growing in the defined area. The inventory identifies the acreage and standing volume of timber in the defined area. The inventory also includes measurements of growth rate and mortality, both natural processes within the forest. The inventory procedure is a sampling process which combines the use of

remotely sensed data and on-the-ground measurements to establish an acceptable level of reliability of the sampling.

2. **Sustained Yield:** Areas that are not commercially viable are deleted from the timber base. In the TVSF, for example, black spruce forest types are deleted from the timber base. The initial rotation age is derived from culmination of mean annual increment. This assumption is used to estimate the sustained yield of timber that could be harvested. See the Glossary, Appendix A, for definition of culmination of mean annual increment.
3. **Allowable Cut:** The AAC modifies the sustained yield estimate to reflect the guidelines and objectives in the Tanana Valley State Forest Management Plan.

Three factors affect the AAC:

1. **Site-specific factors:** Not all of the State Forest is available for harvest. For example, the six research natural areas, the Chatanika River corridor, and the Bonanza Creek Experimental Forest are not included in the timber base.
2. **Reduction Factors:** Reductions may be made from time to time as it is determinedthat an area should not or cannot be harvested. Because managers know such conditions exist, but not where they all occur, reduction factors (a percentage of eachspecies) are also applied to make the calculation conservative. The reduction factor is a reduction to the allowable cut for unknown, on-the-ground situations where timber harvest may not be feasible or appropriate. Reduction factors have been established for each of four major forest vegetation types that may contribute to the sustained yield timber base. These factors represent the estimated percentage of timber volume that will not be available because of other values. They are based on the division's experience preparing timber sales. Reduction is highest for the vegetation types that are associated with rivers where habitat and water quality concerns are highest. Reduction factors for hardwoods are lower as they tend to occur in large expanses, away from rivers or other site-specific resource concerns. The factors do not apply to research natural areas or the Bonanza Creek Experimental Forest, because these areas have been excluded in total from the sustained yield timber base.
3. **Rotation Age Adjustments:** Rotation age is adjusted to meet management objectives. These rotations are applied to portions of the State Forest where timber harvesting is allowed. Rotation may be based on many criteria, including mean size, age, culmination of mean annual increment, attainment of a particular minimum physical or value growth rate, and biological condition. There may be different rotation ages for different species, growing sites, and other factors. For each species, application of the adjusted rotation age to the sustained yield results in an allowable cut for the forest. Generally, it is expressed as a ten-year periodic allowable cut to allow for fluctuations in harvest rates due to market conditions and other variable factors. This is the allowable cut. See the DOF's Tanana Valley Allowable Cut Determination for more information.

Inventory

Management values such as the AAC are calculated based on the most recent and accurate inventory data available to the DOF. A combination of field measurements, aerial imagery, and GIS analysis is used to provide estimates of volume, stocking, defects, and growth by individual tree species. This information is then used to produce accurate volume data and geographically referenced spatial locations of individual timber stands. Thorough inventory data and understanding of spatial distribution allow for more informed management decisions and precise placement of boundaries.

The precision afforded by inventory studies reduces the need for estimation tools such as reduction factors. Reduction factors are a numerical reduction from the allowable cut to compensate for unknown on-the-ground situations where timber harvest may not be feasible or appropriate. As the designation of TVSF predates the widespread availability of GIS software, some management boundaries were selected without complete knowledge of an area's suitability for timber harvest. Reduction factors are residually included in some decision-making processes for the management of TVSF.

Procedures for Modification to the Allowable Cut

Examples of changes that would merit a forest-wide revision of the AC, based on changes to the assumptions, include changes in utilization standards, updated forest inventory data, revised site index data, or new yield tables for commercial species. Forest-wide revisions will be noticed in the FYSTS and will be subject to a technical review of the suggested changes. This could include peer review of the revised sustained yield report, inventory report or other related documents. A final report would be made to the TVSF Citizens' Advisory Committee and to the Board of Forestry for their review prior to adopting the revisions. An opportunity for public comment will be provided.

Boundary changes in the State Forest, land withdrawals, large fires or other landscape level disturbances that affect the data that the AC is based upon are examples of local events that would require a review of the AC document. Such changes would add or delete acreage of various forest types from the forest and result in a technical change to the AC. Such modifications would likely be within specific units in the forest and not be forest-wide revisions.

Technical changes to the AC, based on changes to the timber base, will be explained in the Five Year Schedule of Timber Sales (FYSTS) by the administrative unit of the forest in which the proposed change originates. There are currently three administrative units: Fairbanks, Tok and Delta. Northern Region offices prepare individual planning documents which are combined as the FYSTS at least once every two years. FYSTS are subject to interagency and public review processes.

Availability of Timber for Harvest

Any area in the State Forest is available for timber harvest and is part of the timber base for calculating the allowable cut unless it is prohibited by law or by this plan through a finding of incompatibility (see Appendix B, Finding of Incompatibility). When planning timber sales, the Division shall weigh the pros and cons of dispersing the locations of sales versus concentrating them, with consideration for public needs, forest management objectives, wildlife habitat management and other factors. Ultimately, the DOF intends to expand access throughout the majority of the TVSF, bringing the entire State Forest

under active management. Expanding the forest acreage under active management will support the State Forest purpose of sustainably providing the timber resource to Alaskans while dispersing the impacts of timber harvest over a greater area. Obstacles to this goal include landscape-level changes to geomorphology in the face of current warming trends, access to roadbuilding materials, and long term road maintenance. Some areas in the TVSF are excluded from timber harvest. These areas include Research Natural Areas (RNA) and Experimental Forests. More information on these topics can be found in the *Scientific Resources* section of this document.

Priorities for Timber Sales

DNR will give highest priority to preparing timber sales that are needed to maintain the range of forest types and stand ages that support diverse forest uses. Sales in upland areas where natural disturbance is restricted due to fire suppression are a high priority. When scheduling sales, DNR will also consider sales that are needed to support regional value- added processing.

Economic Objectives

Active timber management occurs on the TVSF in the form of sales and projects. Timber sales most directly contribute to meeting the economic goals outlined above, facilitating a transaction between timber operators and the DOF. As of 2024, the four sale programs offered by the DOF include:

- Competitive sales offered by sealed bid or oral auction (AS 38.05.120)
- Negotiated sales of up to 500 MBF for one year (AS 38.05.115)
- Negotiated sales in areas with high unemployment, under-utilized mill capacity, and under-utilized allowable cut (AS 38.05.118)
- Negotiated sales of up to 10 MMBF per year for up to 10 years specifically for value-added processing

A range of timber sale programs allows managing foresters to support local and state economic objectives across a spectrum of timber market and operator capacity scenarios. While an organized exchange of cash for timber resources is the primary objective of a timber sale, these sales can result in coincident benefits such as increased road access, recreation access, hazardous fuels management, or habitat management. In addition, increased infrastructure, development of, and maintenance of roads are long-term economic benefits to communities created by timber sales.

In some cases, forest management projects may be designed to achieve public goals such as maintaining biological diversity, reducing risks from wildland fire near residential areas, accelerating reforestation following infestations, providing capital improvements, or providing fuelwood to local markets. If the benefits of such projects offer significant non-monetary value to an area or adjacent community, managing foresters may decide to operate such projects at a monetary loss.

In either case, timber management on the TVSF occurs within an adaptive framework. Sales and projects are designed, implemented, monitored, and adjusted to reflect and accommodate a fluctuating timber market.

In most cases, the economic value of timber sales in the State Forest will be sufficient to pay for the costs of timber sale preparation and administration, reforestation, and road construction and maintenance and result in net revenue to the state. Some projects may be conducted at a deficit if they involve low-value timber or are designed to achieve other public goals such as maintaining biological diversity, reducing risks from wildland fire near residential areas, accelerating reforestation following infestations, providing capital improvements, or providing fuelwood to local markets.

In weak markets, total sale costs including reforestation are more likely to exceed revenue than in strong markets. However, even in weak markets, sales continue to meet the State's primary economic objective for timber, which is to provide local jobs. To further this mission, some sales are supported by CIP appropriations from the Legislature. Due to the multi-year nature of forest planning, revenue generation may occur in different years than the design and approval of a sale. Budgetary tracking should be considered across the entire sale timeframe rather than by fiscal years.

Salvage of Timber from Land Clearing

Timber with commercial or personal use values should be salvaged from lands that are to be cleared for other uses such as mining, transportation or utility corridors, and habitat enhancement projects, where feasible and prudent. See Chapter 1 for statutory direction for the Tanana Valley State Forest.

Timber Sale Planning

Locations of timber sales, acreage harvested, and quantities of timber offered will be proposed and reviewed in the Five Year Schedule of Timber Sales (FYSTS) planning process, as determined by AS 38.05.113. Transportation and reforestation issues will also be addressed in the FYSTS. Other development proposals not related to timber harvesting may be included in the Five Year Schedule of Timber Sales. DNR may attempt to quickly salvage accessible timber following wildland fires or insect infestation without the requirement to include sale information into the FYSTS. Salvage sales not included in the Five Year Schedule may be reviewed by other agencies and the public in Forest Land Use Plans.

Timber Sale Coordination

DNR will attempt to coordinate its timber sale offerings with the timber sales offerings ofother landowners or agencies when it will increase the viability of offerings, or offer other public benefits. The public and agency review of the Five Year Schedule of TimberSales offers the best opportunity to coordinate timber sales.

Forest Resources and Practices Act

The policies in this plan are in addition to those established in the Forest Resources and Practices Act (FRPA) (AS 41.17). The Forest Resources and Practices Regulations (11 AAC 95) also contain the guidelines that shall be followed in managing timber and otherresources. Guidance for implementation and compliance monitoring of practices reflecting these policies is described in the DOF publication *Implementing Best Management Practices for Timber Harvest Operations* (https://forestry.alaska.gov/forestpractices)

Silviculture and Harvest Practices

A variety of silvicultural systems will be utilized to achieve management objectives for specific stands of timber and will be discussed in the Forest Land Use Plan developed foreach timber sale. (See Glossary for more detailed definition). These systems are a planned program of silvicultural treatments conducted over the life of the stand.

Complexity will vary, but each treatment begins with a reproduction cutting and progresses through intermediate treatments to another reproduction cutting at the end of the rotation.

An important aspect of the practice of silviculture is the recognition that it is conducted in the absence of complete knowledge concerning the changing economic and ecological factors that affect each stand. Many treatments can only be properly evaluated after many years have passed.

Silvicultural systems used will:

1. be consistent with the silvics of the species and ecology of the forest type;
2. maintain the site's productivity; and
3. be chosen to best achieve the management objectives. A variety of silvicultural systems, including uneven-aged management, may be used. The basic silvics ofnative commercial species are listed below.

Table 2.6. Characteristics of Interior Alaskan Species.

Species	Shade Tolerance	Seed Crops	Seed Dispersal	Preferred Substrate	Sprouting Ability
White Spruce	Moderate	3-6 yr.	200 ft.	Mineral soil Rotten wood	None
Paper birch	Intolerant	1-2 yr.	400 ft.	Mineral soil	Stump sprouts (moderate if mature, low if overmature)
Aspen	Intolerant	Annual	Long distance	Mineral soil	High (root suckers)
Balsam poplar	Intolerant	Annual	Long distance	Mineral soil	High (suckers and buried stems)

Harvest units will be sized and configured to best meet silvicultural, wildlife, scenic, and other objectives of the program sale. See also the Scenic Values guideline of the Recreation section of Chapter 2, as well as AS 41.17.060(c)(6), 11AAC 95.820, and AS 38.04.200(a) and (b). Harvest methods can include intermediate partial cuts prior to the final stand renewal reproduction cuts as listed below. The harvest method used must meet the requirements (silvics) of the species to be established in the new stand. Harvest unit size and required harvesting techniques, including required or restricted equipment use, will be determined in the Forest Land Use Plan for each sale. The Forest Land Use Plan is subject to interagency and public review.

Table 2.7. Silvicultural Methods Used in Different Forest Types.

Forest Type	Reforestation Target	Intermediate Cuts	Reproduction Cuts
White Spruce	Mixed White Spruce and Hardwoods	Thinning Sanitation Improvement	Clearcut (diameter limited); Seed Tree; Group Selection; Shelterwood
Birch	Birch	Thinning Sanitation	Clearcut (diameter limited); Seed Tree; Group Selection
Aspen And Balsam Poplar	Aspen and Balsam Poplar	None	Clearcut (diameter limited); Shelterwood (only to suppress reproduction)
Mixed	Mixed White Spruce and Hardwoods	Hardwood Removal Sanitation	Clearcut; Seed Tree; Group Selection; Shelterwood

Reforestation

The Forest Resources and Practices Act (FRPA) sets the standards for reforestation following logging, including the minimum stocking of residual trees allowed without reforestation. In 2011, Division of Forestry and Fire Protection conducted an inter-agency review of the reforestation policies described in FRPA. Considering these revisions, the priorities for reforestation are: 1. those required by the FRPA; and 2.deforested or understocked highly productive sites. Sites will be reforested with native commercial species. When artificial reforestation is used, seed should be sourced from a growth area with similar conditions to the harvest site as specified in 11 AAC 95.375(f). Non-native species will be planted only for research purposes, not for forest management operations that would convert native forests to non-native species. The following table lists acceptable reforestation methods for major species.

Table 2.8. Probability of Success by Reforestation Method

Species	Artificial		Natural	
	Planting	Seeding	Seeding	Sprouting
Spruce	High	Low	Medium	N/A
Birch	Untested on TVSF	Untested on TVSF	High	Medium
Aspen and Balsam Poplar	Untested on TVSF	Untested on TVSF	Medium	High

Spruce Reforestation Methods

- Planting: Plant immediately following harvest or site preparation.
- Artificial Seeding: Spot seed on mineral soil seedbed; site preparation recommended.
- Natural Seeding: Seed is only available every 3 to 5 years depending on cone crop; mineral soil seedbed and seed source within 200 feet is preferred.
- Spruce tree will not sprout after harvest.

Birch Reforestation Methods

- Natural Seeding: Mineral soil seedbed preferred with seed trees within 300 feet.
- Natural Sprouting: Sprouting is unreliable for trees over 70 years.

Aspen and Balsam Poplar Reforestation Methods

- Natural Seeding: Mineral soil seedbed preferred.
- Sprouting: All stems in clone should be cut; leaving uncut 15+ native stems/acre will minimize sprouting.

Personal Use Firewood

Harvest of wood for personal use as heating fuel is permitted in designated areas on state land with proper permitting. Information on approved cutting areas and permitting processes can be found at the DOF website in sections describing Forest Resources and Wood Energy. Permits can also be acquired in person at DOF region offices.

Fire Management

Consistent with AS 41.15.010 and AS 41.15.020, forest resources in TVSF will be protected from destructive agents commensurate with the values needing protection. The intent for fire management in the TVSF is to identify areas where wildland fire can be allowed or prescribed fire can be used to reduce costs of fire suppression, reduce risk of damaging fires, and maintain natural diversity and productivity of forest stands. Fire suppression will continue to be a priority near residential areas, infrastructure developments, high value stands of timber and other investments. Specific recommendations for changes in fire management options will be developed through the Fire Management Option Change Procedures within the Alaska Interagency Wildland Fire Management Plan. Timber and other resource assets will be considered when determining fire protection levels. These practices will be described in a fire management plan that is developed as part of the Alaska Interagency Fire Management planning process. (See also Chapter 4, Section X., Fire Disturbance, for recommendations on changing fire suppression levels in the TVSF). For additional information on fire management topics in this plan, the Hazardous Fuels and Prescribed Fire section of Chapter 2 and the Fire Disturbance section of Chapter 4.

ACTIVITY SUMMARY

Tanana Valley State Forest is managed with the intention of providing a sustainable supply of timber and forest products to the Northern Region of Alaska. The primary DOF offices involved in this management are located in Fairbanks, Delta, and Tok. The Northern Region emphasizes the support of local value-added wood processors, commercial fuelwood processors, and jobs in its timber sale program. The division identifies and offers timber for salvage that was damaged by insects, floods, fire and windstorms. Making these sales available for purchase in the Fairbanks, Delta and, Tok, areas for all-season access and harvesting is a top priority. Within the Tanana Valley State Forest, approximately one million acres, or 56 percent of the forest, has been identified as commercial timberland containing approximately 1.2 billion board feet of timber.

Research and Information

In the 2010's, several sources of inventory data covering the Tanana Valley have become available. In 2013, a short-term forest inventory was conducted, enhancing the Division's understanding of accessible timberlands in the Tanana Valley. In 2016, Interior Alaska was added to the survey areas included in the US Forest Service's Forest Inventory and Analysis (FIA) Project. After a five-year hiatus, measurement resumed in 2020 on Cooperative Alaska Forest Inventory (CAFI) plots. This project was established in 1994, and its 200 plots ranging from the Kenai Peninsula north to Coldfoot constitute the longest-standing inventory project in the state and includes 59 plots on TVSF or in forested lands near TVSF. Other historical inventory plots are being considered for revival as funding allows.

These projects collect information to capture forest characteristics such as growth, diversity, carbon stocks, and forest health. Between the 2013 Tanana Valley Survey and FIA Tanana Valley unit surveys, TVSF managers have access to comprehensive data representing the forest types in the Tanana Velley to aid in decision-making. This information increases DOF's abilities to plan strategically and to monitor changes in forest characteristics over time. CAFI and FIA are both long-term studies, which are designed to resample plots based on survey cycles. With recurring sampling of these data, DOF can adapt future management strategies to continue best practices in the face of environmental change.

In an effort to make information more widely available, the DOF has organized the Alaska DNR Forestry Resources Viewer, an online GIS-driven web application. Map features visualizing up-to-date data such as infrastructure, timber sales, and reforestation are available publicly. See also Scientific Resources and Forest Health and Climate Change sections in this chapter.

Timber Products

Demand for sawlogs has historically remained stable in the Northern Region. The firewood and biomass (wood pellets, pellet logs) demand tend to fluctuate in response to global oil prices.

In general, Fairbanks-Delta Area is responsible for the majority of timber production in the interior and produces the highest revenue and volume outside of Southern Southeast Alaska. Historically, timber harvests primarily focused on supplying spruce sawlog timber. Fuelwood is an important but secondary timber product harvested in the Fairbanks-Delta Area. Between 2001 and 2024, intensity of timber harvest in the TVSF has hovered at approximately 10-20% of the total allowable cut. In the Tok

management area, timber sales and harvest have been more focused on fire suppression and vegetation management. As timber harvest promotes the removal of resinous fuels such as spruce and regeneration of fire-resistant hardwoods such as birch, many of the timber sales in the Tanana Valley State Forest serve dual purposes as economic opportunities as well as fuels management tools.

Management

One important challenge faced by contemporary land managers is adapting to landscape-scale change. In recent decades, there have been observations of dramatic changes in temperature, precipitation, wildfire occurrence, and permafrost freeze and thaw cycles. These changes appear to be more intense in the northern and northwestern areas of the state (Thoman and Walsh 2019). Variable conditions such as these require land management that can adapt to rapid environmental changes. Northern Region Forestry combines elements of prediction with opportunities to adapt to promote flexibility in management policies as the Alaskan landscape continues to change. Five Year Schedules of Timber Sales are a primary management tool employed by DOF. The short-term nature of these plans allows frequent evaluation of market demands and available forest products. Every-other year planting schedules for reforestation, annual regeneration surveys, and scarification practices allow DOF to monitor re-establishment of forests post-harvest, which aids in predictions of timber availability in the future. Infrastructure maintenance and fire management are additional responsibilities of DOF on State Forest land and provide information about changing conditions on a landscape scale.

M. NON-TIMBER FOREST PRODUCTS

GOALS

Provide opportunities for commercial and personal use harvest of non-timber forest products (NTFPs) while managing TVSF in accordance with guidance and regulations specified in AS 41.17, the Alaska Forest Resources and Practices Act. According to 11 AAC 96.250(23), non-timber forest products include "mushrooms, conks, boughs, cones, leaves, burls, landscaping transplants, roots, flowers, and fruits." Non-timber forest products are specified as products derived from biological resources and do not include minerals, soil, rocks, water, animals, or animal parts.

MANAGEMENT GUIDELINES

Permitting for commercial harvest of NTFPs is managed by the Alaska DMLW in coordination with the DOF. An official Limited Non-Timber Forest Products Harvest Permit must be obtained from the DMLW to harvest commercially on any general state land. "Commercial Use" refers to NTFPs harvested for the primary purpose of sale, resale, or use in a manufacturing process resulting in a product that will be sold or used for business activities. NTFP permits can be obtained over-the-counter at local DNR Public Information Centers or through the DMLW Land section website: https://dnr.alaska.gov/mlw/lands/. No permit is required to harvest reasonable quantities of NTFPs for personal use.

The "***Alaska Non-Timber Forest Products Harvest Manual***" is a guide published by the DMLW that outlines use and sustainability goals for commercial harvest of non-timber forest products on state land. This manual is available through the Land Section website listed above.

Species of aquatic plants excluding the rushes, sedges and true grasses, growing in a marine aquatic or intertidal habitat are managed by the ADF&G. Information on permitting and harvest standards of these products, is available through local ADF&G offices.

Some products such as sap and vegetative mats for transplant require standard land use permits for harvest. Contact local DMLW offices for more information.

For information regarding timber products such as firewood, saw-timber, pulpwood, cull logs, house logs, small roundwood, poles, posts, and Christmas trees, see the *Timber Management* section of this chapter.

ACTIVITY SUMMARY

Harvest of non-timber forest products in the TVSF generally occurs as incidental, small-scale projects. Often this activity occurs recreationally and/or for personal use.

N. TOURISM

Tourism markets Alaska's natural, cultural, historic, and recreational resources. The marketable resources on which tourism depends in the TVSF include scenic viewsheds, wilderness, forests, wildlife, lakes, and rivers, along with developed areas, which possess cultural, economic, and/or historical significance. The difference between recreation and tourism is that tourism is a commercial activity, while recreation is a leisure activity.

The Tanana Valley State Forest is managed for multiple use, consistent with the purpose of the establishment of the State Forest (AS 41.17.200). The State Forest is one component of the mosaic of public land in the Tanana Valley that includes State and federal park land, as well as general State land that has been designated for recreation. The State Forest will be retained in State ownership and managed to allow a range of development activities to occur, including tourism operations.

Tourism activities in the State Forest are generally concentrated along rivers, roads, and trails. The following list describes some of the resources in the Tanana Valley State Forest that benefit tourism.

A. The Tanana Valley's forests provide natural settings for visitors engaged in activities ranging from sightseeing to canoeing to wilderness camping and hiking.

B. Timber harvest in the Tanana Valley State Forest creates timber roads that can provide access to the forest for people using all different modes of transportation, including dogsled, foot, horses, skis, ATVs, and snowmachines.

C. The Tanana Valley State Forest Management Plan allows for the development of roads, boat launches, pull-outs, campgrounds, cabins, and trails that would provide visitors with opportunities to access recreational and scenic sites. The plan also encourages the development of facilities that provide information about areas of cultural, economic, and/or historical significance, or about forest history and ecology (such as visitor centersand interpretive sites).

GOALS

Tourism Opportunities

Provide opportunities to appreciate Alaska's natural environments, history and diverse cultures and enhance visitors' experiences in Alaska.

1. Provide opportunities for diverse tourism activities (See Table 3, Recreation Opportunities Matrix, for examples of activities in the State Forest).
2. Allow long-term access to forest resources valuable to tourism.
3. Identify areas with tourism use (See Chapter 3 Unit descriptions for detail). Fishing and hunting are described in the fish and wildlife sections of this chapter.
4. Support appropriate commercial development of tourism facilities and services through leases and technical assistance where tourism needs can most effectively be met by private enterprise, while avoiding or minimizing conflicts with other uses.

Tourism Resource Protection
Alaska's natural, cultural and historic resources are the foundation of Alaska's tourism industry and they must be protected.

1. Protect natural features of regional or statewide significance and preservecultural features representing major themes in Alaskan history.
2. Prevent soil erosion, loss of fish and wildlife habitat, degradation of scenic andrecreation areas, and loss of access to open space.
3. Encourage public education using signs, interpretive trails, and programs to portray natural, subsistence, cultural and historic features and forestry practices.

Economic Development
Alaska’s tourism industry has grown dramatically since statehood and is now one of the state's largest industries. Tourism creates jobs and services for Alaska residents, and many tourism dollars are spent in Alaska. The challenge is to provide the benefits of a tourism industry without conflictingwith existing community lifestyles.

1. Manage Alaska's recreation resources to support a tourism industry that supplies jobs, income, and revenue.
2. Minimize conflicts between tourism and other uses.
3. Allow for recreation and tourism facilities that enable appreciation of Alaska'sscenic and historic resources.

MANAGEMENT GUIDELINES

Campgrounds, Public Use Cabins, and other Recreational Facilities.
These facilities are addressed in the Recreation section of this chapter.

Private Commercial or Public Nonprofit Recreation and Tourism Facilities
Lodges, tent camps, ski areas, or other private facilities designed to be run as private, profit-making, or public nonprofit recreation and/or tourism facilities may be permitted orleased if the facility fulfills the following conditions:

1. The proposed development adds to or enhances public recreation and tourismopportunities.
2. The amount of use generated by the facility will not conflict with themanagement intent for the unit or site.

Tourism operations shall not preclude other uses of the State Forest, referenced in AS 38.05.112(c), unless a finding of incompatibility has been issued (see Appendix B).

The facility will be sited, designed, constructed, and operated to create the least conflict with natural values and traditional uses of the area. It will also be sited and designed in accordance with management guidelines for riparian and instream flow, fire management,access, and wetlands.

Final approval of a permit or lease for the facility will be given only after interagency and public review. This review may be coordinated with the review of the Five-Year Schedule of Timber Sales process. See Chapter 4 for a description of commercial use permit requirements.

Management of Forest Resources for Tourism

Tourism is one of the uses for which the Tanana Valley State Forest will be managed. According to the Forest Resources and Practices Act, AS 41.17.060 (c)6, allowance shall be made for scenic quality in or adjacent to areas of substantial importance to the tourism and recreation industry. DOF can accommodate tourism in its operations by

1. Coordinating timber harvest and road building plans to accommodate tourism activities that benefit from the improved access and/or regrowth from harvestedareas.
2. Considering impacts on tourism activities when designing timber harvest areas determining silvicultural methods.

Techniques to address scenic concerns are discussed in Management Guideline M., Silviculture and Harvest Practices, part of the Timber Management section of Chapter 2. See also AS 41.17.060(c)(6) and 11AAC 95.820. The Protection of Scenic Resources guidelines in the Transportation section of this chapter contains measures to help protect scenic resources, as well as guidelines that provide opportunities for road-accessible recreation activities. Additionally, the Scenic Values guidelines in the Recreation section of this chapter contains scenic value guidelines.

Management of Sites

Management of tourism sites will promote high quality recreation experiences,environmental quality, and safety.

Trails

See the Trails section of this chapter.

Information and Education

Interpretive signs, trails, and displays are encouraged. Development of interpretive facilities will be addressed within the Five-Year Schedule of Timber Sales or other public review process and development will be subject to available funding.

ACTIVITY SUMMARY

To maintain structures such as camps or other facilities, or for overnight use of state lands for 14 days or longer, a business must apply for a permit or lease through DNR DMLW. As of 2002, all commercial recreation businesses that use state uplands, shorelands, tidelands, and submerged lands on a day-use basis must register with DNR pursuant to 11 AAC 96.018. Commercial recreation operators that operate exclusively on state-owned waters are not required to register, though may be subject to other regulation. Information regarding requirements and process for leasing, permitting, or registration can be found on the DMLW Land Office webpage (https://dnr.alaska.gov/mlw/lands/). There are currently no active permits or leases for Tourism facilities on TVSF. Businesses that are registered for day use are

organized by ADF&G Game Management Unit (GMU), so a precise number of registered businesses operating on TVSF land is not available. The GMUs containing TVSF each show approximately 15 to 20 businesses registered for commercial recreation day use in 2021.

O. RECREATION

GOALS

Recreation Opportunities

Alaska's abundant and diverse recreation resources are one of the major attractions for living in the state. Residents will continue to demand high quality, accessible recreation opportunities.

The Tanana Valley State Forest will be managed for multiple use, consistent with the purpose of the establishment of the State Forest (AS 41.17.200). The State Forest is one component of the mosaic of public land in the Tanana Valley that includes state and federal park land, as well as general state land that has been designated for recreation. Recreational use of the State Forest is recognized and protected in the State Forest enabling legislation, AS 41.17.230(a). The State Forest will be retained in state ownership and managed to allow a range of activities to occur, including public recreation. The State Forest complements other public lands in the Tanana Valley because its roads and trails allow it to fill a different niche than other, less accessible, lands in the area. Many of the high-value recreation lands within the Tanana Valley are outside the State Forest, such as clear water rivers and alpine areas. With these considerations, the Tanana Valley State Forest will be managed for the following recreation goals.

1. Allow and encourage a wide range of recreational uses of the State Forest. Forest lands will be managed to provide a range of recreation opportunities (see the Recreation Opportunities Matrix, Table 3).
2. Preference will not be given to one recreational use over another recreational use by restricting particular uses. The TVSF will be managed to allow people to pursue "generally allowed" (11 AAC 96.020) recreation activities. The DOF will use a variety of management techniques to resolve conflicts before invoking use restrictions. Use restrictions will require a finding of incompatibility (see Appendix B).
3. State Forest land management will not seek to duplicate opportunities provided by other public lands in the Tanana Valley, such as wilderness or highly developed recreation areas.
4. Allow for the development of recreation areas, trails, rivers, and sites that provide a range of year-round outdoor opportunities for a variety of ages, abilities, and use preferences near population centers and major travel routes. Developments will be designed and located to be compatible with other uses.
5. Consult with communities on recreational plans.
6. Identify areas with recreation use. These areas are described in Chapter 3 on a unit-by-unit basis. Fishing and hunting activities are addressed in the fish and wildlife sections of Chapter 3.
7. Allow appropriate commercial development of recreational facilities and services through land leases and technical assistance where public recreation needs can most effectively be provided by private enterprise. (See also the Tourism section of this chapter.)

Recreation Resource Protection

Alaska's natural and cultural resources are the foundation of Alaska's recreation opportunities and they must be protected.

1. Protect natural features of regional or statewide significance and preserve cultural features representing major themes in Alaskan history.
2. Prevent soil erosion, loss of fish and wildlife habitat, degradation of scenic and recreation areas, and loss of access to open space.
3. Allow for public education through signs, interpretive trails, and programs to portray natural, cultural, and historic features and forestry practices.

Economic Development

Alaska is an international recreation and tourism attraction. See the Tourism section in this chapter for the economic development goals that pertain to tourism and recreation.

MANAGEMENT GUIDELINES

Recreational Facilities

Construction and/or maintenance of recreational facilities does not fall within the responsibilities of the DOF (AS 41.17.030) or within the primary purpose of the TVSF. Other entities may propose development of recreation facilities within TVSF through a DNR DMLW land use application. Such applications will be reviewed by DOF before finalization, and DOF may approve or deny potential projects, or provide stipulations for approval. Through forest management practices, DOF may provide opportunities for access that support recreational use in the TVSF.

Private Commercial or Public Nonprofit Recreational Facilities

See the Tourism section in this chapter for the guidelines for the construction of recreational and tourism facilities.

Private Recreational Facilities

DNR will not authorize the construction of cabins or other facilities, or the private use of existing unauthorized cabins for private noncommercial use in the State Forest. Demand for recreational cabin use will be provided for by public use cabins or by commercially operated facilities (see the Tourism section of this Chapter).

Use of cabins and land previously leased to private individuals under the Remote Cabin, Open-to-Entry, or other disposal program, is not affected by this policy.

Management of Sites

Management of recreation sites will maintain high quality recreation experiences, environmental quality, and safety.

Trails

See the Trails section of this chapter.

Waterbodies
See the Riparian and Instream Flow section of this chapter.

Scenic Values
Development activities, such as timber harvesting, will be sited, designed, and carried out to minimize adverse impacts to scenic values. Vegetation that obscures scenic vistas may be managed to facilitate viewing. Techniques to address scenic concerns are discussed in Management Guideline D. Management of Commercial Forest Types, and Guideline M., Silviculture and Harvest Practices, in the Timber Management section in Chapter 2. See also AS 41.17.060(c)(6) and 11AAC 95.820.

Information and Education
Interpretive signs, trails, and displays are encouraged to provide recreational and educational opportunities. Development of interpretive facilities will be addressed within the Five-Year Schedule of Timber Sales or other public review process and development will be subject to the available funding.

ACTIVITY SUMMARY

The availability of access affects recreation opportunities. Dispersed recreation activities occur throughout the forest, but are mainly concentrated along roads, trails, and river corridors. See the "Examples of Recreational Activities" row of the Recreation Opportunities Matrix (Table 2.9) for activities identified in the State Forest. The character of recreation opportunities will vary over time and shift to different locations depending upon access, timber harvest activities and other resource management activities. The opportunities described in the Recreation Opportunities Matrix (Table 2.9) will vary by type of access and by season and year, as access development and maintenance shifts within the forest. All-season recreation opportunities will change during the winter if the roads are not plowed. During the winter, if the roads are plowed, seasonal access areas may provide opportunities similar to those in all-season accessed areas. Encounters with resource development activities will vary over time and location. Current and anticipated primary access for TVSF units is found in Table (2.12), *Primary access by subunit in the Tanana Valley State Forest*, located in the Transportation section of Chapter 2.

Management of the forest for multiple use, through shifting patterns of access, human use, resource development and vegetation types over time and space, will maintain a range of recreation opportunities. Where feasible, the DOF will manage timber harvest to enhance recreational activities.

The shores of streams, lakes, and rivers listed in Table 4 are designated Special Management Zones in part to maintain their recreation value (see the Riparian and Instream Flow Management section of this chapter).

The Eagle Trail State Recreation Site is the only developed facility within the State Forest. Other recreational facilities, including campgrounds, public use cabins, boat launches, waysides, interpretive sites, and trails, have been recommended for construction in the State Forest.

Construction of these developments, however, is contingent upon funding for both construction and

maintenance. Few developed recreation facilities are anticipated to be constructed in the State Forest in the next twenty years. Potential recreation facilities are listed in Chapter 4 in Table 4.2.

Table 2.9. Recreation Opportunities Matrix.

Characteristics of recreation activity vary with level of access.

RECREATION CHARACTERISTICS	ACCESS TYPE			
		Units with Seasonal Access	**Areas with All- Season Access**	**Developed Recreation Sites**
	Levels of Access	Accessible by highway vehicles only seasonally. Access is by all-weather roads that are unplowed in the winter, by winter roads that are not drivable in the summer, by trails that are not suitable for highway vehicles, or by boat.	All-weather roads connected to highway and maintained for year-round access.	Connected to highway system and maintained for access at least during high- use season.
	Human Use	Low to moderate use, varies seasonally.	Moderate use and encounters with other people.	Highest level of use and encounters with other people.
	Use Challenge and Risk	Moderate to high levels of challenge and risk. Requires medium to high skill for safety.	Low to moderate levels of challenge and risk. Requires low to medium skills for safety.	Low level of challenge and risk. Lowest level of skills needed.
	Examples of Recreational Activities	Fishing, hunting, boating, cross-country skiing, skijoring, snowmachining, dog mushing, hiking, trapping, canoeing, camping, berry picking, wildlife viewing, recreational mining.	Activities in seasonal access column, plus: vehicle day use, biking, camping in campgrounds, bus tours, educational programs, vehicle camping, sightseeing.	Vehicle camping in developed campsites, picnicking, day-hiking on developed trails.

P. TRAILS

GOALS

Public Use Opportunities

Ensure continued opportunities for public use of important recreation, public access, and historic trails of regional and statewide significance. Provide foot, dogsled, horse, mountain bike, snowmachine, four-wheeler, and sometimes vehicle access for a variety of purposes. Anticipate increased use with population growth.

Local Trails
Assist in establishing local trail systems that provide access to community recreation areas.

Trail Corridors
Protect or establish trail corridors to meet projected future use requirements and protect current use. The width and siting of access corridors depends upon their function and location. General precautions are taken when developing new access to avoid critical wildlife concentration areas. Easements are used to create access corridors, and information regarding this process is available through the DNR Division of Mining, Land, and Water.

MANAGEMENT GUIDELINES

Requirement for Access
An assessment of the need for public access on a land area is required prior to leasing or otherwise disposing of state lands. If local access needs are identified through the adjudication or agency and public review process, access trails may be reserved through either retention of state land in public ownership or creation of a public access easement

Ownership
All land within the Tanana Valley State Forest is owned by the state of Alaska. DNR determines whether access corridors are retained under state ownership or opened to public access through a public use easement.

Width of Access Corridors
The width of an access corridor is determined according to the guidance provided in the Eastern and Yukon Tanana Area Plans areawide land management policies under *Public Access.* Trails of regional or statewide significance within TVSF are managed to have corridors with a minimum width of 100 feet (50 feet each side of centerline). These trail corridors within TVSF boundaries should be managed to minimize negative effects or land use conflicts and maintains the authority to increase corridor widths as appropriate for their location or intended use.

Trail rerouting
Rerouting of trails for a short distance may be permitted to minimize land use conflicts or to facilitate use of a trail if alternate routes provide opportunities similar to the original route. If trails are rerouted, provision should be made for construction of new trail segments if warranted by type of use. Rerouting of trails will be addressed in the Five-Year Schedule of Timber Sales and Forest Land Use Plan processes.

Alignment with Crossings
When it is necessary for powerlines, pipelines, or roads to cross trail corridors, crossings should be at 90-degree angles when feasible, except when a trail corridor is deliberately combined with a public utility or transportation corridor. Where feasible, vegetative screening should be preserved when a utility crosses a trail corridor.

Land Use in Corridors

To the extent feasible and prudent, land use activities within a trail corridor, such as permits, leases, timber sales, and material sales, will be managed and permits and leases issued so that trail use or the aesthetic character of the trail are not adversely affected. This does not preclude trail crossings or rerouting of trails as described in this section.

Conversion of Trails into Roads

Trails that are classified in this plan as trails of regional or statewide significance will be converted into roads only after consideration in the Five-Year Schedule of Timber Sales and Forest Land Use Plans. The DOF will be invited to comment on RS 2477 route upgrade applications where they impact State Forest lands. DOF should coordinate with the Division of Mining, Land and Water regarding proposals to upgrade or vacate RS 2477 routes and will include such proposals in the Five-Year Schedule of Timber Sales and Forest Land Use Plans. Upgrades initiated by parties for non-timber uses are exempt from inclusion in the Five-Year Schedule of Timber Sales and Forest Land Use Plan processes, but would require an authorization from the Division of Mining, Land and Water.

Conversion of Roads into Trails

A forest access road may be converted to a trail after its use as a road has terminated. The nature of the road may require that it be put-to-bed, thus the new "trail" may have water bars, removed culverts, grass seeding, or other measures to prevent erosion which other trails may not have. Roads will be converted into trails only after consideration in the Five-Year Schedule of Timber Sales and Forest Land Use Plans. Any anticipated conversions should consider the Corps of Engineers' silvicultural exemption during the process.

RS 2477 Trails

The state of Alaska claims, occupies, and possesses each right-of-way identified in AS 19. A right-of-way identified by this statute is available for public use under regulations adopted by DNR or, where applicable, the Department of Transportation and Public Facilities. Detailed management policy and a list of RS 2477 trails within TVSF can be found in the *Public Access* section of this chapter. For more information, contact Alaska DMLW Public Access Assertion and Defense program (https://dnr.alaska.gov/mlw/paad/rs-2477/).

Trail Use Restrictions

Several statutes address restriction of uses (AS 41.17.200(b), AS 41.17.230(a), AS 38.05.300(a)), restrictions on easements and rights-of-way use (AS 38.04.058), and restrictions of traditional means of access (AS 38.04.200). Applicable statutes and regulations must be considered when contemplating trail use restrictions.

Before restrictions are put into place, DNR should attempt to resolve the problems through management actions. Restrictions on the use of trails may be imposed to prevent damage to the trail. Such restriction may limit the types of trail traffic based on trail conditions or by season. Restrictions which are based on avoiding conflicts among different types of trail users will require public process and a description of the intended actions specifying the trail and the use restrictions.

Management of Future Trails

In the Future, trails may be constructed for specialized recreation, access, or multiple use. Alignment, standards, and management guidelines of such trails will be proposed and reviewed through a public review process.

ACTIVITY SUMMARY

Approximately 250 miles of trails have been designated to be of regional or statewide significance intersecting with the TVSF management area. Trails that are documented RS 2477 routes or identified through DMLW authorization records will be considered by managing foresters during the planning and decision processes for management activities within the TVSF. Many other trails within the TVSF are locally or regionally significant, though they are not documented in the State's land record system. Trails that are not documented through DMLW authorization records must be identified to managing foresters during the public review of FYSTSs, BIFs, and FLUPs that affect the location of a given trail. DOF foresters are not required to identify trails beyond those documented in official state records, though the access, recreation, or other values of trails identified during public review of forest management activities must be considered in the decision process.

Q. PUBLIC ACCESS

GOALS

1. Maintain, enhance, or provide adequate access to publicly owned land and resources.
2. Ensure adequate opportunities for the public's use of public resources of local, regional, or statewide significance.
3. Provide access to and within Tanana Valley State Forest, including bridge crossings of major rivers, consistent with federal and state design, environmental requirements, and DOF goals.

MANAGEMENT GUIDELINES

Reservation of Public Use Easements

Before leasing or otherwise disposing of the land estate, DNR will reserve public land easements pursuant to the requirements of 11 AAC 51.015. This section of administrative code specifies standards for reserving public access easements and are used as the basis of reservation for such easements in authorizations granted by DNR.

Retain Access

The state will manage for public access to the Tanana Valley State Forest by retaining access sites and corridors in public ownership, reserving rights of access when land is leased adjacent to the State Forest, acquiring access, or identifying RS 2477rights-of-way. Rights-of-way within the Tanana Valley State Forest that are determined to qualify as RS 2477 Trails are to be retained in state ownership or made a stipulation of approval in permits and leases. More information regarding RS 2477 rights-of-way can be found in the Trails section of this chapter and at the DNR Division of Mining, Lands, and Water website (https://dnr.alaska.gov/mlw/paad/rs-2477/). Generally, section line easements should not be vacated on land within or adjacent to the State Forest unless reasonable alternative access can be established. Within the State Forest, DNR will reserve public access across areas leased for privateuse.

Management of ANCSA 17(b) Easements

ANCSA 17(b) easements are public easements through Alaska Native Corporation lands and waters. The Bureau of land Management manages 17(b) easements. Generally, DNR will not accept management of 17(b) easements, though DNR may manage pre-existing or underlying RST's. The DNR Division of Mining, Land and Water manages RS 2477 routes where theycoincide with 17(b) easements. Information regarding ANCSA 17(b) easements can be found online through DNR Division on Mining, Land, and Water (https://dnr.alaska.gov/mlw/paad/17b-easements/).

Access for Development

When an access route is constructed for resource development, existing public access will not be displaced or rendered unusable by new construction. Various uses of resource development roads shall not restrict the purpose for which the roads were constructed.

Public Access Rights
Where feasible and within the limits of available funding, full public rights of access should be provided when roads are constructed by state or local governments for purposes other than forest operations. Perpetual exclusive easements should be acquiredand recorded when the state acquires access rights across property in other ownerships adjacent to the State Forest.

RS 2477 Designated Trails
In 1998, the Legislature enacted AS 19.30.400-420, which states that the State claims, occupies, and possesses each right-of-way granted under former 43 USC 932 (RS 2477) that was accepted either by the State, the Territory of Alaska, or by public users. The statute lists over 650 RS 2477 routes, providing notice to the public of their existence and vesting management authority for these rights-of-way with DNR.

The statute requires DNR to report annually to the Legislature on RS 2477 routes that have been newly identified. The statute also says that failure to identify or include a right-of-way on the list of routes does not relinquish any right, title or interest the public has in a right-of-way under RS 2477. Accordingly, there may be more routes in the TVSF than are currently identified.

RS 2477 Rights-of-way that intersect with the TVSF can be researched using DNR Alaska Mapper (https://mapper.dnr.alaska.gov/). The prescribed width for each right-of-way is generally 100 feet (50 feet each side of centerline) under AS 19.10.015.

Coordination with the Department of Transportation and Public Facilities (DOT/PF)
Access needs, such as right-of-way widths or road locations, should be coordinated with DOT/PF.

Limiting Access
Access to land within the State Forest may be curtailed at certain times to protect public safety, allow special uses, and prevent harm to the environment. Examples of conditions that may justify limiting public access are fire management, timber harvest operations, and high soil moisture content when traffic may cause extensive damage to roads and trails or sensitive populations of fish and wildlife.

Existing statutes address restrictions of most easements and rights-of-way use (AS 38.04.058), and restrictions of traditional means of access (AS 38.04.200). These and subsequent statutes and regulations must be considered when contemplating use restrictions.

Pipeline Access Roads and Crossings
On state land, access is allowed across and along the Trans-Alaska Pipeline (TAPS) under the following conditions:

1. Crossing on foot or by vehicles of less than 1,500 lbs. curb weight is allowed without a permit.
2. Crossing by vehicles, pickups, four-wheel-drive vehicles, and all-terrain-vehicles over 1,500 lbs. curb weight requires a permit except at designated vehicle crossings.
3. The public may not travel on the TAPS right-of-way parallel to the pipeline except by permit from the DNR State Pipeline Coordinator's Office.

Pipeline Crossings

DNR should work with Alyeska Pipeline Service Company to identify options to develop new pipeline crossings. Future pipelines (such as the Trans-Alaska Gas Line) should provide more places for public crossings to state land for hunting, fishing, recreation, timber harvest, settlement, and other uses or provide a mechanism to improve or develop future public crossings as the need arises.

ACTIVITY SUMMARY

Tanana Valley State Forest is managed to include public access by road, RS 2477 Trail, winter access, and navigable water. Information for access permits, where necessary, is available online through DNR Division of Mining, Land, and Water. A list of RS 2477 trails that cross Tanana Valley State Forest is available in the *Trails* section of this chapter, though subject to change as additional RS 2477 trails are identified. Detailed information describing the nature of access at specific locations is available in the *Transportation* section of this chapter. DMLW permits, easements, or leases within TVSF grant access via winter trail, road, or pipeline road. The TVSF contains a mix of access routes designed by DOF as part of the TSVF Forest Road system and those designed and managed by other entities through the DMLW adjudication process. The majority of these provide pipeline access, while a few grant access to other small scale personal use sites.

R. TRANSPORTATION

The DOF plans to bring the entire timberland base of the State Forest under active resource management. At current harvest levels it will take several rotations before all areas of the forest are brought under active management. Current rotation lengths vary from 80 years in the hardwoods to 120 years in the softwoods

As all areas of the forest are brought into active management the transportation system will be expanded by using a variety of road systems. At some point in the future, all areas will have access via an all season or winter road system. Portions of the road system will be inactive or "put to bed" for long periods of time. Other portions will be maintained as primary access routes into the forest. Planning and route selection for this system will be incremental and will occur as timber sales or other resource management activities occur in different geographic regions of the forest. This transportation system will be integrated and coordinated with other major land-owners, private and public, to ensure an efficient and logical transportation system is developed.

GOALS

Develop a transportation system to implement this plan and integrate it with other transportation needs in the Tanana Basin.

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

Minimize Adverse Impacts
Develop a transportation system with minimal adverse impact on the environment,aesthetic and cultural features, and other users.

Promote Efficiency
Develop a transportation system through a process of efficient route planning and with consideration of the full range of access needs, such as access to approved developments, commercial timber, recreation, and for forest protection.

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

Minimize Access Restrictions
Avoid unduly restricting access to TVSF land and resources

MANAGEMENT GUIDELINES

Forest Road Construction and Maintenance Standards
The DOF constructs and maintains forest roads on State Forest as well as other State land in support of forest management activities. Forest road typically is constructed through timber sales, public works or force account projects to meet the State's forest management objectives. The DOF managed transportation infrastructure generally is accessible and is used by the public for recreation, subsistence, personal use, firewood, etc. Detailed specifications are outlined in the DOF Road and Bridge Standards, adopted in 2016. The standards described in the

2016 document represent acceptable conditions of State Forest roads. In the Tanana Valley State Forest, road engineering specifications are outlined in timber sale contracts on a case-by-case basis. These specifications are modeled after the 2016 road standards as feasible and prudent, environmental characteristics of an area.

A mixture of all-season, winter, and spur roads should be planned appropriately for their intended use and to minimize adverse environmental impacts, including impacts on wildlife habitat and riparian areas. The Forest Resources and Practices Act (AS 41.17.010-.900) specifies measures required for environmental protection. The Forest Resources and Practices Regulations (11 AAC 95) contain road construction and maintenance standards. The Northern Region Forest Road Standards are in Appendix F.

Identification of Potential Transportation Routes

Rivers and terrain influence the type of access that exists, and the type of access that will be constructed in the State Forest. Much of the State Forest is accessible only by winter road due to the presence of wetlands and rivers. Descriptions of anticipated access for each management unit is found in Chapter 3. Due to changing economic conditions or the construction of roads for non-timber projects, access may change from what is described in Chapter 3.

The Eastern Tanana Area Plan (ETAP) and Yukon Tanana Area Plan (YTAP) provide general recommendations for transportation routes necessary to support the land use policies in that plan, including some routes that cross the Tanana Valley State Forest. However, more detailed route alignment and feasibility analysis must be completed before the routes can be considered final.

To the extent feasible and prudent, DNR will avoid actions incompatible with the eventual construction of any potential transportation routes within the Tanana Valley State Forest that were identified in the ETAP and YTAP until final decisions are made on the feasibility of these routes. The transportation routes that could potentially pass through the State Forest are described in the ETAP and YTAP.

Access Plans for Resource Development Projects

Access needs for forest management are described in Chapter 3 for each management unit and are summarized in Table 12. Access plans may change over time because of factors like access development for non-timber resources (e.g., minerals and oil and gas). Incremental development of forest roads is anticipated to occur throughout the State Forest. The rate will depend on demand for forest products and need for forest protection and other multiple use activities. Non-timber development projects may not be anticipated in this plan but may be initiated in any part of the State Forest. Prior to the initiation of a resource development project, DNR will identify appropriate means of access and responsibilities for design, construction and maintenance of any proposed transportation facilities. Access plans for timber operations will be proposed to the public and other agencies through the Five Year Schedule of Timber Sales and Forest Land Use Plans. Access plans for other development activities will be coordinated through the applicable permitting processes.

Joint Use and Consolidation of Surface Areas

Joint use and consolidation of surface access routes and facilities will be encouraged wherever it is feasible and prudent to do so. Roads will be constructed for the use and development of resources and will be open to the public to allow for the use and development of resources except for closures noted in the Road Use Restrictions heading of this section. Surface access should be sited and designed to accommodate future development and avoid unnecessary duplication. Access plans should be coordinated with adjacent landowners to promote joint

use and efficiency. The access needs of other users should also be considered. The feasibility of using an existing route or facility will be evaluated before the use of a new route or facility is authorized. If a forest road is used by a limited group of people, such as for private land access, DNR will attempt to secure an agreement from the users for their share of the maintenance of the road to enable continued use of the road during periods when timber harvest is not occurring.

Protection of Hydrologic Systems

Transportation facilities will, to the extent feasible and prudent, be located to avoid effects on quality or quantity of adjacent surface water resources or detract from recreational use of the waterway. Standards for road construction and associated facilities are described in 11 AAC 95.285-335. During Winter, snow ramps, ice bridges, or other methods are required to provide access across frozen rivers, lakes, and streams to avoid the cutting, eroding, or degrading of banks. Operationally, cutting of banks may be required by site-specific conditions. If this technique is used, it must be approved via the Title 16 Process. These facilities should be removed immediately after final use. All transportation facility construction and maintenance is required to comply with water quality standards of the State of Alaska. All roads for forest operations shall comply with best management practices in the Forest Resources and Practices Regulations.

Protection of Fish and Wildlife Resources

Important fish and wildlife habitats, such as riparian areas, wildlife movement corridors, important wintering or calving areas, and threatened or endangered species habitat shall be avoided in siting transportation routes unless no other feasible and prudent alternatives exist. Location of routes and timing of construction and duration and conditions of use and permanence of roads shall be determined in consultation with the ADF&G. See also the *Fish and Wildlife Habitat* section of this chapter.

Protection of Cultural Resources

DOF will consult with the Alaska State Office of History and Archaeology, which includes the State Historic Preservation Office, to avoid known historic and archeological sites during construction of transportation facilities. More information is available in the *Cultural Resources* section of this chapter.

Protection of Scenic Resources

Roads and other transportation facilities should be sited and designed to minimize impacts to scenic resources identified in Chapter 3. Statutes and regulations pertaining to aesthetic considerations include AS 38.04.200, AS 41.17.060(c)(6), and 11 AAC 95.820.

Timber Salvage from Rights of Way

All timber that has value for commercial or personal use should be salvaged on rights-of-way to be cleared for construction. See AS 41.17.083 regarding salvage and salvage value.

Material Sites

To minimize the construction and maintenance costs of transportation facilities, material sites should be located as near to material use as practicable. Transportation corridors that require material should be located with reference to material potential identified in this plan.

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 material sites shall meet the requirements of 11 AAC 97.250(a).

For additional guidelines that affect material extraction, see policies under the section on subsurface resources and the Forest Resources and Practices Regulations (11 AAC 95.325).

Off-Road Vehicle Activity

Most off-road vehicle activity does not require a permit on State Forest lands. Under 11 AAC 96, using a motorized vehicle in the State Forest, including a four-wheel-drive vehicle, stock pickup truck, snowmobile, or all-terrain vehicle (wheeled or tracked), on or off an established road right-of-way, does not require a permit if use off the right-of-way does not kill or break through the plant cover and expose the soil to erosion. Additional regulations may apply to lands that are overlain by resources managed by other agencies such as grazing forage or anadromous waters. Through a Special Use Lands designation, off-road vehicle activity may be restricted in research natural areas and in the Bonanza Creek Experimental Forest if this use threatens the purposes for which these areas were established (see the Scientific Resources section of this chapter).

When permits are issued for off-road vehicle use under 11 AAC 96 or on special use lands, they will require that disturbance of soils, vegetation, fish and wildlife populations, drainage patterns, and water quality be minimized. Operations should be scheduled when adequate snow and ground frost are available to protect the ground surface or should require the use of low ground pressure vehicles, avoidance of problem areas, or other techniques to protect areas likely to be damaged (see the Management Guidelines heading in the Water Resources section of this chapter). Before issuing permits, DNR will consult with affected agencies.

In addition, off-road vehicle permits generally should not be given for vehicle use in important fish and wildlife habitats during sensitive periods. If such vehicle activity is essential and no other practical alternative exists, it should be allowed only as an occasional use. ADF&G will be consulted to help identify important fish and wildlife habitat areas and sensitive periods that might warrant this restriction.

Several statutes address restriction of uses (AS 41.17.200(b), AS 41.17.230(a), and AS 38.05.300(a)), restrictions on easements and rights-of-way use (AS 38.04.058), and restrictions of traditional means of access (AS 38.04.200). These and subsequent statutes and regulations shall be considered when contemplating use restrictions.

Siting Utilities

Utilities and other support facilities, including but not limited to generation and transmission structures or cables and buried sewage and water lines, will be sited to minimize adverse impacts to other valuable resources or uses.

Other Design Standards

Bridges greater than 20 feet in length will be approved by Alaska Department of Transportation and Public Facilities. Roads crossing fish-bearing waters will provide fish passage consistent with AS 16.05.841, and those crossing cataloged anadromous waters, with AS 16.05.871.

Road Use Restrictions

DOF-managed forest roads may be closed temporarily or seasonally for public safety or to protect the road surface from damage. Road use may be restricted temporarily to minimize hazards that result from conflicting use, such as during periods of active industrial use. Access restrictions shall comply with AS 41.17.200(b),

AS 41.17.230(a), AS 38.05.300(a), AS 38.04.058, and AS 38.04.200 and other applicable statutes. Access restrictions for reasons other than protecting the resource or providing for public safety will require a finding of incompatibility.

Forest roads and bridges will be closed permanently when resources are not available to maintain them to the standards listed in Appendix F or when continued use is likely to produce significant negative impact on resources within the forest. Where roads are closed, DNR will take measures for erosion control in accordance with the Forest Resources and Practices Regulations (11 AAC 95.320).

Forest roads should remain open if they access substantial timber or other public resources. When known, decisions regarding permanent road closure and continued maintenance will be reviewed by agencies and the public in the Five Year Schedule of Timber Sales planning process as detailed in Chapter 4, and in the Forest Land Use Plans for specific timber sales.

Several statutes address restriction of uses (AS 41.17.200(b), AS 41.17.230(a), AS 38.05.300(a)), restrictions on easements and rights-of-way use (AS 38.04.058)), and restrictions of traditional means of access (AS 38.04.200). These and subsequent statutes and regulations shall be considered when contemplating use restrictions.

Winter Roads

Winter roads are roads that can normally support regular logging vehicle traffic only during winter months and that have a load bearing capacity derived from a combination of frost, snow, or ice (11 AAC 95.900(90)). Construction techniques for winter access routes depend on the range of terrain encountered and may include clearing vegetation and ground cover needed to provide a level running surface. Road surfaces may be composed of frozen mineral soil, packed snow, ice, or surface organics. 11 AAC 95.290(f) and (g) address winter road construction and design. Some segments of winter roads may cross terrain that requires construction to all-season standards.

Winter roads will be constructed and maintained to minimize degradation to vegetation, substrate, and hydrology. In all cases, winter road construction will protect water quality by adherence to standards established in the Forest Resources and Practices Regulations (11 AAC 95).

ACTIVITY SUMMARY

Access now exists to much of the TVSF, via state highways, RS-2477 trails and winter trails. In the future, forest roads may access all units of the forest. However, it is unlikely that all units will contain maintained roads simultaneously. In general, units adjacent to state highways are expected to contain all-season roads, to provide a range of access opportunities to the State Forest throughout the year. At present, there are over three hundred miles of all-season roads accessing the State Forest. Much of the forest is expected to have only winter access. State forest logging roads and trails provide the majority of off-highway all-season access to public lands in the valley

Table 2.12. Primary Access by Subunit of the Tanana Valley State Forest

AREA OFFICE	ALL SEASON ACCESS	ANTICIPATED ALL SEASON ACCESS	WINTER ONLY ACCESS
FAIRBANKS	Subunits 4C, 4D, 5A, east½ of Unit 6, and the Mosquito Creek and Canyon Creek Road portion of Subunit 7B.	Unit 3, and Subunit 4A.	Unit 1A, Southeast portion of Tatalina in Subunit 4B, west ½ of Unit 6, Subunit 7A, and remainder of 7B, 7C not in all-season access
KANTISHNA	None.	None.	Subunits 1A, 1B, 1C, 2A, 2B, 2C, 2D, and2E.
DELTA	Subunit 8A and 10C south of the Tanana River.	Subunits 8C, 8D, 9A, and 9C.	Subunits 10A, 10C north of the Tanana River, Subunit 10D,and Unit 11.
TOK	Unit 14 and portions of 13B.	Portions of 12B and 13B.	Subunits 10C, 12A, 12B, 13A, 13B, and Unit 14 south of the Tok River valley.

CHAPTER 3: MANAGEMENT POLICIES FOR EACH MANAGEMENT UNIT

INTRODUCTION

This chapter presents more detailed land management information for specific areas within the Tanana Valley State Forest (TVSF). There are 14 Management Units, each of which may be divided into one or more subunits based on management objectives and geography.

For each Management Unit, this chapter presents four types of information:

A. **Summary of Management Intent**. This summary identifies in general terms which resource values or uses will be emphasized in different parts of the management unit.

B. **Existing Resources and Uses**. The resources present in each management unit are briefly described. This information provides the rationale for the guidelines and planned activities discussed below. The resources are listed in alphabetical order.

C. **Management Guidelines and Activities**. This subsection states how the Alaska Department of Natural Resources (DNR) will react to proposed uses for specific areas and describes which resource uses the state intends to protect or foster.

D. **Land Management Summary**. This table provides an overview of policies for each subunit.

The following terms have specific meaning in the context of this plan and are used frequently in this chapter. Additional definitions are in Appendix A.

Consultation: Under existing statutes, regulations and procedures, the Department of Natural Resources informs other groups of its intention to take a specific action(s) and seeks their advice or assistance. Consultation is not intended to be binding on a decision; it is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

Feasible: Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors.

Feasible and Prudent: Consistent with sound engineering practice and not causing environmental, social, or economic problems that outweigh the public benefit to be derived from compliance with the standard which is modified by the term “feasible and prudent”.

Goal: A general statement of intent, usually neither quantifiable nor having a specified date of completion. Goals identify desired long-range conditions.

Guideline: A specific course of action that must be followed when a resource manager permits, leases, or otherwise authorizes use of state lands. Some guidelines state the intent that must be followed and allow flexibility in achieving it. Guidelines also range from giving general guidance for decision-making or identifying factors that need to be considered to setting detailed standards for on-the-ground decisions.

Policy: An intended course of action or a principle for guiding actions. In this plan, DNR policies for land and resource management include goals, management intent statements, management guidelines, planned activities, implementation plans and procedures, and various other statements of DNR's intentions.

Shall: Requires a course of action or set of conditions to be achieved. A guideline modified by the word 'shall' must be followed by resource managers or users. If such a guideline is not complied with, a written decision justifying the noncompliance is required (see Appendix B, Finding of Incompatibility).

Should: States intent for a course of action or set of conditions to be achieved. A guideline modified by the word 'should' states the plan's intent and allows a resource manager to use discretion in deciding the specific means for best achieving the intent or whether circumstances justify deviation from the intended action or set of conditions. A guideline may include criteria for deciding if such a deviation is justified.

Will: Same as 'shall' (above), however, when the word 'will' refers to a planned management activity by DNR or another agency, the carrying out of this activity is contingent on available funding.

LAND USE DESIGNATIONS

A land use designation recognizes uses or resources that are of major importance in a particular management unit. Unit designations are based on current and projected future use patterns and the most significant resources identified in each unit. DOF will manage activities in the unit to encourage, develop, or protect the uses or resources for which the unit is designated. Plan designations are more specific than the land use classifications required under 11 AAC 55.040, and are converted to land use classifications, as required by 11 AAC 55.020. DOF will manage state land according to these designations and according to the equivalent land use classification.

Under AS 38.05.300, all designations are intended for multiple use. Uses other than those receiving primary designations for a given unit may still be authorized if they are not incompatible with the primary uses or resources for which a unit is designated. If DOF determines that a proposed use is incompatible with a primary designation, the proposed use will not be authorized or will be authorized in a manner that minimizes the incompatibility. Activities exempt from this guideline include Generally Allowed Uses listed under 11 AAC 96.020. Primary designated uses cannot take precedence over disposals of interest that have already occurred. Such disposals include property rights such as mining leases, land leases, and rights-of-way, that once issued, are protected by the Constitution. A primary designation, however, may take precedence over uses authorized by permits that were issued on a revocable at will basis.

When the plan assigns a designation to a unit, the designation is accompanied by region-wide management guidelines and by management intent specific to that unit. These three pieces of information – designations, management guidelines, and statement of intent – must be taken into consideration in determining how a parcel of state land will be managed and in making disposal and authorization decisions.

Primary designated use. Most management units are assigned a primary designated use, which indicates, in a general way, how state land is to be used and managed. Primary designated uses shall take precedence over other uses. Generally, however, land management in the TVSF allows multiple uses. DOF initially presumes that all other uses are compatible with the primary use. However, if DOF determines that a use conflict exists and that the proposed use is incompatible with the primary use, the proposed use should not be authorized, or it should be modified so that the incompatibility no longer exists or the impacts from the proposed use have been effectively mitigated (from 11 AAC 55.040 (c)). The plan may assign a designation to ensure a future use that will best serve the public interest, even if that use is not imminent.

Co-designated use. Where a unit has two or more designated uses, DOF will avoid or minimize conflicts between designated uses by applying the management intent statement and guidelines for the unit, the regional intent, and the Chapter 2 guidelines from this plan together with existing statutes, regulations, and procedures. Only those co-designations that are generally complementary to or compatible with each other are included in this plan. Co-designated uses should, therefore, be viewed as compatible unless indicated otherwise by specific conditions that exist at the time the Department is evaluating whether to grant an authorization. In this plan, co-designated uses are Forestry and Materials, Forestry and Reserved Use, or Forestry and Public Recreation. Within areas so co-designated, forestry is considered an appropriate use, but such activities and projects must consider their potential impacts upon the indicated resource and must either avoid or mitigate significant adverse impacts.

Designations are based on resource and use inventories. The best available information has been analyzed and mapped for the following resources and uses:

- timber resources;
- fish and wildlife habitat and harvest;
- recreation areas and facilities;
- mineral potential and material sites;
- access and transportation; and
- heritage resources

In some cases, the plan assigns a designation to ensure a future use that will best serve the public interest, even if that use is not imminent.

DESIGNATIONS USED IN THIS PLAN

F – Forestry. Land that is or has been forested and is suited for long-term forest management because of its physical, climatic, and vegetative conditions. This land will remain in state ownership. Approving authorizations in these areas will be conducted in compliance with the Forest Resources and Practices Act (AS 41.17 and 11 AAC 95), the specific management guidelines in the Forest Resources section of Chapter 2, and any specific requirements that might apply at the management unit level identified for a particular management unit. Forest Land is to be retained by the state, although timber sales, a type of disposal, are recognized as appropriate.

Certain sites within the plan area contain both habitat and forestry values and, as such, are co-designated Forestry and Habitat. In these instances, while forest management projects are recognized as appropriate uses, any proposed activity must take into consideration the impacts upon wildlife, fisheries, and their associated habitats.

This designation converts to a land use classification of Forest Land as defined by 11 AAC 23 55.070.

Ma – Materials. Sites suitable for extraction of materials, which include common varieties of sand, silt, gravel, rock, peat, pumice, pumicite, cinders, clay, and sod. This land will remain in state ownership until the material on the site is no longer required for state purposes (such as road construction and maintenance, materials storage, and public or state facilities) after which these lands may be conveyed to municipalities. These lands cannot be sold without redesignation and reclassification although some sites may be suitable for forestry after material resources are exhausted.

This designation converts to a land use classification of Material Land as defined by 11 AAC 20 55.120.

Rp – Public Recreation and Tourism-Public Use Site. This designation applies to areas used by concentrations of recreationists or tourists compared to the rest of the planning area; or areas with high potential to attract concentrations of recreationists and tourists. These areas offer localized attractions, or ease of access, or developed facilities. Examples include cabins, lodges, anchorages, scenic overlooks, road-accessible shore locations that are used for picnicking, sports and fishing. The recreation and tourism uses for which these units are designated may be either public or commercial. The primary management intent for these sites is to protect the opportunity of the public to use these sites, and their public values for recreation. Many of these sites require additional management attention because of the public use they receive. This land will remain in state ownership. This designation converts to a land use classification of Public Recreation Land as defined by 38 11 AAC 55.160.

Rs – Reserved Use. These sites are reserved to serve state or other public interests. This designation converts to a land use classification of Reserved Use Land as defined by 11 AAC 55.170. See Chapter 4 for more information about the relationship between land use designations and classifications.

MANAGEMENT INTENT

The plan provides management intent for both the resources and types of authorizations that are expected to occur within the planning area for the specific management units. Management intent describes how the Division intends to manage a resource or management unit and may describe what is intended to occur as well as what is not intended to occur. It may also identify specific management direction. The plan may provide management guidance for a resource without designating it. For example, the plan may address the resource by providing management intent for a specific area or through areawide guidelines. In addition, other state, federal, or local regulations will determine the conditions for using undesignated resources.

In some cases, the management intent for a unit discourages specific uses because these uses may create conflicts with designated uses. Discouraged uses may be allowed if ADNR determines that the use does not conflict with the management intent, designated uses, and the management guidelines. Discouraged uses include activities that should not be authorized or will not be allowed if there are feasible and prudent alternatives. If the DOF determines that the discouraged use conflicts with the management intent or designated uses and cannot be made compatible by following the management guidelines, the DOF would allow it only through a plan amendment.

In some cases, the plan may also identify prohibited uses. These are uses that have significant conflicts with other uses or resources and will not be permitted without a plan amendment. Prohibited uses are not often identified, because the plan seeks to minimize land use conflicts through plan guidelines and intent rather than through prohibitions, but in those instances where a prohibited use occurs, it is noted in a unit's management intent.

Management intent statements for each unit refer only to state management of state land. While these statements accommodate certain proposed uses on state lands, there is no guarantee that other regulatory agencies will issue permits necessary for the proposed use. All proposed development uses referenced in the management intent statements are assumed to employ best management practices in siting and operating the proposed use.

LAND USE SUMMARY TABLES

Each unit description in this chapter includes a summary table describing the land use designations, management intent, and other relevant resource and land use information for a given unit. This information is intended to provide managing foresters with categorical information about the non-timber, non-forest resources in a unit that should be considered when planning management activities. In general, specific land use records are not listed by casefile numbers in these summary tables because new authorizations will inevitably be added during the lifecycle of this management plan revision. The AK DMLW maintains a web-based record system, Alaska Mapper, which allows users to query up-to-date land use information by geographic location or casefile number. Alaska Mapper can be accessed at https://mapper.dnr.alaska.gov/. Land records that require a plan revision to be changed, such as Mineral Orders, Leasehold Location Orders, or Special Use Designations, may be listed by casefile number in unit summaries.

MANAGEMENT UNIT 1: DUGAN HILLS

SUMMARY OF MANAGEMENT INTENT

This unit encompasses the Dugan Hills and a smaller portion of state land along the Hutlinana River south of the Elliot Highway. It includes 3 Subunits.

Subunit 1A, which includes sections of Baker Creek and the Hutlinana River, will be managed for commercial and personal use timber production while protecting recreation and habitat values near the streams.

Subunit 1B, the Dugan Hills, will be managed for multiple-use consistent with 11 AAC 96 and AS 41.17.200, including active forest management, recreation, and mineral use. Current levels of recreation, mineral and timber use are low but could increase due to recent improvements to the Elliot Highway between Livengood and Manley Hot Springs. There is limited demand for personal use timber and fuelwood production in portions of the unit closer to the Elliot Highway and in the southern portion near areas included in past land disposal programs.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** None identified.
2. **Fish and Wildlife Habitat:** Lowland areas near Baker Creek and Hutlinana River (Subunits 1A-B) provide important moose and furbearer habitat. Baker Creek and the Hutlinana River provide spawning habitat for chum salmon. The Tolovana River, which drains the Minto Flats, provides habitat for species of anadromous fish such as Chinook, chum, and coho salmon, and supports high value resident species such as Arctic grayling. Big game hunting is moderate, and the area supports intensive trapping activity. ADF&G holds a permit for radio telemetry towers in Subunit 1C (ADL 421533). The Minto Flats State Game Refuge is east of Unit 1.
3. **Private Land and Leaseholds:** One private parcel is identified in the southern portion of Subunit 1C.
4. **Recreation and Tourism:** Numerous trails are located within this unit and are used by dog mushers and snowmachiners, though none of these trails are documented by official DNR records. Baker Creek and the Hutlinana River are valued for boating and fishing, and several hunting guides work in this area. Several "pothole" lakes that have recreational value are located along a creek in T. 3 N., R. 11 W. The Tolovana River is important for boating, paddling, fishing, and hunting. The Tolovana River is also used for tourism operations that include fishing, duck hunting, and wildlife viewing. The Innoko and Nowitna Rivers are used for pike fishing charters, and there are some additional chartered trips in the Minto Flats and on the Baker, Fish, and Kantishna Rivers.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface Resources:** Current information suggests that the area has low mineral values except in Subunit 1A, located near the Eureka Mining District. No significant sources of gravel are apparent in this unit.

7. **Timber:** Most of this unit contains extensive pole-sized hardwood stands. Small stands of mixed spruce-hardwood in Subunit 1A, accessible from the Elliot Highway, are an important source of fuelwood and spruce sawtimber for residents.
8. **Transportation and Access:** Road access to Unit 1 is most likely from the Elliot Highway to the north of the Unit. Major access to the Dugan Hills is via RS 2477 segments. Portions of the RS 2477 Trails over Bean Ridge Corporation land are reserved for public use by a 17(b) right-of-way. The easements are 25 feet wide and allow winter off- road-vehicle and non-motorized use.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Minerals:** This unit will remain open to mineral location and leasing.
2. **Recreational Facilities:** Authorized trails may be maintained in this unit.
3. **Streamside and Lakeshore Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in all subunits. Waterbodies with special management zones are listed in Table 2.3.
4. **Timber Sales:** Timber within Subunit 1A will be managed for local personal use and commercial production.
5. Subunit 1B has low demand and limited access. Timber sales have not been scheduled for this subunit. Timber will be made available in the future if warranted by a change in demand or accessibility. Subunit 1B, by virtue of difficult access, may be valuable as a timber or carbon reservoir, especially if other parts of the State Forest experience forest health declines.
6. Timber sales in this unit are within the Fairbanks Area. For more detail when specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
7. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to trails within the State Forest. No trails with active DNR records are identified within Unit 1. Undocumented trails may exist in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use plans are critical opportunities for information about undocumented trails to be communicated to the Division.
8. **Transportation:** Some secondary roads may be constructed to provide timber access in Subunit 1A. If timber harvest becomes feasible in Subunits 1B and 1C, primary access to Subunit 1B will likely be a winter road on the flats west of the Dugan Hills or a road from the Elliot Highway. Access to Subunit 1C will likely be a winter road on the western margin of Minto Flats, west of the Tolovana River. Both roads will tie into the primary roads that access Unit 2. Management of state land west and east of Unit 1 should allow for development of access to Subunits 1B.

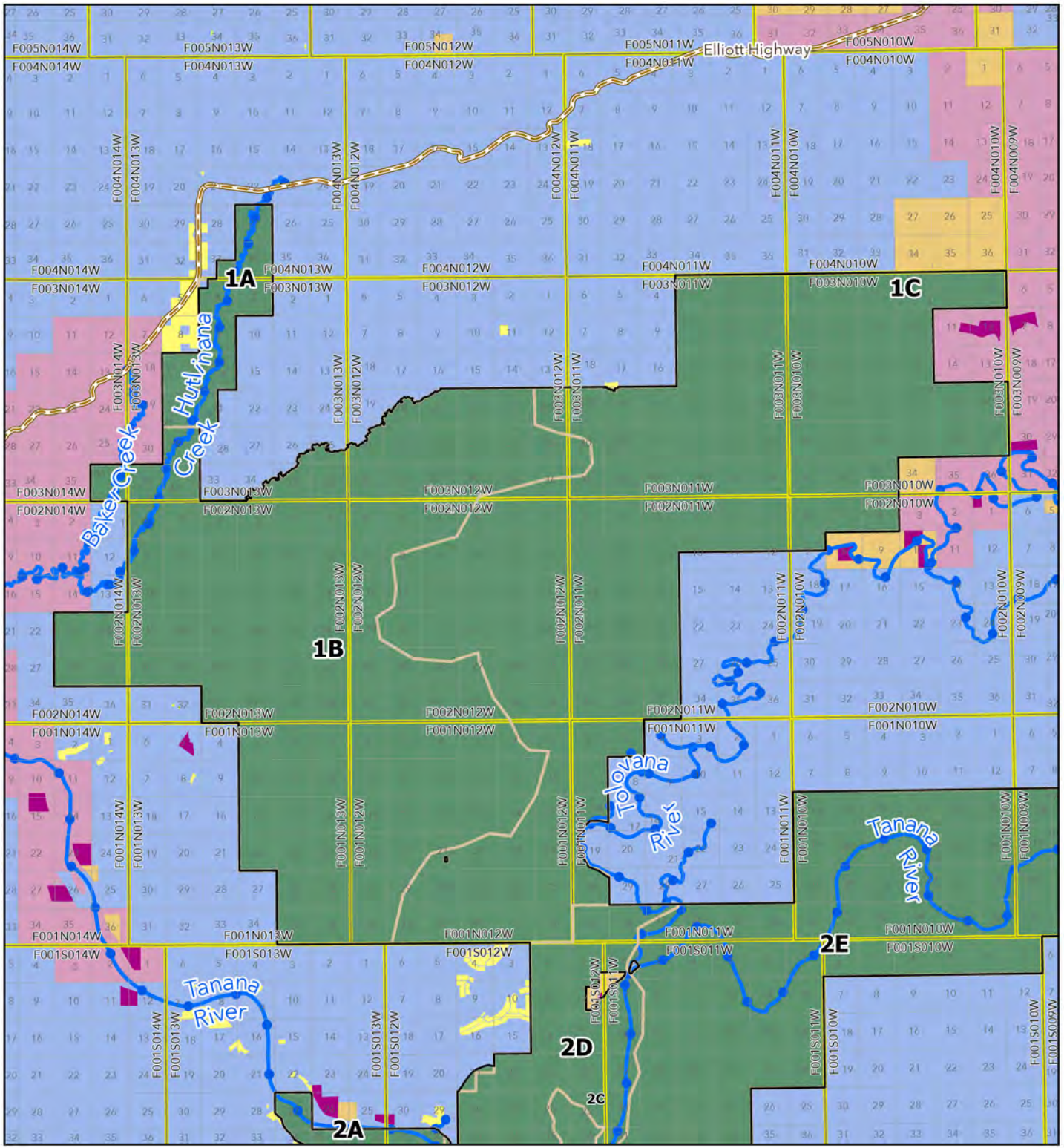
LAND USE SUMMARY

Table 3.1. Unit 1 (Dugan Hills) Land Use Summary

Unit 1: Dugan Hills							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Uses**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
1A / F / 5,560 acres	Timber production, stream & lake values, recreation	Commercial and personal use timber sales	Some 2° roads may be constructed	Open to mineral entry	Available for leasing	Land disposal	
1B / F / 69,965 acres	Forestry/Multiple Use	None planned.	None planned, but if harvest becomes feasible, 1°/2° access will be by winter roads	Open to mineral entry except in areas affected by MCO 202	Available for leasing	Land disposal	
1C / F / 80, 175 acres	Forestry/Multiple Use	None planned	Likely winter access only	Open to mineral entry except in areas affected by MCO 202	Available for leasing	Land disposal	Private parcel located in southern part of subunit; ADF&G telemetry towers; Minto Flats State Game Refuge borders subunit to the east

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 1
Dugan Hills



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

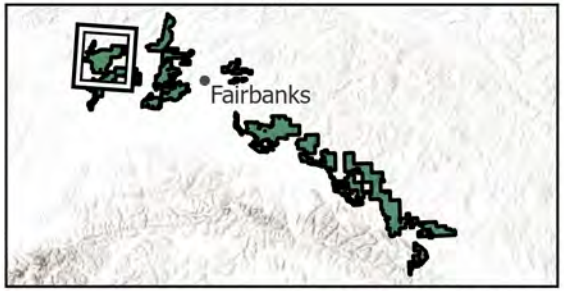
1A For

1B For

1C For

0 1 2 4

Miles



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MANAGEMENT UNIT 2: LOWER TANANA

SUMMARY OF MANAGEMENT INTENT

This unit consists of land that abuts approximately 60 miles of the lower Tanana River and about 40 miles of the lower Kantishna River. It contains 5 subunits.

Subunits 2A, 2D, and 2E, Most of the land within these subunits will be managed for commercial timber production while protecting recreation and habitat values near the Tanana and Kantishna Rivers.

Subunits 2B and 2C, These areas will be managed in their natural states for research and educational use.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** The Tolovana Roadhouse, located on a privately owned inholding, is eligible for the National Register of Historic Places. Probability of cultural sites is low to medium along the Kantishna River and low along the Tanana River. The old village site, known as Old Minto (within T1N, R8W) is the site of seasonal cultural activities. This site was conveyed to the Minto Village Council in 2006 (ADL 414434). Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on the cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** Much of this unit is important moose and furbearer habitat with the exceptions of dune and upland areas west and north of the Kantishna River confluence. Low elevation areas of both the Kantishna and the Tanana Rivers are important habitat for black bears and moose. Wood bison were reintroduced to Unit 2A of the TVSF near the Minto Flats State Game Refuge in 2024. The Tanana and Kantishna Rivers provide habitat for species of anadromous fish such as Chinook, coho, and chum salmon, and supports high value resident species such as Arctic grayling. The area is heavily used by residents of Minto, Nenana, and Fairbanks for subsistence and sport hunting, trapping, and fishing. An ADF&G telemetry tower is permitted in Subunit 2A. The Minto Flats State Game Refuge is to the north and south of Subunit 2E.
3. **Private Land and Leaseholds:** Numerous privately-owned tracts and leaseholds are adjacent to and within this unit. Several Alaska Native allotments are located near Old Minto Village in Subunit 2E, and many remote parcels are located along the Kantishna River west of Subunit 2A. Much of the Iksgiza Lake Subdivision and the lake are surrounded by the TVSF. The Tolovana Roadhouse, a privately-owned inholding, is operated commercially.
4. **Recreation and Tourism:** The Tanana, Kantishna, and Tolovana Rivers are heavily used for recreational camping, boating, fishing, hunting and access to surrounding land. Several operators from Nenana and Manley Hot Springs take people camping, fishing, wildlife viewing and hunting for ducks, bear and moose. The Tolovana River is used for canoeing, as is the Tanana River in this unit. The Yukon 800, a powerboat race that goes from Fairbanks to Galena and back, follows the Tanana River in this unit. In the winter, dog mushing and snowmachining are common on RS 2477 trails within this Unit. The Tanana River is also a popular route for snowmachining, cross-country skiing and ski plane landing.

5. **Scientific Resources**: The Oblique Lake Research Natural Area (Subunit 2B) includes a deep, undeveloped upland lake in a depression between low, horseshoe-shaped dunes and a contrasting oxbow lake on the floodplain of the Kantishna River. South-facing sand bluffs support hill prairies greatly reworked by ant colonies.

   The Caribou Crossing Research Natural Area (Subunit 2C) includes an undisturbed, mature white spruce forest, a hill prairie, a bottomland of permafrost, and a wetland marsh. The area appears to be optimal habitat for late-succession, snag cavity-dependent birds and small mammals. The hill prairie is a scientifically interesting sagebrush grassland. See also Appendix E, Research Natural Area Report, for more information.

6. **Subsurface Resources:** Despite the existence of a few active mining claims near Old Minto Village, mineral potential in this unit appears low. Oil and gas potential is not known. The only upland source of gravel in this unit appears to be rock outcrops along the Tanana River opposite the Kantishna confluence.

7. **Timber:** Bottomlands along the Tanana and Kantishna Rivers contain a patchwork of mature spruce stands and productive, younger, mixed hardwood-spruce stands. Muskeg is predominant further away from the rivers. Harvestable stands lie on both sides of the Tanana River in Subunit 2E. Unburned uplands north of the Kantishna River confluence contain high volumes of spruce sawtimber. Many late successional white spruce stands in the floodplain are underlain by shallow permafrost. These stands are losing productivity, as evidenced by perched water tables, leaning trees, windthrow and rot, and dramatic loss of basal area. Extensive sand dune areas west of the confluence are forested with productive hardwood stands. Doyon Limited lands south of Subunit 2A hold significant quantities of mature spruce. Subunits 2B and 2C are research natural areas, which are closed to timber harvest.

8. **Transportation and Access:** Because this unit is not accessed by all-season roads, summer access to the area is via the Tanana and Kantishna Rivers. Barge service out of Nenana offers possibilities for log transport to the rail and highway system. Winter access is via established RS 2477 routes. The Totchaket Road presently extends 12 miles W of the Nenana River bridge (completed in 2020) at 10th Street, and the Phase 1 land auction was complete in 2022. The extension of this road towards the Kantishna River may create new access to Subunit 2A.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Development Activities Near Private Land:** Due to a relatively large number of private land holdings in this unit, roads, timber harvest, and other development activities will be sited and designed to avoid trespass and harm to scenery near private cabins and settlement to the extent feasible and prudent.

2. **Minerals:** Subunits 2A, 2D, and 2E will remain open to mineral location and leasing. Within Subunits 2B and 2C, the research natural areas, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNAs, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of

operations per Leasehold Location Order #24 (See Appendix C.) will also be included in any miscellaneous land use permits issued for exploration activities within the RNAs.

3. **Research Natural Areas:** RNAs within subunits 2B and 2C will be managed in their natural states for research and education. Guidelines for research natural areas in the Scientific Resources Section of Chapter 2 will apply to these subunits.

   Roads and landings for timber harvest in Subunit 2D may be located in the narrow strip between the bluff and the drainage in Subunit 2C.

4. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management Section of Chapter 2) apply to waterbodies within the State Forest, including their side channels, sloughs, and backwaters. Waterbodies with special management zones are listed in Table 2.3.

5. **Timber Sales:** Suitable lands will be managed for commercial timber production in accordance with other policies stated in this plan. Forest stands in decline from permafrost or other factors will be priorities for harvest where feasible and prudent. Firewood, house logs, and other products will be made available to local residents as requested. As inventories are updated and demand increases, levels of commercial harvest may increase.

   a. Timber sales in this unit are within the Fairbanks Management Area. For more detail when specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.

6. **Timber Development Cooperation with Alaska Native Corporations:** When appropriate, the State will seek cooperative agreements with Alaska Native Corporations to share timber development costs and ensure that the timing and size of timber sales offered by the state and Alaska Native Corporations are in the general interest of the public.

7. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section in Chapter 2) apply to trails within the State Forest. Documented RS 2477 Trails are present in Subunits 2D and 2E. Undocumented trails may exist in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

   None of these trails are planned to be upgraded permanently to primary forest roads; however, crossing and temporary use of sections of the trails will be necessary.

8. **Transportation:** Timber in this unit will be accessed primarily by winter roads and ice bridges. Where feasible and prudent the state will seek cooperative agreements or easements with Alaska Native regional and Village Corporations, Alaska Department of Agriculture, or any other land managers to reduce costs of access roads. Thirty miles of the Commissioner's Line may be upgraded to a primary winter road. The Nenana-Totchaket Road clearing may also be used for access to the southern portion of Subunit 2A. Subunit 2E may be accessed by constructing approximately 34 miles of primary winter road north from the Commissioner's Line. The road would pass through the Minto Flats State Game Refuge. Subunit 2D may be accessed by this road or the Commissioner's Line. Barging timber to Nenana on the Tanana River is an option, though may be less cost effective

than roading. Generally, secondary winter road is proposed in these subunits for timber management. Major access to the unit is via documented RS 2477 segments.

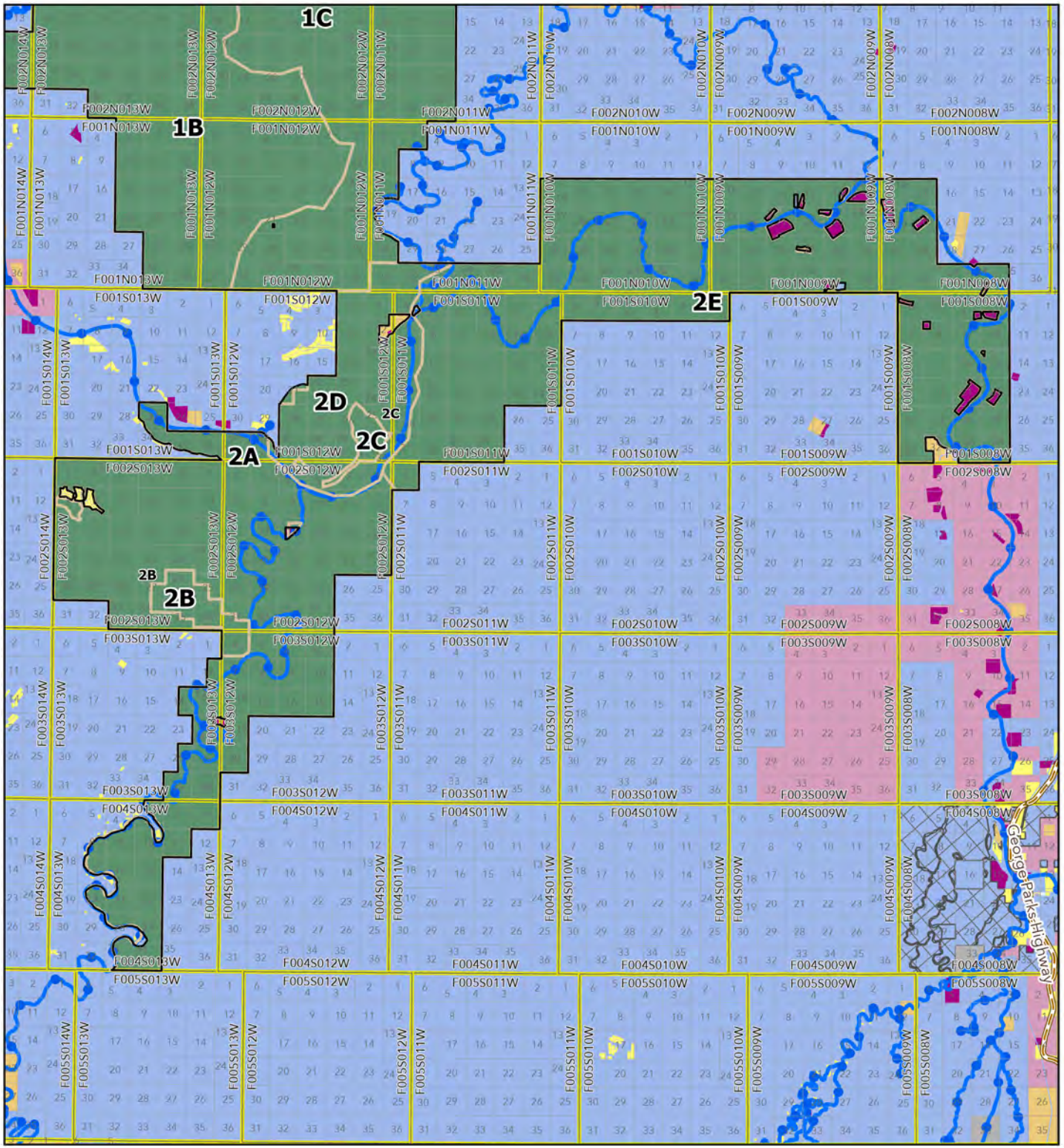
LAND USE SUMMARY

Table 3.2. Unit 2 (Lower Tanana) Land Use Summary

Unit 2: Lower Tanana							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
2A / F / 62,285 acres	Commercial timber production; habitat and recreation near Tanana and Kantishna Rivers and other waterbodies	long-term commercial timber sales	**Unit 2A:** Mostly 1° and 2° winter roads will be used for additional access. Unit 2A: Nenana-Totchaket Rd. may be used	Open to mineral entry	Available for leasing	Land disposal	**Unit 2A:** Private parcel in southern part of subunit; ADF&G Telemetry Tower
2D / F / 15,881 acres			**Unit 2D:** Nenana-Totchaket Rd. or Commissioner's Line may be used				**Unit 2D:** Private inholdings; RS 2477 trails
2E / F / 74,799 acres			**Unit 2E:** Construct 34 miles of 1° winter road from Commissioner's Line				**Unit 2E:** Private inholdings; RS 2477 trails; Hunting and Trapping

Subunit/ Designation/ Acres	Management Intent	Summary of Management Activities	Potential Access Roads: 1°/2° (primary/ secondary)	Subsurface Designation		Prohibited Surface Uses*	Other Uses and Resources
				Locatable	Leasable		
2B / F, Rs / 2,990 acres	Oblique Lake Research Natural Area, subject to management intent in ADL 228312	Research	No new road construction planned.	Leasehold location LLO 24	Available for leasing	Land disposals; commercial leases; developed recreation; material extraction; remote cabins; timber harvest; trapping cabins; introduction of non-endemic species; carbon offset projects	
2C / F, Rs / 1,251 acres	Caribou Crossing Research Natural Area, subject to management intent in ADL 228313	Research	No new road construction planned.	Leasehold location LLO 24	Available for leasing	Land disposals; commercial leases; developed recreation; material extraction; remote cabins; timber harvest; trapping cabins; introduction of non-endemic species; carbon offset projects	

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.



Management Unit: 2
Lower Tanana

State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

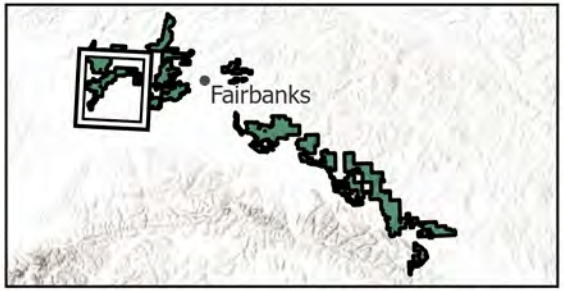
Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

2A For
2B For Rsu
2C For Rsu
2D For
2E For

N W E S

0 1 2 4
Miles



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MANAGEMENT UNIT 3: TATALINA RIVER

SUMMARY OF MANAGEMENT INTENT

This unit encompasses the State Forest land between the Tolovana River and the Tatalina River. It contains 2 subunits.

Subunits 3A and 3B will both be managed for multiple-uses consistent with 11 AAC 96 and AS 41.17.200. Current levels of recreation and timber use are very limited but may increase in the future. Land adjacent to the Tolovana and Tatalina Rivers will be managed to protect the recreation and habitat values of the stream corridors.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** None identified in this unit.
2. **Fish and Wildlife Habitat:** Lowlands near the Tolovana and Tatalina Rivers contain important moose, black bear, and furbearer habitat. This extent of the Tolovana River provides habitat for species of anadromous fish such as Chinook and chum salmon, and both rivers support high value resident species of fish such as Arctic grayling. Portions of the Minto Flats within Subunit 3B contain trumpeter swan habitat designated by the Alaska Department of Fish and Game (ADF&G) in 2015 as a Species of Greatest Conservation Need (see Chapter 2: Fish & Wildlife Management Guidelines). The unit supports moderate to heavy hunting and trapping and borders the Minto Flats State Game Refuge.
3. **Private Land and Leaseholds:** Alaska Gasline Development Corporation holds a non-competitive lease for a Pipeline Right of Way and associated sites for the construction of this pipeline, bisecting Unit 3 north-south (ADL 421297).
4. **Recreation and Tourism:** The Tolovana River and stretches of the Tatalina River are used for sport fishing and canoeing. A documented RS 2477 passes through a portion of this unit near the Tatalina River, used by dog mushers, skiers and snowmachiners. A small number of trapping cabin permits are located within Unit 3.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface Resources:** Mineral potential is moderate to high, and especially high in Subunit 3A, which is near the Livengood-Tolovana mining district. Exposed bedrock on ridges and mining tailings provides sources of material. There is active mining exploration occurring in Subunit 3A.
7. **Materials:** An active material site is partially located within Subunit 3A.
8. **Timber:** Upland portions of this unit contain primarily hardwood stands. Productive mixed hardwood-spruce stands occur on lower slopes adjacent to Minto Flats and the Tatalina and Tolovana Rivers.
9. **Transportation and Access:** Access to Subunit 3A is provided by a gated pipeline access road that parallels Wilber Creek. The Trans-Alaska Pipeline and Elliot Highway form the northern boundary of

this unit. Subunit 3B is not accessed by an all-season road, but instead by an unnamed trail that continues south from the pipeline to Slate Creek and by a documented RS 2477 trail.

MANAGEMENT ACTIVITIES AND GUIDELINES

1. **Minerals:** This unit will remain open to mineral location and leasing, except for the Trans-Alaska Pipeline right-of-way, which will remain closed to mineral location to protect existing and future utility uses.
2. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in this unit. Waterbodies with special management zones are listed in Table 2.3.
3. **Timber Sales:** Timber sales have not been scheduled in Subunit 3A or 3B. This unit, by virtue of its difficult access and remote location, may be valuable as a timber or carbon reservoir, especially if other parts of the State Forest experience forest health declines. Timber for commercial and personal use will be made available if warranted by a change in demand or accessibility. Timber sales in this unit would be within the Fairbanks Area. For more detail if specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
4. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to the following trails within the State Forest. An RS 2477 trail is documented in Unit 3B. Undocumented trails may exist in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.
5. **Transportation:** Future primary access development may be limited to this unit due to uneconomic access to existing timber, and high recreation values. However, if demand changes for timber, all-season access from the Elliot Highway will be considered. Additionally, upgrading local winter trails to primary winter road will be considered for access if timber harvest becomes feasible in Subunit 3B.

LAND USE SUMMARY

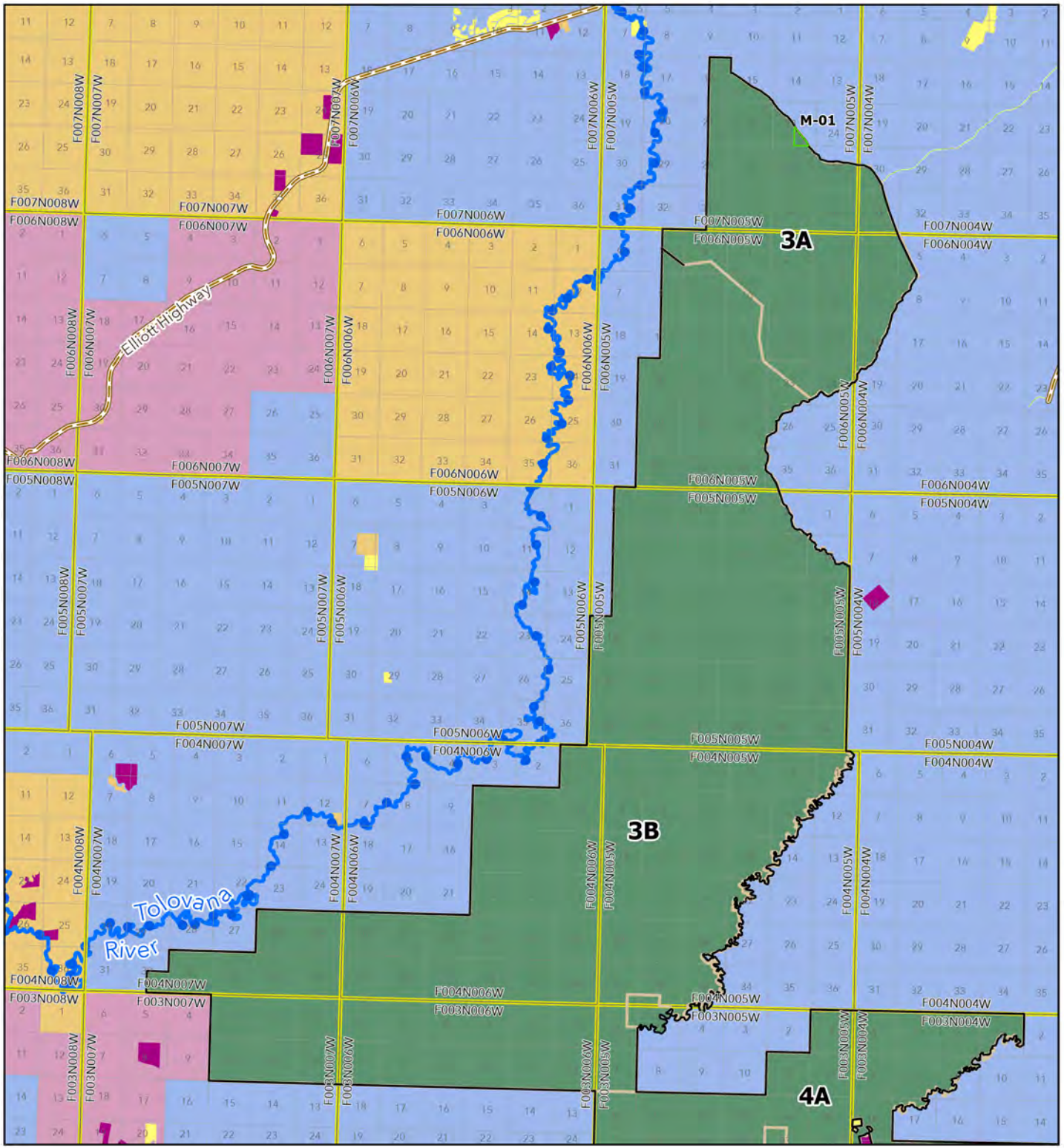
Table 3.3. Unit 3 (Tatalina River) Land Use Summary

Unit 3: Tatalina River							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
3A / F / 14,954 acres	Forestry/Multiple Use	None planned	None planned, but if harvest becomes feasible, Dunbar-Livengood Trail may be upgraded to 1° winter road	Open to mineral entry, except oil pipeline ROW	Available for leasing	Land Disposal	Pipeline ROW mining claims
3B / F / 75,827 acres	Forestry/Multiple Use	None planned	None planned, but if harvest becomes feasible, Dunbar-Livengood Trail may be upgraded to 1° winter road	Open to mineral entry	Available for leasing	Land Disposal	RS 2477 trail; Pipeline ROW

Unit 3: Tatalina River							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
M-01 / F, Ma / 51 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material Extraction					

*Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 3
Tatalina River



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

3A For
3B For
M-01 For Mat

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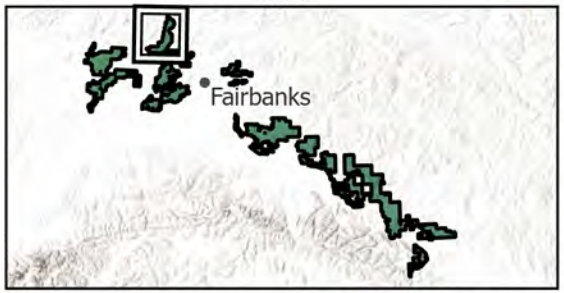
Miles



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MANAGEMENT UNIT 4: CHATANIKA RIVER, CACHE CREEK, GOLDSTREAM VALLEY

SUMMARY OF MANAGEMENT INTENT

This area includes most of the uplands between Washington and Goldstream Creeks northwest of Fairbanks and is divided into 4 subunits.

Subunit 4A will be managed for general multiple-use management consistent with 11 AAC 96 and AS 41.17.200. Current levels of recreation, mineral development and timber use are low, but could increase in the future.

Subunit 4C, the Murphy Dome Highlands, will be managed for dispersed and developed recreation and for commercial and personal use timber production.

Portions of Subunits 4A and 4C within the Chatanika River watershed will be managed to balance its high recreational and habitat values with the primary State Forest purpose of Timber Management.

Subunit 4D will be managed primarily for commercial timber production.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Four cultural sites have been identified in this unit as part of this plan, including an historic railroad bridge over Goldstream Creek. Consult Chapter 2, Cultural Resources, for management guidelines regarding cultural resources in the State Forest. Further information on the cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** Important moose, black bear, and furbearer habitat are found at lower elevations near Minto Flats, the Chatanika River, and Goldstream Creek. Highlands near Murphy Dome provide important furbearer and small game habitat. The Chatanika River provides spawning habitat for Chinook and chum salmon, migratory habitat for coho salmon, and supports high value resident species such as Arctic grayling. Because this area is easily accessed and close to Fairbanks, it is heavily used for hunting, trapping, and sportfishing, as well as bird watching, wildlife photography and wildlife viewing. The Minto Flats State Game Refuge is west of this unit.
3. **Private Land and Leaseholds:** Numerous privately owned tracts and leaseholds are adjacent to and within this unit. Concentrations of inholdings exist along the Chatanika River and Left Fork Creek. The Hayes Creek, McCloud, and Lincoln Creek Subdivisions abut this unit.
4. **Recreation and Tourism:** Land within Unit 4 has high recreational value because of its landscape diversity (e.g., of forest types and topography) and easy access from Fairbanks. The highlands near Murphy Dome are used for hunting, trapping, viewing scenery, and berry picking. The Chatanika River and nearby land are used for fishing, hunting, camping, and recreation. The end of the Murphy Dome Extension is used as a boat launch site for the Chatanika River and point of entrance to Minto Flats. Trails and forest roads are used in all seasons by motorized and human-powered recreationalists. Public emphasis has been placed on recreation and tourism uses in this Unit. All of Unit 4, including the southern portion of Subunit 4C, is managed for multiple uses with an emphasis on timber production, as described in other sections in this plan. Consideration will be given at the

discretion of managing foresters concerning sale design in units abutting private land (see Chapter 2, Section I: Private Land) or areas with established or proposed trail systems (see Chapter 2, Section O: Recreation and Section P: Trails). Matters of specific design or treatment can be discussed in the public comment process as draft Best Interest Findings (BIFs) and Forest Land Use Plans (FLUPs) are released for review.

5. **Scientific Resources:** University of Alaska holds permits for 36 seismic research stations within a 6.25 square mile area in Subunit 4C (LAS 34916). Permanent University of Alaska Forest Measurement Plots are permitted in Subunits 4C and 4D (LAS 17939).
6. **Subsurface Resources:** Mineral potential appears low to moderate in the northern part of this subunit but higher in the hills above the Goldstream Valley, which are part of the mineralized Cleary Sequence. Leases for energy exploration have been issued previously within Subunit 4D.
7. **Timber:** This unit contains productive, mature stands of mixed spruce-hardwood in lower, unburned side drainages of the major creeks and Minto Flats. Uplands are stocked with pole- sized hardwood stands. Timber values are especially high on the lower slopes above the Goldstream Valley which have been logged through state timber sales since the early 1960s. Most of Subunit 4A is currently uneconomical to access because of its remoteness. A variety of Interior forest types exist, including the range of age classes and species that contribute to biodiversity. However, forest age classes younger than forty years old are less common in the road-accessible portions of Subunits 4C and 4D except where prior timber harvest has occurred. Habitat enhancement projects have been carried out in hardwood stands in the late 1990s and early 2000s.
8. **Transportation and Access:** Subunit 4C is accessible by all-season road and numerous trails. Access to timber harvest areas near Standard Creek is via the 32-mile-long Standard Creek Road from the Old Nenana Highway. Access to the Cache Creek drainage from Murphy Dome Road is via the Cache Creek Road. An extension of the Cache Creek Road to the Standard East Road has been contemplated for many years, though presently a rough 3-mile winter trail separates the two road systems. The Murphy Dome Extension (ADL 407800) provides access to the Luck Dome highlands that are west of Murphy Dome and is a direct link between Fairbanks and the heavily used Minto Flats and Chatanika River. Other recreational and settlement access routes include the Old Murphy Dome Road and a number of RS 2477 trails as well as trails that are not documented in DNR's land record system.

   Most of Subunit 4A is not accessed by all-season roads. A public right-of-way connects the Elliot Highway to the Hayes Creek Subdivision on the eastern end of the subunit. One ridge to the south, a dozer line constructed to access the 2011 Hastings Fire is used by local residents and recreationalists to access Subunit 4A. ADL 419281 provides public access across state lands.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Four cultural sites have been identified in Subunit 4D as part of this plan. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.

2. **Development Activities Near Private Land:** Because of the relatively large number of private holdings in or near Subunit 4C, roads, timber harvest, and other development activities will be sited and designed to minimize negative impacts on private land to the extent possible. See the Private Lands section of Chapter 2 for guidelines on avoiding conflicts with landowners. Forest Land Use Plans shall address roads and other impacts to private lands. The Division of Forestry and Fire Protection (DOF) will consider landowner comments as they relate to the type and location of roads.
3. **Minerals:** Oil and gas exploration and development activities will be sited or timed to mitigate impacts on the fish and wildlife habitat and public use values of the Chatanika River corridor. Specific mitigation measures necessary to protect the values for which the river corridor was established will be developed as part of the lease-sale process. Mitigation measures will be developed case- by-case and will consider timing, topography, vegetation, and other factors that affect the impact of oil and gas exploration and development activities on fish and wildlife habitat and public-use values. The rest of Unit 4 will remain open to mineral location and leasing.
4. **Recreational Facilities:** Recreational facilities, for example parking for vehicles towing trailers, an improved boat launch, or camp sites, may be suitable at the end of the Murphy Dome Extension. Proposal and management of such facilities are subject to DMLW authorization, including final approval by DOF.
5. **Scenic Quality:** Development activities on the western side of Unit 4 will be sited and designed to enhance or minimize harm to scenic quality of State Forest land visible from the Minto Flats State Game Refuge to the extent feasible and prudent. Chapter 2 guidelines for management of visual resources will apply to these areas. The Scenic Values guideline of the Recreation section of Chapter 2 contains scenic value guidelines, as does the Silviculture and Harvest Practices part of the Timber Management section of Chapter 2.
6. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 4, including their side channels, sloughs, and backwaters. Waterbodies with special management zones are listed in Table 2.3.
7. **Timber Sales:** Timber sales have been repeatedly scheduled in Subunit 4A since the 2011 Hastings Fire, and it is expected that sales will be offered as soon as access issues with FNSB are resolved to mutual satisfaction. Suitable land will be managed for timber production in Subunits 4C and 4D in accordance with other policies stated in this plan. Subunits 4C and 4D are heavily used by local hunters, and forest roads infrastructure has received investment from ADF&G's Hunter Access and similar grant programs over previous decades. Timber sales within this area will conform to the best practices of both timber management and wildlife habitat, to the extent feasible and prudent. ADF&G is expected to identify for DOF consideration "rare features that provide critical habitat for a species of high conservation priority" during the appropriate public/agency comment periods.

   Timber sales in this unit are within the Fairbanks Area. For more detail when specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
8. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to trails within the State Forest. RS 2477 routes and public access easements have

been identified in Unit 4. Trails without active DNR records may exist in this unit. Public review of Five-Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

Construction of Approximately 2 miles of the Lincoln Creek Loop Trail may be considered along Keystone ridge in accordance with the FNSB Lincoln Creek Subdivision plans. Details of siting, design, and management will be developed jointly with the FNSB. On non-motorized trails on State Forest lands within this unit, signs may be posted on or near the trail indicating that they are for non-motorized use. Where conditions for conflict among motorized and non-motorized users exist, parallel trails may be considered. Safety for all users will be considered in construction of intersections.

9. **Transportation:** Timber in Subunits 4C and 4D will be accessed by all-season roads. Additional primary road may be constructed north of Dunbar for permanent access to Subunit 4D. Additional secondary road may be constructed in Subunits 4C and Subunit 4D for timber management. Roads in State Forest land near the Minto Lakes will be sited and designed to retain a visual barrier between the roads and the Minto Lakes. The objective of the barrier is to prevent unauthorized roads and trails that may harm recreational, habitat, and public use values of Minto Flats.

   Extension of the Cache Creek Road is intended for timber transportation and incidental recreational use. Significant additional use, such as that associated with a subdivision, will require funds for road maintenance in addition to those funds or resources available from timber development. Because logging traffic will share the road with residents, construction of turnouts as part of a timber sale contract should be considered where necessary for safety purposes. When a conflict or safety concern exists with private landowners, road closures will be considered along with other options (see the “Road Use Restrictions part of the Transportation section of Chapter 2).

   Primary access to Subunit 4A is desired by DOF to access the significant timber present and is expected to provide access opportunities for recreationalists. Obtaining access via the Hastings Fire Dozer Line is the subject of ongoing negotiations between FNSB and DOF.

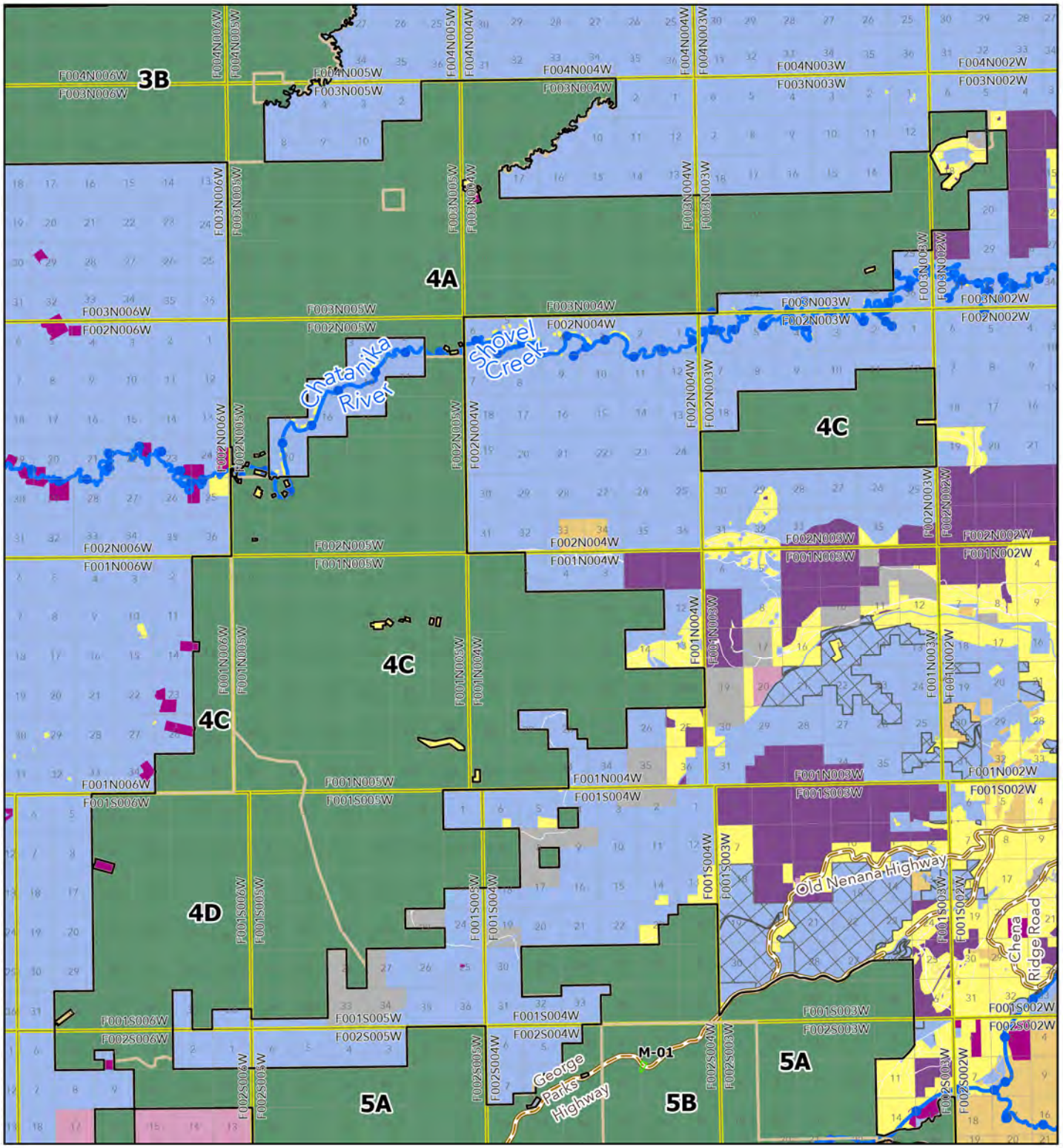
LAND USE SUMMARY

Table 3.4. Unit 4 (Chatanika River, Cache Creek, and Goldstream Valley) Land Use Summary

Unit 4: Chatanika River, Cache Creek and Goldstream Valley							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
4A / F / 50,980 acres	Forestry, multiple use	None planned	None planned, but if harvest becomes feasible, 1° access will be from Hayes Cr. Subdivision or from Murphy Dome Extension.	Open to mineral entry, Northwest corner affected by MCO 67A03	Available for leasing	Land disposal	Private inholdings; Public access easement; AK gas line pipeline
4B / - / -	*Removed from State Forest*						
4C / F / 70,348 acres	Recreation and tourism, timber production	scenic turnout, trail construction, timber sales	Will be accessed by all-season roads	Open to mineral entry, small portions affected by MCO 262, MCO 140, and MO's closing road and pipeline ROWs	Available for leasing	Land disposal	Private inholdings; Public Access easement; State mining claims ; AK gas line pipeline
4D / F / 24,978 acres	Timber production, stream values	Timber sales	Will be accessed by all-season roads	Open to mineral entry	Available for leasing	Land disposal	Private inholdings; RS 2477 Trail; AK gas line pipeline

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2

Management Unit: 4 Chatanika River, Cache Creek, and Goldstream



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

4A For

4C For

4D For

N W E S

0 1 2 4

Miles

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MANAGEMENT UNIT 5: NENANA RIDGE

SUMMARY OF MANAGEMENT INTENT

This unit encompasses much of the state land on Nenana Ridge and includes about 50 miles of the Tanana River. It contains 2 subunits.

Subunit 5A will be managed for timber production, wildlife habitat, and recreation while minimizing impacts to scenic values along the Parks Highway and Tanana River where feasible and prudent.

Subunit 5B, the Bonanza Creek Experimental Forest, will be managed to protect research activities and to maintain its value for experimental and observational research.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Six cultural sites have been identified in Subunit 5A as part of this plan. Consult Chapter 2, Cultural Resources, for management guidance regarding cultural resources. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** The Tanana River and Goldstream Creek bottomlands are important moose, black bear, and furbearer habitat. Peregrine falcon nesting sites are present on the Tanana floodplain. The Tanana River serves as a staging area and migration corridor for waterfowl. The river provides habitat for Chinook, coho, and chum salmon and supports high value resident species of fish such as Arctic grayling. Because this unit is easily accessed from Fairbanks and Nenana, it is used intensively for hunting and trapping.
3. **Private Land and Leaseholds:** Several private inholdings are present along the Tanana River.
4. **Recreation and Tourism:** The Tanana River is important for recreational boating, camping, snowmachining, and access to surrounding areas for hunting and fishing. The clearwater tributaries of the Tanana are also important for fishing and hunting. In the winter, the Tanana River corridor is used for winter recreation. The many logging roads in this unit provide access for recreational activities. An 18-mile network of logging roads and trails is used by recreationalists in all seasons. Grouse and moose hunters use the area in the fall. Many of these trails are not documented in Alaska DNR land records system. Public review of Five-Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

   Views of the Alaska Range and Tanana River are especially good from the Parks Highway in this unit. Tourism operators are known to utilize portions of the trail system as well, for example for dog mushing or snowshoeing. Operators take people out on the Tanana River and its tributaries for fishing, hunting for bear, moose, and birds, and camping, fishing, and wildlife viewing. Zasada Road, Bonanza Creek Road, Nenana Ridge Road, and Skinny's Road and associated logging roads are heavily used by berry-pickers and other non-timber forest product harvesters and for other recreational and personal uses.
5. **Scientific Resources:** The Bonanza Creek Experimental Forest has been used for forest research since the late 1950s. Use of the Experimental Forest is guided by a 55-year lease (ADL 21408)

granted by the state to the USDA Forest Service Institute of Northern Forestry, now known as the Boreal Ecology Cooperative Research Unit (Appendix D). The current lease runs until June 30, 2074. A number of forest measurement plots, climate data collection, and permafrost monitoring sites are permitted in Unit 5.

6. **Subsurface Resources:** The highly mineralized Cleary Sequence underlies most of the unit. In the past, an oil and gas lease was recorded south of Dunbar, but development potential is not known. Existing quarries and bedrock outcrops provide sources of material near the Parks Highway.
7. **Timber:** Much of Unit 5A is especially valuable for timber production because of its relatively high productivity, high existing spruce sawtimber volume, and economic all-season access. Subunit 5B has similar forest characteristics, and also contains one of the highest densities of silvicultural research sites in Alaska's boreal forest. Past and ongoing research have informed forest management practices in Interior Alaska. DOF last sold a timber sale within 5B in 1997.
8. **Transportation and Access:** All of Unit 5 is accessible from the Parks Highway, and over 230 miles of all classes of forest road exist within the Unit. Main forest road networks include Bonanza Creek, Rosie Creek, Skinny's , Nenana Ridge/Maisch, and Standard Creek. Recreational access is provided by the Tanana River and the Cripple Creek-Rosie Creek and Rosie Creek Trails. A number of RS 2477 routes provide access to the unit.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Habitat Enhancement in Bonanza Creek Experimental Forest:** Habitat enhancement will be conducted in Subunit 5B only as part of research projects.
2. **Minerals:** All of this unit will remain open to mineral entry and leasing. The Bonanza Creek Experimental Forest is open to mineral development subject to leasehold location. Mineral activity will be restricted within the Bonanza Creek Experimental Forest (Subunit 5B) if it conflicts with the overriding scientific values. Clause 12 of the lease allows mineral activities within the experimental forest only if they are in compliance with stipulations agreed upon by the State and the lessee.
3. **Recreational Facilities and Activities:**
    a. **Rosie Creek Logging roads.** This 18-mile network of logging roads and connecting trails depends upon existing forest roads constructed and maintained to provide access for timber management. The primary use of these roads will continue to be for timber management. The DOF's consideration of opening timber sales will take safety concerns of all users into account, and upgrades will give priority to safety improvements that benefit both recreationalists and logging traffic. Identification and mitigation of safety risks inherent in overlapping usage will be made with feedback from all user groups, within the stated priority framework.
    b. **Bonanza Creek Experimental Forest:** Developed recreational sites will not be established in Subunit 5B outside of the Parks Highway corridor because of likely conflicts with research values. The U.S. Forest Service's Boreal Ecology Cooperative Research Unit may establish signs along the Bonanza Creek Road system listing activities that require authorization.

4. **Research Activity:** Research activity within the Bonanza Creek Experimental Forest (Subunit 5B) will be governed by the Lease between the State of Alaska and US Department of Agriculture (ADL 21408).
5. **Scenic Quality:** Timber, road, mining, and other development activities in this unit will be sited and designed to enhance views or minimize adverse impacts on scenic views from the Parks Highway and Tanana River to the extent feasible and prudent. The perceived value of a scenic resource will be assessed according to the management guidelines set forth in Chapter 2, and proposals to mitigate scenic impacts from a management action shall be commensurate with the scenic value in question. A 300-foot buffer from centerline on each side of the roadway should be managed to maintain or enhance scenic views along the highway. Development activities such as timber harvesting and land-use authorizations may be allowed within this buffer if the activity is designed to maintain or enhance the scenic values of the highway corridor, and to provide opportunities for viewing background scenery.
6. **Streamside Management**: Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to waterbodies in this unit, including their side channels, sloughs, and backwaters. Waterbodies with Special Management Zones are listed in Table 2.3
7. **Timber Sales:**

   Subunit 5A. Suitable lands will be managed for commercial and personal use timber production in accordance with other policies stated in this plan.

   Subunit 5B. The primary goal of timber management in the Bonanza Creek Experimental Forest is to enhance research values. Timber sales to enhance research values will be initiated at the request of the Bonanza Creek Experimental Forest (lease holder).

   Timber within this subunit will not be included in the forest wide sustained yield base. In general, timber will be harvested by commercial operators, not by the public, so that harvest activities may be more controlled. All timber sales within this subunit will be designed and conducted under the written approval of the team leader, Boreal Ecology Cooperative Research Unit. A Forest Land Use Plan (FLUP) will be prepared jointly by DNR and the Research Unit for each timber sale. Each report will include a description of the research or forest protection objectives of the timber sales and other conditions agreed on by DNR and the U.S. Forest Service's Boreal Ecology Cooperative Research Unit. Design of timber sales will ensure that activities do not conflict with existing research and will provide coordinated data collection. Although DNR and the U.S. Forest Service's Boreal Ecology Cooperative Research Unit will be responsible for monitoring compliance with timber sale contracts, only DNR will administer the contract and convey instructions to the operator.

   Timber sales in this unit are within the Fairbanks Area. For more detail when specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
8. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 5. Trails that are not

documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

Research activities in Subunit 5B will be designed not to conflict with use of these trails.

9. **Transportation:**

   a. **Subunit 5A.** All-season roads will provide access to timber in upland portions of this unit; winter roads and ice bridges will provide access to stands near the Tanana River.

   b. **Subunit 5B.** Road and trail construction, management, access, and maintenance are subject to the terms of the Bonanza Creek Experimental Forest Lease Agreement (ADL 21408). The DOF and the Boreal Ecology Cooperative Research Unit will cooperate with each other regarding the maintenance, construction, upgrading, and gating of roads within the Bonanza Creek Experimental Forest and may enter a memorandum of understanding to address road issues. The following interpretations do not supersede the lease:

      i. **Road Construction.** Subject to Section 55. Limits of Access, no new access or trails are authorized within Subunit 5B without the express permission of the State's Authorized Officer. The State will notify the Lessee, and to the extent practical and feasible, will consult on any changes to the road or trail system management.

      ii. **State Access.** Subject to Section 43. Concurrent Usage, the State (including authorized agents and contractors) shall continue to enjoy access to all existing roads within Subunit 5B and retain the right to establish necessary additional road segments to carry out timber management activities on State land adjacent to 5B.

      iii. **Public Access.** Subject to Section 56. Navigable Waters and 57. Public Access, the State, in consultation with the Leaseholder, will determine what kinds of access optimize research needs and the public's right of access.

LAND USE SUMMARY

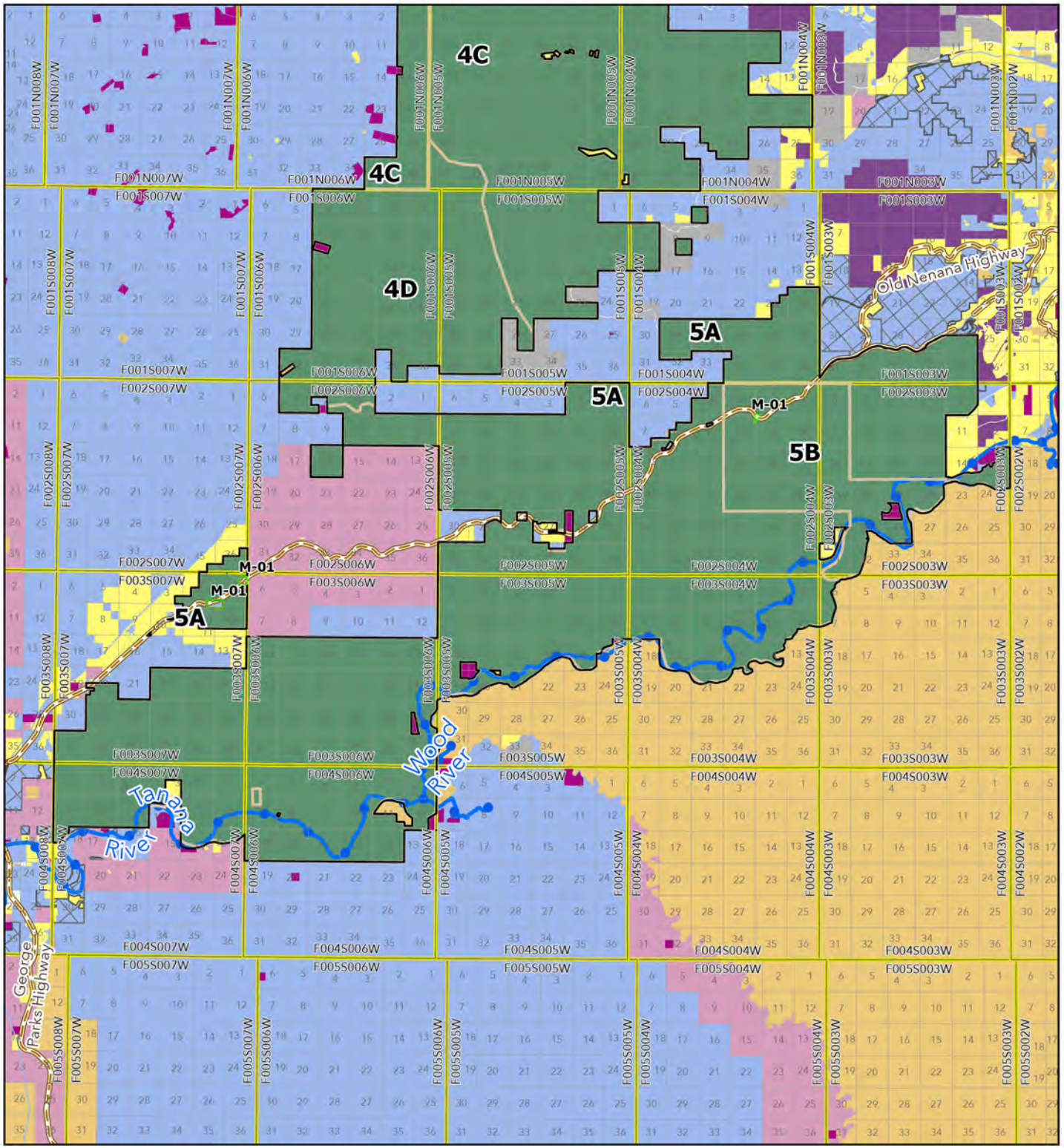
Table 3.5. Unit 5 (Nenana Ridge) Land Use Summary

Unit 5: Nenana Ridge							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
5A / F / 108,540 acres	Scenery on Parks Hwy, timber production, wildlife habitat, recreation near Tanana River	Recreation Timber sales	All-season roads will access uplands, winter roads will access stands near Tanana River	Open to mineral entry except where affected by MO 1045 MCO 262 MCO 176	Available for leasing except where affected by Leasehold Location Order LLO 39	Land disposal	Private inholdings; Portions of this subunit included in University Research Forest (ADL 229382); RS 2477 Trails; Forest Measurement, Climate, and Permafrost Monitoring sites
5B / F, Rs / 13,852 acres	Bonanza Creek Experimental Forest. Manage according to ADL 229382	Research Recreation	No new 1° roads will be constructed. 2° roads will be developed as necessary for research and timber mgmt. 2° roads to fire salvage areas will be closed after harvest/ reforestation.	Leasehold Location Order LLO 24 MO 1045	Available for non-coal leasing only	Land disposal; Commercial leases; Trapping cabins; Remote cabins; Carbon offset projects	Private inholdings; Public Access Easements; Permafrost Monitoring Sites; Lease for Bonanza Creek Experimental Forest (ADL 21408)

Unit 5: Nenana Ridge							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
M-01 / F, Ma / 16.5 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material Extractions					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 5
Nenana Ridge



State Forest Boundary

- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership

- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology

- Anadromous Waters
- Streams

Roads

- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation

- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

5A For
5B For
M-01 For Mat

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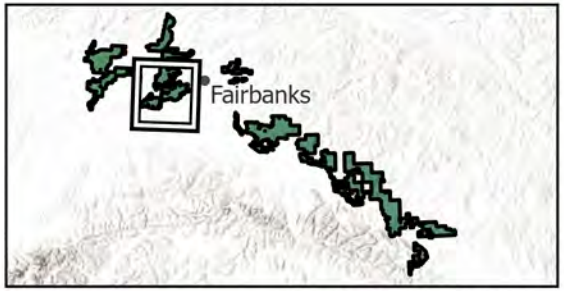
Miles



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MANAGEMENT UNIT 6: CHENA

SUMMARY OF MANAGEMENT INTENT

This unit consists of one of the largest areas of state-owned land near Fairbanks and fronts 10 miles of the Chena and Little Chena Rivers.

The entire unit will be managed for commercial and personal- use timber production, while providing recreation opportunities.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** The prehistoric Chena Bluff site and a site that includes historic cabins and mining debris are recognized in this unit. There exists a possibility that these sites may be eligible for the National Register of Historic Places. Four cultural sites have been identified in this unit as part of this plan. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** Much of this unit contains important habitat for moose, black bear, and furbearers. Easy access from Fairbanks results in heavy hunting, fishing, trapping, and wildlife viewing. The Chena River system provides spawning and rearing habitat for Chinook and chum salmon and supports high value resident species of fish such as Arctic grayling. Critical nesting habitat for peregrine falcons has been identified along the Chena River.
3. **Private Land and Leaseholds:** Numerous privately-owned or leased tracts are located within or near this unit. About 10 inholdings are located along the Chena River, and a notable cluster of remote parcel leases is located on Anaconda and Caribou Creeks just north of the State Forest boundary. A residential and agricultural area is located between the Chena Hot Springs Road and this unit.
4. **Recreation and Tourism:** This unit is of particular value for recreation because it is near Fairbanks, fronts the Chena and Little Chena Rivers, and contains an extensive system of trails and roads that are heavily used by OHVs, snowmachiners, equestrians, mountain bikers, hikers, skiers, and dog mushers. The Two Rivers Road was constructed by DOF in the early 1980s and receives intense recreational use. The Little Chena Dozer Line, constructed in response to wildfires in 2004, has been upgraded to the 13.5-mile Mike Kelly Trail managed by the Division of Mining, Land, and Water (DMLW). The Chena River is easily accessed by roads and is important for motorboating, paddling, and recreational cabin use. Tourism businesses use forest road and trail infrastructure for ATV and dog mushing tourism operations.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface Resources:** Kinross/Fort Knox has operated an open pit gold mine on lands adjacent to the northwest of Unit 6 since 1996. Mineral potential is moderate to high in this unit because of the presence of the Cleary Sequence in the northern portion, potential for silver and zinc in the

southern portion, existing mining claims, and access. Large mining claim blocks are in drainages north of the unit. Mining claims within the State Forest are located near Iowa and Potlatch Creeks.

7. **Timber:** The Chena and Little Chena River floodplains contain productive, high-value spruce sawtimber; warmer slopes are covered with hardwoods. Moderate levels of timber harvest have occurred in this unit for the last 80 years. Easy access makes this unit important as a firewood and house log supply for the Fairbanks area.
8. **Transportation and Access:** This unit is accessed by numerous roads and trails. The Two Rivers and Pheasant Farm Roads provide the major access routes to the northern and southern portions of this unit respectively. Other access is provided by the Hipas (Big Bend) and Grange Hall Roads. Mining trails north of the State Forest are potential access to mining and timber harvest areas in the northern portion of the unit. Numerous documented and undocumented trails are used in winter and summer for recreation. The Two Rivers Road and Colorado Creek Trail are also used for access to the Anaconda - Caribou Creek settlement area. Access into the Smallwood and Iowa Creek drainages has been primarily winter only access from Adventure Road / Chena Hot Springs Road Mile 11. RS 2477 trails have been identified in Unit 6.

MANAGEMENT GUIDELINES AND ACTIVITY

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to cultural sites within this unit.
2. **Mineral:** All of this unit will remain open to mineral location and leasing.
3. **Recreational Facilities:** A boat launch site may be constructed on the Chena River at the end of the Grange Hall Road. The Grange Hall Road should be improved before the boat launch site is constructed.
4. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to waterbodies within Unit 6, including their side channels, sloughs, and backwaters. Waterbodies with special management zones are listed in Table 2.3.
5. **Timber Sales:** Suitable lands will be managed for commercial timber production in accordance with other policies stated in this plan. Timber harvest along designated recreation trails and navigable rivers will be sited using established best management practices to limit impacts to the recreation opportunities, habitat, and scenic quality to the extent prudent and feasible. Commercial timber sales will continue to be offered in the area, along with personal-use harvest.

   Timber sales in this unit are within the Fairbanks Area. For more detail when specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
6. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 6. One RS 2477 trail and a small number of public access easements intersect Unit 6. Trails that are not documented in DNR's land record system may be present in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

Approximately 6 miles of trail may be constructed and maintained for cross-country skiing and horseback riding near Lyrad Creek. The trail will tie into a trail system within the adjacent Chena River Recreation Area.

If efforts to maintain the current alignment of the Chena Hot Springs Winter Trail (RST 278) are unsuccessful, consideration should be given to relocation to the southern portion of this unit.

7. **Transportation:** Timber access may require the construction of secondary road or winter road. However, it is likely that less road will be constructed because of the existing road system and the relatively concentrated timber resources. When feasible, roads will be constructed to all- season standards to provide access for public firewood and house log cutting. Land south of the Chena River will be accessed by ice bridges and winter roads.

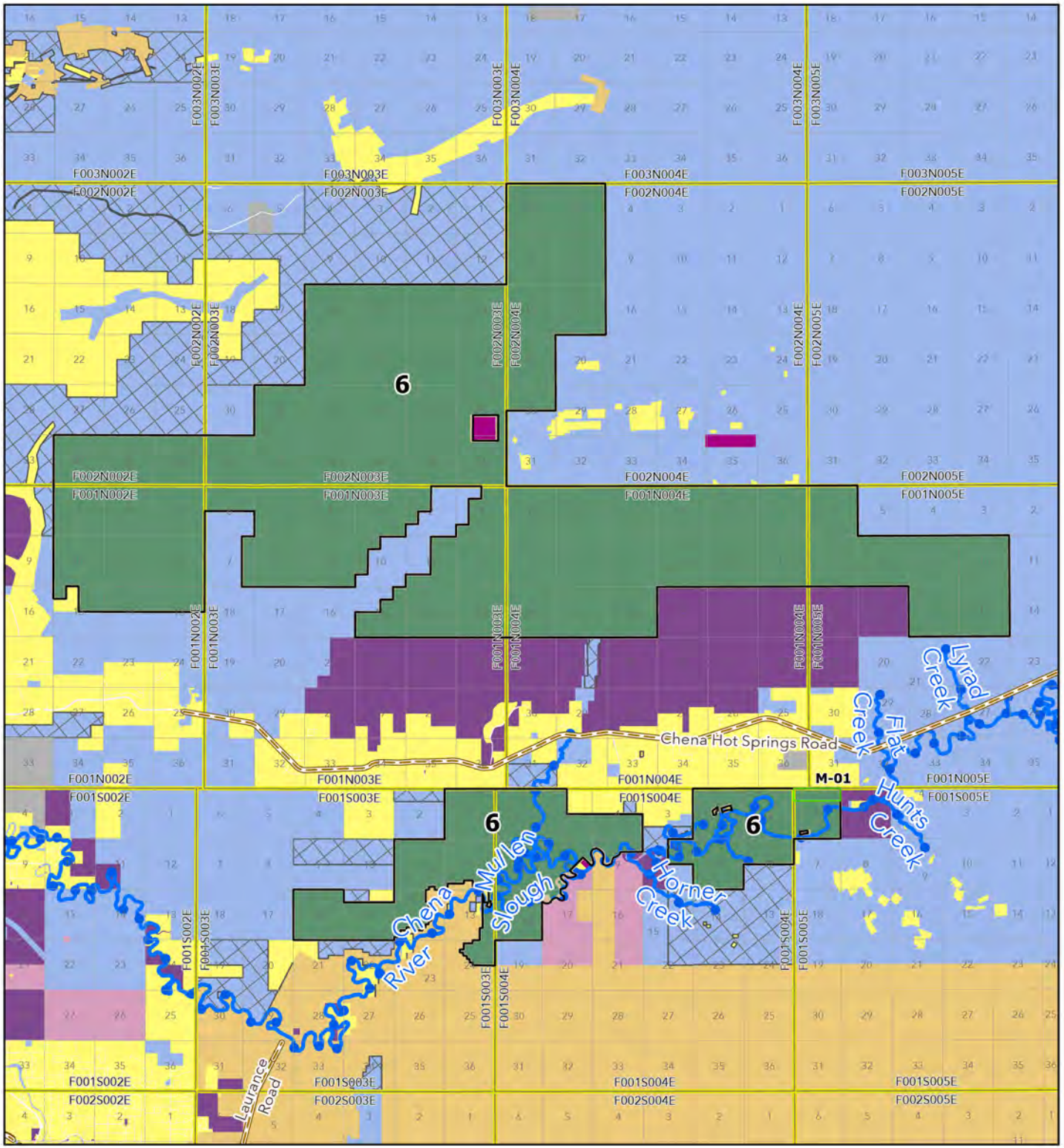
LAND USE SUMMARY

Table 3.6. Unit 6 (Chena) Land Use Summary

Unit 6: Chena							
Subunit / Designation / Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
6 /F / 54,534 acres	Timber production, Recreation	Timber sales, Recreation	Some 2° road may be constructed. When possible, all-season roads will be constructed to provide for public wood-cutting	Open to mineral entry except where affected by MCO 229	Available for leasing	Land disposal	Private Inholdings; RS 2477 Trails; Public Access Easements; State Mining claims in northwestern portion of Unit
M-01 / F, Ma / 147 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material extraction					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 6
Chena



State Forest Boundary

- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership

- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology

- Anadromous Waters
- Streams

Roads

- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation

- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

6 For
M-01 For Mat

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Miles

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MANAGEMENT UNIT 7: SALCHA

SUMMARY OF MANAGEMENT INTENT

This unit consists of 20 miles of bottomland of the Tanana River and forested uplands and valleys north of the river. It contains 3 subunits.

Subunit 7A will be managed for commercial and personal use timber production while protecting fish and wildlife habitat and recreation values of the Tanana River and the mouth of the Salcha River.

Subunits 7B and 7C will be managed for commercial timber production and mineral production while protecting fish and wildlife values near Redmond Creek.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Several pre-historic and historic cultural sites in the Richardson Mining District have been identified in this unit. Probability is high for occurrence of other cultural resources along creeks in this unit. Multiple cultural sites have been identified in every Subunit. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology**.**
2. **Fish and Wildlife Habitat:** The lowlands of this unit are generally important moose and furbearer habitat; upland areas are prime black bear habitat. The lowlands receive heavy to moderate hunting and trapping. The Salcha River system provides spawning and rearing habitat for Chinook and chum salmon and supports high value resident species of fish such as Arctic grayling.
3. **Private Land and Leaseholds:** An Alaska Native allotment is located in the center of Subunit 7A.
4. **Recreation and Tourism:** Although this unit is adjacent to 12 miles of the Richardson Highway and Old Valdez Trail, most people are drawn to nearby Birch and Harding Lakes. Roadside views are generally restricted. Potential for Tanana River access is high within Subunit 7A, but few people take air boats and jet boats on the Tanana River through this subunit. The mouth of the Salcha River, a popular river for motorboating, is in this unit. The Mosquito Creek logging road and the Canyon Creek logging road receive moderate recreational use, primarily by hunters in the fall. Logging roads have created access for recreationists in the area. Fishing is also a popular activity in the Richardson/Clearwater area of the Tanana River. This unit is sometimes used to access recreational cabins on the Salcha River, and many people use this area for recreational snowmachining and four-wheeling. One known dog mushing tourism business operates in parts of Subunit 7C and much of Unit 8.
5. **Scientific Resources:** A number of permanent UA forest measurement sites are permitted in Subunit 7B (LAS 19739). The northwest corner of Subunit 7B contains permitted seedling growth study plots (ADL 421870).
6. **Subsurface Resources:** Numerous active mining claims, both placer and hard rock, located along Banner and Canyon Creeks are part of the Richardson Mining District. Recent studies suggest at least moderate mineral potential in other parts of Subunits 7B and 7C. Active and abandoned

floodplains of the Tanana River are a likely source of materials. A small number of active material sites are located in Subunit 7B near the Richardson highway.

7. **Timber:** Bottomlands along the Tanana River contain a patchwork of mature spruce and productive, younger mixed hardwood-spruce stands. Ridges north of the Tanana are forested with mixed hardwood-spruce stands.
8. **Transportation and Access**: The Richardson Highway and the Old Valdez Trail provide primary access to Subunits 7A and 7B. Subunit 7C is not accessed by an all-season road. Multiple RS 2477 trails access Subunit 7B. A public access easement managed by ADF&G connects Harding Lake to the northwest corner of Subunit 7B. The Trans-Alaska Pipeline System passes through the middle of the unit.

MANAGEMENT GUIDELINES

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to cultural sites within this unit.
2. **Minerals:** All of this unit is open to mineral exploration and leasing, except for the Trans-Alaska Pipeline System right-of-way, which will remain closed to mineral location to protect existing and future utility uses.
3. **Scenic Quality:** Timber, road, and other development activities in Subunits 7A and 7B will be sited and designed to enhance or minimize harm to scenic views from the Richardson Highway to the extent feasible and practical. The perceived value of a scenic resource will be assessed according to the management guidelines set forth in Chapter 2, and proposals to mitigate scenic impacts from a management action shall be commensurate with the scenic value in question.
4. **Streamside management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to waterbodies in Unit 7, including their side channels, sloughs, and backwaters. See table 2.3 for a list of waterbodies in TVSF with Special Management Zones.
5. **Timber Sales:** Subunits 7A and 7B will be managed for commercial timber production in accordance with other policies stated in this plan. Within the floodplain of the Tanana River in Subunit 7A there exists substantial areas of flood-killed timber and active bank erosion. In Subunit 7A, DOF shall cooperate with the ADF&G to salvage timber value, provided the terms of any salvage sale are deemed by ADF&G to adequately protect anadromous fish habitat.

   Timber will be made available in more remote portions of Unit 7 if warranted by a change in demand or accessibility.

   Timber sales in this unit are within the Fairbanks Area. For more detail if specific proposals are developed, see the Fairbanks Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
6. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 7. Trails that are not documented in DNR's land record system may be present in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

7. **Transportation:** Subunits 7A and 7B will be accessed by secondary roads from the Richardson Highway and Old Valdez Trail, including new road construction for timber access. Three possible alignments exist for a winter primary road that accesses Subunit 7C and the Redmond Creek drainage in Subunit 7B: 1) upgrade the trail west of Birch Lake and the extension over Gunnysack Creek, 2) use a 200-foot-long floating easement 1.5 miles east of Birch Lake, or 3) construct a winter road east of the end of the Mosquito Creek Road. Routes 1 and 2 would cross land owned by the FNSB and would necessitate cooperative planning. Road planning will consider the access needs of existing and potential mining claims in Subunits 7B and 7C.

   When Subunit 7C is accessed, its access road and 11 miles of the existing Redmond Creek Trail may be upgraded into primary winter road. This level of development requires an interest finding, whether published by the DMLW Region office for an easement creating long term use or by DOF in a FLUP for short-term applications.

LAND USE SUMMARY

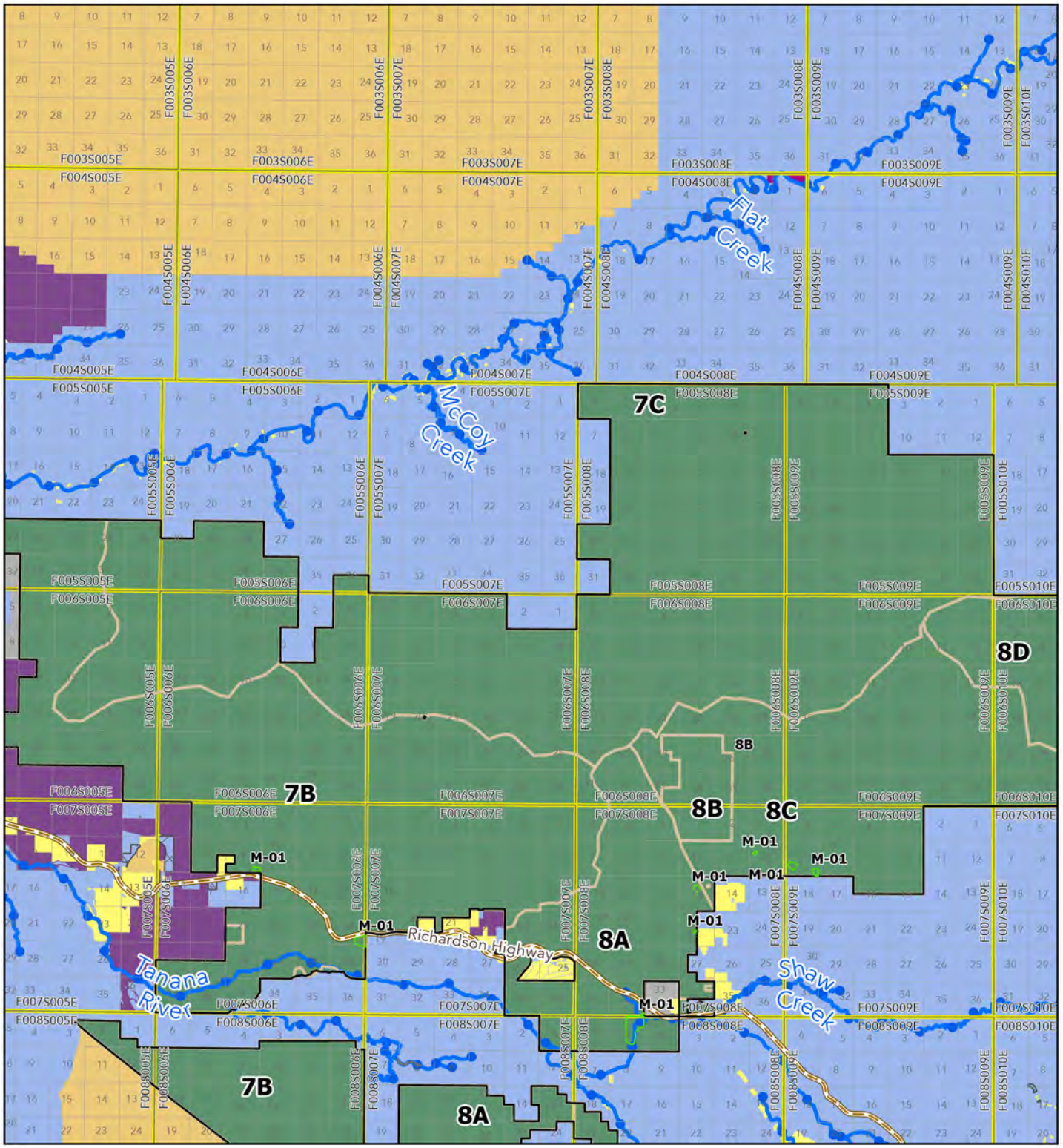
Table 3.7. Unit 7 (Salcha) Land Use Summary

Unit 7: Salcha							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
7A / F / 14,339 acres	Timber production, habitat and recreation near Tanana River	Timber sales	2° roads from Richardson Hwy and Old Valdez trails will access this unit	Open to mineral entry	Available for leasing	Land disposal	Active Alaska Native Allotment; State Mining Claims; Instream Flow Reservation; Public Access Easement
7B / F / 75,684 acres	Mineral production, timber production, habitat and recreation near Tanana River and other streams	Timber sales	2° roads from Richardson Hwy and Old Valdez trails will access this unit	Open to mineral entry except where affected by MCO 383	Available for leasing	Land disposal	Public Access Easements; RS 2477 Trails; Forest Research Plots; State Mining Claims; Public Utility Leases; Hunting and Trapping; Instream Flow Reservation

Unit 7: Salcha							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
7C / F / 94,036acres	Forestry/Multiple Use	Timber sales	Will be accessed by 1° winter road	Open to mineral entry except where affected by MO 1147	Available for leasing	Land disposal	RS 2477 Trails; State Mining Claims; Hunting and Trapping; Trans-Alaska Pipeline System ROW; Instream Flow Reservations; Public Access Easement; DOD Electronic Telemetry Installation
M-01 / F, Ma/ 62 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Mineral Extraction					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 7
Salcha



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

7A For
7B For
7C For
M-01 For Mat

N W E S

0 1 2 4
Miles

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MANAGEMENT UNIT 8: SHAW CREEK

SUMMARY OF MANAGEMENT INTENT

This unit includes the upland area north of Shaw Creek Flats and about 8 miles of the Tanana River. It contains 4 subunits.

Subunits 8A, 8C and 8D contain high value mineral resources and will be managed for both commercial timber production and mineral exploration / production. These and other activities in these subunits will be managed to protect fish and wildlife values near the Tanana River and Shaw and Caribou Creeks. Timber salvage prior to mining development opportunities will be evaluated as per AS 41.17.083.

Subunit 8B, the Rosa - Keystone Dunes Research Natural Area, will be managed in its natural state for research and educational use.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Several prehistoric and historic sites are recognized in this unit. Probability is considered high that other cultural resources are present at Campbell Lake and promontories that overlook waterbodies or large vistas. Multiple cultural sites have been identified in each subunit as part of this plan. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** The unit provides important moose and furbearer habitat, contains black bear habitat in lower elevations, and brown bear habitat in upper elevations. The unit supports the Fortymile caribou herd, primarily as winter habitat, and Shaw Creek Flats provides waterfowl habitat. Shaw Creek provides rearing habitat for Chinook and coho salmon and supports high value resident species of fish such as Arctic grayling.
3. **Private Lands and Leaseholds:** The Tenderfoot Subdivision is located south of the Richardson Highway in Subunit 8A.
4. **Recreation and Tourism:** Recreational uses are low throughout this unit. However, air boats and jetboats are used on the Tanana River through this unit, with some berry-picking reported. Dog mushing tourism businesses have operated in the past in this unit. A number of trapping cabins are permitted in Unit 8.
5. **Scientific Resources:** The Rosa Keystone Dunes Research Natural Area contains a series of high "fossil" sand dunes and dune-impounded ponds. Temperature inversions have formed an inverted tree line in deep, undrained hollows between 200-foot-tall dune crests. See also Appendix E, Research Natural Area Report, for more information. ADF&G telemetry tower permitted in Subunit 8A. UA permafrost monitoring sites are permitted in Subunit 8A.
6. **Subsurface Resources:** Pogo Mine, operated by Northern Star Resources Ltd. since 2006, is located at the end of a 49-mile access road that passes through or near much of this unit. Other active mineral exploration is ongoing in this area, for example SAM ALASKA in 2020 began building access north into the TVSF (DMLW Permit #9882). Land along Tenderfoot Creek in Subunit 8A is actively

being mined for placer gold, and other areas are being explored for hard rock mining. Depending on the results of exploration activities in the area, some areas could be cleared and mined. A Leasehold Location Order applies to Subunit 8B.

7. **Timber:** This unit is forested extensively with productive, pole-sized hardwood. Warmer slopes in Unit 8 contain significant areas of mature mixed stands with moderate levels of spruce sawtimber. Pockets of spruce sawtimber are located south of the Richardson Highway in Subunit 8A. Timber harvest activities in mining areas should focus on utilization of the resource prior to mine development or as part of mine development.
8. **Transportation and Access:** The 49-mile Pogo Mine Road provides all-season access to Subunits 8C and 8D. The establishment of this road is governed by ADL 417066, and its ongoing use, maintenance, and management is governed by ADL 421276. Eight miles of the Richardson Highway provide primary access to Subunit 8A. Secondary access to Subunit 8A is provided by the Tenderfoot Subdivision roads, and several mining roads that spur off the highway. Two trails are used for mining, hunting, and trapping access to the upper Gilles and Caribou Creeks. Future access into Unit 8 is likely to come from the Pogo Mine Road, though use of this easement is time-limited unless access across surrounding private land is secured.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to cultural sites within this unit.
2. **Minerals:** Subunits 8A, 8C, and 8D will remain open to mineral location and leasing, except for the Trans-Alaska Pipeline System, which will remain closed to mineral location to protect existing and future utility uses. Within Subunit 8B, a research natural area, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNA, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of operations per Leasehold Location Order #24 (See Appendix C.) will also be included in any miscellaneous land use permits issued for exploration activities within the RNA.
3. **Research Natural Areas:** Subunit 8B will be managed in its natural state as a research natural area. Guidelines for research natural areas in the Scientific Resources section of Chapter 2 will apply to this subunit. Several pipeline right-of-way leases and applications run through and adjacent to this Research Natural Area. Management of the Research Natural Area is subject to valid existing rights.
4. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to waterbodies within Unit 8, including their side channels, sloughs, and backwaters.

   Roads in this unit and in Shaw Creek Flats will be located to avoid whenever possible crossing or closely paralleling Shaw and Caribou Creeks to protect identified salmon spawning and rearing habitats (see the Mitigation part of the Fish and Wildlife Habitat section of Chapter 2).
5. **Timber Sales:** Lands in Subunits 8A, 8C, and 8D will be managed for commercial timber production in accordance with other policies stated in this plan.

Subunit 8B is a research natural area and is closed to timber harvest.

Timber sales in this unit are within the Delta Area. For more detail when specific proposals are developed, see the Delta Area Five Year Schedule of Timber Sales and Forest Land Use Plans.

6. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 8. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

7. **Transportation:** Primary all-season access to most of Unit 8 is principally from the 49-mile Pogo Mine Road and its main forest road spurs. When Pogo Mine operations conclude and the Road Use Agreement (ADL 421276) is terminated, Forestry will consider expanding public access options if possible in ways compatible with the statutory intent of the State Forest to provide a sustainable timber resource while allowing for multiple uses.

   The State has developed a portion of the winter trail on the north margin of Shaw Creek Flats to a primary winter road for timber access to Subunit 8C. Additional development of this winter access route may occur to access timber sales in Subunit 8C and 8D.

   If roads on public rights-of-way within subdivisions are used for timber or other resource management activities, they will be maintained by the state as secondary all-season roads during periods of use. Use of subdivision roads will be coordinated to minimize conflict with private land values.

LAND USE SUMMARY

Table 3.8. Unit 8 (Shaw Creek) Land Use Summary

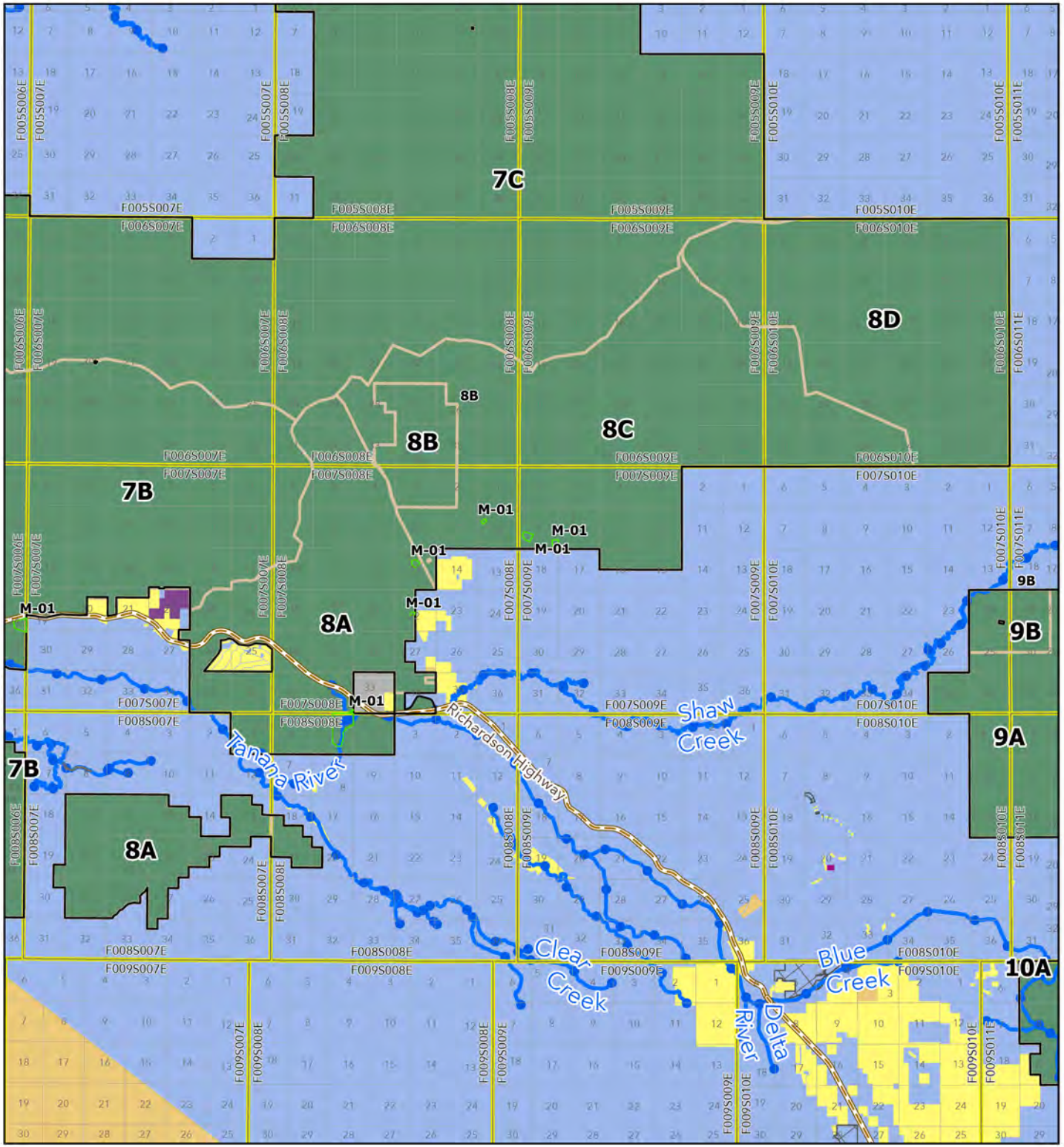
Unit 8: Shaw Creek							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
8A / F / 25,620 acres	Mineral production, timber production, fish and wildlife habitat and recreation near Caribou Creek	Timber sales	1° all-season access is planned from Shaw Creek Rd	Open to mineral entry, except where affected by MO 1147 and MCO 223	Available for leasing	Land disposal	RS 2477 Trails; State Mining Claims along Tenderfoot Creek; ADF&G telemetry tower; Permafrost monitoring site; Trans-Alaska Pipeline ROW; Instream Flow Reservation; Public Access Easements; Private Easement
8B / F, Rs / 3,243 acres	Rosa-Keystone Dunes Research Natural Area Manage Under ADL 228314	Research	No new road construction planned	Open under leasehold location LLO 24 except where affected by MO 1147	Available for leasing	Land disposal; Commercial leases; developed recreation; material extraction; remote cabins; timber harvest; trapping cabins; introduction of non -endemic species	RS 2477 Trails; Special Use Designation; RS 2477 Trails; Instream Flow Reservation; A trapping cabin was erroneously authorized in this subunit in 2006 (ADL 417594). Permit expires 03/2026.

Unit 8: Shaw Creek							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
8C / F / 31,323 acres	Timber production, fish and wildlife habitat, recreation near Tanana River and Shaw Creek, mineral production	Timber sales	1° winter road will be extended to access timber sales. 1° all-season access is planned from Shaw Creek Rd	Open to mineral entry except where affected by MO 1147 or LLO 24	Available for leasing	Land disposal	RS 2477 Trails; Private Easement; State mining claims along northeast boundary; Hunting and Trapping; Public access easement; Public utility easement;

Subunit/ Designation/ Acres	Summary of Management Intent	Summary of Management Activities	Potential Access Roads: 1°/2° (primary/ secondary)	Subsurface Designation		Prohibited Surface Uses*	Other Resources and Uses
				Locatable	Leasable		
8D / F / 20,856 acres	Forestry /Multiple Use	Timber sales	1° winter road may be extended to access timber sales. All season access is planned from Shaw Creek	Open to mineral entry	Available for leasing	Land disposal	State Mining Claims on much of the subunit; Hunting and trapping
M-01 / F, Ma / 251 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material extractions					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 8
Shaw Creek



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
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Hydrology
- Anadromous Waters
- Streams

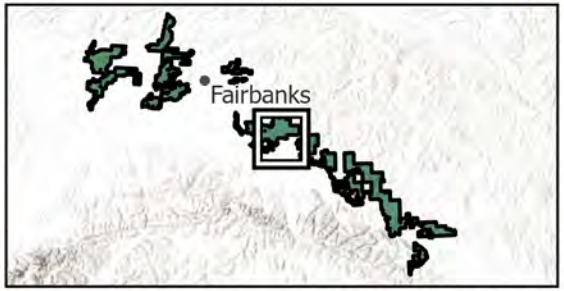
Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

8A For
8B For Rsu
8C For
8D For
M-01 For Mat

0 1 2 4
Miles



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MANAGEMENT UNIT 9: RAPID CREEK

SUMMARY OF MANAGEMENT INTENT

This unit includes most of the uplands between Shaw Creek and the Goodpaster River. It contains 3 subunits.

Subunit 9A will be managed for commercial timber production while protecting fish and wildlife values near Liscum Slough and Rapid Creek.

Subunit 9B, the Shaw Creek Tamarack Research Natural Area, will be managed in its natural state for research and educational use.

Subunit 9C will be managed for general multiple-use management consistent with 11 AAC 96 and AS 41.17.200.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** One cultural site been identified in this unit as part of this plan. Probability of other sites is considered high on promontories that overlook waterbodies or large vistas. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.

2. **Fish and Wildlife Habitat:** Moose and furbearers occur throughout this unit. The unit contains important black bear habitat, primarily in lower elevations, and brown bear habitat in upper elevations. This unit is used by the Fortymile caribou herd, primarily as winter habitat. Lowland areas are used intensively for trapping. The lower Goodpaster River system provides rearing habitat for Chinook salmon and supports high value resident species of fish such as Arctic grayling.

3. **Private Lands and Leaseholds:** A small parcel of privately owned land is located in subunit 9B, west of Big Lake

4. **Recreation and Tourism:** Most recreation in this area occurs outside of the TVSF near Quartz Lake or in the Goodpaster River valley. The ridge that bisects the unit offers a good view and is accessed by trails used by local residents. "Lake 992" in Subunit 9B generally has low recreational use. Snowmachiners use this area for day trips. People who have cabins along the Goodpaster River access their cabins through this unit on an RS 2477 trails that passes through Subunit 9A.

5. **Scientific Resources:** Subunit 9B, the Shaw Creek Tamarack Research Natural Area, used to contain representative upland and lowland stands of tamarack suitable for research uses. However, the tamarack have been killed by repeated defoliation over a five-year period by the larch sawfly in the late 1990s. It is plausible that tamarack ingrowth has occurred since the 2001 Plan Update, but there is no known recent site visit to confirm this. There are two cabins within the Research Natural Area, along the east side of the lake. Two active traplines were observed and a trail circles the lake. See also Appendix E, Research Natural Area Report, for more information.

6. **Subsurface Resources:** Mineral potential is low to moderate within this unit. Mining claims exist in Subunit 9A and a small number in Subunit 9C. A Leasehold Location Order applies to Subunit 9B.

7. **Timber:** The Rapid Creek drainage contains substantial stands of spruce sawtimber; hills north of the Goodpaster River support moderate levels of spruce. There is a history of large-scale fires in this contiguous landscape block. Portions of this Unit are deemed to have high site productivity. Values are lower in most of Subunit 9C because of remoteness.

8. **Transportation and Access:** Quartz Lake Extension Road provides 8 miles of all-season access into Subunit 9A. Winter trails provide additional access into this unit. The historic Fortymile-Big Delta Trail and two spur trails are used chiefly in winter for access to traplines and cabins on the Goodpaster River. The Goodpaster Trail from Quartz Lake was built in the 1930s to access mines in the upper drainage. Spur trails lead up Central Creek and to the lower mile of the Goodpaster. The Goodpaster Trail is listed as an RS 2477 route. Another RS 2477 route does not pass through the unit, but provides access to the area. Access to Rapid Creek is via the Indian Creek Trail that links to an old army maneuver trail in Shaw Creek Flats. The army trail is currently being used as a winter road to haul timber from Subunit 9A.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Sites:** Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.

2. **Minerals:** Subunits 9A and 9C will remain open to mineral location and leasing. Within Subunit 9B, the research natural area, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNA, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of operations per Leasehold Location Order #24 (See Appendix C.) will also be included in any miscellaneous land use permits issued for exploration activities within the RNA.

3. **Goodpaster River Corridor.** When authorizing development activities, measures will be taken to minimize impacts to the scenic values or recreational uses of the Goodpaster River corridor, here defined as Unit D-15 of the 2015 Eastern Tanana Area Plan (ETAP), to the extent feasible and prudent. ETAP Unit D-15 is “to be managed to protect and maintain habitat and public recreation values”, and a large number of private inholdings and public trails exist within ETAP Unit D-15. Measures to minimize the impacts of timber management actions on scenic values are discussed in Chapter 2.

   To minimize impacts on the scenic and recreational values of the Goodpaster River, and to maintain the roadless character of the river, winter roads in this unit will be designed and managed to minimize possible use by all-terrain vehicles in the summer.

4. **Research Natural Area:** Subunit 9B will be managed in its natural state as a research natural area. Guidelines for research natural areas in the Scientific Resources section of Chapter 2 will apply to this subunit.

5. **Streamside and Lakeshore Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 9. Waterbodies with special management zones are listed in Table 2.3.

6. **Timber:** Suitable lands in Subunit 9A will be managed for commercial timber production. Timber sales over 10,000 board feet are prohibited in a 160-acre parcel near Jolly's Cabin (T8S, R11E, Sec. 27 SW¼).

   Timber will be made available in Subunit 9C if warranted by a change in demand or accessibility.

   Subunit 9B is a research natural area and is closed to timber harvest.

   Timber sales in this unit are within the Delta Area. For more detail when specific proposals are developed, see the Delta Area Five Year Schedule of Timber Sales and Forest Land Use Plans.

7. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 9. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

   To minimize impacts on the scenic and recreational values of the Goodpaster River, and to maintain the roadless character of the river, the Goodpaster Winter Trail (Fortymile-Big Delta Trail) should be managed for winter-only use by road vehicles. DNR will adjudicate land actions, including timber sales, consistent with this intent. DNR will not upgrade this trail to an all-season road.

8. **Transportation:** Subunit 9A is currently accessed by the Quartz Lake Extension Road, a primary all-season forest road. A trail developed by the army on the south side of Shaw Creek has been used to access timber salvaged from the Rapid Creek fire. This trail has also been used to access timber sales to the east and north of Quartz Lake. This access route will continue to be used for timber management. If an all-season road is constructed, it will be routed on the hillsides north of the Goodpaster Winter Trail.

   The following guideline applies to new access only in a 160-acre parcel near Jolly's Cabin (T8S R11E, Sec. 27 SW ¼). To adjacent units. For example, a road could cross the edge of this parcel to skirt a ridge extending into the parcel. A road designed under a special exception must minimize the distance within the parcel and must not provide new road access to the river. See Chapter 4, Plan Modification, for a description of the special exception process. Access routes to mining claims should avoid this parcel unless no feasible and prudent alternative exists.

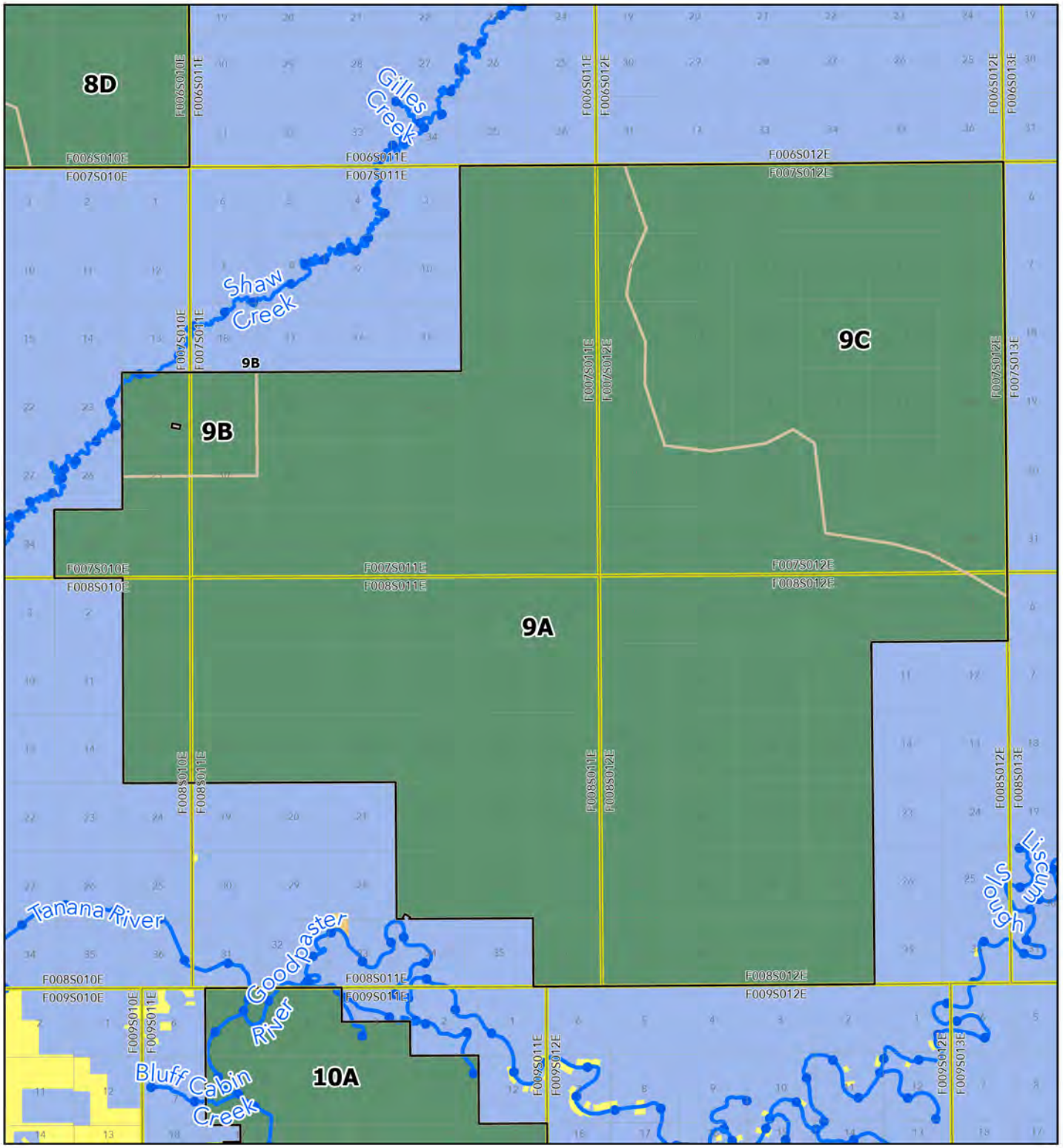
LAND USE SUMMARY

Table 3.9. Unit 9 (Rapid Creek) Land Use Summary

Unit 9: Rapid Creek							
Subunit/ Designation/ Acres	**Summary of Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
9A / F / 56,544 acres	Timber production, habitat and recreation near waterbodies	Timber sales	Probable access by 1° road. All-season access road is planned to be extended	Open to mineral entry	Available for leasing	Land disposal	RS 2477 trails
9B / F / 1,909 acres	Shaw Creek Tamarack Research Natural Area Manage according to ADL 228315	Research	None planned	Open under leasehold location LLO 24	Available for leasing	Land disposal, Commercial leases, developed recreation; material extraction; remote cabins; timber harvest; trapping cabins; introduction of non-endemic species; Carbon offset projects	Private inholding
9C / F / 16,839 acres	Timber production	None planned	None planned. Area may be accessed by all-season road	Open to mineral entry	Available for leasing	Land disposal	

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 9
Rapid Creek



State Forest Boundary
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- ANCSA
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- AK DNR-Mental Health Trust
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Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations
9A For
9B For, For Rsu
9C For

N W E S

0 1 2 4

Miles

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MANAGEMENT UNIT 10: GERSTLE RIVER

SUMMARY OF MANAGEMENT INTENT

This unit consists of 65 miles of bottomland along the Tanana River between Big Delta and Dot Lake and includes the highlands that surround Volkmar Lake. It contains 4 subunits.

Most of Subunit 10A will be managed for timber and wildlife habitat. The Bluff Cabin Ridge area will be managed to protect its high recreational, fisheries habitat, and cultural values.

Subunits 10B and 10D will be managed in their natural states as research natural areas.

Subunit 10C will be managed for commercial and personal use timber production while protecting fish and wildlife habitat and recreation use near the Tanana and Volkmar Rivers and other waterbodies.

EXISTING RESOURCES

1. **Cultural Resources:** This unit contains a number of historic and prehistoric cultural sites, including one site that is eligible for the National Register of Historic Places. The Bluff Cabin Ridge area is particularly rich in cultural resources, and the University of Alaska Fairbanks has previously used the Gerstle River quarry site for an archaeological field school. Every subunit contains at least 1 cultural site identified as part of this plan. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** Moose and furbearers occur throughout this unit. The unit contains important black bear habitat, primarily in lower elevations, and brown bear habitat in upper elevations. This unit is used by the Fortymile caribou herd, primarily as winter habitat. Plains bison were introduced to the Delta Junction area in 1928. Nearby, the Delta Junction State Bison Range was established in 1979, with Unit 10C of the TVSF established adjacent on the east in 1983.A substantial number of peregrine falcon nests have been identified along the Tanana River, and many eagles and other raptors are known to nest in bottomlands. Large numbers of sandhill cranes and other birds migrate through the area. The Tanana River system in this area provides spawning habitat for coho and chum salmon, rearing habitat for Chinook and coho salmon, and supports high value resident species of fish such as Arctic grayling.
3. **Private Lands and Leaseholds:** Agricultural parcels are located in the central portion of Subunit 10C.
4. **Recreation and Tourism:** The Tanana and Volkmar Rivers are used for recreational access. Subunit 10A includes a small amount of frontage on the south fork of the Goodpaster River and on Volkmar Lake between private inholdings. The scenic Bluff Cabin Ridge area is easily accessed by snowmachines and dog teams from Delta Junction. The Goodpaster Historical Trail connects the ridge area to Rika's Roadhouse, a State Historic site. Other trails in the area are used for horseback riding, hiking, and hunting. The boat ramp near Delta Junction is used heavily by hunters in the fall, and there is a lot of hunting in the sloughs of the Tanana. The Tanana is also used for recreational

boating, paddling, snowmachining, dog mushing, and cross-country skiing. Many snowmachiners travel through Subunit 10B on their way to Volkmar Lake.

5. **Scientific Resources:** Subunit 10B, the Volkmar Bluffs Research Natural Area, includes portions of the largest contiguous set of hill prairies in central interior Alaska. Hill prairie slopes are uniquely gentle and contain uncommon plants pollinated by a specialized species of bee. Subunit 10D, the Johnson Slough Bluffs Research Natural Area, contains hill prairie surrounded by open aspen forest. Rare species of plants adapted to warm sites and others adapted to high elevations occur together in prairie areas. See also Appendix E, Research Natural Area Report, for more information.
6. **Subsurface Resources:** Mineral potential is moderate east of Volkmar Lake and low elsewhere. No mining claims are located in this unit. A number of material sites are located in Subunit 10C.
7. **Timber:** As early as 1920 a sawmill has operated at or near the State Historical Site at Rika's Roadhouse and forested lands in Subunit 10C have been harvested since the 1940s. Subunit 10C has served as the only all-season accessible harvest area to the Delta timber industry. Stands of white spruce occur along the Gerstle and Tanana River corridors and side channels.
8. **Transportation and Access:** Subunit 10C is accessed by the Alaska Highway, Cummings Road, and other all-season roads. The Tanana River provides important access for recreational and subsistence activities during the summer, winter, and hunting seasons. An unimproved, unmaintained public boat launch off Cummings Road provides access to Healy Lake and George Lake. Trails and logging roads provide hunting and trapping access. 17(b) right-of-way easements are reserved over two RS 2477 routes in the area. The easements are 25 feet wide and allow winter off-road vehicle and non-motorized use. Other RS 2477 routes pass near and through Unit 10. Portions of the Tanana River remain open throughout the winter in Subunit 10A.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to all cultural sites identified as part of this plan.
2. **Minerals:** Subunits 10A and 10C shall remain open to mineral location and leasing. Within Subunits 10B and 10D, the research natural areas, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNAs, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of operations per Leasehold Location Order #24 (See Appendix C.) will also be included in any miscellaneous land use permits issued for exploration activities within the RNAs.
3. **Goodpaster River corridor.** When authorizing development activities, measures will be taken to minimize impacts to the scenic values or recreational uses of the Goodpaster River corridor, here defined as Unit D-15 of the 2015 Eastern Tanana Area Plan (ETAP), to the extent feasible and prudent. ETAP Unit D-15 is "to be managed to protect and maintain habitat and public recreation values", and many private inholdings and public trails exist within ETAP Unit D-15. Measures to minimize the impacts of timber management actions on scenic values are discussed in Chapter 2.

To minimize impacts on the scenic and recreational values of the Goodpaster River, and to maintain the roadless character of the river, winter roads in this unit will be designed and managed to minimize possible use by all-terrain vehicles in the summer.

4. **Research Natural Areas:** Subunits 10B and 10D will be managed in their natural states for research. Guidelines for research natural areas in the Scientific Resources section of Chapter 2 will apply to these subunits.

5. **Streamside and Lakeshore Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 10. Waterbodies with special management zones are listed in Table 2.3.

6. **Timber Sales:** Suitable lands in Subunits 10A and 10C will be managed for commercial timber production in accordance with policies stated in this plan. Public firewood cutting areas will be provided in easily accessed portions of these subunits.

   Timber harvest will be prohibited within the research natural areas in Subunits 10B and 10D.

   The area immediately surrounding Volkmar Lake will be managed to provide firewood, house logs, and other products to cabin owners.

   Timber sales in this unit are within the Delta Area. For more detail when specific proposals are developed, see the Delta Area Five Year Schedule of Timber Sales and Forest Land Use Plans.

7. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 10. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

8. **Transportation:** Unit 10A is accessed by a secondary winter road crossing the Tanana from the Delta Agricultural Tracts at the end of Sawmill Creek Road. Most of the timber on the south side of the Tanana in Subunit 10C has an access road within two miles. Timber on the west side of the Gerstle River will be accessed through easements between agricultural tracts or by crossing the Gerstle River during the winter. Timber north and east of the Tanana River will be accessed by ice bridges and winter roads. Roads will be sited to avoid causing trespass on land owned by Mendas Chaag Corporation, Dot Lake Village Corporation, and local residents.

   To minimize impacts on the scenic and recreational values of the Goodpaster River, and to maintain the roadless character of the river, winter roads in Unit 10 will be designed and managed to minimize possible use by all-terrain vehicles in the summer.

   Access routes to mining claims should avoid this parcel unless no feasible and prudent alternative exists.

LAND USE SUMMARY

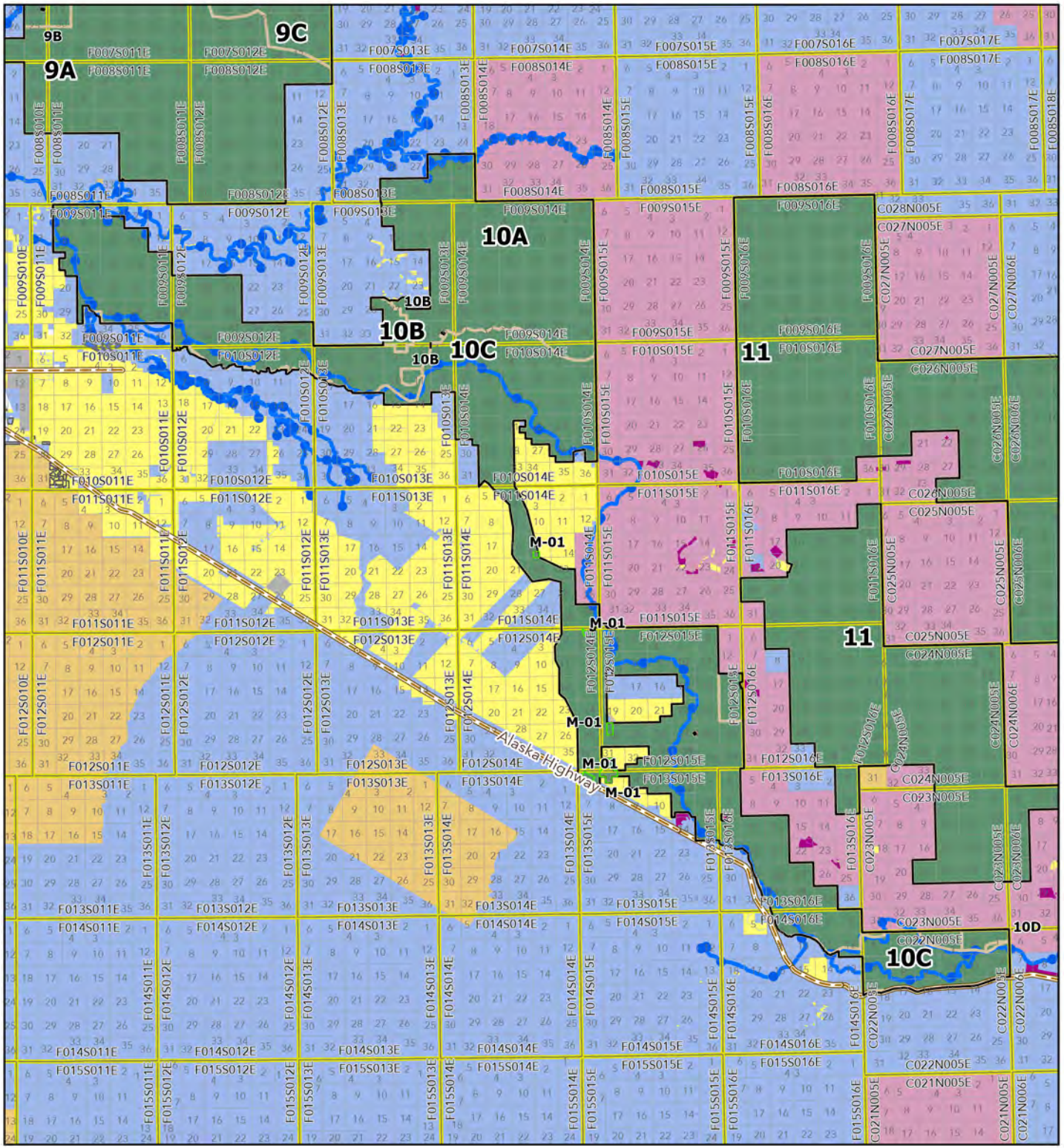
Table 3.10. Unit 10 (Gerstle River) Land Use Summary

Unit 10: Gerstle River							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
10A / F / 60, 524 acres	Timber production, wildlife habitat, recreation, cultural values	Timber sales	Some 2° winter roads may be constructed. Additional 1° and 2° roads may also be constructed	Open to mineral entry	Available for leasing	Land disposal	RS 2477 trails; Public Access Easements
10B / F, Rs / 1,894 acres	Volkmar Bluffs Research Natural Area manage under ADL 228316	Research	None planned.	Open under leasehold location LLO 24	Available for leasing	Land disposal, Commercial leases, developed recreation, material extraction, remote cabins, timber harvest, trapping cabins, introduction of non-endemic species; Carbon Offset Projects	Public Access Easement
10D / F, Rs / 903 acres	Johnson Slough Bluffs Research Natural Area manage under ADL 228316						

Subunit/ Designation/ Acres	Management Intent	Summary of Management Activities	Potential Access Roads: 1°/2° (primary/ secondary)	Subsurface Uses		Prohibited Surface Uses*	Other Resources and Uses
				Locatable	Leasable		
10C / F / 70,935 acres	Timber production Habitat and recreation near Tanana River and other waterbodies	Timber sales	Some additional all- season and winter roads are planned through the Gerstle River area	Open to mineral entry except where affected by MCO 271	Available for leasing	Land disposal	RS 2477 Trails; Agricultural inholdings; Private inholdings; ADF&G telemetry tower; Boat launch; Permafrost monitoring site; DOT rest area; Potential Hazard Site overlaps slightly in southeast corner of subunit; Lease to UA for Delta Mine Training Center
M-01 / F, Ma / 537 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material extraction					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 10
Gerstle River



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations
10A For
10B For Rsu
10C For
10D For Rsu
M-01 For Mat

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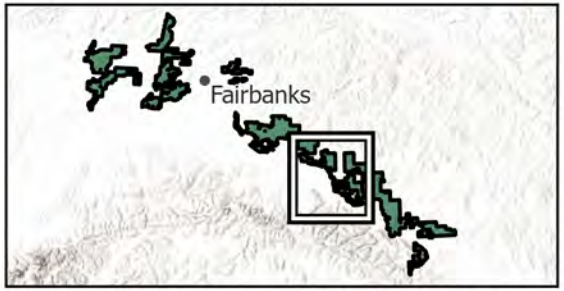
Miles



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MANAGEMENT UNIT 11: HEALY RIVER

SUMMARY OF MANAGEMENT INTENT

This unit consists of a rugged upland area separated from the Alaska Highway by the Tanana River and private land.

The entire unit will be managed for multiple-use management consistent with 11 AAC 96 and AS 41.17.200. Extensive land selections by ANCSA Regional and Village Corporations and Alaska Native Allotments surround the unit.

EXISTING RESOURCES AND USES

1. **Cultural resources:** A caribou fence is among many cultural sites identified in this unit as part of this plan. Probability of additional sites is considered high along bluff areas in this unit. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** Moose and furbearers occur throughout this unit. The unit contains important black bear habitat, primarily in lower elevations, and brown bear habitat in upper elevations. This unit is used by the Fortymile caribou herd, primarily as winter habitat. Lowlands along Healy River and Billy Creek are concentration areas for moose and black bear in spring; the Healy River Valley contains wetlands that provide important waterfowl habitat. Water bodies in this area support high value resident species of fish such as Arctic grayling. Fish and wildlife within this unit are harvested for both sport and subsistence. Larger valleys in the unit are extensively trapped.
3. **Private Land and Leaseholds:** Large tracts owned by ANCSA Regional/Village Corporations border much of Unit 11. Numerous private inholdings & Allotments adjacent to Unit 11 near Healy Lake & George Lake.
4. **Recreation and Tourism:** George Creek has high recreation value chiefly because of sport fishing and hunting. Healy River and Sand Creek have moderate recreational values for sport fishing.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface resources:** This unit appears to have low mineral potential.
7. **Timber:** This unit consists of heavily dissected uplands that are generally above 1,500 feet elevation. Higher elevation areas are of low productivity and support pole-sized hardwood forests. Mature spruce sawtimber stands are patchy and generally on lower, south-facing slopes, especially along George Creek, George Lake, and Healy River. Understories of spruce are developing in the hardwood stands. There are no recorded State of Alaska timber sales in this unit.
8. **Transportation and Access:** This unit is separated from the Alaska Highway by the Tanana River and land owned by the Mendas Chaag and Dot Lake Alaska Native Corporations. The Healy Lake

and George Lake Trails follow public 17(b) right-of-way easements that are 25 feet wide and allow winter off-road vehicle and non-motorized use. Several RS 2477 routes provide access to Unit 11.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to all cultural sites within this unit. Generally, the land selections by ANCSA Regional and Village Corporations surrounding this Unit suggest this area has cultural or subsistence values that are not known to land managers. Prior to any development action that modifies ground conditions, TVSF managers must cooperate with adjacent landowners to fully assess cultural values and uses on impacted lands.
2. **Mineral:** All of this unit will remain open to mineral location and leasing.
3. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 11. Waterbodies with special management zones are listed in Table 2.3.
4. **Timber Sales:** Timber sales are currently not scheduled for this unit. This unit, by virtue of its difficult access and remote location, may be valuable as a timber or carbon reservoir, especially if other parts of the State Forest experience forest health declines. Timber will be made available in this unit if warranted by a change in demand or accessibility.

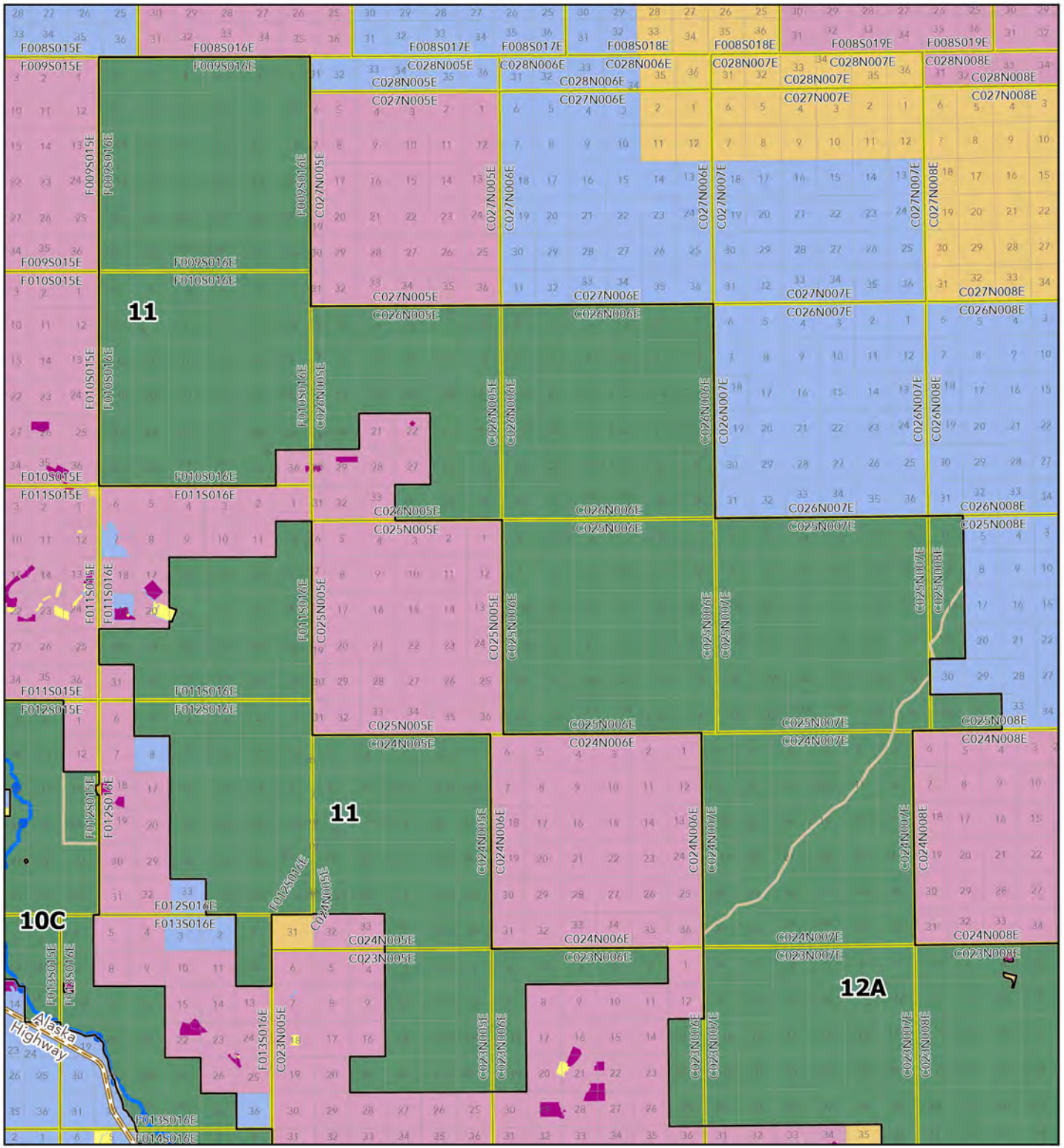
   Timber sales in this unit would be within the Delta Area. For more detail if specific proposals are developed, see the Delta Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
5. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 11. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five-Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.
6. **Access and Transportation.** TVSF managers should cooperate with adjacent landowners to obtain access prior to undertaking any development actions in this unit.

LAND USE SUMMARY

Table 3.11. Unit 11 (Healy River) Land Use Summary

Unit 11: Healy River							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
11 / F / 199,685 acres	Forestry/Multiple Use	None planned	None planned	Open to mineral entry	Available for mineral leasing	Land disposals	RS 2477 Trails

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.



Management Unit: 11
Healy River

State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

11 For

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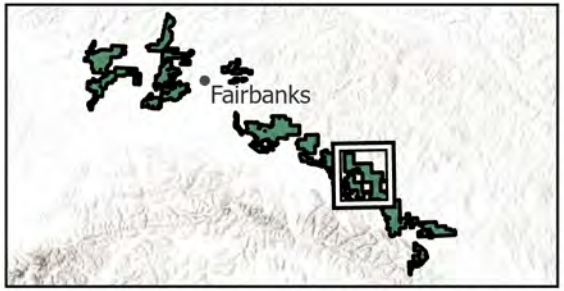

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MANAGEMENT UNIT 12: TOWER BLUFFS

SUMMARY OF MANAGEMENT INTENT

This unit includes wetlands in the lower Mansfield and Billy Creek drainages and fronts about 30 miles of the Tanana River. It contains 2 subunits.

Subunit 12A will be managed for general use until additional information is gathered about access development and resource potential.

Subunit 12B is accessible during the winter from the Alaska Highway and will be managed for timber production while protecting fish and wildlife habitat values and public uses along the Tanana River.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Eight cultural sites have been identified in Subunit 12B as part of this plan, at least one of which is prehistoric in nature. Probability is considered high that Tower Bluffs, Cathedral Bluffs, T Lake, and other bluffs within this unit contain other cultural resources. The Eagle Trail is a historic route used by Alaska Natives and miners. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology.
2. **Fish and Wildlife Habitat:** The large lakes and wetlands in this unit provide waterfowl habitat and support high value resident species of fish. Important habitat for moose, black bears, upland game birds (e.g., grouse and ptarmigan), and furbearers is found throughout. The moose population increased within this area following wildfires during the 2000s and 2010s, possibly aided by reduced wolf abundance. Important raptor habitat and nesting areas exist within the unit, primarily in the lowland areas along the Tanana River. The unit is heavily utilized for trapping by residents and is an important moose and bear hunting area.
3. **Private Land and Leaseholds:** Numerous privately owned tracts exist within both subunits, in particular concentrated in the Cathedral Bluffs and Mansfield areas.
4. **Recreation and Tourism:** The Tanana and Robertson Rivers and Mansfield and T Lakes support sport fisheries. T Lake is accessed by float planes. Powerboaters use the Tanana River in this unit for fishing, hunting, and sightseeing. In the winter, the Tanana is used for snowmachining, dog mushing, and trapping. Snowmachiners and dog mushers also use the logging roads. Most of the hiking and four-wheeling in this unit is associated with moose hunting in the fall.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface Resources:** Mineral potential in this unit appears low. A material sale is active in Subunit 12B.
7. **Timber:** The Tanana River bottomlands in this unit support mature sawtimber stands of white spruce. Except for the south-facing slopes, the higher elevation area of this unit to the east and north of the Tanana River has generally low productivity, with only patches of sawtimber spruce

on lower, warmer slopes. The lower slopes of the highlands north of the Tanana River are productive areas. Timber resources in this area are currently being evaluated.

8. **Transportation and Access:** The Tanana River separates almost all the land within this unit from the Alaska Highway. The Tanana Crossing - Grundler Trail follows a 17(b) public right-of- way over land owned by Tanacross, Inc. The easement is 25 feet wide and allows winter off- road vehicle or non-motorized use.

   Documented RS 2477 routes provide access to and through Unit 12. Undocumented trails may exist in this unit.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to all cultural sites within this unit. Structures or other evidence of historic activity near the Eagle Trail will be identified and protected consistent with these guidelines. Care will be exercised when locating timber sales on high probability cultural site locations.
2. **Development Activities Near Private Land:** Roads, timber harvest, and other development activities near Cathedral Bluffs and Mansfield Lake will be sited and designed to avoid trespass on adjacent private land.
3. **Minerals:** All this unit will remain open to mineral location and leasing. The Robertson River campground site will be closed to locatable mineral entry when funding for campground development is secured.
4. **Recreational Facilities:** No authorized recreational facilities are currently found on T Lake, and none are currently planned for this area. A campground may be developed on a scenic bluff north of the Robertson River and east of the Alaska Highway in Subunit 12B. Campground siting and design will avoid negative impacts on peregrine falcon nest sites.
5. **Streamside and Lakeshore Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 12. Waterbodies with special management zones are listed in Table 2.3.
6. **Timber Sales:** Timber sales have not been scheduled in Subunit 12A. Timber will be made available in this subunit if warranted by a change in demand or accessibility. Timber sales in this unit would be within the Tok Area.

   Suitable lands in Subunit 12B will be managed for commercial and personal- use timber production in accordance with other policies and guidelines stated in this plan.

   For more detail if specific proposals are developed, see the Tok Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
7. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 12. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule

of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

8. **Transportation:** Timber in Subunit 12B will be accessed by secondary winter roads and ice bridges from the Alaska Highway. Secondary winter roads will probably be constructed in Subunit 12B for timber management. The DNR will seek agreements with the Dot Lake Corporation for cooperative timber agreements and access development near Dot Lake.

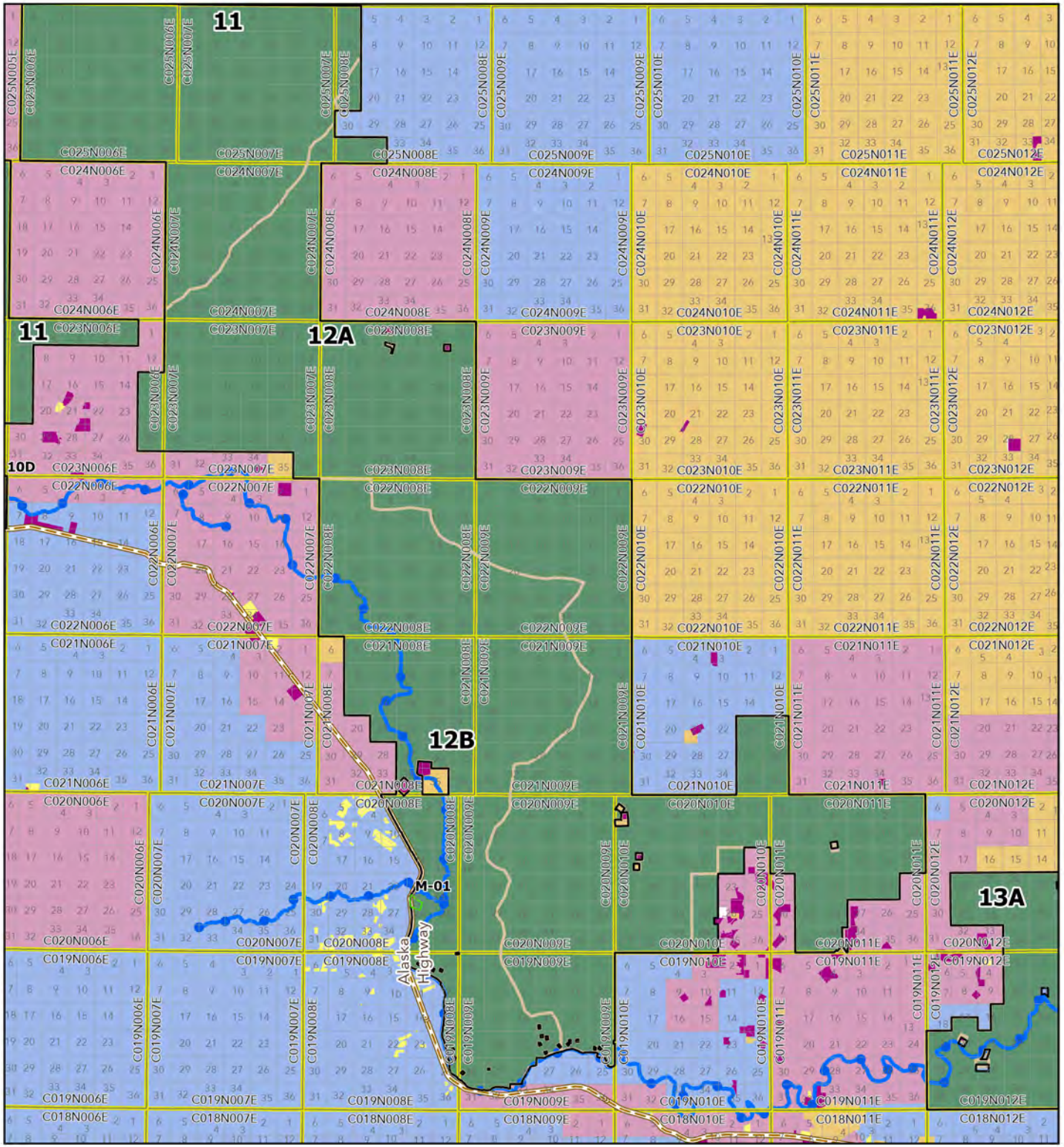
LAND USE SUMMARY

Table 3.12. Unit 12 (Tower Bluffs) Land Use Summary

Unit 12: Tower Bluffs							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
12A / F / 194,100 acres	Forestry/Multiple Use	None planned	None planned	Open to mineral entry	Available for leasing	Land disposal	Private inholdings; RS 2477 trails
12B / F / 70,700 acres	Recreation, fish and wildlife habitat, timber sales	Timber sales	Will be accessed by 2° winter roads and ice bridges from the Alaska Hwy	Open to mineral entry	Available for leasing	Land disposal	Private inholdings; RS 2477 trails
M-01 / F, Ma / 102 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material Extraction					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 12
Tower Bluffs



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations
12A For
12B For
M-01 For Mat

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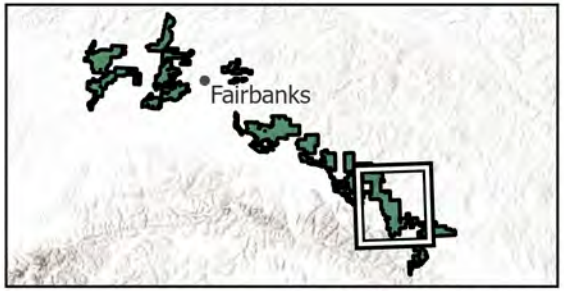

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MANAGEMENT UNIT 13: PORCUPINE CREEK

SUMMARY OF MANAGEMENT INTENT

This unit consists of a high elevation area north of the Tanana River and Tok. It contains 2 subunits.

Subunit 13A will be managed for general use because of its currently low mineral, developed recreation, and timber values.

Subunit 13B, accessed by the Taylor Highway and Old Alaska Highway, will be managed for commercial and personal use timber production while protecting fish and wildlife habitat and recreation values near the river.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** Two cultural sites have been identified within this unit. Consult Chapter 2, Cultural Resources, for a list of the cultural site codes in this unit. Further information on cultural sites can be obtained from the Office of History and Archaeology**.**
2. **Fish and Wildlife Habitat:** The water bodies in this unit that drain into the Tanana River support high value resident species of fish. Important habitat for moose, brown bears, black bears, upland game birds (e.g., grouse and ptarmigan), and furbearers is found throughout this unit. The moose population increased within this area following the large 2004 wildfires, possibly aided by reduced wolf abundance. Important raptor habitat and nesting areas exist within the unit, primarily in the lowland areas along the Tanana River. The unit is heavily utilized for trapping by local residents and is important for hunting of moose, bears, and small game.
3. **Private Land and Leaseholds:** A number of private inholdings and Alaska Native allotments are identified along the Tanana River in Unit 13.
4. **Recreation and Tourism:** The Tanana River is used for camping, boating and fishing, especially in its clearwater tributaries. The Taylor Highway corridor is used for camping, trapping, and hunting access and offers scenic views from highlands. Powerboaters use the Tanana River in this unit for fishing, hunting, and sightseeing. In the winter, the Tanana is used for snowmachining, trapping, and dog mushing. Snowmachines and dog mushers also use the logging roads. Most of the hiking and four-wheeling in this unit is associated with moose hunting in the fall.
5. **Scientific Resources:** None identified in this unit.
6. **Subsurface Resources:** Mineral potential in this unit is low. A mining claim block exists along the Taylor Highway where it crosses Porcupine Creek. An active material site exists in the eastern part of Subunit 13B.
7. **Timber:** Much of this unit is higher in elevation than the rest of the TVSF and is of lower productivity, except for south-facing slopes, which are productive areas. High fire frequency combined with a rugged landscape have created a patchwork of vegetation and timber types.

Since 1986, about 10 to 12 million board feet of timber have been burned, and timber is still being salvaged from burnt areas of the forest.

8. **Transportation and Access:** The Taylor Highway, closed in the winter, and the Old Alaska Highway provide primary access to Subunit 13B. Timber salvage operations use an ice bridge to cross the Tanana River northeast of Tok. Winter trails may provide access to Unit 13. Subunit 13A is not accessed by existing roads. Winter access to the subunit is by snowmachine on the Tanana River, and summer access is via boat on the river.

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Sites:** Guidelines for cultural site protection (see the Cultural Resources section of Chapter 2) apply to all cultural sites within this unit.
2. **Habitat Enhancement:** Riparian and upland stands may be manipulated by ADF&G's Division of Wildlife Conservation, in cooperation with the DOF, to increase available moose browse and begin staggered rotations of hardwood forest beneficial to moose, ruffed grouse and other early- to mid-successional wildlife species. Techniques may include prescribed burning, silvicultural methods, tractor crushing of riparian willow, and bulldozer shearblading or felling of hardwoods. Habitat enhancement projects will be discussed in the Five Year Schedule of Timber Sales or by some other public process.
3. **Minerals:** All of this unit will remain open to mineral location and leasing.
4. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 13. Waterbodies with special management zones are listed in Table 2.3.
5. **Timber Sales:** Suitable lands will be managed for commercial and personal use timber production in accordance with other policies and guidelines stated in this plan.

   No timber sales are currently scheduled in Subunit 13A. Timber will be made available in this subunit if warranted by a change in demand or accessibility.

   Timber sales in this unit are within the Tok Area. For more detail if specific proposals are developed, see the Tok Area Five Year Schedule of Timber Sales and Forest Land Use Plans.
6. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 13. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.
7. **Transportation:** Timber in this unit will be accessed by secondary roads from the Old Alaska Highway and by secondary all-season roads from the Taylor Highway.

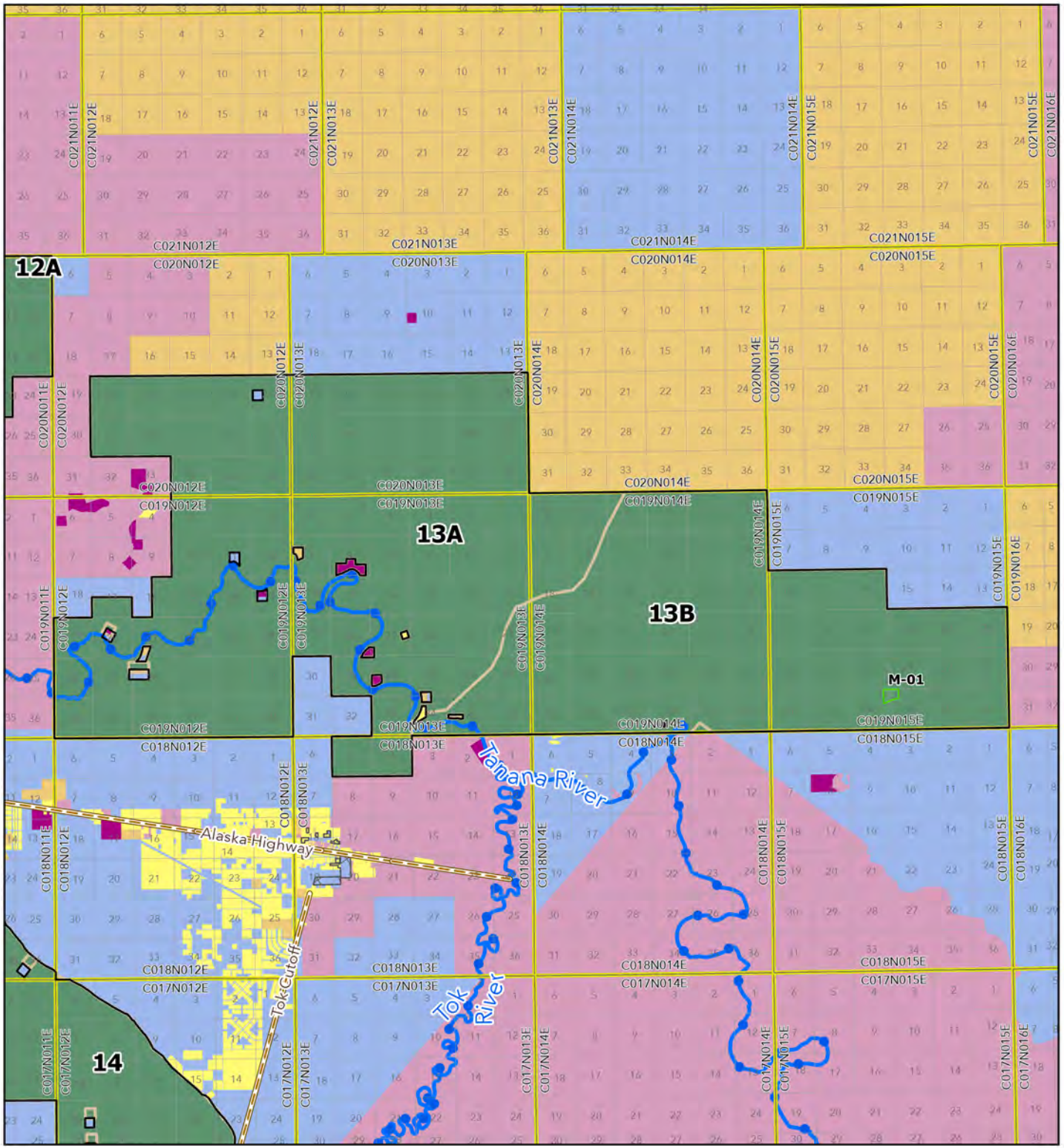
LAND USE SUMMARY

Table 3.13. Unit 13 (Porcupine Creek) Land Use Summary

Unit 13: Porcupine Creek							
Subunit / Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
13A / F / 59,350 acres	Forestry/Multiple Use	None planned	None planned	Open to mineral entry	Available for leasing	Land disposal	Private Inholdings
13B / F / 36,128 acres	Timber production Habitat and recreation near Tanana R. and Porcupine Cr.	Timber sales, habitat enhancement	Accessed by 2° roads from the Old Alaska Hwy and 2° all- season roads from the Taylor Hwy	Open to mineral entry	Available for leasing	Land disposal	Private inholdings; Public access easement; State mining claims in southeast corner of subunit
M-01 / F, Ma / 67 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material extraction					

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 13
Porcupine Creek



State Forest Boundary
- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations
13A For
13B For
M-01 For Mat

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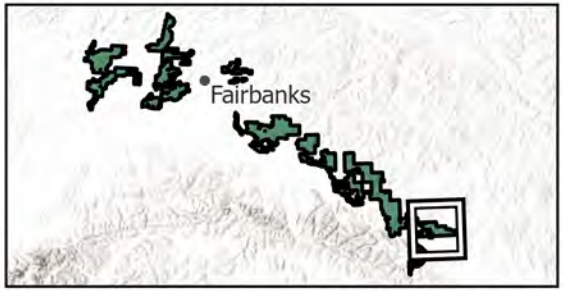
Miles



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MANAGEMENT UNIT 14: TOK RIVER

SUMMARY OF MANAGEMENT INTENT

This unit includes much of the lower Tok River Valley and adjacent highlands of the Alaska Range.

The unit has high value for hunting, fishing, trapping, camping, scenery, and timber harvest. It will be managed to maintain these multiple uses. The Eagle Trail State Recreation Site is located in this unit, 17 miles south of Tok along the Tok Cutoff.

EXISTING RESOURCES AND USES

1. **Cultural Resources:** There are no recorded cultural sites in this unit. However, slopes above the Tok River may contain cultural sites.
2. **Fish and Wildlife Habitat:** The Tok is listed in the ADF&G anadromous waters catalogue, and the drainage system supports high value resident species of fish. Lower elevation areas of this unit are used as winter range by moose and support prime black bear and furbearer habitat while higher elevations (above ~4,000 feet) contain prime sheep habitat. This area in general is one of the most important wintering areas for moose in Game Management Unit (GMU) 12. Moose migrate to the Tok River flats (including both to this unit and through the unit to areas further down the Tok River) from GMU 13 and from higher elevation areas within GMU 12. The resident moose population currently exists at moderate densities and likely continues to benefit from improved habitat that resulted from the nearby 1990 Tok River Fire, but that effect will decrease as the forested portions mature. To increase available moose browse in the area, the ADF&G Division of Wildlife Conservation crushed about 400 acres of riparian vegetation within and near the unit in the 1980s and 1990s and roller-chopped >450 acres during 2015–2016 in the lower Tok River valley. The unit is heavily trapped by local residents and serves as an important area for moose and bear hunting.
3. **Private Land and Leaseholds:** Two Alaska Native allotments are located over the Old Glenn Highway. One other allotment is located at the junction of the Johnny Trail and the Glenn Highway.
4. **Recreation and Tourism:** This unit is important for developed and dispersed recreation because of easy access and its location near the junction of two major tourist routes, the Alaska and Glenn Highways. The Eagle Trail State Recreation Site, a 35-unit campground, is located on Clearwater Creek. Steep slopes that overlook the Glenn Highway from the west provide scenic views from the highway. The Tok River is used for boating and fishing, as well as hunting access. Trails in the area are used by people on four-wheelers for hunting and by snowmachiners, dog mushers, trappers, and cross-country skiers in the winter.
5. **Scientific Resources:** State, Federal, and UA long-term forest inventory plots are located in Unit 14. Research activity in the area does not limit forest management activities.

6. **Subsurface Resources:** The unit has moderate mineral potential and supports mining claim blocks in the Clearwater Creek area and drainages to the Southwest. A number of material sale sites are located adjacent to the Tok Cutoff Highway.
7. **Timber:** This unit is the primary source of spruce sawtimber, fuelwood, and house logs for the surrounding area. Mature stands of white spruce located in the Tok River flats and productive immature stands of mixed hardwood-spruce at lower slopes in the northern portion of this unit are operable year-round.
8. **Transportation and Access:** The Glenn Highway provides primary all-season access to this unit. Potential secondary access is via the graveled surfaces of the Eagle Trail, an RS 2477 route, and Old Glenn Highway. A portion of the Eagle Trail, Slana - Tanana Crossing (RST 188) follows a 17(b) public easement. The easement is 50 feet wide and allows all-season use. The Johny Trail provides hunting access and is a potential access route to timber in the State Forest and to massive sulfide deposits in the upper Tok River basin. A DOT&PF erosion easement is present along the Tok Cutoff highway (LAS 420323).

MANAGEMENT GUIDELINES AND ACTIVITIES

1. **Cultural Site Protection:** Portions of the Eagle Trail south of the northern-most junction with the Glenn Highway will be identified on the ground. Structures or other evidence of historic activity will be identified and protected consistent with guidelines for cultural site protection (see the Cultural Resources section of Chapter 2).
2. **Habitat Enhancement:** Riparian and upland stands may be manipulated by ADF&G's Division of Wildlife Conservation, in cooperation with the DOF, to increase available wildlife habitat, including moose browse, and begin staggered rotations of hardwood forest beneficial to moose, ruffed grouse and other early- to mid-successional wildlife species. Techniques may include prescribed burning, silvicultural methods, tractor crushing of riparian willow, and bulldozer shearblading or felling of hardwoods. Habitat enhancement projects will be discussed in the Five-Year Schedule of Timber Sales or by some other public process.
3. **Mineral:** All of this unit will remain open to mineral location and leasing, except for the Eagle Trail State Recreation Site, which is closed to mineral entry.
4. **Scenic Quality:** Timber, road, mining, and other development activities visible from the Glenn Highway and in the Clearwater Creek Valley will be sited and designed to enhance or minimize impact to scenic views.
5. **Streamside Management:** Guidelines for special management zones (see the Riparian and Instream Flow Management section of Chapter 2) apply to water bodies in Unit 14. Waterbodies with special management zones are listed in Table 2.3.
6. **Timber Sales:** Suitable lands will be managed for commercial and personal use timber production in accordance with other policies stated in this plan.
7. Timber sales in this unit are within the Tok Area. For more detail when specific proposals are developed, see the Tok Area Five Year Schedule of Timber Sales and Forest Land Use Plans.

8. **Trails:** Guidelines for trail corridors of regional or statewide significance (see the Trails section of Chapter 2) apply to documented trails within Unit 5. Trails that are not documented in DNR's land record system are present and heavily used in this unit. Public review of Five Year Schedule of Timber Sales, Best Interest Findings, and Forest Land Use Plans are critical opportunities for information about undocumented trails to be communicated to the Division.

   The portion of the Eagle Trail between the Glenn and Alaska Highways is a road and will be upgraded for timber access as necessary.

9. **Transportation:** Roads may be constructed in this unit for timber management.

LAND USE SUMMARY

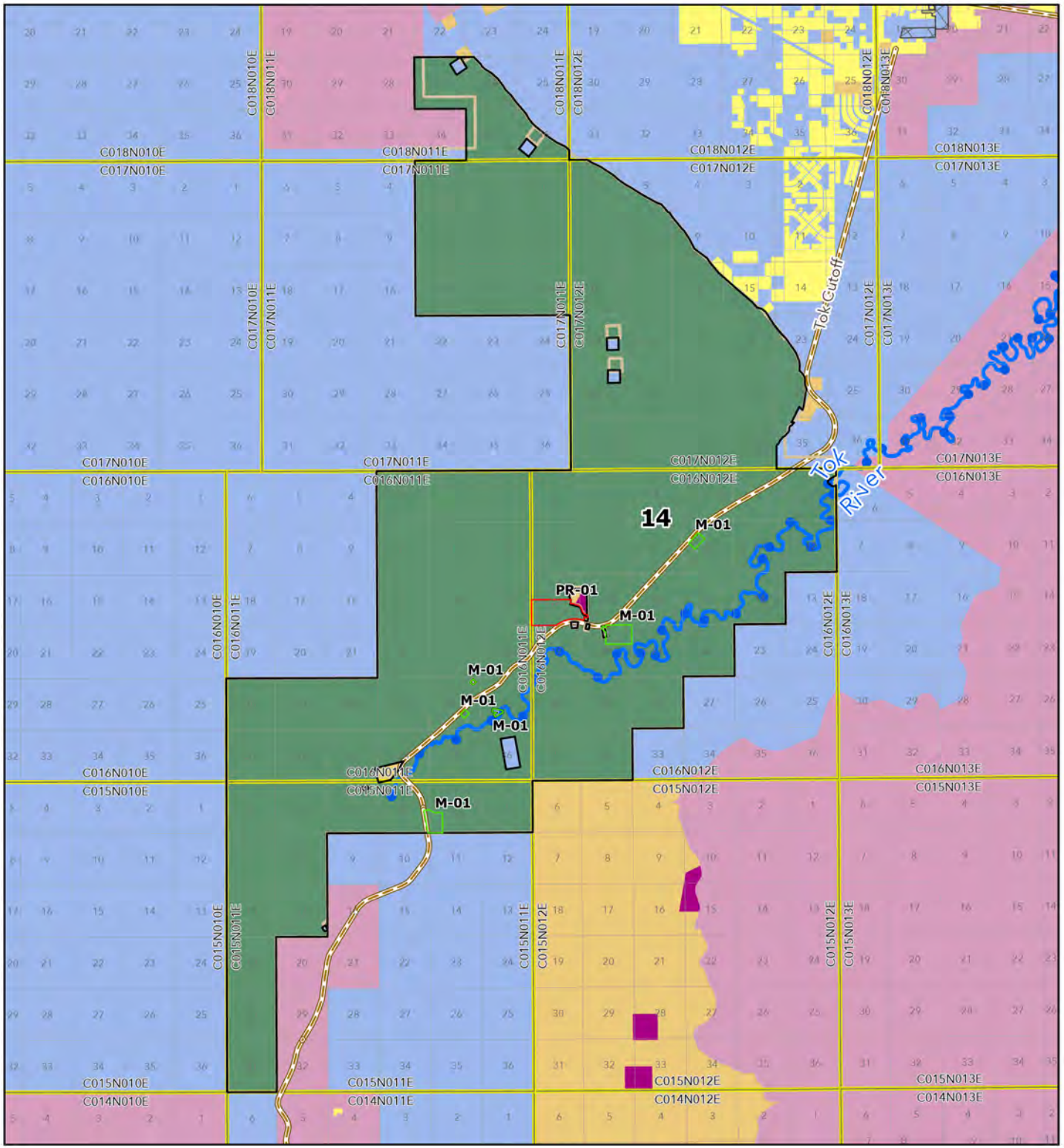
Table 3.14. Unit 14 (Tok River) Land Use Summary

Unit 14: Tok River							
Subunit/ Designation/ Acres	**Management Intent**	**Summary of Management Activities**	**Potential Access Roads: 1°/2° (primary/ secondary)**	**Subsurface Designation**		**Prohibited Surface Uses***	**Other Resources and Uses**
				Locatable	**Leasable**		
14 / F / 59,230 acres	Wildlife habitat protection and enhancement, recreation, timber production	Habitat enhancement, timber sales	1° all-season: old highway. Other 1° all-season and 2° all-season and winter roads north of the Tok River. 2° all-season south of the Tok River on seasonal ice bridge	Open to mineral entry	Available for leasing	Land disposals	Private inholdings; RS 2477 trails; DOTPF Erosion control Easement ADL 420323; Public access easement; State mining claims; long term forest measurement plots
M-01 / F, Ma / 263 acres	Manage for material values and resources consistent with any authorizations issued by ADNR or derived from federal patent. Retain in state ownership. See the Material Sites Section in Chapter 2 for additional information. Material sites will be managed for forestry values after the site has been closed.	Material extraction					

Subunit/ Designation/ Acres	Management Intent	Summary of Management Activities	Potential Access Roads: 1°/2° (primary/ secondary)	Subsurface Designation		Prohibited Surface Uses*	Other Resources and Uses
				Locatable	Leasable		
PR-01 / F, Rp / 274 acres	Eagle Trail State Recreation Site Manage according to ADL 50050	Developed public recreation facilities		Closed to Mineral Entry MCO 761			

* Other uses, such as material sales or land leases, that are not specifically prohibited may be allowed. Such uses will be allowed if consistent with the management intent statement and management guidelines of this unit and with the relevant management guidelines in Chapter 2.

Management Unit: 14
Tok River



State Forest Boundary

- Unit Boundary
- State Forest Subunit Boundary
- Tanana Valley State Forest

Land Ownership

- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology

- Anadromous Waters
- Streams

Roads

- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation

- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

14 For
M-01 For Mat
PR-01 For Pur

N W E S

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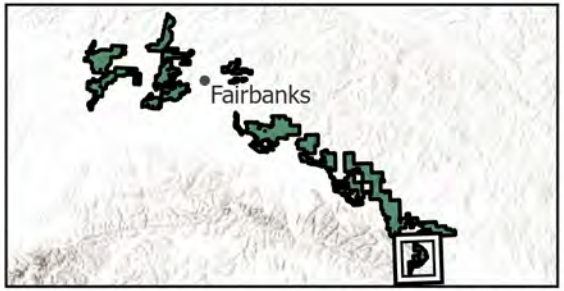
Miles



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CHAPTER 4: IMPLEMENTATION

Upon signature by the Commissioner of the Alaska Department of Natural Resources (DNR), this plan will become policy for the management of state lands in the Tanana Valley State Forest. All DNR land use authorizations, timber sales, road building, mineral leases, and other actions on these state lands shall comply with the provisions of this plan.

This chapter describes additional actions that support the management intent detailed in previous chapters for this working state forest. Such actions include potential management agreements, priority research topics, additions to the state forest, and procedures for plan amendment. This plan remains effective until revised.

STATE LAND CLASSIFICATION

To implement the plan on state lands, ADNR must classify state lands to reflect the intent of land use designations made by this plan. State law requires that land classification precede most conveyance or leasing of state uplands or tidelands. According to state statute classification means the designation of lands according to their apparent best use. It identifies the primary use for which the land will be managed, but all other uses are initially presumed as compatible with the primary use. For this reason, all plan classifications are intended for multiple uses. In this plan most management units are assigned a single, principal designation.

In some instances, more than one designation is identified; these are termed co-designations and indicate that two or more uses are considered to be compatible within a specific management unit of state land. Compatibility of uses should be able to be achieved through distance separation, or siting and design techniques that should reduce or preclude the undesirable effects of a particular use.

Following is a list of land classifications, and their associated definitions in Alaska regulations (the Alaska Administrative Code – AAC), which will apply to state lands in the planning area as a result of plan adoption. DOF will manage state lands and resources consistent with these classifications and with the management directions given in Chapter 3 for specific management units of state land.

11 AAC 55.070. Forest Land. Land classified forest is land that is or has been forested and 16 is suited for forest management because of its physical, climatic, and vegetative conditions.

11 AAC 55.120. Material Land. Land classified material is land that is suitable for the 24 extraction of common varieties of sand, gravel, stone, peat, clay, and other similar materials.

11 AAC 55.160. Public Recreation Land. Land classified public recreation is land that is 31 suitable for recreation uses, waysides, parks, campsites, scenic overlooks, hunting, fishing or 32 boating access sites, trail corridors, or greenbelts along bodies of water or roadways.

11 AAC 55.170. Reserved Use Land. (a) Land classified reserved use is land that:

1. is reserved for transfer to another governmental or non-governmental agency that is performing a public service;
2. is reserved for transfer through land exchanges; or

3. has been designated for a public facility.

RELATIONSHIP OF LAND USE DESIGNATIONS IN THIS PLAN TO STATE LAND CLASSIFICATIONS

The classifications contain no specific land management directives; those directives are expressed through the use of land use designations in the plan and described in detail for individual Regions and management units included in Chapter 3. However, the designations used in the area plan must be converted into land classifications outlined in state regulation (11 AAC 55) that reflect the intent of the plan.

Since plan designations are central to the management of state land in this area plan, knowledge of the amount of area associated with particular designations is important, allowing a comparison between the designated uses. Table 4-1 identifies the acreage associated with the designations recommended in this plan. Descriptions of each of the following designations are also provided at the beginning of Chapter 3.

Acreages associated with plan classifications are given in Table 4.1

Table 4.1. Acreages Associated with Land Designations and Co-designations

Symbol	Designation	Acreage
F	Forestry	1,778,829
Ma, F	Materials and Forestry	1,246
Rp, F	Public Recreation – Public Use Site and Forestry	274
Rs, F	Reserved Use and Forestry	23,626

The conversion of land use designations used by this plan into state land classifications is indicated in the table below. These are intended to identify the allowable uses of a state upland area, consistent with the definitions described previously and with any management intent given in Chapter 3.

Table 4.2. Land designations – Conversion to Classifications

Symbol	Designation	Classification
F	Forestry	Forest Land
Ma	Materials	Material Land
Rp	Public Recreation – Public Use Site	Public Recreation Land
Rs	Reserved Use	Reserved Use Land

CLASSIFICATION ORDER

State land is classified under the authority of AS 38.04.005, AS 38.05.300, and 3 11 AAC 55.010 -.280 according to the management intent set forth in this area plan. Land classification orders, as used in area plans, convert the land use designation in the area plan to land use classifications, which are required under statute. Classifications are important to the determination of whether certain forms of activity can occur under portions of statute and they provide a general indication of how state land is to be managed. However, they do not provide the basis for

the management of state land. The plan designations, management intent, and management guidelines of an area plan perform that function.

Land Classification Order NC-24-002 classifies all state land within the Tanana Valley State Forest Management plan area. See Appendix B. This Land Classification Order supersedes and replaces all previous land classifications and classification orders affecting the planning area of the Tanana Valley State Forest Management Plan boundary. It does not replace or supersede Special Use Designations predating the approval of this revision.

The potential for the reclassification of state land in the future is authorized under 11 AAC 20 55.240, but this action will require the revision of LCO NC-24-002 and may require, in some cases, the revision of this management plan. An amendment to the plan is required under 11 AAC 55.030(f)(1)(B) if the proposed authorization would modify the basic management intent for one or more of the subunits or if the authorization would conflict with the plan's allowed or prohibited uses, policies, or guidelines.

The classifications described in this plan apply to state owned and selected lands within the plan boundary. In the case that the state acquires parcels of land within the TVSF boundary that have not been designated or classified through this revision of the TVSF MP, the following guidelines will apply: If the parcel adjoins or is surrounded by other state land, the designation of that area(s) applies. It is to be managed according to the management intent and guidelines applicable to the adjacent lands. If there are two different designations of the abutting parcels, the designation of the larger parcel shall apply. If this guidance is followed, a formal amendment or revision of the Land Classification Order is not required.

Table 4.3 provides estimates of the acreage by classification and co-classification for upland units of state land.

Table 4.3. Acreages Associated with land Classifications and Co-classifications

Classification	Acreage
Forest Land	1,736,596
Materials/Forest Land	1,246
Public Recreation/Forest Land	274
Reserved Use/Forest Land	20,891

SURVIVOR DESIGNATIONS AND CLASSIFICATIONS

This revision of the Tanana Valley State Forest Management Plan replaces and supersedes all previous plan designations and land classifications (termed 'survivor') that affected the TVSFMP planning area. It does not replace or supersede Special Use Designations predating the approval of this revision. Areas not reclassified in this plan remain subject to the requirements of 11 AAC 55.040(g).

AGENCY LAND MANAGEMENT RESPONSIBILITIES

The DNR Division of Forestry and Fire Protection (DOF) has overall land management authority within state forests. The DOF will coordinate multiple use planning in the State Forest and is responsible for timber management. The DNR Division of Mining, Land and Water will continue to be responsible for adjudicating land and water use applications and mineral permitting. Administrative procedures, such as cooperative agreements, may be used to establish the applicability of Division of Parks and Outdoor Recreation regulations to the

management of campgrounds, public use cabins, and other recreational facilities. The USDA Forest Service, Pacific Northwest Research Station, has management authority for the Bonanza Creek Experimental Forest (Subunit 5B). As outlined in the lease granted to the Forest Service by the DNR (Appendix D), the Forest Service must approve all activities in the Experimental Forest, including timber harvest, road construction, and mineral exploration and development.

CITIZENS' ADVISORY COMMITTEE FOR THE TANANA VALLEY STATE FOREST

A Citizens' Advisory Committee (CAC) for the TVSF and other forested land managed by the DNR in the Tanana River Basin was authorized and established by past versions of the TVSF Management Plan and has proven a valuable mechanism for achieving multiple uses of the forest without conflict. The Committee, in an advisory capacity, will provide recommendations to the DNR on forest management issues on these lands. The Committee does not conflict with the Board of Forestry established by AS 41.17.041. The Committee's purpose is to:

- Review and provide Committee recommendations to the DOF on updates and amendments to the TVSF Management Plan and Five-Year Schedules of Timber Sales (including reforestation and transportation schedules). Site specific Forest Land Use Plans (FLUPs) will be made available to each member for review, during the established review period, however, the Committee is not required to make recommendations on these documents.
- Provide a forum for gathering public opinion on management of state forested land, help to develop a regional consensus on forest management, and provide management recommendations to the Director, DOF. When consensus cannot be reached on a Committee recommendation, the Committee should forward the majority's recommendation and any different views not represented by the majority's recommendation to the Division.
- Review issues and activities on DNR-managed forested land and recommend management policies to the Director, DOF.
- Help disseminate information about the TVSF and other DNR-managed forested land to the public.

Each member should represent the full range of interests within his or her constituency. All CAC members should work to establish two-way communications with other groups and individuals within the interest they represent. Members are expected to bring their constituencies' interests and concerns to the CAC. However, when the Committee makes recommendations, all members should act in consideration of the whole community and the statewide public interest, not just the interest of their immediate constituency. The CAC consists of the following twelve members appointed by and serving at the pleasure of the Director, DOF. The term of office is three years. The Director, DOF will make committee appointments so that four expire each year on a revolving basis. The Director, DOF will review all applications received from individuals seeking appointment to the CAC without requiring recommendations from the current committee.

Table 4.4. Citizens' Advisory Committee Constituencies.

Seat	Constituency
Forest Industry	Represents businesses involved in harvesting and/or processing timber resources.
Value-added Processing	Represents businesses involved in the manufacture of finished wood products and minor forest products.
Environmental Interests	Represents environmental organizations and individuals with environmental interests.
Private Forest User	Represents the incidental forest user for both consumptive and non-consumptive activities including subsistence and personal use.
Forest Science	Represents the forest science community. Background should include training, experience and a current knowledge of multiple forestry specialties related to forest ecosystem management. Representatives should not be currently employed by a State agency other than the University of Alaska.
Alaska Native Community	Represents both individual Alaska Natives and Alaska Native organizations in the Tanana Basin who use the forest or will be directly impacted by forest management.
Recreation	Represents the non-commercial users who visit the forest and take advantage of both consumptive and non-consumptive benefits for pleasure and enrichment of life.
Tourism Industry	Represents the commercial operators who directly use forest lands as well as those whose customers are incidentally exposed.
Fish and Wildlife Interests	Represents the full range of interests in fish and wildlife, including sport and commercial users.
Mining Industry	Represents organizations and individuals involved in the mineral exploration, extraction, and processing industries.
Regional Representative - Upper Tanana Valley	Represents the public on a regional basis, including commercial, non-commercial, consumptive, and non-consumptive uses. This representative should reside in the eastern Tanana River Valley between Banner Creek and the Canadian border.
Regional Representative - Lower Tanana Valley	Represents the public on a regional basis, including commercial, non-commercial, consumptive, and non-consumptive uses. This representative should reside in the western Tanana River Valley west of the Fairbanks North Star Borough.

When appointing CAC members, the Director, DOF will seek region-wide geographic representation. The CAC will elect its own presiding officer. The CAC will adopt its own by-laws subject to approval by the Director, DOF.

PROCESS FOR REVIEWING APPLICATIONS FOR PERMITS, LEASES, DISPOSALS, AND EASEMENTS

For timber sales, the Forest Land Use Plans will identify proposed access routes and materials sites both within and outside the TVSF. Temporary routes will be authorized by the DOF through the FLUP process. Long-term routes will be authorized through a right-of-way easement. The DOF will identify the proposed ROW in the FLUP. Following FLUP review, DOF will submit the easement application to the Division of Mining, Land and Water (DMLW) to authorize and record the route on the status plats.

Other land management proposals may be initiated by other agencies or private individuals and may include requests for easements, commercial leases, material sales, or permits for mineral activity, trapping cabins, or grazing. The following process will be used to review these authorization or conveyance requests. All applications for use of State Forest land, including mining or prospecting, will be forwarded to the DOF. The DMLW will distribute applications for review by agencies, including the DOF. The DOF will review applications for consistency with this plan and other existing laws and policies. The DOF will then return applications to the DMLW with stipulations for processing. The DOF may also require additional review of applications after interagency or public comment. Although preliminary decisions or final findings will continue to be made by the DMLW, applications must be consistent with stipulations provided by the DOF. No permits, leases, easements, or disposals will be authorized for use of State Forest land that are not consistent with stipulations from the DOF.

For mining operations, temporary routes will be authorized by the DMLW through its Miscellaneous Land Use Permit (MLUP). For long-term routes, the DMLW will issue an easement.

PLAN MODIFICATION

The land use designations, policies, implementation actions, and management guidelines of this plan may be changed periodically as new data and new technologies become available and as changing economic, social, and environmental conditions place different demands on public lands.

Periodic Review

The plan will be reviewed at least every 5 years to determine if revisions are necessary. An interagency planning team chaired by the DOF will coordinate this periodic review at the request of the Department of Natural Resources Commissioner. The plan review will include meetings with interested groups and the general public.

Procedures for Plan Changes

Three kinds of changes are allowed by regulations in 11 AAC 55.030. “A revision to a land use plan is subject to the planning process requirements of AS 38.04.065. For the purposes of this section and AS 38.04.065, a ‘revision’ is an amendment or special exception to a land use plan as follows:

1. An ‘amendment’ permanently changes the land use plan by adding to or modifying the basic management intent for one or more of the plan's subunits or by changing its allowed or prohibited uses, policies, or guidelines.” A proposal to remove an area from the commercial timber base, to harvest the timber from an area where it is prohibited, or to close an area not identified in this plan to mineral entry are examples of changes requiring amendment. However, amending the Forest Practices Regulations, for example, and inserting those changes in this plan do not require an amendment of the plan. Amendments require public notice, public hearings, and approval by the Commissioner. Amendments may be proposed by agencies,

municipalities, or members of the public. Requests for amendments are submitted to the Northern Regional Office of the DOF. The Director of DOF determines what constitutes an amendment or just a minor change.

2. A ‘special exception’ does not permanently change the provisions of a land use plan and cannot be used as the basis for a reclassification of the subunit. Instead, it allows a one-time, limited-purpose variance of the plan's provisions, without changing the plan's general management intent or guidelines. For example, a special exception might be used to grant an eligible applicant a preference right under AS 38.05.035 to purchase land in a subunit designated for retention in public ownership. A special exception might be made if complying with the plan would be excessively burdensome or impractical or if compliance would be inequitable to a third party, and if the purposes and spirit of the plan can be achieved despite the exception.

3. A minor change to a land use plan is not considered a revision under AS 38.04.065. A `minor change' is a change that does not modify or add to the plan's basic intent, and that serves only to clarify the plan, make it consistent, facilitate its implementation, or make technical corrections. Authority: AS 38.04.065, AS 38.04.900, AS 38.05.020, AS 38.05.300.

FORESTWIDE IMPLEMENTATION ACTIVITIES

This section describes management activities necessary to implement this plan. Projects are designed to serve as reference material for agencies to develop elements of the Five-Year Schedule of Timber Sales or other public review process.

WILDLIFE HABITAT ENHANCEMENT

Pursuant to AS 41.17.400(e), ADF&G's Division of Wildlife Conservation, in cooperation with the DOF, may manipulate forest stands to increase available moose browse and begin staggered rotations of hardwood forest beneficial to ruffed grouse and other early- to mid-successional wildlife species. Among the techniques that may be used are: prescribed burning, silvicultural methods, tractor crushing of riparian willow and bulldozer shearblading or felling of hardwoods. Habitat enhancement projects will be discussed in the Five-Year Schedule of Timber Sales or by some other public process.

RECREATION FACILITIES

The following list contains recreation facilities in which the public has expressed interest. DOF is not funded or staffed to implement or develop these recommendations beyond review and participation in the adjudication process for applications for such projects. This list is included for the awareness of land managers and planners; it does not represent DOF's endorsement of any project.

Table 4.5. Recreation Developments of Public Interest.

Unit	Location and Description
1	Maintain trails in Unit 1A
4	Boat launch at end of Murphy Dome Extension on Chatanika River. Add gravel, toilets, possibly refuse containers, and make small improvements to launching area.
4	Upgrade of boat launch at end of Murphy Dome Extension on Chatanika River to campground.
4	Scenic turnout on Murphy Dome Extension
4	Trail construction and signing
5	Nenana Ridge interpretive site 1. Establish self-guiding interpretive trail 2. Construct picnic site with toilets and refuse containers
5	Trailhead providing recreational access from Cripple Creek neighborhood
5	Trail segments connecting existing forestry roads between Fairbanks and Nenana
6	Boat launch and parking area on the Chena River at the end of the Grange Hall Road
6	Trail construction and maintenance of Lyrad Creek system
12	Campground at Alaska Highway crossing of Robertson River

RESEARCH NATURAL AREAS

Appendix E describes each Research Natural Area's features and the rationale for designating the area as an RNA.

TIMBER AND ROAD DEVELOPMENT

Two types of monetary considerations affect the amount of timber that DOF can offer for sale: development costs and budget. Development costs are incurred for reforestation, road construction, and maintenance. Most development costs are assumed by the timber sale operator. Agency budget pays for timber sale preparation and administration. The locations, products, and volumes of timber offered and harvested will depend in part upon the amount of revenue the sale can generate to offset development costs. This will vary with the access, timber quality, volume, harvest costs, and current markets. Consequently, timber sale priority must not only meet forest management goals, but also must be economically feasible.

FIRE DISTURBANCE

Recognizing that the boreal forest is disturbance-driven is essential. Forest condition in the Interior is changing as a result of increased insect and disease activity, greater fire risk, and increased stress on trees caused by climatic change. Previous fire control efforts contribute to the shortage of young to intermediate aged stands, especially in upland forests. Some form of disturbance, natural or human-caused, is necessary to maintain the forest and its biological diversity. Maintenance of a rich landscape mosaic is needed to prevent biodiversity losses. In the Tanana Valley State Forest, fires will continue to be suppressed near settlements and where there are infrastructure investments. Current and proposed timber sales will receive fire protection commensurate with the values at risk. However, where feasible, wildland fires will be allowed to burn and suppression will be limited in other areas to decrease the long-term risk of damaging fires and to maintain natural diversity of forest stands, stand ages, and habitat types.

Where allowing wildland fire is not feasible, the DOF will use timber harvest, prescribed fire, or habitat enhancement techniques to disturb the forest and maintain a natural range of forest types and stand ages. Annual reviews of protection levels are an important aspect of the fire plan. Social, environmental, and economic conditions determine the need to review and change protection levels. Each Area Office is responsible for a periodic review of protection levels in their geographic area. Suggested changes will be coordinated with the regional office, neighboring landowners, and will follow the guidelines established by the Alaska Interagency Wildland Fire Management Plan (FMP). The FMP addresses the process for protection level changes on pages 38-40 in a section entitled: Wildland Fire Management Option Revisions. For additional information on fire management topics in the Tanana Valley State Forest, see the Interagency Fire Management Plan description in Chapter 1 and the Fire Management parts of the Scientific Resources and the Timber Management sections of Chapter 2. Any proposed changes of fire management options (protection levels) will be provided to affected land owners and managers and resource management agencies in accordance with the Alaska Interagency Wildland Fire Management Plan.

RECOMMENDATIONS FOR CHANGES TO THE TVSF LANDBASE

As public land continues to be surveyed and classified by the Alaska DNR Lands Section, DOF advocates for the inclusion of productive Forest classified lands in the State Forest System, bringing these parcels under active forest management.

The Eastern Tanana Area Plan (ETAP) and Yukon Tanana Area Plan (YTAP) each list units recommended for addition to the TVSF in their Chapter 2 descriptions of Forest classified lands. The list of parcels recommended for addition to the TVSF according to the ETAP and YTAP can be found below.

Lands Identified in the ETAP and YTAP for addition to the Tanana Valley State Forest

Table 4.6 DNR DMLW Recommended Additions to the Tanana Valley State Forest

Area Plan	Unit Number	Land Use Designation	Acreage
YTAP	T-41	Forest	34,361
YTAP	K-26	Forest	17,897
YTAP	K-31	Forest	2,547
YTAP	P-01	Forest	2,211
YTAP	P-03	Forest	4,838
YTAP	P-11	Forest	514
YTAP	P-30	Forest	4,300
YTAP	P-41	Forest	14,386
YTAP	P-48	Forest	18,813
YTAP Total			99,867
ETAP	F-04	Forest	24,104
ETAP	F-14	Forest	9,266
ETAP	F-21	Forest	2,603
ETAP	F-33	Forest	69,921
ETAP	F-34	Forest	62,723
ETAP	F-37	Forest	2,032
ETAP	F-38	Forest	3,840
ETAP	F-48	Forest	2,765
ETAP	F-64	Forest	14,373
ETAP	F-71	Forest	640
ETAP	F-99	Forest	1,938
ETAP	F-100	Forest	1,440
ETAP	F-111	Forest	824
ETAP	F-114	Forest	1,035
ETAP	F-133	Forest	320
ETAP	F-148	Forest	311
ETAP	D-08	Forest	33,209
ETAP	D-10	Forest	72,657
ETAP	D-12	Forest, Habitat	14,112
ETAP	D-17	Forest, Habitat	14,729
ETAP	D-18	Forest	12,019
ETAP	D-19	Forest, Habitat	11,204
ETAP	D-21	Forest, Habitat	61,565
ETAP	D-46	Forest, Habitat	40

Area Plan	Unit Number	Land Use Designation	Acreage
ETAP	D-48	Forest, Habitat	980
ETAP	D-49	Forest	227
ETAP	D-50	Forest, Habitat	2,560
ETAP	D-55	Forest, Habitat	10,769
ETAP	D-58	Forest, Habitat	14,175
ETAP	U-21	Forest, Habitat	13,141
ETAP	U-24	Forest	14,607
ETAP	U-34	Forest, Habitat	2,435
ETAP	U-65	Forest, Habitat	7,639
ETAP	U-66	Forest	10,530
ETAP Total			494,733
Total recommended additions to TVSF			**594,600**

In addition to those listed in ETAP and YTAP, DOF has identified a number of parcels desired for addition to the TVSF.

Additions and withdrawals of land from Alaska's State Forest system occur through legislative designation, following the procedural guidelines described in AS 38.04.005 and AS 38.04.060 - 38.04.070. The recommendations in Table 4.3 are based on the Forestry management guidelines described in the ETAP and YTAP as of 2024. The Division of Forestry may propose other parcels for addition to the TVSF not specifically noted in DMLW Area plans DOF and DMLW recommendations are subject to change. The specificity of Table 4.3 does not exclude future adaptation of the currently proposed changes to the TVSF land base. In addition, the Alaska Timber Jobs Task Force published recommendations in 2012, identifying over one million acres of forest classified land in the Tanana Basin recommended for addition to the TVSF. Any proposed changes in legislative designation for a parcel of land will be coordinated with the DMLW Resource Assessment and Development Section (RADS), as well as the DMLW Lands Office.

RESEARCH NEEDS

All research on the resources, features, uses, and economics of the State Forest will improve DNR's ability to manage the State Forest. A number of research projects have been done to help improve decision-making in the last 20 years. However, the environment continues to change which requires new and/or better knowledge of the boreal forest. The knowledge may allow DNR to increase the benefits available from the forest, and in some cases the knowledge is needed to validate plan recommendations. The following research projects are those most needed to improve the quality of planning decisions and increase TVSF benefits in the order of priority.

Silvicultural Research

1. **Compilation of on-going and completed research relevant to Alaska:** The compilation will help find existing information and know what research will further help with management decision making.
2. **Non-Native Species:** Potential advantages and disadvantages of reforestation with non-native, non-invasive tree species after timber harvest or natural mortality events are uncertain. How would naturalized species in Alaska like lodgepole pine or Siberian larch influence carbon sequestration, future timber supply, and fish and wildlife habitat in boreal forest? Prior to adopting forest regeneration at an operational scale that includes non-native trees, a Science and Technical Committee and an Implementation Committee could be convened to consider pros and cons to forest health, ecosystem services, the forest industry and provide guidance for implantation and monitoring.
3. **Remote sensing technologies:** Can we use remote sensing technology, including UAV, airplane, satellite, visible and hyperspectral images, and LiDAR, to obtain high-quality data at low cost? What types of applications, such as timber cruising, inventory, regeneration survey, fuel assessment, aerial direct seeding, and fire management are feasible?
4. **Assisted migration:** Monitoring of existing provenance and species trials will help assess the adaptability of seed sources and non-native species. Can we find optimal sites for local seeds under changing climate? Incorporate seeds from southern latitude and non-native species on selected sites for reforestation after timber harvest in a systematic way to assess adaptability, growth, and optimal spacing.
5. **Effects of harvest techniques:** What are the short-term patterns of regeneration on sites harvested with fellerbunchers?
6. **Landscape scale fire resilience and resource outcomes:** Can we pattern harvest of hardwood or mixed species stands to regenerate fuel types that reduce risk of fire spread into mid-aged white spruce (protect future sawlogs)? Can we use timber sale size and configuration to emulate fire disturbance patterns to maintain desired assemblages of wildlife species in managed forest? Can we use these timber harvest patterns to evaluate wildlife ecosystem services beneficial to forest regeneration and resilience to insect irruptions?
7. **Wildlife use of cutover areas:** Can we systematically evaluate existing timber sales for understanding habitat attributes predictive of the occurrence or abundance of wildlife species or species assemblages that may aid design of future timber sales for evaluating both timber and desired wildlife outcomes?
8. **Timber growth and yield:** The Interior Alaska FVS variant was recently released and needs to be validated using existing timber sales, Levels of Growing Stock sites, Cooperative Alaska Forest Inventory, and other available long-term research sites. Growth and yield model should also include non-native species, such as lodgepole pine and Siberian larch, to assess their economic feasibility.

9. **Seedling:** What are the capabilities of growing high-quality seedlings within the state? Should additional nursery infrastructure be established in-state? Are there BMPs to consider when collecting seed? What does a resilient seed storage bank look like on a statewide level?
10. **Mixed wood and hardwood silviculture:** What components of the silvicultural prescription should be considered when managing mixed species or hardwood stands? Guidelines of management practices, such as harvesting method, need of reforestation management, and timing of each practice will be beneficial for forest land managers.
11. **Tree mortality:** Is it possible to mitigate insect outbreaks, especially *Ips* and spruce beetle, using forest management techniques or spatial pattern of harvest? What are the best practices for managing forest health? What are the silviculture prescription components that need to be considered with regard to forest health?
12. **Silvicultural Treatments:** Partial cuts, seed tree cuts, selective cuts and other harvest systems need to be studied to determine the impact to soil warming, site productivity, and wildlife response.
13. **Grazing Sites:** What are best practices of livestock grazing and range management to mitigate invasive species or pathogens? How could we use livestock grazing as part of forest management?

APPENDICES

APPENDIX A: GLOSSARY OF TERMS

Adaptive Management: A natural resource management framework that emphasizes simultaneously managing and learning about natural resources. Learning in adaptive management is accomplished through monitoring and awareness in the practice of management itself, with adjustments to strategy as more information is gathered. Often, this framework is presented as a cyclical process, with distinct phases of identifying stakeholders, goals, management alternatives, and monitoring practices; followed by implementation, monitoring, and assessment. The insights developed during monitoring and assessment of a practice are then used to refine or adjust the planning stages in future decision-making (Williams, 2011).

Adverse grade: The uphill gradient in the direction of travel of a loaded log truck.

Age class: 1. One of the intervals into which the age range of trees is divided for classification or use. 2. A distinct aggregation of trees originating from a single natural event or regeneration activity, or a grouping of trees, e.g., 10-year age class, as used in inventory or management (Society of American Foresters, 1998).

Allowable cut: The volume of timber that may be cut from a forest under optimum sustained yield management (Stoddard and Stoddard, 1987).

Anadromous Water Body: The portion of a freshwater body that is catalogued under AS 16.05.871 as important for anadromous fish or if not catalogued has been determined by ADF&G to support anadromous fish in which event the anadromous extent of the water body extends up to the first point of physical blockage (paraphrased from AS 41.17.950).

Area control (area regulation): An indirect method of controlling (and roughly determining) the amount of forest produce to be harvested, annually or periodically, on the basis of stocked area (Society of American Foresters, 1998).

Basal area (BA): 1. The cross-sectional area of a single stem, including the bark, measured at breast height (4.5 feet or 1.37 meters above the ground). 2. The cross-sectional area of all stems of a species or all stems in a stand measured at breast height and expressed per unit of land area (Society of American Foresters, 1998).

Biological diversity: The variety and abundance of species, their genetic composition, and communities, ecosystems and landscapes in which they occur. It also refers to ecological structures, functions, and processes at all these levels. Biological diversity occurs at spatial scales that range from local through regional to global. (Society of American Foresters Task Force, 1991.)

Board Feet: A unit of wood volume measuring 12 inches by 12 inches by 1 inches or 144 cubic inches.

Breast height: A standard height from ground level, generally 4.5 feet, for recording diameter, circumference (girth), or basal area of a tree. The measurement is usually taken on the uphill side of the tree (Society of American Foresters, 1998). See also diameter at breast height.

Broadcast burn: A prescribed fire allowed to burn over a designated area within well-defined boundaries to achieve some land management objective (Society of American Foresters, 1998).

Carbon Offset Credit: a financial instrument representing a reduction or removal of one metric ton of carbon dioxide (CO2) or its equivalent in other greenhouse gases from the atmosphere. These credits are used by

companies or other entities to compensate for their own carbon emissions by investing in environmental projects that reduce or remove greenhouse gasses.

Carbon Offset Project: A project designed to reduce greenhouse gas (GHG) emissions or capture and store carbon from the atmosphere to compensate for emissions made elsewhere. These projects help businesses, governments, and other entities achieve carbon neutrality or reduced carbon footprints through the purchase of carbon offsets.

Cable yarding: Taking logs from the stump area to a landing using an overhead system of winch-driven cables to which logs are attached with chokers. (Society of American Foresters, 1998).

Clearcutting: The cutting of essentially all trees, producing a fully exposed microclimate for the development of a new age class (Society of American Foresters, 1998).

Commercial forest land (CFL): Land declared suitable for producing timber crops and not withdrawn from timber production by statute or administrative regulation (Society of American Foresters, 1998).

Commercial Lease: Commercial leasing permits are issued and managed by the Alaska Division of Mining, Lands, and Water (DMLW). State land can be leased for commercial surface use under Alaska Statute (AS) 38.05.070, AS 38.05.073, and AS 38.05.075. Leases can be issued for almost any commercial, industrial, agricultural, grazing, and some private uses; The state does not typically lease land for residential use. More information is available through the State of Alaksa's Regional DMLW offices.

Consultation: Under existing statutes, regulations and procedures, the Department of Natural Resources informs other groups of its intention to take specific action(s) and seeks their advice or assistance. Consultation is not intended to be binding on a decision; it is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

Consultation: Under existing statutes, regulations and procedures, the Department of Natural Resources informs other groups of its intention to take a specific action(s) and seeks their advice or assistance. Consultation is not intended to be binding on a decision; it is a means of informing affected organizations and individuals about forthcoming decisions and getting the benefit of their expertise.

Cubic Feet: A unit of wood volume measuring 12 inches by 12 inches by 12 inches or 17,728 cubic inches.

Culmination of mean annual increment (CMAI): The age in the growth cycle of a tree or stand at which the mean annual increment (MAI) for height, diameter, basal area, or volume is at a maximum (Society of American Foresters, 1998).

Decking: The piling of logs.

Department: The Alaska Department of Natural Resources

Diameter at breast height (DBH): The diameter of the stem of a tree measured at breast height (4.5 feet) from the ground. On sloping ground, the measurement is taken from the uphill side (Society of American Foresters, 1998).

Division: The Division of Forestry and Fire Protection in the Alaska Department of Natural Resources.

Ecosystem: All the interacting populations of plants, animals, and microorganisms occupying an area, plus their physical environment. (Hunter, 1990)

Ecosystem management: An ecological approach to forest resources management. It attempts to maintain the complex processes, pathways and interdependencies of forest ecosystems and keep them functioning well over long periods of time, providing resilience to short-term stress and adaptation to long-term change. Thus, the condition of the forest landscape is the dominant focus, and the sustained yield of products and services is provided within this context. Humans are also a part of the ecosystem. Thus, ecosystem management must maintain our social and political systems as well as meet our need for both consumptive and non-consumptive uses of the forest. Ecosystem management of forests includes products as an essential part of the mix, including intensive management. Ecosystem management is the strategy by which, in aggregate, the full array of forest values and functions is maintained at the landscape level. Coordinated management at the landscape level, including across ownerships, is an essential component (Society of American Foresters, 1993).

Favorable grade: The downhill gradient in the direction of travel of a loaded log truck.

Felling: The process of cutting down trees.

Feasible: The term "feasible" is defined in the forest practices regulations as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, technical, and safety factors” (11 AAC 95.900(29)).

Feasible and prudent means consistent with sound engineering practice and not causing environmental, social, or economic problems that outweigh the public benefit to be derived from compliance with the standard modified from a proposed action (YTAP, 2014).

Finding of incompatibility: If the commissioner [of natural resources] finds that a permitted use [described in AS 38.05.112(c)] is incompatible with one or more other uses in a portion of a State Forest, the commissioner shall affirmatively state in the management plan that finding of incompatibility for the specific area where the incompatibility is anticipated to exist and the time period when the incompatibility is anticipated to exist together with the reasons and benefits for each finding. [AS 41.17.230(a)]

Fire management: All activities required for the protection of burnable wildland values from fire and the use of fire to meet land management goals and objectives (Society of American Foresters, 1998).

Fish and wildlife: Any species of aquatic fish, invertebrates and amphibians, in any stage of their life cycle, and all species of birds and mammals, including feral domestic animals, found or that may be introduced in Alaska, except domestic birds and mammals. NOTE: The term “area(s)” in association with the term "fish and wildlife" refers to both harvest and habitat area. The term "value(s)" in association with the term "fish and wildlife" refers to the relative importance of a harvest area or habitat and its vulnerability to development impacts. (An operational definition of the Alaska Department of Fish and Game derived from the definition of ‘fish’ in AS 16.05.940 (12) and ‘game’ in AS 16.05.940 (18)).

Floodplain: Flat land bordering a stream or river onto which a flood will spread. The underlying materials are typically unconsolidated and derived from past stream transportation activity. The extent of the floodplain varies according to the volume of water and is thus defined by a specified flood size (e.g., a fifty-year-old floodplain would be defined by the largest flood that would, on average, occur once within a fifty-year period, estimated from historic stream flow records) (Dunster and Dunster, 1996).

Forest land: Land stocked or having been stocked with forest trees of any size and not currently developed for nonforest use, regardless of whether presently available or accessible for commercial purposes (AS 41.17.950 (5)). Regarding land classification, land classified “forest land” is land that is or has been forested and is suited for forest management because of its physical, climatic, and vegetative conditions (11 AAC 55.070).

Forest regulation: The technical (in contrast to administrative and business) aspects of controlling stocking, harvests, growth, and yields to meet management objectives including sustained yield (Society of American Foresters, 1998). See also the definition for "area control."

Goal: A general statement of intent, usually neither quantifiable nor having a specified date of completion. Goals identify desired long-range conditions.

Guideline: A specific course of action that must be followed when a resource manager permits, leases, or otherwise authorizes use of state lands. Some guidelines state the intent that must be followed and allow flexibility in achieving it. Guidelines also range from giving general guidance for decision-making or identifying factors that need to be considered to setting detailed standards for on-the-ground decisions. (Adapted from the Tanana Basin Area Plan for State Lands, Alaska Department of Natural Resources, 1991.)

Harvest System: the method by which trees are felled, skidded, processed and loaded onto a truck for transportation.

High Value Resident Fish: Resident (non-anadromous) fish populations that are used for recreational, personal use, commercial, or subsistence purposes (paraphrased from AS 41.17.950).

Grub (grubbing): To remove stumps or shrubs from the ground by hand or machine, typically prior to road building or regeneration (Society of American Foresters, 1998).

Ice bridge: A bridge of ice across a lake, river, or stream, either natural or constructed to a specified thickness to safely accommodate specified vehicle loads.

Important habitat

1. A natural environment that promotes reproduction and survival (i.e. fitness) of species listed in this management plan or those incorporated in the 2015 Alaska Wildlife Action Plan as Species of Greatest Conservation Need.
2. A natural environment that promotes the best interest of the economy and general well-being of state residents with respect to wildlife resources.

Increment

1. Increase in circumference (girth), diameter, basal area, height, volume, quality, or value of individual trees or crops.
2. The rate of increment, i.e., increase during a given period (Society of American Foresters, 1998).

Ingrowth: Number of trees, or volume of trees that have grown past a predetermined threshold in a set period. Typically used to refer to the dividing line between seedling to sapling or, sapling to pole stage, or a specific diameter class or merchantability class. Once past the sapling stage, the tree is counted into volume calculations, hence ingrowth can make a very significant difference in the assessment of stand condition. It is also called recruitment (Dunster and Dunster, 1996).

Landing: A cleared area in the forest to which logs are yarded or skidded for loading onto trucks for transport (Society of American Foresters, 1998).

Land classification: The designation of land according to its primary use, and in a manner that will provide maximum benefit to the people of Alaska (11 AAC 55.280 (1)). 11 AAC 55.010 clarifies that although a classification identifies a primary use, all classifications are intended for multiple use.

Management guideline: Specific management standards or procedures to be followed in carrying out goals. Guidelines are intended to be sufficiently detailed to guide on-the-ground decisions, such as road construction. Guidelines are applied frequently in day-to-day management decisions.

Mature: Pertaining to a tree or stand that is capable of sexual reproduction (other than precocious reproduction), has attained most of its potential height growth, or has reached merchantability standards. Within uneven-aged stands, individual trees may become mature but the stand itself consists of trees of diverse ages and stages of development. (Society of American Foresters, 1998)

M.B.F.: 1,000 board foot measure (synonymous with MBF: 1,000 board feet).

Mean annual increment (MAI): The total increment of a tree or stand (standing crops plus thinnings) up to a given age divided by that age (Society of American Foresters, 1998).

Merchantable:

1. Of trees, crops, or stands, having the size, quality, and condition suitable for marketing under a given economic condition, even if not immediately accessible for logging.
2. Of a bole or stem, the part(s) suitable for sale (Society of American Foresters, 1998).

Minimize: To limit to the extent feasible and does not include the requirement of improving naturally existing conditions (11 AAC 95.900 (49)).

Multiple use: The term "multiple use" as defined in the Alaska Forest Resources and Practices Act means:

1. The management of all the various resources of forest land so that they are used in the combination that will best meet the needs of the citizens of the state, making the most judicious use of the land for some or all of these resources or related values, benefits, and services over areas large enough to provide sufficient latitude for periodic adjustment in use to conform to changing needs and conditions;
2. That some land will be used for less than all of the resources; and
3. Harmonious and coordinated management of the various resources, each with the other, without significant impairment of the productivity of the land and water, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output (AS 41.17.950 (8)).

Non-commercial forest land (NCFL): Land incapable of yielding a specified volume of wood per unit area of commercial species, or land only capable of producing noncommercial tree species (Dunster and Dunster, 1996).

Objective: an outcome that is measurable and completed within a specified timeframe.

Ordinary high water mark: The mark along the bank or shore up to which the presence and action of the tidal or nontidal water are so common and usual, and so long continued in all ordinary years, as to leave a natural line impressed on the bank or shore and indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics (11 AAC 95.900(53)).

Overmature

1. A tree or even-aged stand that has reached that stage of development when it is declining in vigor and health and reaching the end of its natural life span.
2. A tree or even-aged stand that has begun to lessen in commercial value because of size, age, decay, or other factors. The term has little applicability to uneven-aged stands, which consist of trees of diverse ages and stages of development (Society of American Foresters, 1998).

Policy: An intended course of action or a principle for guiding actions. In this plan, DNR policies for land and resource management include goals, management intent statements, management guidelines, planned activities, implementation plans and procedures, and various other statements of DNR's intentions.

Pole Timber: a tree with a diameter at breast height between 4 and 9 inches, and that is too small to be a saw timber.

Policy: An intended course of action or a principle for guiding actions. In this plan, DNR policies for land and resource management include goals, management intent statements, management guidelines, planned activities, implementation plans and procedures, and various other statements of DNR's intentions. (Adapted from the Tanana Basin Area Plan for State Lands, Alaska Department of Natural Resources, 1991.)

Prescribed fire: To deliberately burn wildland fuels in either their natural or their modified state and under specified environmental conditions, which allows the fire to be confined to a predetermined area and produces the fire line intensity and rate of spread required to attain planned resource management objectives (Society of American Foresters, 1998).

Primary all-season road: Regarding timber access, an all-season road which generally provides access to within five miles of timber resources. Built to a higher standard than secondary all-season roads.

Primary winter road: Regarding timber access, a road built and used during the winter. Built to a higher standard than secondary winter roads. See also 'winter road'.

Prohibited use: A use which is not allowed without an amendment to the plan.

Put-to-bed: A process to stabilize and terminate the use of a logging road, trail, or other means of ingress and egress. See 11 AAC 95.320 for specific guidelines for closure.

Recruitment: The additional trees moving from one size class to another (Society of American Foresters, 1998). Generally, the addition to a population from all causes (Dunster and Dunster, 1996). In silviculture, often referred to as ingrowth.

Reduction factor: A numerical reduction from the allowable cut to compensate for unknown, on-the-ground situations where timber harvest may not be feasible or appropriate, and to ensure that the allowable cut is not exceeded due to multiple use considerations. Reduction factors are not allocated to any particular area through the planning process and do not designate specific sites for management for primarily non-timber purposes (TVSF Planning Team, 2000).

Regeneration: Seedlings or saplings within a forest stand.

Riparian Area: Areas subject to riparian protection standards in AS 41.17.116(c) on private land in Region III and the area out to 100 feet from the bank of an anadromous or high value resident fish water body on state land managed by the department and on other public land in Region III (paraphrased from AS 41.17.950).

Type III-A (Region III) Water Body: *A nonglacial high value resident fish water body greater than three feet in width at the ordinary high-water mark; nonglacial anadromous water body; or backwater slough (paraphrased from AS 41.17.950).*

Type III-B (Region III) Water Body: *A glacial high value resident fish water body or glacial anadromous fish water body that does not include a glacial backwater slough (paraphrased from AS 41.17.950).*

Type III-C (Region III) Water Body: *A nonglacial high value resident fish water body that is less than or equal to three feet in width at the ordinary high-water mark and that does not contain anadromous fish (paraphrased from AS 41.17.950).*

Rotation: In even-aged systems, the period between regeneration establishment and final cutting. Rotation may be based on many criteria including mean size, age, culmination of mean annual increment, attainment of particular minimum physical or value growth rate, and biological condition (Society of American Foresters, 1998).

Salvage cutting: The removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost (Society of American Foresters, 1998).

Sawtimber: Trees that will yield logs suitable in size and quality for the production of lumber. Spruce must be at least 9 inches and hardwoods 11 inches diameter at breast height.

Scarification

1. Mechanical removal of competing vegetation or interfering debris, or disturbance of the soil surface, to enhance reforestation.
2. Chemical, mechanical, heat, or moisture treatment of seeds to make the seed coat permeable and improve germination (Society of American Foresters, 1998).

Secondary all-season road: Regarding timber access, an all-season road which generally provides access to within ¼ mile of timber resources. Built to a lesser standard than primary all-season roads, but to a higher standard than spur roads.

Secondary winter road: Regarding timber access, a road built and used during the winter. Built to a lesser standard than primary winter roads. See also 'winter road'.

Selection method: An uneven-aged regeneration method used to regenerate and maintain a multi-aged structure by removing some trees in all size classes either singly, in small groups, or in strips (Society of American Foresters, 1998).

Selective cutting: A cutting that removes only a portion of the trees in a stand (Society of American Foresters, 1998).

Shall: Requires a course of action or set of conditions to be achieved. A guideline modified by the word 'shall' must be followed by resource managers or users. If such a guideline is not complied with, a written decision justifying the noncompliance is required (see Appendix B, Finding of Incompatibility).

Should: States intent for a course of action or set of conditions to be achieved. A guideline modified by the word 'should' states the plan's intent and allows a resource manager to use discretion in deciding the specific means for best achieving the intent or whether particular circumstances justify deviation from the intended action or set of conditions. A guideline may include criteria for deciding if such a deviation is justified.

Shrub: A woody, perennial plant differing from a perennial herb in its persistent and woody stem, and less definitely from a tree in its lower stature and the general absence of a well-defined main stem (Society of American Foresters, 1998).

Shrub-land: A non-forest vegetation type containing brush and shrub vegetation that does not produce commercial timber (Crimp, et al., 1997).

Silvics: The study of the life history and general characteristics of forest trees and stands, with particular reference to environmental factors, as a basis for the practice of silviculture (Society of American Foresters, 1998).

Silviculture: The art of producing and tending a forest, the application of the knowledge of silvics in the treatment of a forest, and the theory and practice of controlling and managing forest establishment, composition, and growth (AS 41.17.950 (15)).

Skid: To haul a log from the stump to a collection point (landing) by a skidder (Society of American Foresters, 1998).

Skid trail: A route used by tracked or wheeled skidders to move logs to a landing or road (11 AAC 95.900 (74)).

Slash: The residue, e.g., treetops and branches, left on the ground after logging or accumulating as a result of storm, fire, girdling, or delimbing (Society of American Foresters, 1998).

Snags: 1. A standing, generally unmerchantable dead tree from which the leaves and most of the branches have fallen. 2. A standing section of the stem of a tree, broken off usually below the crown (Society of American Foresters, 1998).

Special Management Zone (SMZ): An area near a stream or lake that will be managed primarily to protect or enhance recreational values, significant fish and wildlife habitat and human uses, and water quality. Special management zones include side channels, sloughs, and backwaters.

Spur road: A short, low-standard road that supports a low level of traffic such as serving one or two landings (Society of American Foresters, 1998). Spur roads are generally built within harvest units.

Stand: A contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit (Society of American Foresters, 1998).

State forest: An area designated by the legislature and retained in state ownership in order to a) provide a base for sustained yield management of renewable resources; and b) permit a variety of beneficial uses (AS 41.17.950 (16)).

State lands: All lands, including shore, tide and submerged lands, or resources belonging to or acquired by the state (AS 38.05.965 (20)).

Sustained yield: The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period (AS 41.17.950 (17)). Another definition of sustained yield is in AS 38.04.910 (12) and should be applied in the context of AS 38.04 authorities and requirements.

Thermokarst: A topographic feature, similar in form to karst, produced in a permafrost region by the local melting of ground ice, followed by settling of the ground (Dunster and Dunster, 1996).

Timber: A tree, log, pole, bolt, or other wood product (11 AAC 71.910 (17)). Also, merchantable trees, standing or down, or a commercial tree species (11 AAC 95.900 (84)).

Timber land: State land chiefly valuable for timber and other forest products (AS 38.05.965(23)).

Tree: A woody perennial plant, typically large and with a well-defined stem or stems carrying a more or less definite crown (Society of American Foresters, 1998).

Upland: Land that generally has a higher elevation than the adjacent alluvial plain or low stream terrace, or land above the footslope zone on a hillslope continuum (Dunster and Dunster, 1996).

Water bar: A shallow channel or raised barrier of soil or other material laid diagonally across the surface of a road or skid trail to lead water off the road and prevent soil erosion (Society of American Foresters, 1998). Often used to put a road to bed.

Wildlife: non-domesticated animal life, especially mammals, birds, fishes and higher invertebrates.

Will: Same as 'shall' (above), however, when the word 'will' refers to a planned management activity by DNR or another agency, the carrying out of this activity is contingent on available funding.

Winter road: A road that can normally support regular logging vehicle traffic only during winter months that has a load-bearing capacity derived from a combination of frost, snow, or ice (11AAC 95.900(90)).

Yarding: To convey logs or trees to a landing, particularly by cable, balloon, or helicopter logging systems (Society of American Foresters, 1998)

AGENCY ACRONYMS

ADFG – Alaska Department of Fish and Game

AHRS - Alaska Heritage Resources Survey

AWFCG – Alaska Wildland Fire Coordinating Group

BIF – Best Interest Finding

BLM – Bureau of Land Management

CAC – Citizens Advisory Committee

CWPP – Community Wildfire Protection Plan

DEC – Department of Environmental Conservation

DGGS - Alaska Division of Geological & Geophysical Surveys

DNR – Alaska Department of the Natural Resources

DOD – Department of Defense

DOF – Alaska Division of Forestry and Fire Protection

DPOR – Alaska Division of Parks and Outdoor Recreation

DWSP - Drinking Water Source Protection

FLUP – Forest Land Use Plan

FNSB – Fairbanks North Star Borough

FYSTS – Five-Year Schedule of Timber Sales

OHA – Office of History and Archeology

RNA - Research Natural Area

SGCN – Species of Greatest Conservation Needs

SMZ – Special Management Zone

TMDL - Total Maximum Daily Load

TVSF – Tanana Valley State Forest

USACE – U.S. Army Corp of Engineers

USDA – United States Department of Agriculture

USFWS – United States Fish and Wildlife Service

APPENDIX B: LAND CLASSIFICATION ORDER

State land is classified under the authority of AS 38.04.005, AS 38.05.300, and 3 11 AAC 55.010 -.280 according to the management intent set forth in this area plan. Land classification orders, as used in area plans, covert the land use designation in the area plan to land use classifications, which are required under statute. Classifications are important to the determination of whether certain forms of activity can occur under portions of statute and they provide a general indication of how state land is to be managed. However, they do not provide the basis for the management of state land. The plan designations, management intent, and management guidelines of an area plan perform that function.

Land Classification Order NC-24-002 classifies all state land within the Tanana Valley State Forest Management plan area. This Land Classification Order supersedes and replaces all previous land classifications and classification orders affecting the planning area of the Tanana Valley State Forest Management Plan boundary. It does not replace or supersede Special Use Designations predating the approval of this revision.

The potential for the reclassification of state land in the future is authorized under 11 AAC 20 55.240, but this action will require the revision of LCO NC-24-002 and may require, in some cases, the revision of this management plan. An amendment to the plan is required under 11 AAC 55.030(f)(1)(B) if the proposed authorization would modify the basic management intent for one or more of the subunits or if the authorization would conflict with the plan's allowed or prohibited uses, policies, or guidelines.

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER

Appendix B
Land Classification Order No. NC-24-002

I. Name: Tanana Valley State Forest Management Plan (TVSF)

II. The classifications in Part III are based on written justification contained the following plan:

Area Plan:
Adopted ( ) Revised () Dated _____

Management Plan: **Tanana Valley State Forest**
Adopted (x) Revised () Dated 5/28/2025

Site Specific Plan:
Adopted ( ) Revised ( ) Dated _____

III.

Legal Description	Acreage	Acquisition Authority	Existing Classification	Classification by this Action
See plan maps, TVSF, 2025	1,801,004	Various	TVSF Management Plan, 2001 Eastern Tanana Area Plan (ETAP), 2015 Yukon Tanana Area Plan (YTAP), 2014 Tanana Basin Area Plan (TBAP), 1991	See plan maps, TVSF, 2025

IV. This order replaces and supersedes all existing land classification orders for the 2001 Tanana Valley State Forest Management Plan, modifies the forest management units described in the TVSF Management Plan for the 2015 Eastern Tanana Area Plan and the 2014 Yukon Tanana Area Plan, and replaces and supersedes the existing land classification orders for only those lands identified in AS 41.17.400.

V. This order is issued under the authority granted by AS 38.04.065, AS 41.17.230 and AS 41.17.400 to the Commissioner of the Department of Natural Resources. The above-described lands are hereby designated and classified as indicated. Nothing shall prevent the reclassification of these lands if warranted in the public interest.

Classified: _____ Date: 28 May 2025

John Boyle, Commissioner
Department of Natural Resources

APPENDIX C: FINDING OF INCOMPATIBILITY

There are a number of uses within the Tanana Valley State Forest that are not compatible on the same piece of ground at the same time. In accordance with AS 41.17.230(a), following is a list of those activities that are planned for the Tanana Valley State Forest and those uses that will not be permitted for the same location and time.

Research Natural Areas (RNAs), 11,141 acres - RNAs are intended to provide sites within which baseline ecological research and education can be conducted. It is intended that these areas be maintained in their natural state as much as possible. Activities that result in significant disturbance that is unnatural will typically not be authorized unless they are found to be consistent with the management intent for the area. These activities include timber harvest, material extraction, and developed recreation. Please see the Scientific Resources section of Chapter 2 for a complete list.

Leasehold location is an appropriate measure to allow mineral development with minimal impacts on these research areas. Within research natural areas, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNAs, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of operations per Leasehold Location Order #24 will also be included in any miscellaneous land use permits issued for exploration activities within the RNAs.

Currently, DOF does not expect incidental individual activities to impair research natural areas. However, if Generally Allowed Uses (11 AAC 96) threaten the integrity of a research natural area, DNR may establish a Special Use Land designation (under 11 AAC 96.010) in the future to regulate individuals' activities within RNAs. The Special Use Land designation is consistent with the TVSF Management Plan and may be established without an amendment to this plan.

See the Scientific Resources section of Chapter 2 for examples of activities that may be regulated.

A Research Natural Area shall not block access to or use of other resources outside the RNA. When access through a Research Natural Area is necessary (if there is no other feasible and prudent access route to resources beyond the RNA), roads will be designed and located to protect the features for which the RNA was designated, as much as possible. Activities such as mineral exploration and development will be permitted provided they can be made compatible with the intended use of RNAs, to the extent feasible and prudent. These restrictions will be in effect for the period this plan is in effect or until the RNAs are withdrawn. These restrictions apply to six RNAs totaling 11,141 acres. They are listed in Table 5

Bonanza Creek Experimental Forest (BCEF), 13,852 acres from lease - The BCEF (subunit 5B) is leased to USDA Forest Service, Pacific Northwest Research Station, for fifty-five years for the expressed purpose of forest research. Management authority is shared between the Pacific Northwest Research Station and DNR. The BCEF is open to mineral entry and mineral leasing. The BCEF is only available for those public uses the U.S. Forest Service's Boreal Ecology Cooperative Research Unit deems compatible with the intended research use. The lease of the BCEF will remain in effect until 2018.

Campgrounds, 280 acres - Improved campgrounds are intended for the enjoyment of the public. Loss of use of campgrounds due to other surface uses is not in the best interest of the general public, therefore, existing and planned campgrounds will be closed to mineral entry, grazing, timber harvest, and hunting for the duration of the period the State of Alaska operates and maintains the campgrounds. These restrictions apply to the Eagle Trail State Recreation Site campground, in Unit 14 (280 acres).

Trail and Stream Corridors, 96,200 acres - Trails listed as being of regional or statewide significance and streams protected by Special Management Zones (See Chapter 3 for lists of these streams in each unit) have particular value for recreation, transportation and/or wildlife habitat. Because of the significance of these corridors, commercial timber harvest and other permitted activities will be allowed only when it can be shown to be consistent with the intent of the trails and stream corridors. This restriction will remain in effect for the duration that this plan is in effect for those trails listed in Table 11 and those streams listed in Table 4.

Mining and Material Extraction - Mining and material extraction are subsurface and surface activities, respectively, that disrupt other surface uses for the period that the mining and material extraction is going on. For that period that these activities are permitted other surface uses requiring issuance of a DNR permit on the mining and material extraction permitted site will be permitted only when they can be shown to be compatible with the mining or material extraction.

Timber Harvest - Timber harvest activities that are a result of a contract between the DNR and a timber purchaser may be incompatible with other uses within the timber harvest area boundaries. Therefore, for that period starting when the DNR and the timber purchaser sign the contract, and until the termination of that contract, activities requiring issuance of a permit by the DNR will be restricted to those that can be shown to be compatible with the timber harvest. In addition, for this same period the area described in the contract for timber harvest will be closed to mineral entry and will be open for leasehold location only.

Remote Cabin Permits - Privately-owned residences and recreation cabins are not compatible with the intent of the Tanana Valley State Forest and will not be permitted within the State Forest for the duration this plan is in effect.

APPENDIX D: MINERAL ORDERS

Mineral Orders (MOs) are issued by the Alaska Division of Mining, Lands, and Water (DMLW) to close or open specific parcels of State-owned land to mineral entry. These MO's are addressed in DMLW Area Plans and generally created or updated within the Area Plan revision process. DMLW Area Plans and DOF State Forest Management Plans use different conventions to delineate and describe management units. In addition, plan boundaries or management intent on a specific site for either agency is subject to change. To avoid confusion, MOs are listed in this plan by their DMLW-assigned File Number, which can be searched in SOA Lands Office records for more detail. Table 5.1 shows all MOs within the TVSF boundaries as of 2024, according to the DMLW internal GIS database. This list is subject to change before the next revision of this management plan. No new MOs were created during the 2024 revision of this plan. Consulting DMLW data is the best way to assure a fully updated list of MOs within TVSF.

Table 5.1 Documented Mineral Orders within Tanana Valley State Forest boundaries

File Number	*File Type*	*Case Status*	*Land Status*
141	MCO	EFFECTIVE	CLOSED
184	MCO	VERIFIED	CLOSED
202	MCO	EFFECTIVE	CLOSED
429	MCO	EFFECTIVE	CLOSED
764	MCO	EFFECTIVE	CLOSED
271	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
202	MCO	EFFECTIVE	REOPEND
1162A01	MO	EFFECTIVE	CLOSED
178A01	MCO	EFFECTIVE	CLOSED
230	MCO	EFFECTIVE	CLOSED
223	MCO	EFFECTIVE	CLOSED
109	MCO	EFFECTIVE	CLOSED
202	MCO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
67A03	MCO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
1101	MO	EFFECTIVE	CLOSED
383	MCO	EFFECTIVE	CLOSED
1045	MO	EFFECTIVE	CLOSED
202	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED

File Number	*File Type*	*Case Status*	*Land Status*
510	MCO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
229	MCO	EFFECTIVE	CLOSED
294	MCO	EFFECTIVE	CLOSED
265	MCO	EFFECTIVE	CLOSED
761	MCO	EFFECTIVE	CLOSED
367	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
202	MCO	EFFECTIVE	CLOSED
601	MCO	EFFECTIVE	CLOSED
73	MCO	EFFECTIVE	CLOSED
235	MCO	EFFECTIVE	CLOSED
112	MCO	VERIFIED	CLOSED
239	MCO	EFFECTIVE	CLOSED
67A03	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
204	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
1162A03	MO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
176	MCO	EFFECTIVE	CLOSED
1097	MO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
204A01	MCO	EFFECTIVE	CLOSED
67A03	MCO	EFFECTIVE	CLOSED
177A01	MCO	VERIFIED	CLOSED
239	MCO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
1147	MO	EFFECTIVE	CLOSED
380	MCO	EFFECTIVE	CLOSED

File Number	*File Type*	*Case Status*	*Land Status*
510	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
73	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
1023	MO	EFFECTIVE	CLOSED
67A03	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
601	MCO	EFFECTIVE	CLOSED
140	MCO	EFFECTIVE	CLOSED
112	MCO	VERIFIED	CLOSED
510	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
239	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED
358	MCO	EFFECTIVE	CLOSED
383	MCO	EFFECTIVE	CLOSED
141	MCO	EFFECTIVE	CLOSED
261	MCO	EFFECTIVE	CLOSED
262	MCO	EFFECTIVE	CLOSED
1047	MO	EFFECTIVE	CLOSED
204	MCO	EFFECTIVE	CLOSED
1024	MO	EFFECTIVE	CLOSED
1101	MO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
510	MCO	EFFECTIVE	CLOSED
1162A01	MO	EFFECTIVE	CLOSED

APPENDIX E: LEASEHOLD LOCATION ORDER 24

The land within Research Natural Areas (RNAs) and the Bonanza Creek Experimental Forest (BCEF) is subject to Leasehold Location Order 24 (LLO 24). Rights to locatable minerals in the land covered by LLO 24 may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195.

The Findings and determinations of LLO 24 state that the lands within the TVSF RNAs and BCEF are subject to potential use conflicts requiring mining be allowed only under written lease issued under AS 38.05.205. These potential uses include, but are not limited to:

Research Natural Areas (RNAs), 11,141 acres - RNAs are intended to provide sites within which baseline ecological research and education can be conducted. It is intended that these areas be maintained in their natural state as much as possible. Activities that result in significant disturbance that is unnatural will typically not be authorized unless they are found to be consistent with the management intent for the area. These activities include timber harvest, material extraction, and developed recreation. Please see the Scientific Resources section of Chapter 2 for a complete list.

Leasehold location is an appropriate measure to allow mineral development with minimal impacts on these research areas. Within research natural areas, mineral exploration or development will be restricted if it conflicts with the overriding scientific values. Within the RNAs, rights to locatable minerals may be acquired only under the leasehold location system, AS 38.05.205, and may not be acquired by locating a mining claim under AS 38.05.195. The stipulations used in approving plans of operations per Leasehold Location Order #24 will also be included in any miscellaneous land use permits issued for exploration activities within the RNAs.

The Bonanza Creek Experimental Forest is leased to the USDA Forest Service's Boreal Ecology Cooperative Research Unit, Pacific Northwest Research Station, for fifty years for the purpose of forest research (ADL 21408). Management authority is shared between the Pacific Northwest Research Station and DNR. Rights to locatable minerals within the BCEF may be acquired only under the leasehold location system. The BCEF is only available for those public uses the Pacific Northwest Research Station deems compatible with the intended research use. The lease of the BCEF will remain in effect until 2018. Activities such as mineral exploration and development will be permitted provided they can be made compatible with the intended use of the BCEF, to the extent feasible and prudent.

The associated Finding of Incompatibility is found in this draft of the TVSF Plan, in Appendix B.

For more information about the background of RNAs, see Appendix E, Research Natural Area Report.

No new LLOs were proposed in the 2024 revision of this plan.

APPENDIX F: RESEARCH NATURAL AREA REPORT

For more information, or for data collected in some of the Research Natural Areas, contact:

Glenn Juday
Associate Professor of Forest Ecology
University of Alaska Fairbanks Forest Sciences Department
P.O. Box 757200
Fairbanks, Alaska 99775-7200
e-mail gjuday@lter.uaf.edu

Research Natural Area	Subunit	Acres
Oblique Lake	2B	2,990
Caribou Crossing	2C	1,251
Rosa-Keystone	8B	2,337
Shaw Creek Tamarack	9B	1,887
Volkmar Bluffs	10B	1,638
Johnson Slough Bluffs	10D	1,038
	Total	**11,141**

SUBUNIT 2B, OBLIQUE LAKE RNA. ACRES: 2,990

Rationale:
This area is located approximately 100 miles due west of Fairbanks on the Tanana River. It was chosen to include a small watershed unit dominated by productive white spruce old-growth, and includes associated ecosystems (bottomland mosaic, hardwood, and hill prairie), as well as occurrences of old-growth-dependent wildlife, especially the flying squirrel, brown creeper, mountain bluebird, goshawk, and possibly the tree swallow and sharp-shinned hawk. The presence of the flying squirrel and goshawk have been confirmed. Although verification of the presence of the mountain bluebird and brown creeper is not yet available, habitat appears excellent.

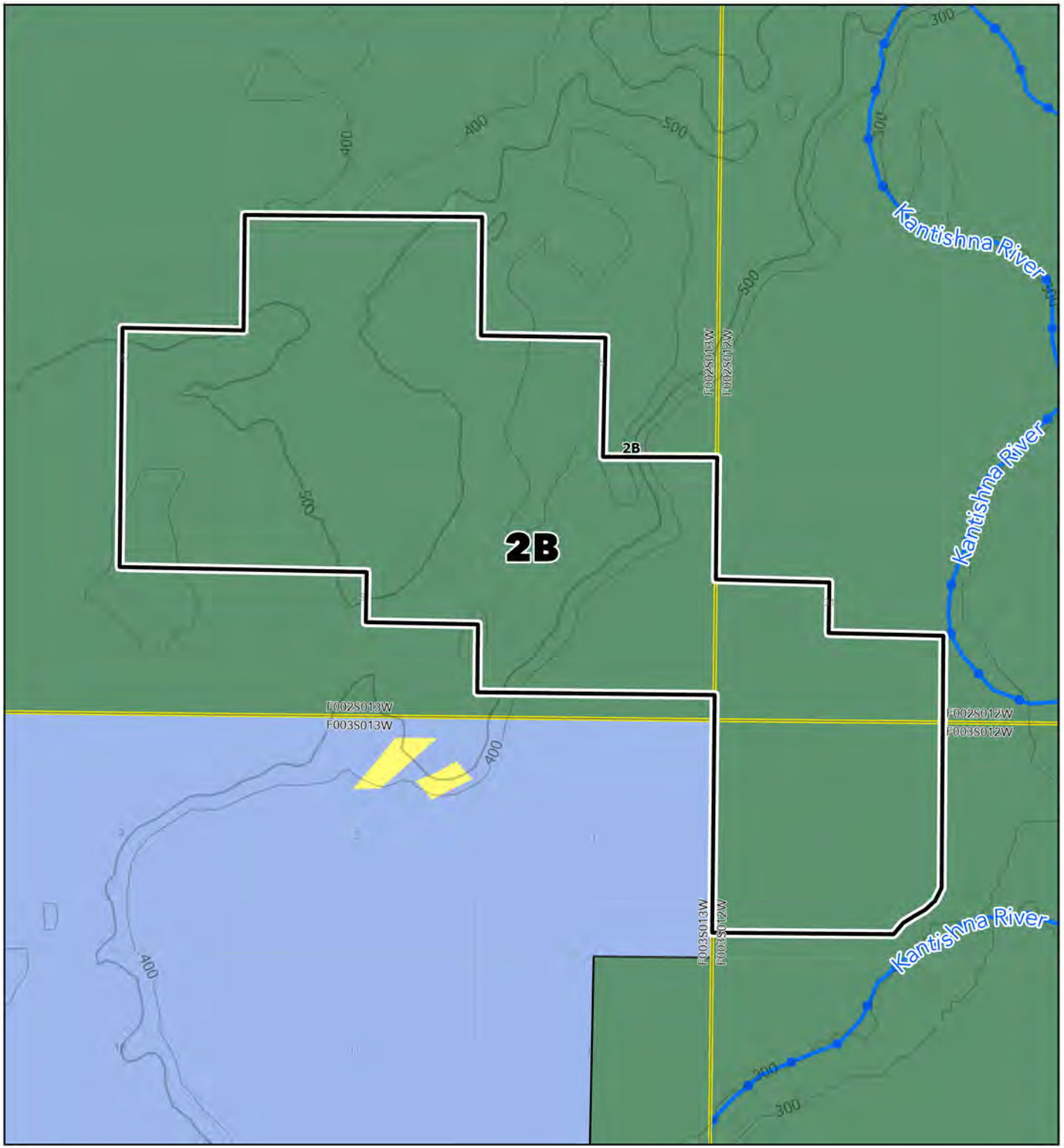
This RNA should support several kinds of forest studies as a “satellite” to the Bonanza Creek Experimental Forest, and is well-situated to confirm or invalidate hypotheses made on the basis of studies at a single site near Fairbanks. It will also serve as an area of significant habitat for animals that inhabit older forests as stands in the western portion of the State Forest are harvested. It appears to be located at the western margin of some species’ ranges.

Description:
The RNA is characterized by extensive upland mature white spruce with occasional old aspen. Some 200- to 300-year old trees are present, but 10 dominant white spruce sample trees ranged in age from 120 to 170 years. A fire-remnant population of large white spruce occurs at very thin stocking levels in some

portions of the upland stand; those trees may be 50 to 100 years older. The western portion of the area supports a species-rich hill prairie. Three vascular plant species range extensions were noted from the site work: *Carex rossii*, *Carex lasiocarpa*, and *Cystopteris fragilis* subsp. *dickieana*.

Some site work was conducted June 29-July 2, 1986, including sampling soils and establishing and marking permanent forest plots totaling ½ hectare. In general, the stand showed the same age relationships as Bonanza Creek Experimental Forest, but was somewhat smaller and not quite as productive. However, the upland stand is in the upper range of volume and productivity for the Tanana Valley State Forest.

Management Unit: 2B
Oblique (Tschute) Lake



State Forest Boundary
- State Forest
- State_Forest_Boundary

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

2B: For Rsu

0 0.2 0.4 0.8

Miles

Created by DNR DOF GIS on 09/2025

SUBUNIT 2C, CARIBOU CROSSING RNA. ACRES: 1,251

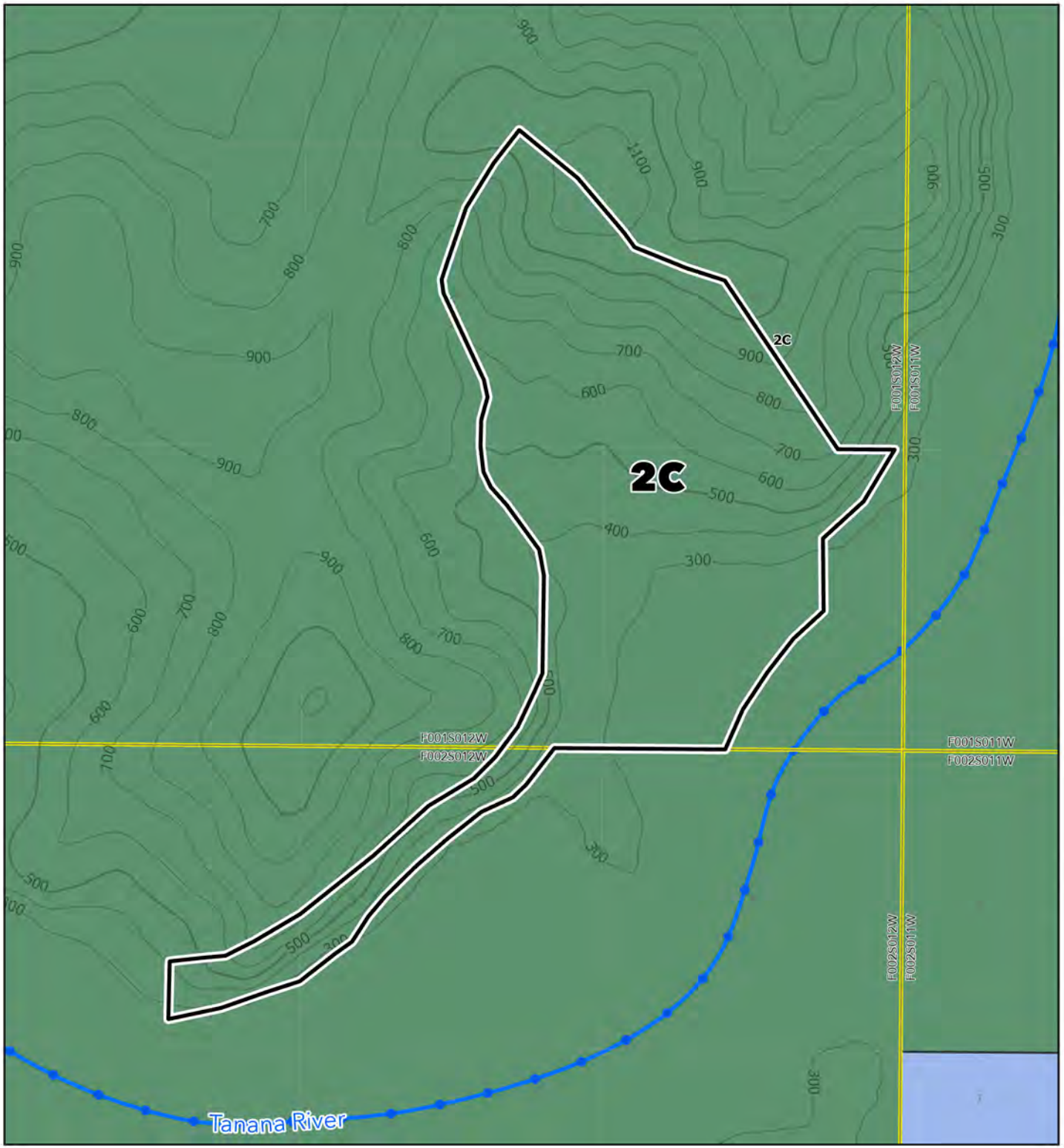
Rationale:

This area offers two contrasting lake types: an upland dune lake lying oblique to the dune-building wind direction, and a bottomland oxbow lake near the Kantishna River. There is good potential for the occurrence of some uncommon aquatic plant species. South-facing sand bluffs support open meadows, which may be a special habitat for uncommon plants. Outlines of old parabola dunes can be found in the area.

Description:

Float planes can land on Oblique Lake. The landscape is an aeolian dune system with a light, variable silt cap. Oblique Lake was named for a nearby oblique dune. Erosion of the soft sediment by the low-gradient lower section of the Kantishna River has produced oxbow lakes, which are a contrasting aquatic system to the dune lake. This area has large, continuous expanses of forest not broken up by wetland and permafrost openings. The level of Oblique Lake rises and falls, and there are actually two separate lakes when the water is low. Trumpeter swans nest on Oblique Lake. The driest, south-facing bluffs support a Pumpelly brome grass community. There are many giant ant colonies in the sand, and the vegetation is very much affected by ants. Forest research plots include Middle Point West, an old white spruce stand on sand, and Little Oblique Lake, a maturing birch forest.

Management Unit: 2C
Caribou Crossing



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- Private Lands
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- ANCSA
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- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

2C: For Rsu

0 0.2 0.3 0.7

Miles

Created by DNR DOF GIS on 09/2025

SUBUNIT 8B, ROSA KEYSTONE DUNES RNA. ACRES: 2,337

Rationale:

This area represents a spectacular series of dunes and dune hollow basins built up over at least the last two Ice Ages and probably more (as much as 500,000 years). The dune-building winds were an unusual southeasterly direction. Buried wind-polished rocks and other ventifacts, along with Ice Age animal remains, are of interest to scientists and have been recovered nearby. Cold air appears to collect in the undrained basins, probably producing ultra-cold temperatures. Trees are unable to survive on the floors of the basins, which are interesting and species-rich meadows. A lake formed by a stream dammed by the dunes occupies the center of the area. There are signs of wolf use, and the area may be used as a denning site.

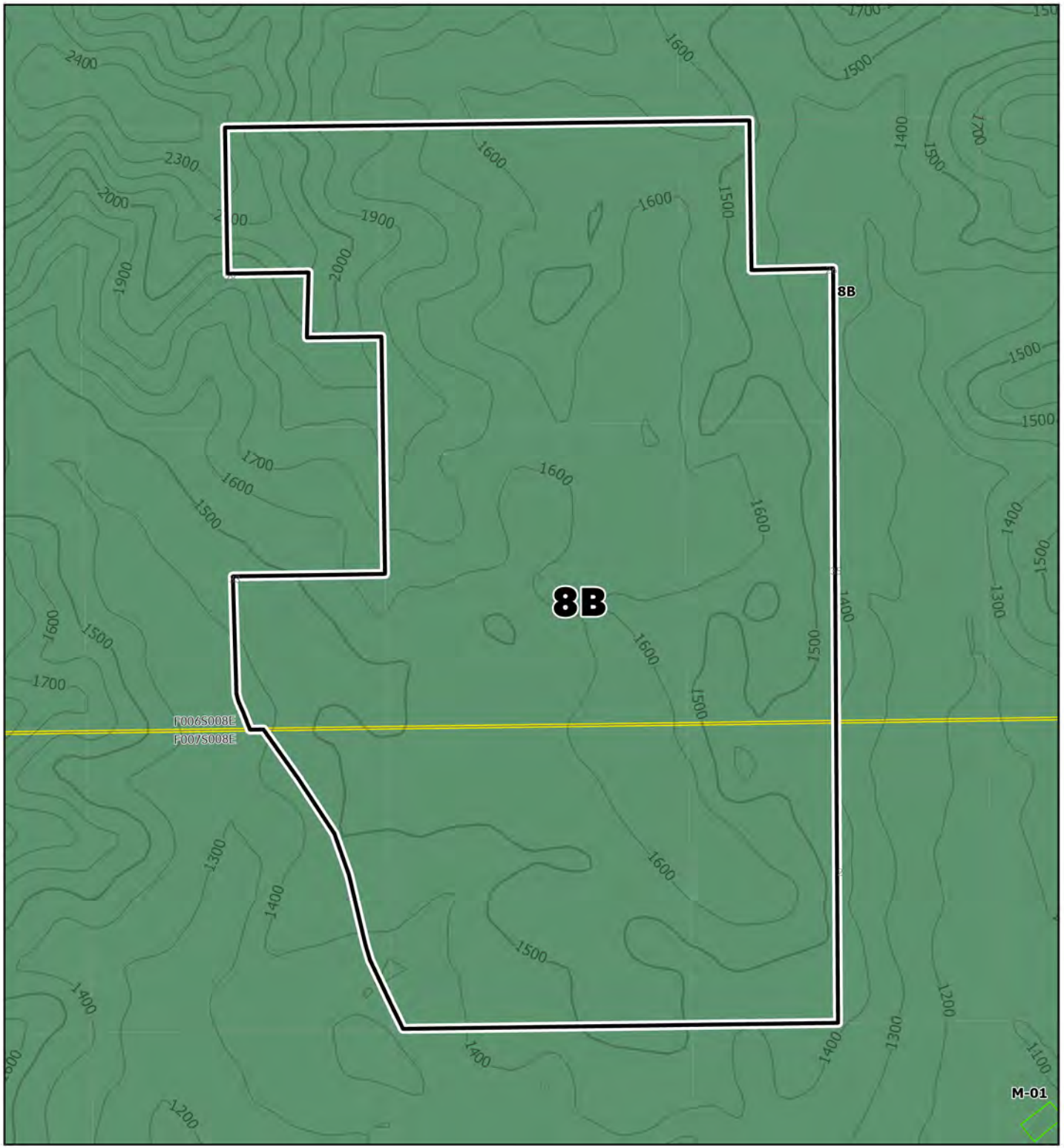
Description:

At least 66 vascular plant species were collected and cataloged from the Rosa-Keystone Dunes area. Several are mountain species found in the cold air drainage basins. Major dune waves are ¼ mile wide and ½ to 1 mile long. They terminate in steep slip slopes as tall as 200 feet. There is a second set of smaller dunes superimposed on the larger ones. The smaller dunes are only 10 to 20 feet tall and are one-third to one-tenth the size of the larger ones in width and length.

The tops of elongate linear dunes are covered with a forest of mixed poor aspen and excellent black spruce growth. Fire frequency appears to be very high in that type. Some moderately good birch forest growth is achieved on the crests and south-facing slopes above the tall slip slopes. Basins are meadows bordered with a shrub-dominated treeline. Some small trees below ½ meter tall are present in the basin meadows, but portions sticking above the snowline are apparently killed in the winter. Some white spruce forest is present on a south-facing dune surface at the low southeast corner of the area, as well as on residual “normal” soils offers the opportunity for studies to contrast these very different soils and the forests they support. The dune-dammed lake is a special feature of the area.

Very heavy wildlife use in the area has left an excellent system of trails on the straight, elongate axes of the dune crests. South-facing slopes above the inversion layer are apparently warmer sites which support prairie-like vegetation. Signs of wolf kills around at least one basin suggest the presence of a den on one of the warmer sand slopes.

Management Unit: 8B
Rosa-Keystone Dunes



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- State_Forest_Boundary

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- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

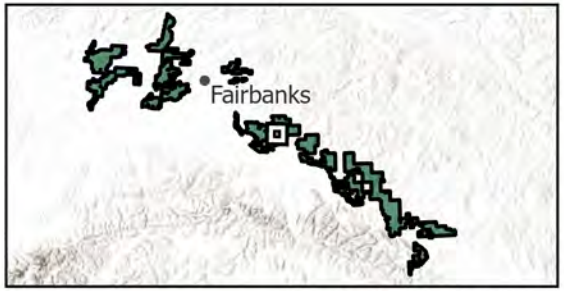
Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

8B: For Rsu

0 0.2 0.3 0.7

Miles



Created by DNR DOF GIS on 09/2025

SUBUNIT 9B, SHAW CREEK TAMARACK RNA. ACRES: 1,887

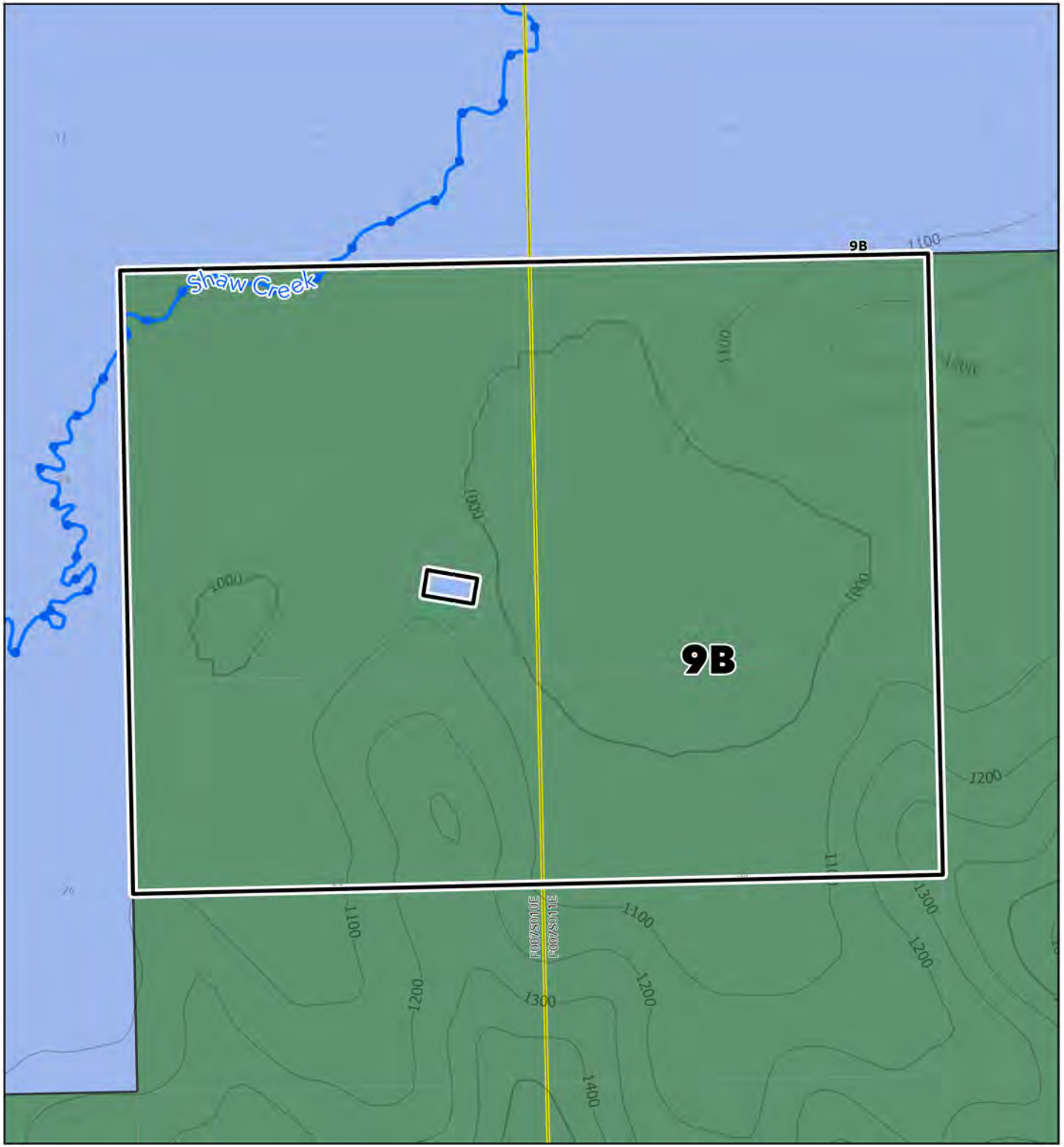
Rationale:

This area includes a major lake and its shoreline, as well as upland and bottomland sites with good growth of tamarack. The Shaw Creek Flats are known as one of the best areas for the growth and development of tamarack, which is apparently favored by the extensive fen (non-acid peaty) surfaces. There are few lakes of this size (approximately 300 acres) in the TVSF without shoreline developments. Peaty wetlands apparently support palsa mounds, a unique permafrost feature.

Description:

A small sample of representative diameters was taken in a larch-dominated, raised sand ridge on the Shaw Creek Flats. Diameters of larch ranged from 6 to 12 cm. Soil samples were taken from two sand exposures. Sand probably underlies much, if not all, of the flats. Upland stands with a considerable larch component are present near the west shore of the lake. A mosaic of upland forests occurs with at least three fire-origin age classes present. A fire approximately 35 years old partially burned a south-facing slope northeast of the lake and in the southern portion of the RNA. A fire-access trail of similar age rims the lake. It is impassible in the summer and has undergone thaw subsidence into the permafrost. The hardwood and pole-sized white spruce stand on the slope west of the lake probably originated 70 to 75 years ago. Older forest remnants occupy the northwest portion of the area. At least one species of aquatic plant collected here represents a range extension: *Carex chordorrhiza*.

The lake is a particularly significant wildlife habitat feature. Birds seen included red-necked phalarope, snipe, yellowlegs, alder flycatcher, Wilson's warbler, yellow-rumped warbler, red- tailed hawk, trumpeter swan, white-winged scoter, surf scoter, mew gulls, and canvasback. Three moose were also seen feeding together in the lake.



Management Unit: 9B
Shaw Creek Tamarack

State Forest Boundary
- State Forest
- State_Forest_Boundary

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

9B: For Rsu

N W E S

0 0.1 0.3 0.5

Miles

Created by DNR DOF GIS on 09/2025

SUBUNIT 10B, VOLKMAR BLUFFS. ACRES: 1,638

Rationale:

Volkmar Bluffs are probably the largest contiguous hill prairie in the Tanana Valley State Forest if not central Interior Alaska. They have experienced some encroachment from woody vegetation recently, but they are still large. They are also unusual in that they are on especially gentle slopes, as low as 18 degree slopes, and that the Tanana River is not now actively carving the toe of the slope to over-steepen the bluff. The bluffs support several uncommon plant species, only some of which occur at Johnson Slough bluffs. The bluffs may be maintained on such a gentle slope in a non-forested condition by 1) thin, rocky soils, 2) extreme rain shadow effect and low annual precipitation, and 3) active and relatively recent fire history.

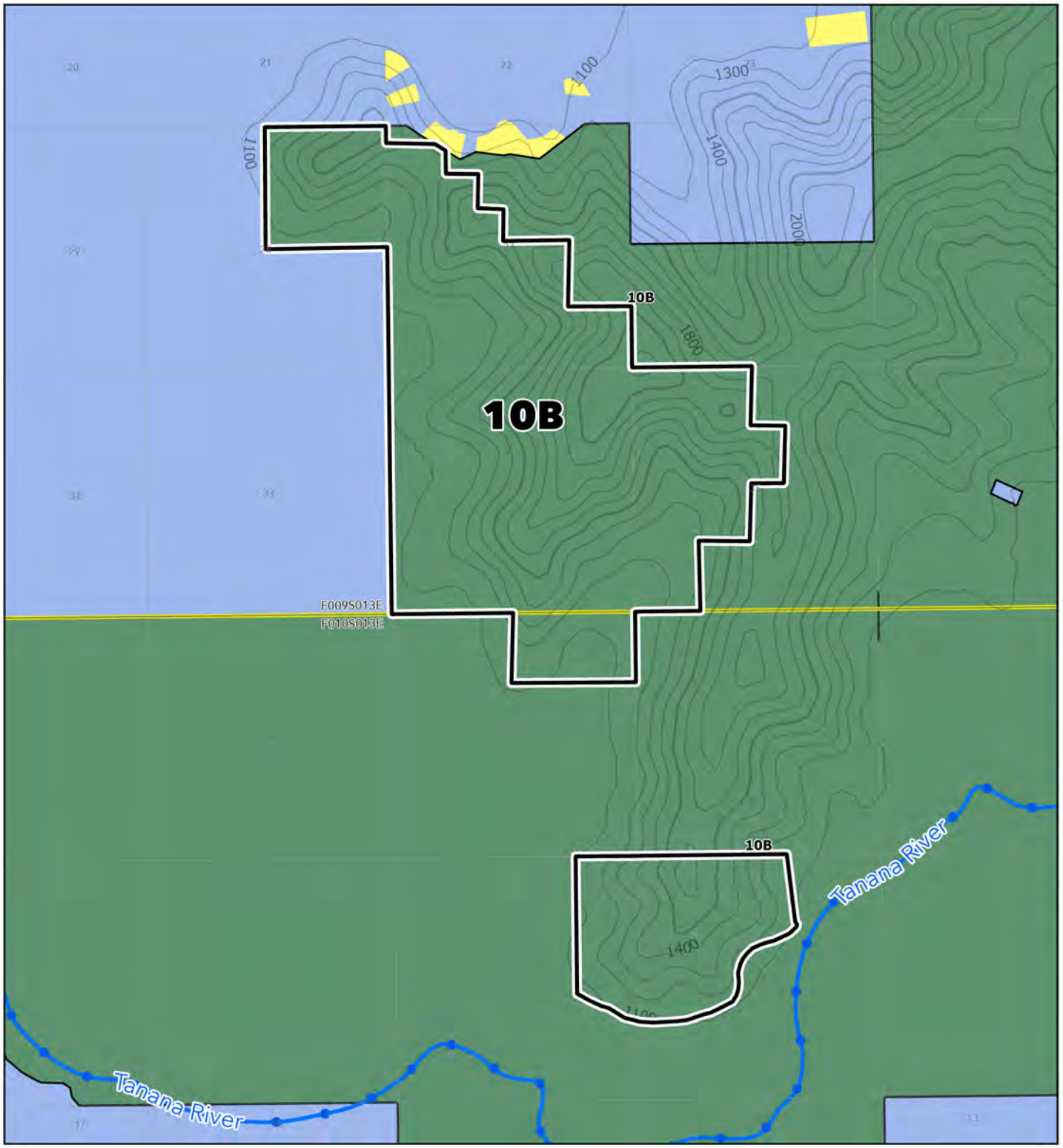
The area is designed to also encompass a much more typical small hill prairie bluff along the active channel of the Tanana River in the southern portion of the area for contrasting studies.

Description:

Volkmar Bluffs is probably the best example of the low elevation hill prairie, and the associated vegetation complex, available for inclusion in a system of research sites. This site is more typical of the central Interior hill prairie type, and lacks the alpine element found at Johnson Slough Bluffs. During site documentation work, four transects of 20 stations at one meter intervals were marked and sampled in four different meadows at the site. Soil samples were collected. All the northern meadows were similar enough to be considered one system. Bees and other pollinators which may have evolved to endemic species were collected. Identification is still pending. Results were presented at the Alaska Science Conference, and plans are being developed to publish information about this and other hill prairies of Interior Alaska.

Noteworthy plant records include the following species on the “type needs” submitted at the time of the RNA planning criteria: *Silene williamsii* and *Erigeron caespitosus*. Two other hill prairie species found at the site are relatively uncommon in this region: *Artemisia laciniata* and *Agropyron spicatum*. Further work needs to be done in documenting the forest types and structure of the ridge.

Management Unit: 10B
Volkmar Bluffs



State Forest Boundary
- State Forest
- State_Forest_Boundary

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

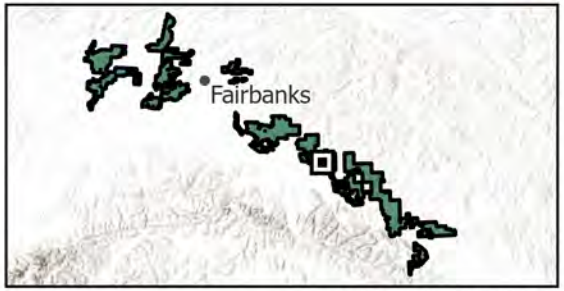
Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

10B: For Rsu

0 0.2 0.4 0.8

Miles



Created by DNR DOF GIS on 09/2025

SUBUNIT 10D, JOHNSON SLOUGH BLUFFS. ACRES: 1,038

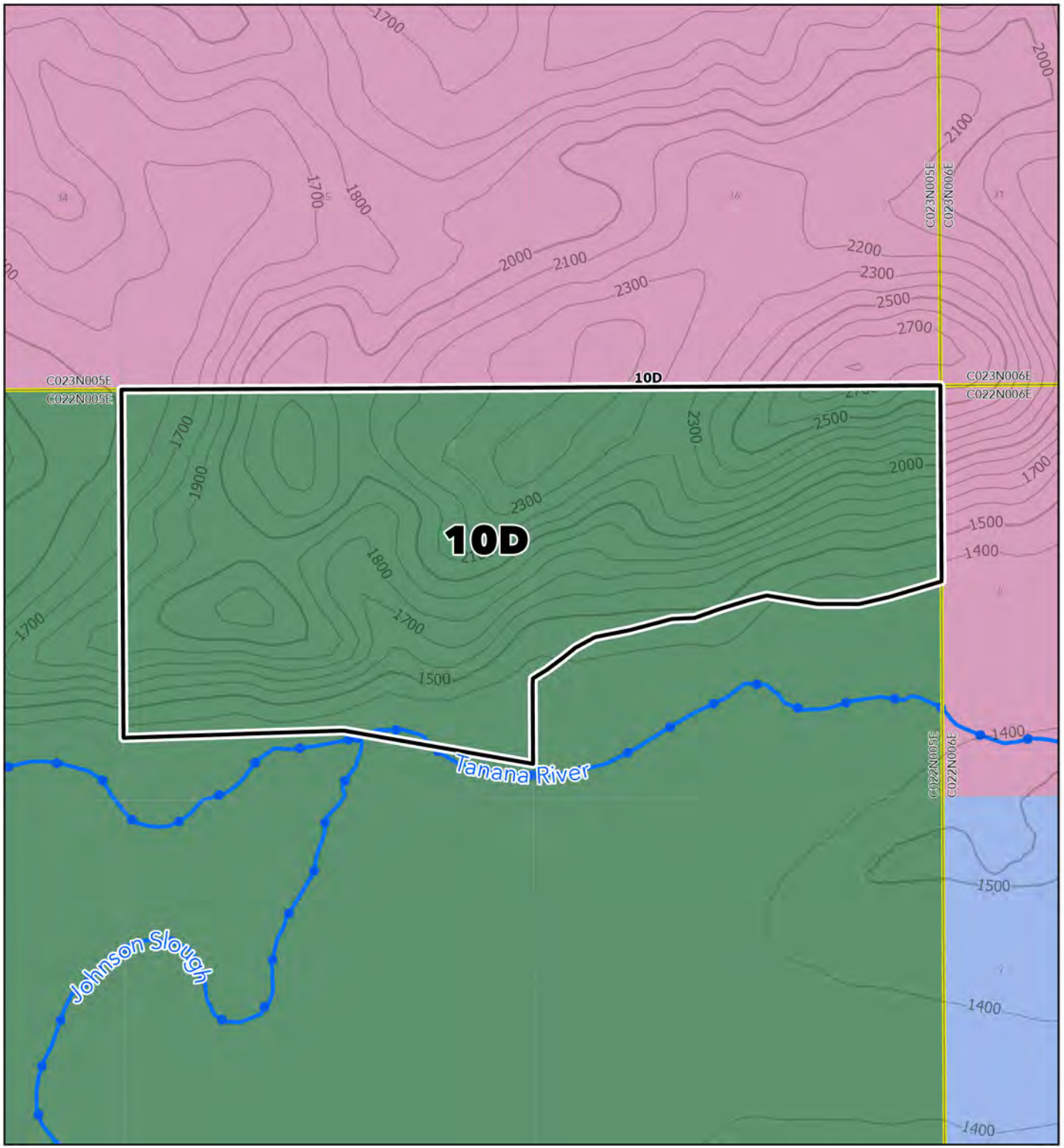
Rationale

This RNA is located approximately 55 miles southeast of Delta Junction, and is three miles north of the Alaska Highway on a steep slope on the north bank of the Tanana River. It was chosen to include an exceptionally well-developed hill prairie on an over-steepened bluff which is being actively carved by the Tanana River. It includes several uncommon plants largely restricted to hill prairie sites, and is located at an apparent boundary between lower elevation hill prairies to the west, and an alpine-influenced set of bluff meadows of eastern Interior Alaska. Wildlife, especially moose, apparently use the area heavily in the late winter or very early spring. The bluff meadows of the area are of interest also because they may provide information about the kind of vegetation that was dominant over Interior Alaska during the Ice Age, and clues to how the modern vegetation developed.

Description

The RNA is approximately 50% non-forested. It makes up a slope system rising steeply from the north bank of the Tanana River. A dry ravine in the center of the area has its headwaters within ¾ mile of the Tanana River. A peak on the northern boundary reaches 246 feet in elevation, while the Tanana River elevation is about 1350 feet on the southern border. The site was documented in July of 1985, and four permanent transects of 20 locations one meter apart were established on the hill prairies. Collections were made and deposited in the University of Alaska Herbarium of at least 57 herbaceous hill prairie plants. At least four species collected were range extensions: *Agropyron spicatum*, *Castilleja elegans*, *Minuartia yukonensis*, and *Oxytropis splendens*. Three other relatively rare hill prairie species were also found: *Artemisia laciniata*, *Dodecatheon puchellum*, and *Plantago cane.*

Management Unit: 10D
Johnson Slough Bluffs



State Forest Boundary
- State Forest
- State_Forest_Boundary

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

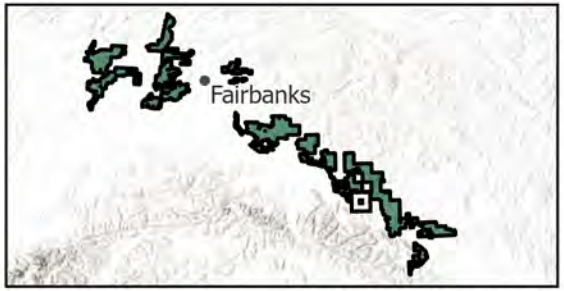
Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

N W E S

0 0.1 0.3 0.5

Miles



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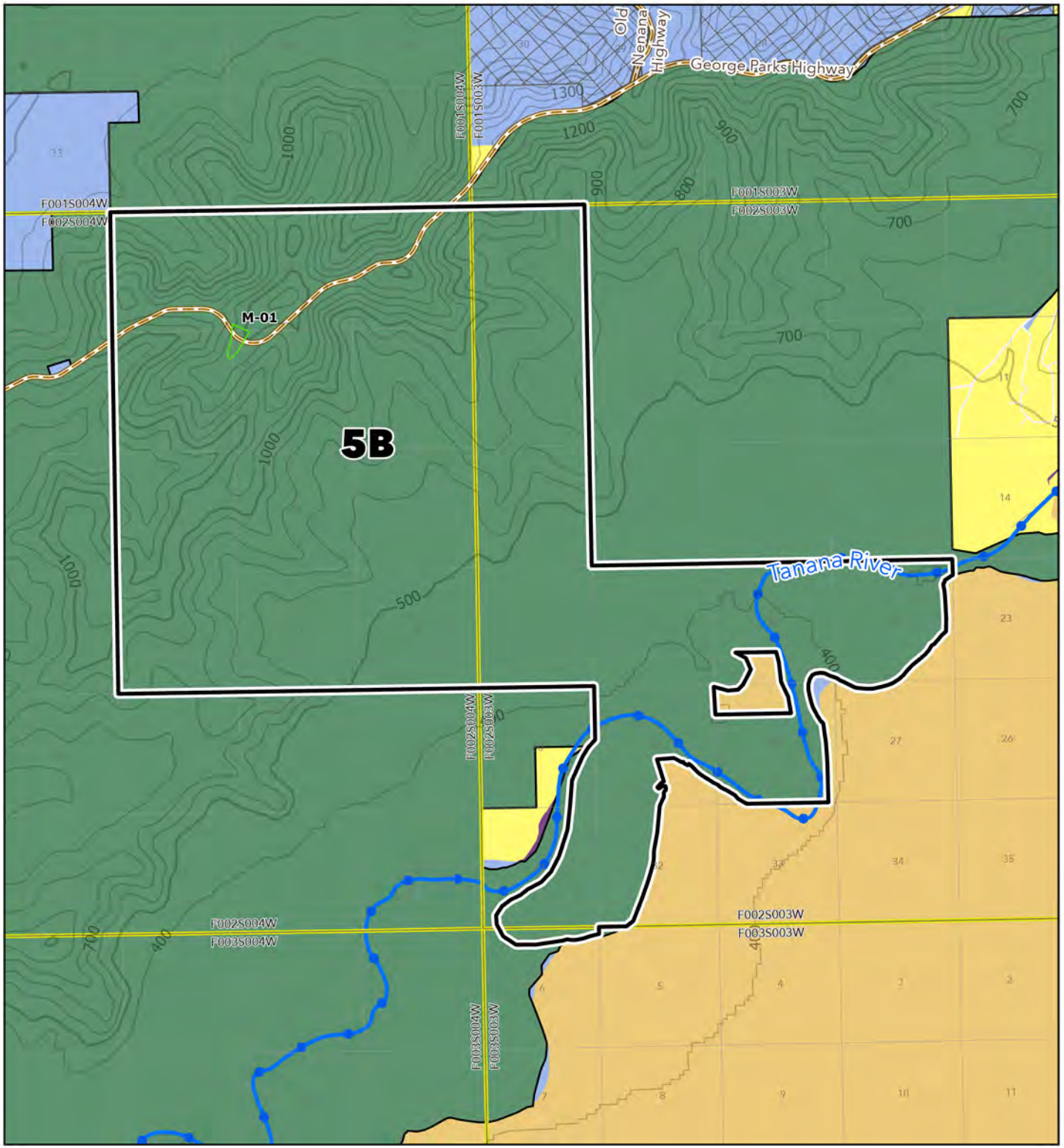

Management Unit: 5B Bonanza Creek Experimental Forest

State Forest Boundary
- State Forest
- State_Forest_Boundary

Land Ownership
- State Land
- Federal Land
- Private Lands
- Alaska Native Allotment
- ANCSA
- University of Alaska
- AK DNR-Mental Health Trust
- Borough

Hydrology
- Anadromous Waters
- Streams

Roads
- Highway
- Primary
- Secondary
- Spur
- Winter

Land Designation
- Forest/Material Land
- Forest/Public Recreation Land

Unit Designations

5B: For Rsu

0 0.4 0.8 1.7

Miles

Created by DNR DOF GIS on 09/2025

APPENDIX G: COMMERCIAL FOREST TYPES OF THE TANANA VALLEY STATE FOREST

UPLAND FORESTS

Upland forests include birch and aspen forests, mixed hardwood-white spruce, and white spruce forests on relatively well-drained, warm sites. Under natural conditions fire is common. Fire frequency cycles are estimated to be 100-150 years. Fires occur in a wide range of sizes, often creating openings of hundreds to many thousands of acres. A variety of other disturbances can also occur, resulting in large or small stand openings. These can include storm events, such as stem breakage and windthrow, and insect outbreaks. Tree diseases are also important disturbance agents, with root rot and stem decay being the principal cause of canopy-opening events attributable to pathogenic factors. Hardwood stands are usually the first forest cover type to develop following fire, with spruce developing more slowly until mixed stands occur. Stands dominated by white spruce are the oldest and least common upland forest type, generally growing only where no severe natural disturbance has occurred for 100 years or more.

The Tanana Valley has a long history of human activity, including periods of intense timber harvest as well as fire suppression treatment (Roessler and Packee 2000, Todd and Jewkes 2006, Wurtz et al. 2006). Natural disturbance also plays a significant role in the succession of the area. Recent inventory suggests that ages of sampled stands within the Tanana Valley range from 29 to 374 years, indicating a mature, relatively unmanaged forest. The average stand age in this study, weighted by vegetation strata area, was 100 years (Hanson 2013). It is important to maintain younger stands for wildlife habitat benefits and to provide a recruitment pool for the poletimber and sawtimber age classes. (See Appendix A. for recruitment and age class definitions.). Older stands may be more susceptible to insect and disease damage, and older stands with deep organic soil may be susceptible to severe fire effects during periods of drought or prolonged fire residence. More species and age diversity will result from the careful application of fire management techniques and harvest activities.

In areas where timber harvest is not likely to maintain a mix of stand types and ages, consideration of allowing wildfires to burn is encouraged. DNR will design management activities to maintain a mix of native forest types (including aspen, birch, mixed hardwood-spruce, and white spruce types) and stand ages. The effects of harvesting and fire are not identical. However, harvests will be located and designed to provide some of the key benefits of natural disturbances, particularly fire. These benefits may include warmer soils, increased sunlight, a mosaic of vegetation patterns, fuel reduction, and some wood biomass left on site, such as snags, logs, wildlife forage and diseased trees. Specific sales will be designed to achieve site-by-site objectives.

Examples of practices include:

1. Clumping sales to produce larger aggregate openings over time with patches of residual trees.
2. Using irregular shapes; following stand type boundaries in sale layout.
3. Removing or killing all species in harvested areas (e.g., white spruce and hardwoodsrather than just white spruce).
4. Designing harvests to increase disturbance and early successional forests. However, in certain

areas, salvage harvests will continue to be allowed to achieve other objectives, such as reforestation in high-demand areas, or to limit the spread of major infestations.
5. Tailoring reforestation techniques to ensure seedbed availability and adequate regeneration of a range of native upland forest types.
6. Where feasible, allowing wildland fire in areas where harvest is unlikely to maintain a mix of stand types and ages.
7. Using prescribed fire where feasible for site preparation, habitat management, and fuels management.
8. Experimenting with a variety of silvicultural systems to reflect non-fire disturbances and documenting the results.

FLOODPLAIN FORESTS

Floodplain forests include balsam poplar, mixed balsam poplar and white spruce, and white spruce stands. Mixed birch and spruce stands also occur, especially on older floodplain sites. Occasionally, pure stands of white birch occur on floodplain sites. These floodplains can be active or inactive and can best be described as "flat land bordering a stream or river." (See Appendix A.) The floodplain is a complex continuum of landforms called floodplain terraces. These terraces represent different time periods in the development of the landform and are created through accretion and erosion events. Frequently, only a one- or two-foot difference in elevation will separate terraces of different ages. Subsequently, these terraces exhibit different vegetation types both in species composition and age.

Floodplain sites are subject to a variety of natural disturbances: erosion, flooding, and ice damage near active river channels; fire; insects and disease; windthrow; and thermokarsting. From about 1900 to 1940, extensive harvesting occurred in floodplain sites, especially along the lower Tanana River. Mining also disturbed floodplain forests. These disturbances were typically smaller-scale than the large upland fires, and they created a complex mosaic of stand types and ages. Hardwoods are usually the first forest cover to develop, followed by mixed hardwood-spruce stands, and finally white spruce.

As in the uplands, stands composed primarily of white spruce are frequently the oldest commercial forest type. These stands develop over a longer period of time in the absence of stand replacement disturbance. Overall, stand-replacement disturbance is less frequent in floodplains than uplands, as evidenced by the presence of older stands with a greater range of stand ages, including stands greater than 180 years old.

DNR will manage floodplain forests to maintain a mosaic of floodplain forest types (balsam poplar, mixed spruce-poplar and spruce-birch, and white spruce stands), and a range of stand ages, including some older stands to maintain structural diversity.

Examples of silvicultural practices in floodplain forests include:

1. Using a variety of harvest systems with variable levels of canopy removal to emulate diverse natural disturbances.
2. Dispersing harvest openings.
3. Using irregular and/or meandering borders for harvest units.
4. Maintaining a mixture of white spruce and hardwoods when reforesting harvest sites.

Hardwoods usually reproduce aggressively by natural means,such as sprouting or seeding. White spruce will frequently be planted.

5. On cold soils in areas susceptible to fire under natural conditions, such as sites adjacent to upland areas or black and white spruce forest types, using mechanical site preparation or prescribed fire to warm soils on harvested floodplain sites.
6. Not planting naturally eroding harvest sites but providing seedbeds and seedsources and monitoring for adequate reforestation.
7. Considering harvest of actively eroding sites. Consistent with riparian management guidelines developed under the Forest Resources Practices Actfor Region III, consider harvest of actively eroding sites.
8. Where feasible, allowing wildland fire in areas where harvest is unlikely tomaintain a mix of stand types and ages.

APPENDIX H: TVSF LAND BASE HISTORY

The 2001 revision of the TVSF management plan contained a detailed list of land parcels recommended for addition to, or removal from the TVSF. Most of these recommended changes were realized in 2008 when SB 229, Tanana Valley State Forest/Minto Flats State Game Refuge Boundary Adjustment, was enacted, adding approximately 101,610 acres to the TVSF, deleting approximately 66,218 acres, and redesignating approximately 4,298 acres as part of the Minto Flats State Game Refuge. The recommendations made in 2001 are included in this appendix for reference, with annotations indicating which recommended parcels were successfully added or removed in 2008 with the enactment of SB 229.

Proposed Additions and Removals from the 2001 TVSF MP and their Outcomes

"Alaska Statutes Chapter 17, Article 3, (State Forest System) Section 41.17.210 states that State Forest proposals shall consist "primarily of commercially valuable forest land determined by the governor to be necessary for retention in state ownership for management under the principles of multiple use and sustained yield..." On the basis of these criteria, DNR recommends that the following additions and deletions be made to the Tanana Valley State Forest. The TVSF Management Plan Forestwide Map shows recommended additions and withdrawals. The recommended additions all contain commercial forest land and are adjacent to the State Forest. Prior to including them in the State Forest, DNR reviewed the management intent for each unit (currently in the Tanana Basin Area Plan) to be sure it was compatible with the intent of the State Forest. The recommended withdrawals are not commercially valuable forest land and do not otherwise contribute overall to the management goals of the forest. This plan shall be amended if any legislative changes are made in State Forest boundaries.

The following list defines abbreviations that are used in this section.

- TBAP: Tanana Basin Area Plan. Dept. Natural Resources, 1991.

Classifications

- Agricultural Land: agr
- Forestry Land: for
- Mineral Resources Land: min
- Public Recreation Land: pur
- Resource Management Land: rmg
- Settlement Land: stl
- Water Resources Land: wrs
- Wildlife Habitat Land: whb

TBAP unit numbers and classifications are shown in brackets in the list below. Examples: [Unit 2I4 for], [Unit 4K1 for, pur]. Descriptions of these units can be found in TBAP.

Recommended additions to the Tanana Valley State Forest

a. Subunit: C2J 4,480 acres.
Classification: TBAP [Unit 2I4 for]

Legal Description: All state lands within:

Township 1 North, Range 6 West, Fairbanks Meridian

Section 1 *[Added in 2008]*

Sections 12 – 13 *[Added in 2008]*

Sections 24 – 25 *[Added in 2008]*

Sections 35 – 36 *[Added in 2008]*

This strip of land, located between Minto Flats and the adjacent State Forest, contains productive upland forests of white spruce and hardwoods. The unit is presently accessed by the Dunbar-Livengood winter trail and will be accessed by an all-season forest road. Management intent will be the same as for Subunit 4C.

b. Subunit: ClA, ClB 14,568 acres

Classification: - TBAP

Legal Description: All state lands within:

Township 2 South, Range 4 West, Fairbanks Meridian

Section 4, E1/2 , SW1/4 [Unit 1B3 for, pur, whb] *[Added in 2008]*

Section 8, those portions of S1/2 NE1/4, SE1/4, E1/2 SW1/4, SW1/4SW1/4, which lie North of the Parks Highway [Unit 1B3 for, pur, whb] *[Added in 2008]*

Section 9, North of Parks Highway [Unit 1B3 for, pur, wbh] *[Added in 2008]*

Sections 17 - 19, North of Parks Highway [Unit 1B3 for, pur, whb] *[Added in 2008]*

Township 2 South, Range 5 West, Fairbanks Meridian

State-owned lands within Sections 24 - 27, South of Parks Highway 1A1 for, pur, whb] *[Added in 2008]*

Sections 31 - 36 [Unit 1A1 for, pur, whb] *[Added in 2008]*

Township 3 South, Range 5 West, Fairbanks Meridian

Sections 2 – 10 [Unit 1A1 for, pur, whb] *[Added in 2008]*

State-owned lands within Sections 17 – 18 [Unit 1A1 for, pur, whb] *[Added in 2008]*

These units are on Nenana Ridge, border the State Forest, and have similar values. They are highly productive, easily accessible, upland forests. Adding these units to the State Forest will consolidate the state's highest value forest lands under a single management authority and plan.

c. Classification: TBAP, all state-selected land. 1,080 acres

Township 4 South, Range 8 West, Fairbanks Meridian

Section 12 [for, pur]. This parcel is adjacent to the TVSF.

Section 11, South ½ [for, pur]. This parcel will be adjacent to TVSF if Section 12 is added.

Section 15, E ½ NW ¼, W ½ NE ¼ West of the Tanana River [for]. This parcel will be within ¼ mile of the TVSF if Section 11 is added.

Three small state-selected parcels near Nenana adjacent to the TVSF are recommended for addition to the TVSF if they are conveyed to the State. These parcels are near Nenana and have a high potential for timber management. Highly productive spruce stands grow along the

Tanana River. The area is easily accessible in winter, and logging commonly occurred there in the past. The area would be managed for personal use and commercial timber production while protecting public use values of the Tanana River.

d. Subunit: C8B, 21,829 acres

Classification: TBAP

Legal Description:

Township 7 South, Range 7 East, Fairbanks Meridian

State-owned lands north of the Richardson Highway within
Sections 19 – 21 [Unit 1Q3 for whb] *[Added in 2008]*
State-owned lands north of the Richardson Highway within Section 27 [Forestry classification: not within TBAP]

Township 7 South, Range 8 East, Fairbanks Meridian

Section 22, W1/2 [Unit 7A2 for, pur, whb] *[Added in 2008]*
State lands within Section 27, W1/2 [Unit 7A1 pur, whb] *[Added in 2008]*

Township 8 South, Range 5 East, Fairbanks Meridian

Section 1, S ½ SW1/4 [Unit 7G1 for whb] *[Added in 2008]*
Section 2, S1/2 N of military boundary, S1/2 NW1/4, SW1/4 NE1/4 *[Added in 2008]*
Section 3, SE1/4 NE1/4, NE1/4 SE1/4 N of military boundary *[Added in 2008]*
Section 11 - 13, North of the military reservation [Unit 7G1 for whb] *[Added in 2008]*

Township 8 South, Range 6 East, Fairbanks Meridian

Section 1, S1/2 SW1/4, SW1/4 SE1/4 *[Added in 2008]*
Sections 2 – 3, S1/2S1/2 [Unit 7G1 for whb] *[Added in 2008]*
Sections 7-16 [Unit 7G1 for whb] *[Added in 2008]*
Sections 17 - 18, North of the military reservation [Unit 7G1 for whb] *[Added in 2008]*
Sections 20 - 21, North of the military reservation[Unit 7G1 for whb] *[Added in 2008]*
Sections 22 – 26 [Unit 7G1 for whb] *[Added in 2008]*
Sections 27 - 28, North of the military reservation [Unit 7G1 for whb] *[Added in 2008]*

Township 8 South, Range 7 East, Fairbanks Meridian

Section 13, W1/2, SE1/4, SW1/4NE1/4 [Unit 7G1 for whb] *[Added in 2008]*
Section 14, W1/2 SW1/4, E1/2 NE1/4 *[Added in 2008]*
Section 15, S1/2, NW1/4, S1/2 NE1/4 *[Added in 2008]*
Sections 16 – 17 [Unit 7G1 for whb] *[Added in 2008]*
Section 19, SE1/4SE1/4 [Unit 7G1 for whb] *[Added in 2008]*
Sections 20 – 22 [Unit 7G1 for whb] *[Added in 2008]*
Section 23, NW1/4, N1/2 SW1/4, NE1/4NE1/4, W1/2 NE1/4 [Unit 7G1 for whb] *[Added in 2008]*
Section 24, N1/2 NW1/4 [Unit 7G1 for whb] *[Added in 2008]*
Section 27, W1/2 , NW1/4NE1/4 [Unit 7G1 for whb] *[Added in 2008]*
Section 28, NE1/4SE1/4, North of the Delta River [Unit 7G1 for whb] *[Added in 2008]*
Section 29 [Unit 7G1 for whb] *[Added in 2008]*
Section 30, NE1/4NE1/4 [Unit 7G1 for whb] *[Added in 2008]*

Section 34, NW1/4NW1/4 [Unit 7G1 for whb] *[Added in 2008]*

Township 8 South, Range 8 East, Fairbanks Meridian

Section 18, SW1/4SE1/4, S1/2 SW1/4, NW1/4SW1/4 [Unit 7G1 for whb] *[Added in 2008]*

Section 19, N1/2 , N1/2 SE1/4 [Unit 7G1 for whb] *[Added in 2008]*

Section 20, SW1/4NW1/4, NW1/4SW1/4 [Unit 7G1 for whb] *[Added in 2008]*

This unit comprises the bulk of the timberland occurring between Fort Greely and the Tanana River. The timber consists of productive white spruce stands along the Tanana River and mixed white spruce/hardwood stands on uplands to the South. Management goals would emphasize the area's wildlife, recreation, and timber resources. Because of habitat values in the floodplain, the recommended additions to the State Forest are south of the 1000-foot contour line from the Tanana River.

e. Subunit: 7D5, 160 acres. This Subunit was created by the 2001 Amendment to TBAP, from the original Subunit 7D4.

Township 9 South, Range 13 East, Fairbanks Meridian

Section 28, NE ¼ [Unit 7D5 (formerly 7D4) pur, whb] *[Added in 2008]*

This new subunit lies adjacent to the Tanana Valley State Forest Subunit 10B, the Volkmar Bluffs Research Natural Area. This quarter-section of land within the Tanana Basin planning area encompasses a large prairie feature that appears to be part of the prairie system in the adjacent Tanana Valley State Forest research natural area. This amendment is designed to expand the research natural area to include the remainder of that prairie system.

f. Subunit: C6F, 9,600 acres

Classification: TBAP

Legal Description:

Township 21 North, Range 8 East, Copper River Meridian

Sections 1 – 5 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Township 22 North, Range 8 East, Copper River Meridian

Sections 6 – 7 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Section 19 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Sections 25 – 26 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Section 33 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Township 23 North, Range 6 East, Copper River Meridian

Section 13 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Sections 24 – 25 [Unit 6F2 for, pur, whb] *[Added in 2008]*

Township 23 North, Range 7 East, Copper River Meridian

Section 36 [Unit 6F2 for, pur, whb] *[Added in 2008]*

This unit consists of several small parcels of land that were not included in the State Forest because of questionable land status. The primary purpose of adding these to the State Forest is to consolidate land management in the area. Management intent for most of this area would be the same as that for Subunit 12B.

g. Subunit: C6I, C6H. 25, 319 acres
Classification: TBAP
Legal Description:

Township 18 North, Range 13 East, Copper River Meridian
Section 3, W1/2 [Unit 6H1 rmg]
Section 4 – 6 [Sec. 4: Unit 6H1 rmg] [Sec. 5: Unit 6H4 for min whb] [Sec. 6: Unit 6D2 for] *[Sections 4-5 added in 2008]*
Section 7[Unit 6D2 for]

Township 19 North, Range 12 East, Copper River Meridian
Sections1 – 3 [Unit 6H4 for min whb] *[Added in 2008]*
Section 10 [Unit 6H4 for min whb] *[Added in 2008]*
Section 11, excl. F14438 Par B. [Unit 6H4 for min whb] *[Added in 2008]*
Section 12 [Unit 6H4 for min whb] *[Added in 2008]*
Section 13, excl. F14471 Par B. [Unit 6I1 for pur whb] *[Added in 2008]*
Section 14 [Unit 6I1 for, pur, whb] *[Added in 2008]*
Section 15, 16 E ½ [Unit 6H4 for, min, whb] *[Added in 2008]*
Section 17, S ½ [Unit 6I1 rmg and Unit 6H4 for, min, whb] *[Added in 2008]*
Section 19 [Unit 6I1 for, pur, whb and Unit 6H4 for, min, whb] *[Added in 2008]*
Section 20, S ½ and NE ¼ , excl. USS6011 F024775 Par.E. [Unit 6H4 for, min, whb] *[Added in 2008]*
Sections 21 – 36 [Unit 6H4 for, min, whb] *[Added in 2008]*

Township 19 North, Range 13 East, Copper River Meridian
Section 17, Southwest of the right bank of the Tanana River [Unit 6I1 for, pur, whb] *[Added in 2008]*
Section 18, South of the right bank of the Tanana River [Unit 6I1 for, pur, whb] *[Added in 2008]*
Section 19 [Unit 6I1 for, pur, whb] *[Added in 2008]*
Sections 20 - 21, West of the right bank of the Tanana River [Unit 6I1 for, pur, whb] *[Added in 2008]*
Sections 28 - 29, South of the right bank of the Tanana River [Unit 6I1 for, pur, whb] *[Added in 2008]*
Sections 30 – 32 [Unit 6I1 for, pur, whb]
Sections 33 - 35, Southwest of the right bank of the Tanana River [Unit 6I1 for, pur, whb] *[Added in 2008]*

These units are located along the Tanana River near Tok between Alaska Native lands and the State Forest. The units contain commercial timber, have good access, and would be valuable additions to the State Forest.

h. TBAP Subunit 6F3 and 6F2. 5,600 acres.
Township 21 North, Range 8 East, Copper River Meridian:

Section 6 [Unit 6F3 pur whb] *[Added in 2008]*
Township 23 North, Range 6 East, Copper River Meridian:
Sections 2 - 4 [Unit 6F2 for pur whb] *[Added in 2008]*
Section 18 [Unit 6F2 for pur whb] *[Added in 2008]*
Section 19 [Unit 6F2 for pur whb] *[Added in 2008]*
Township 23 North, Range 7 East, Copper River Meridian:
Section 34, NE1/4, S1/2 [Unit 6F2 for pur whb] *[Added in 2008]*
Section 35 [Unit 6F2 for pur whb] *[Added in 2008]*
Township 24 North, Range 7 East, Copper River Meridian:
Section 31 [Unit 6F3 pur whb] *[Added in 2008]*

These isolated units of TBAP lands are located near Dot Lake between Alaska Native lands and the State Forest. Their addition to the State Forest will consolidate management authority.

i. Subunit: C6G, 23,040 acres
Classification: Forestry, Wildlife Habitat TBAP
Legal Description:

Township 25 North, Range 7 East, Copper River Meridian [Unit 6G1 for, whb] *[Added in 2008]*

This township was apparently left out of the TVSF legislation by a mistake in a legal description that substituted a wrong township. Although the unit is currently inaccessible, including it in the State Forest as originally proposed would offer some management efficiency because it shares common access and similar resource values with adjoining State Forest lands to the west and south. The unit would be included in Unit 11 and managed for multiple use.

j. The following two parcels were excluded in the legal description of the TVSF because of federal interests. However, the federal interests are no longer valid. One of the two federal applications is closed and the other was discovered by BLM to have an incorrect legal description and is actually in another township outside the forest boundary. The legal descriptions of the two parcels follow.

- Parcel 1. 1,794 acres. Sections 5, 6 and 7, T19N, R13E, CRM. F028758 should now be included in the TVSF. *[Added in 2008]*
- Parcel 2. Section 17, T20N, R11E, CRM. F12548 should now be included in the TVSF. *[Added in 2008]*

Recommended Withdrawals from the Tanana Valley State Forest

a. Subunit 1C 1,898 acres
Legal Description:
Township 1 North, Range 11 West, Fairbanks Meridian
Section 18, 19, and 30, Those portions east of the Tolovana River *[Withdrawn in 2008]*

Township 2 North, Range 10 west, Fairbanks Meridian
Section 7, S1/2 *[Withdrawn in 2008]*
Township 2 North, Range 11 West, Fairbanks Meridian
Section 10, S1/2 *[Withdrawn in 2008]*
Section 11, S1/2 *[Withdrawn in 2008]*
Section 12, S1/2 *[Withdrawn in 2008]*

These are the portions of Minto Flats along the Tolovana River which are recommended for withdrawal so as to consolidate most wetlands in Minto Flats under a single management intent. The areas are highly productive wildlife habitat but contain very little timberland. The area borders the Minto Flats State Game Refuge and is recommended as an addition to the Refuge.

b. Subunit 3B 2,400 acres

Legal Description:

Township 4 North, Range 7 West, Fairbanks Meridian
Sections 27, 28, 29 *[Withdrawn in 2008]*
Sections 32, N1/2, SW1/4 *[Withdrawn in 2008]*

This area consists of wetlands bordering the Minto Flats State Game Refuge and is recommended as an addition to the Refuge.

c. Subunit 4B 2,400 acres

Legal Description:

Township 3 North, Range 3 West, Fairbanks Meridian
Section 25, S1/2 *[Withdrawn in 2008]*
Section 31, SE1/4 *[Withdrawn in 2008]*
Section 32-35, S1/2 *[Withdrawn in 2008]*
Section 36 *[Withdrawn in 2008]*

This is the eastern portion of Subunit 4B which is recommended as a TVSF withdrawal so that it is available for designation as part of the Chatanika State Recreation River corridor (see the "Management Guidelines and Activities" part of the Unit 4 section of Chapter 3). The area is comprised mostly of poorly drained wetlands along the Chatanika River and contains little timberland. Include in TBAP Unit 1E1 until a legislative designation is made.

d. Subunit 12A 19,200 acres

Legal Description:

Township 21 North. Range 10 East, Copper River Meridian
Sections 1-22
Sections 27-34 *[Withdrawn except sections 27 and 34]*

This township contains a low relief and swampy noncommercial forest. It was not included in the administration proposal. The unit's inclusion in the State Forest does not offer any management advantages for adjacent State Forest lands. Include in TBAP Unit 6G1 until a legislative designation is made.

e. Subunit 12A 19,200 acres

Legal Description:

Township 25 North, Range 8 East, Copper River Meridian

Sections 1-5 *[Withdrawn in 2008]*

Sections 8-17 *[Withdrawn in 2008]*

Sections 20-30 *[Withdrawn in 2008]*

Sections 33-36 *[Withdrawn in 2008]*

This township was apparently included in the State Forest because of a mistake made in the range. This unit is generally at a high elevation with few significant resources appropriate for the State Forest system. Include in TBAP Unit 6G2 until a legislative designation is made.

f. Subunit 13A, 13B 21,120 acres

Legal Description:

Township 20 North, Range 13 East, Copper River Meridian

Sections 1-18 *[Withdrawn in 2008]*

Township 19 North, Range 15 East, Copper River Meridian

Sections 1-15 *[Withdrawn in 2008]*

These areas were not part of the original administration proposal. They are underlain entirely by permafrost and forested with noncommercial black spruce. They have no other important resource values or advantages for inclusion in the State Forest. Include in TBAP Unit 6J3 until a legislative designation is made."

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