

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:

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

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.

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

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

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

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

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1 A. CULTURAL RESOURCES

2 GOALS

3 **Cultural Resources**

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

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

12 MANAGEMENT GUIDELINES

13 **Cultural Resource Identification**

14 DNR identifies and determines the significance of cultural resources in the Tanana Valley State Forest
15 through:

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

22 **Cultural Resource Protection**

23 Protect cultural resources through the following actions:

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

29 **Cultural Resources in Timber Management Areas**

30 The Division of Parks and Outdoor Recreation Office of History and Archaeology (OHA) will review
31 proposals for timber management activities through the interagency review processes for the
32 Five-Year Schedule of Timber Sales and Forest Land Use Plans for individual sales. Areas of known
33 historic, archaeological, or paleontological sites should not be disturbed. Timber operations shall
34 not occur within 300 feet from the boundaries of known sites unless the OHA determines, in
35 consultation with the DOF, that certain activities can occur without significantly impacting the
36 cultural resource. The OHA shall, within the limits of staffing and funding, assess the extent and
37 significance of the cultural resource and work with the DOF to develop site-specific avoidance,
38 minimization, or mitigation measures to balance heritage preservation needs with timber

1 management. In the event that staffing or funding limitations prevent OHA personnel from
2 performing these surveys, they may be contracted out to qualified cultural resource professionals.

3 **Report Cultural Sites When Found**

4 The Alaska Heritage Resources Survey (AHRS) is an inventory of all reported historic and
5 prehistoric sites within the State of Alaska and is maintained by the Office of History and
6 Archaeology (OHA). The AHRS is used to protect cultural resource sites from destruction. By
7 knowing of possible cultural resources prior to the start of a project, efforts can be made to avoid
8 project delays. Only a very small portion of the state has been surveyed for cultural resources and
9 therefore the possibility remains that previously un-reported resources may be located within the
10 project area. Should inadvertent discoveries of cultural resources occur during a project, activities
11 in the area should cease and OHA notified to evaluate whether the resources should be preserved
12 in the public interest (as specified at Section 41.35.070[d]). While over 22,000 sites have been
13 reported within Alaska, this is probably only a very small percentage of the sites which may exist
14 but are as yet unreported. The AHRS is not complete or static, so cultural sites, when found,
15 should be reported to OHA.

16 **ACTIVITY SUMMARY**

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

21

1 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 TNX-00248
13A	1	TNX-00118
13B	1	TNX-00238

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1 B. WATER RESOURCES

2 GOALS

3 Water resources within TVSF include surface and ground water. These resources represent potential
4 sources of drinking water, habitat, recreation, and hydroelectric power. Alaska’s Forest Resources &
5 Practices Act (FRPA), AS 41.17, specifies that “the [DNR] Commissioner shall protect riparian areas from
6 the significant adverse effects of timber harvest activities on fish habitat and water quality.”

7 Management of riparian areas is the primary tool DOF uses to address water quality within TVSF.

8 The primary water resource goals in TVSF include:

- 9 1. The adequate preservation of fish habitat by maintaining a short- and long-term source of
10 woody debris, stream bank stability, channel morphology, water temperatures, stream flows,
11 water quality, adequate nutrient cycling, food sources, clean spawning gravels, and sunlight (AS
12 41.17.115(a))
- 13 2. Ensure the water use classes and subclasses identified at 18 AAC 70.020(a)(1) are protected.
- 14 3. Consideration of water resources and water quality in designing the construction of roads,
15 bridges, culverts, and other infrastructure necessary for forestry activities within state forest
16 lands.

17 MANAGEMENT GUIDELINES

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

24 **Impaired Waters and TMDLs**

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

33 (<https://dec.alaska.gov/water/water-quality/>).

34 **Drinking Water Source Protection**

35 The DEC regulates public water system sources of drinking water, which includes both surface water and
36 groundwater sources. These sources are identified and managed using Drinking Water Source Protection

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

7 **Fueling, Spills, and Contamination**

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

11 **ACTIVITY SUMMARY**

12 Table (2.2). impaired waters within Tanana Valley. The following waterbodies do not pass within TVSF
 13 boundaries, but may be tributary to water within the State Forest¹.
 14

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

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

1 C. RIPARIAN AND INSTREAM FLOW MANAGEMENT

2 GOALS

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

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

19 MANAGEMENT GUIDELINES: RIPARIAN ZONES

20 **Forest Resources and Practices Act and Regulations**

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

25 **Special Management Zones**

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

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

35

1 **Uses Allowed in Special Management Zones**

2 11 AAC 95.275 outlines allowable uses within riparian areas in TVSF. To the extent feasible and prudent,
3 commercial and industrial uses, transportation facilities, and pipelines will be located outside of SMZs
4 unless these uses are water dependent. Where it is not feasible and prudent to exclude these uses from
5 SMZs, other measures must be developed in coordination with ADF&G and DMLW to meet the intent of
6 these guidelines. Timber harvest may occur in SMZs if it is sited and designed to be consistent with the
7 riparian standards specified in AS 41.17.118(a)(3) and with the primary recreation, fish and wildlife, and
8 water-quality goals stated above.

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

11 **Alteration of the Hydrologic System**

12 To the extent feasible, channelization, diversion, or damming that will alter the natural hydrological
13 conditions and have a significant adverse impact on important riverine habitat will be avoided.

14 **Soil Erosion**

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

17 **Structures in Fish Habitat**

18 See the “Structures in Fish Habitat” part of the Fish and Wildlife Habitat section of this chapter.

19 **Water Intake Structures**

20 See the “Water Intake Structures” part of the Fish and Wildlife Habitat section of this chapter.

21 **Transportation Facilities in Floodplains**

22 See the Transportation section of this chapter.

23 **MANAGEMENT GUIDELINES: INSTREAM FLOW MANAGEMENT**

24 **Streams and Uses to Consider**

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

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

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

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

1 **ACTIVITY SUMMARY**

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

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1 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	

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

4 *(A) designates anadromous water body.

1 D. FISH AND WILDLIFE HABITAT

2 GOALS

3 **Wildlife Management**

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

10 **Manage Habitat Base**

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

14 **Ensure Access to Public Lands and Waters**

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

19 **Mitigate Habitat Loss**

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

28 **Contribute to Economic Diversity**

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

31 **Improve Wildlife Habitat**

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

35

1 MANAGEMENT GUIDELINES

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

13 **Activities in Important Waterfowl Habitat**

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

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

1 **Structures in Fish Habitat**

2 Permanent or temporary structures in fish-bearing waters shall be designed, constructed, and
3 maintained to comply with the requirements of Alaska Statutes AS 16.05.841, 871, and 881 to minimize
4 or mitigate impacts on passage for all species of fish. Any structure or activity associated with the
5 structure should not have adverse effects on anadromous fish or their migration, spawning, and rearing
6 habitat. Water withdraw structures shall be deployed, screened, and intake rate limited to prevent the
7 entrapment, entrainment, or impingement of fish. ADF&G Habitat must be contacted prior to any
8 activities occurring in fish-bearing water bodies (including water withdrawals and stream crossings) to
9 determine if a fish habitat permit is required.

10 **Threatened and Endangered Species**

11 All land use activities should be conducted consistent with state endangered species statutes (AS
12 16.20.180--210) and the federal Endangered Species Act to avoid jeopardizing the existence of
13 threatened or endangered species of fish or wildlife or their use of an area, and to avoid modification or
14 destruction of their habitat. The State of Alaska also aims to prevent the need for listing under the
15 federal Endangered Species Act by proactively mitigating threats and reversing declines through the
16 State Wildlife Action Plan (ADF&G 2015), administered through ADF&G’s Threatened, Endangered and
17 Diversity Program.

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

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

35 Land use activities that could potentially affect State endangered species, or Species of Greatest
36 Conservation Need (SGCNs; ADF&G 2015), will be identified as part of interagency consultations
37 during review of forest land use plans or other land use plan or permit actions. A preliminary list of
38 SGCNs likely to occur in the Tanana Valley State Forest is provided in Appendix 1 of Paragi et al. (2020:
39 101-105). The USFWS recommends minimizing forest disturbance to reduce “incidental take” of forest
40 birds, including many SGCNs between 1 May-15 July (<https://www.fws.gov/alaska-bird-nesting-season>).

1 **Eagles and falcons**

2 Activities that potentially affect bald and golden eagles will be consistent with the Bald Eagle Protection
3 Act of 1940 as amended. Bald Eagles nest along the Tanana River in large trees. For activities within
4 ¼ mile of known bald or golden eagle nest sites, refer to the bald eagle land management practices for
5 Alaska. Current guidelines and locations of nests, as well as technical advice on conducting activities
6 near eagle nest sites, should be obtained from the Northern Alaska Fish and Wildlife Field Office of the
7 USFWS (<https://www.fws.gov/program/eagle-management/eagle-permits>). The recommended
8 practices are designed to prevent human disturbance to eagles, particularly during the nesting season.
9 Specific activities that are likely to cause disturbance to eagles include major land uses such as logging,
10 the development of new commercial and industrial sites, mining, and road construction. During the
11 critical nesting period (defined in Alaska as 1 March-31 August), human activities such as human
12 entry into the primary nesting zone (330 feet from the nest) and low-level aircraft operations may also
13 cause disturbance to eagles. Leaving a few mature trees standing in harvest areas near the river
14 and sloughs can benefit reproduction of eagles and other raptor species.

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

25 **Habitat Enhancement**

26 Habitat manipulation through burning, water control, timber management practices, or other measures
27 may be used to improve habitat for certain fish and wildlife species where feasible and compatible with
28 other primary uses. Enhancement practices will not result in significant conflicts with a subunit's primary
29 management intent. To the extent feasible, sinuosity of timber sale boundaries increases edge effect for
30 a given cut size to benefit wildlife species that use multiple stand ages, and sinuosity visually mimics
31 natural disturbance patterns better than straight edges. In the 2020 Alaska Forest Action Plan (AK DOF
32 2020:68), Section 1.3 "*Maintain and Improve Fish and Wildlife Habitat*" highlights five principles and
33 guidelines for boreal forest (Paragi et al. 2020) that maximize opportunities to enhance wildlife habitat
34 while managing for timber. These voluntary approaches can proactively reduce risk of wildlife species
35 becoming endangered and avoid the need for federal oversight under the Endangered Species Act.

36

1 **Mitigation**

- 2 1) When authorizing the use or development of state lands, the Department of Natural Resources and
3 the Department of Fish and Game will evaluate the requirements of the activity or development and
4 the benefits or impacts it may have to habitat when determining stipulations or measures needed to
5 protect fish and wildlife or their habitats. The costs of mitigation relative to the benefits to be
6 gained will be considered in the implementation of this policy.
- 7 2) All land use activities should be conducted with appropriate planning and implementation to avoid
8 or minimize foreseeable or potential adverse effects on fish and wildlife populations or their
9 habitats.
- 10 3) The department shall enforce stipulations and measures and shall require the responsible party to
11 remedy any significant damage to fish and wildlife or their habitats that may occur as a direct result
12 of the party's failure to comply with applicable law, regulations, or the conditions of the permit or
13 lease.
- 14 4) When determining appropriate stipulations and measures, the department will apply, in order of
15 priority, the following steps. Mitigation requirements listed in other guidelines in this plan will also
16 follow these steps.
- 17 a) Avoid anticipated, significant adverse effects on fish and wildlife or their habitats through siting,
18 timing, or other management options.
 - 19 b) When significant adverse effects cannot be avoided by design, siting, timing, or other
20 management options, the adverse effect of the use or development shall be minimized.
 - 21 c) If significant loss of fish and wildlife habitat occurs, the loss shall be rectified, to the extent
22 feasible and prudent, by repairing, rehabilitating, or restoring the affected area to a functional
23 state.
 - 24 d) DNR will consider requiring replacement or enhancement of fish and wildlife habitat when steps
25 "a" through "c" cannot avoid substantial and irreversible loss of habitat. The Department of Fish
26 and Game will clearly identify the species affected, the need for replacement or enhancement,
27 and the suggested method for addressing the impact. Replacement or enhancement of similar
28 habitats of the affected species in the same region is preferable. DNR will consider only those
29 replacement and enhancement techniques that have either been proven to be, or are likely to
30 be, effective and that will result in a benefit to the species impacted by the development.

31
32 Replacement or enhancement will only be required by DNR if it is determined to be in the best
33 interest of the state either through the original AS 38.05.035(e) process or a permit review
34 process. Replacement may include structural solutions such as creating spawning or rearing
35 ponds for salmon, creating wetlands for waterfowl, or non-structural measures such as research
36 or management of the species affected, legislative or administrative allocation of lands to a
37 long-term level of habitat protection that is sufficiently greater than that which they would have
38 otherwise received, or other management practices to increase habitat productivity.

39

1 **ACTIVITY SUMMARY**

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

5 **Fish**

6 Waterbodies within the Tanana Valley State Forest support subsistence, sport, and personal use
7 fisheries. Fish habitat and fisheries conservation (catch, harvest, and release) values are of primary
8 importance within and immediately upland of streams and lakes containing anadromous and high value
9 resident fish species (Arctic grayling, northern pike, burbot, whitefish, etc.). Special Management Zones
10 and Riparian Standards protect important spawning and rearing habitat and resident fish populations
11 (see the Riparian and Instream Flow Management section of this chapter). Within these zones,
12 development activities will be permitted only if they are determined to have minimal impact on the fish,
13 their habitat, and water quality or be of overriding public benefit.

14 **Wildlife**

15 Land in the Tanana Valley State Forest provides habitat for moose, caribou, bears, furbearers, raptors,
16 waterfowl, upland birds, and other animals. Wildlife resources are used by tourists and residents for
17 hunting, trapping, and non-consumptive uses, such as viewing. Timber harvest and other development
18 activities will be designed to mitigate adverse impacts on important wildlife species and habitats.

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

26 The proliferation of shrubs and deciduous tree saplings that can occur after timber harvest in mature
27 coniferous forests of the Interior may be of high quality for moose. Based on vegetation responses
28 observed after fire in the boreal forest, any increase in nutritional quality or palatability of new growth
29 for moose might be temporary. However, a significant increase in the availability of browse is usually
30 maintained for 20 to 30 years after harvest, especially where browsing pressure is heavy enough to slow
31 stand succession toward mature forest. The amount of browse produced for moose depends on many
32 factors, including stand characteristics, silvicultural practices, and the harvest system. Paragi et al.
33 (2020) provides best practices for managing boreal forest habitat for both timber and wildlife resources.

34 Other wildlife, such as insect-eating birds and raptors, can help reduce the risks of destabilizing
35 herbivory events, such as damage from irruptive insects and small mammals, while providing viewing
36 opportunities for tourists and residents. Paragi et al. (2020: Table 2) highlighted management
37 suggestions that promote beneficial activity of avian predators. For example, retaining forest patches

1 with late-seral features across harvested areas. This provides predators with snags and cavity trees
2 needed for nesting and hunting in a manner that mimics natural disturbance, such as fire.

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

DRAFT

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

However, 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.

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.

1 milled, debarked, chipped, processed for firewood, or burned) before the next beetle flight period.
2 The following guidelines provide more detailed recommendations.

- 3 • If suitable equipment is available, debarking of the logs and slash is preferred. Debarking will
4 destroy the bark beetle habitat and will be most effective if the logs are debarked no later than
5 mid-July. Prompt debarking will also limit the suitability of the logs and slash for some species of
6 secondary woodborers.
- 7
- 8 • If cut white spruce are not promptly removed from the site, the logs should be bucked into
9 manageable bolts (logs) and stacked into tight triangular decks of 10-15 bolts. Decks can be
10 placed in the woods but should be placed away from residual white spruce.
- 11
- 12 • Any operations in or near white spruce should be conducted to minimize root compaction
13 and/or mechanical damage to the lateral roots or trunks of residual trees.

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

24

25 **Defoliating Insects**

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

33

34 The hardwood tree and shrub species present within the Tanana Valley State Forest can be affected by
35 myriad defoliating insects. The most dominant of which is typically aspen leafminer (*Phyllocnistis*
36 *populiella*), a moth that affects quaking aspen and other *Populus* species; willow may occasionally be
37 affected. This insect is commonly in outbreak across much of the Interior and within parts of the Tanana
38 Valley State Forest each year. While the damage from this insect does not typically cause mortality,
39 multi-year outbreaks can lead to reduced growth rates and branch dieback or top-kill. The stress
40 imparted on the tree by repeated impacts from this insect, when coupled with other stressors such as

1 drought, likely influence susceptibility to the mortality-causing aspen running canker (*Neodothiora*
2 *populina*)². An additional defoliator that can occasionally cause extensive defoliation in quaking aspen is
3 the large aspen tortrix (*Choristoneura conflictana*), which may also affect understory birch or spruce
4 during outbreaks. Like many of our hardwood defoliating insects, however, outbreaks are typically
5 short-lived, often lasting only 2-3 years before disease, predators, or other factors cause populations to
6 crash. Large aspen tortrix-affected trees may even reflush with new leaves in the same season.

7
8 Defoliation of birch trees may also periodically occur within the Tanana Valley State Forest. Several
9 potential defoliating species feed on birch and may cause defoliation when populations are high,
10 including birch leafrollers (multiple species), birch aphids, and the spear-marked black moth
11 (*Rheumaptera hastata*). Outbreaks of the spear-marked black moth have historically occurred about
12 every 15-17 years, but like other defoliators, have been very short lived. The invasive amber-marked
13 birch leafminer (*Profenusa thomsoni*) and late birch leaf edgeminer (*Heterarthrus nemoratus*) are also
14 present throughout much of the Tanana Valley State Forest. Reduced growth is possible with multi-year
15 severe outbreaks of these late season defoliators, but in low to moderate populations their damage is
16 largely aesthetic.

17
18 With outbreaks often short-lived and long-term damage being limited for many of these defoliators,
19 mitigation for these defoliating insects is not typically warranted.

20 21 **Tree diseases**

22 Aspen running canker (*Neodothiora populina*) is an aggressive tree disease known to occur in both the
23 Interior and Southcentral. Of several ecoregions surveyed by researchers, disease incidence was found
24 to be highest within the Tanana-Kuskokwim Lowlands ecoregion. Many Tanana Valley State Forest
25 parcels occur within or adjacent to this ecoregion. This disease was first documented around 2014 and
26 the causal agent was not previously known to science. Small diameter aspen trees in mature aspen
27 stands appear to be most heavily impacted. Affected trees often die within one to two years and there
28 are no known mitigation tactics.

29
30 Tomentosus root rot (*Onnia tomentosa*) occurs within the Tanana Valley State Forest and can affect all
31 native conifers in the region, though white spruce and black spruce are most commonly affected. This
32 disease, which spreads from tree to tree through root contact, can cause growth reduction, butt rot, and
33 mortality and stay alive long after the host trees have died. Thinning should be avoided in infected
34 stands. If restoring suspected tomentosus root rot pockets, to limit losses, keep newly planted spruce at
35 least 10 feet from any known inoculum source or plant hardwoods.

36
37 Numerous stem decays affecting conifers, hardwoods, or both occur throughout the Interior and may be
38 observed within the Tanana Valley State Forest. These include, among others, brown crumbly rot/red

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>

1 belt fungus (*Fomitopsis pinicola* complex), Artist’s conk (*Ganoderma applanatum*), and red ring rot
2 (*Porodaedalea pini*).

3 4 **Invasive plants**

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

12
13 University of Alaska Anchorage’s Alaska Center for Conservation Science maintains the Alaska Exotic
14 Plants Information Clearinghouse (AKEPIC), a database of geospatial information for non-native plant
15 species in Alaska (<https://accs.uaa.alaska.edu/invasive-species/non-native-plants/>). This resource is
16 available for predicting the presence of invasive plants in potential management sites or reporting
17 observations of invasive species in the field.

18
19 Forest management practices that involve machinery, hand crews, seedlings or growing substrate, seed,
20 or other external influences on a site are potential sources of invasive species introduction and
21 reasonable prevention or mitigation efforts should be embedded in the design of these practices where
22 possible.

23 24 **Surveys and Monitoring**

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

31
32 Tanana Valley State Forest managers should coordinate with DOF Forest Health staff when special forest
33 health monitoring projects are needed. Past special monitoring projects within or near the Tanana
34 Valley State Forest have primarily focused on monitoring bark beetle populations in response to
35 windstorms, fuel treatments, or land clearing efforts.

36 37 **Climate change and forest management**

38 According to the U.S. Fifth National Climate Assessment (Huntington et. al. 2023)³, temperatures in
39 Alaska are warming two to three times faster than the global average. Alaska’s forest resources are

³ <https://nca2023.globalchange.gov/chapter/29/>

1 impacted not only by temperature changes, but also by changes in precipitation patterns and natural
2 disturbance regimes. Effects could be direct, such as changes to life cycle timing of forest insects or
3 indirect, such as increased stress and subsequent susceptibility of the host trees for native pests. An
4 adaptive management approach will allow foresters to cater management decisions to the specifics of
5 Alaska’s environmental characteristics and take advantage of lessons learned in the process. By
6 emphasizing updated information, such as future National Climate Assessments
7 (<https://nca2023.globalchange.gov/chapter/29/>) or models produced by credible organizations like UAF
8 Scenarios Network for Alaska & Arctic Planning (<https://uaf-snap.org/>), and monitoring outcomes of
9 current practices, managing foresters can keep forestry practices relevant to the landscape as it
10 continues to change. The opportunity to base subsequent decisions on outcomes of employed best
11 management practices allows managers to respond to unpredictable outcomes and document the
12 decision process for future learning. Other natural resource and economic fields may be affected by
13 rapid or unpredictable environmental change, which may reveal opportunities for forestry practices or
14 forest products to offer solutions.

15 F. CARBON OFFSET PROJECTS

16 Senate Bill 48, signed into law in May of 2023, created provisions for carbon management leasing and
17 offset programs. Alaska Statutes 38.05.081 authorized the Department of Natural Resources to lease
18 State-owned land for carbon management purposes, and AS 38.95.400 established a carbon offset
19 program for state land including the sale of carbon credits. Lands within a state forest or within a unit of
20 state forest are managed under specific requirements set out in AS 41.17.220, which under subsection
21 (4) may include a carbon offset project undertaken under AS 38.95.400-38.95.499. A management plan
22 is required to be prepared for the Tanana Valley State Forest by AS 41.17.400(b). Carbon offset projects
23 are required by AS 41.17.230(g) to be consistent with the applicable management plan, and the
24 management plan must identify the land appropriate for the carbon offset project. AS 41.15.315(e) also
25 authorizes the department to amend a management plan to allow for a carbon offset project. This
26 management plan is so amended, and all land classifications in the Tanana Valley State Forest are
27 designated as available for carbon offset projects. Any carbon management project must be developed
28 in accordance with the process established by applicable statutes and regulations.

29

1 G. HAZARDOUS FUELS AND PRESCRIBED FIRE MANAGEMENT

2 GOALS

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

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

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

19 MANAGEMENT GUIDELINES

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

25 Multiple land management tools have been derived from extensive research and scientific publications.
26 Land management tools are used to help address fuels management questions ranging from local to
27 landscape scales. Fire management options are one of those tools and are described in the Alaska
28 Interagency Wildland Fire Management Plan. Each fire management option defines what the initial
29 response to new fire starts within an area should entail. The designated fire management option for an
30 area of land will influence the level to which vegetation is managed in that area. For example, Critical
31 Protection Areas should be considered for intensive fuels management routines, while Limited Action
32 Areas may receive no treatment consideration at all. See Table 2.4 for descriptions of Fire Management
33 Options and a short description of the level of response appropriate for each option in the event of fire.

34

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

<i>Protection Level</i>	<i>Description</i>	<i>Level of Response</i>	<i>Approximate % Area</i>
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%

2 Fuels projects on the TVSF are subject to the same planning process as timber sales. Reference the
 3 Timber Management section in Chapter 2, Section L for more information.

4 **Prescribed Burns**

5 In some areas, land use or natural resource objectives may be met using prescribed fire. For example,
 6 prescribed fire may be used for improving or creating wildlife habitat, reducing hazardous fuels, or
 7 simulating ecological succession on local or landscape scales. The policy that governs prescribed fire
 8 activities within the TVSF can be found in Chapter 2800 of the DOF Policies & Procedures Manual.

9 Prescribed fire activities on the TVSF can only be implemented with the DNR’s approval through a formal
 10 prescribed fire planning process. Prescribed fire activities are also subject to Alaska DEC regulations
 11 regarding smoke management and allowable acreage to be burned. For more information on prescribed
 12 fire, see the Alaska Interagency Fire Management Plan, the Alaska Department of Environmental
 13 Conservation webpage, and Alaska Division of Forestry and Fire Protection webpage.

14 **Vegetation Treatment Methods**

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

1 equipment to cut and remove vegetation from the treatment area. Common heavy equipment used on
2 hazardous fuel reduction projects includes bull dozers, excavators, shear blade, roller chopper,
3 mastication heads and chippers.

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

15 **Community Management**

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

22 **Research**

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

32 **ACTIVITY SUMMARY**

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

39

1 H. GRAZING AND AGRICULTURAL ACTIVITIES

2 GOALS

3 **Provide Grazing and Agricultural Opportunities**

4 Provide land for agricultural activities such as grazing, haying, or crop harvesting within Tanana Valley
5 State Forest while maintaining or enhancing the productive capability of the soil. Aligned with the state
6 of Alaska’s administrative codes 11 AAC 60.010 – 11 AAC 60.180 and 11 AAC 58.010, lands leased for
7 grazing and agriculture shall be managed and utilized in accordance with approved practices for range
8 management and soil conservation.

9 **Fuels Management**

10 Utilize grazing where appropriate to support the development, maintenance, or enhancement of
11 naturally and artificially created fire breaks and wildland fire fuels management. For more information
12 on management practices see the Fuels Management section of this chapter.

13 MANAGEMENT GUIDELINES

14 **Use of State Land for Grazing**

15 Agricultural activities that may include conversion of forest to non-forest or create private property
16 rights are incompatible with the primary purpose of the state forest. Improved or unimproved pasture
17 grazing may be allowed in the State Forest provided the following criteria are met:

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

35 **Key Habitats**

36 Grazing and other agricultural activities will be prohibited in Dall sheep and high-value grizzly bear
37 habitats, Research Natural Areas, and portions of the state forest intended to protect fish and wildlife

1 habitat and water quality, including Special Management Zones and Wetland Setbacks.. In other areas,
2 grazing will be permitted on a case-by-case basis on compatible sites (e.g., grass meadows in areas of
3 low natural tree stocking) if consistent with the management intent of the area, and after consultation
4 with ADF&G concerning disease and habitat risks to local wildlife populations.

5 **Multiple Use**

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

9 Grazing lands will be managed to ensure sustainable forage for domestic stock and wildlife. Per 11 AAC
10 58.030, a lessee may grow and harvest forage crops on a grazing lease. Cultivation of nonnative forage
11 crops is not permitted, and any seed used must be free of species listed in 11 AAC 34.030 *Prohibited and*
12 *Restricted Noxious Weeds*.

13 Public access across and public use of grazing or agricultural lands may not be limited by persons holding
14 grazing leases or permits unless approved as part of a grazing management plan.

15 **Grazing Permits and Leases**

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

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

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

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

32 **Range Management Plans**

33 Where grazing is anticipated to be a significant, widespread land use with potential for creating
34 environmental harm, DNR will develop range management plans (RMP) before issuing grazing leases or
35 permits in consultation with ADF&G, NRCS, DEC, and Soil and Water Conservation Districts. DNR will
36 determine where range management plans are appropriate based on consultation with other affected
37 agencies, including ADF&G. Best practices to reduce risk of introducing invasive species or pathogens

1 shall be specified in range management plans. Mitigation practices for invasive plants exist in
2 reforestation recommendations and in Standard Operating Procedures for wildland fire suppression.

3 **Grazing Management Plans**

4 In order to obtain a permit or lease, a Grazing Management Plan (GMP) must be submitted to the DNR
5 Division of Agriculture. Grazing Management Plans are comprehensive outlines describing where
6 animals will be grazed, the type and number of animals expected to graze, management practices, and
7 plans to maintain multi-use management, including public access on grazing lands. Best practices to
8 reduce risk of introducing invasive species or pathogens shall be specified in grazing operations plans.
9 Once approved, GMPs are submitted to DNR Division of Mining Lands and Water to make the final
10 decision about issuing authorizations. For more information, or to begin the permitting process, contact
11 the Alaska DNR Division of Agriculture or visit the Division of Agriculture website. Applicants generally
12 submit a Conservation Plan, developed with the help of USDA Natural Resource Conservation Service
13 (NRCS) in conjunction with the GMP. More information regarding Conservation Plans can be found
14 through the NRCS Alaska website.

15 **Standards of Approval for Grazing Management Plans**

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

22 **Modification of Grazing Management Plans**

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

27 **ACTIVITY SUMMARY**

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

1 I. PRIVATE LAND

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

5 GOALS

6 Minimize negative impacts of State Forest activities on adjacent private land.

7 MANAGEMENT GUIDELINES

8 **Resource Development Near Private Land**

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

16 J. SCIENTIFIC RESOURCES

17 GOALS

18 **Research Natural Areas**

19 Maintain ecologically representative or unique sites in a natural state for observational research,
20 education, and environmental monitoring.

21 **Experimental Forests**

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

23 **Other Scientific Values**

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

26 MANAGEMENT GUIDELINES

27 **Research Natural Areas**

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

31 **Incompatible Activities and Uses:** The activities in the list below require an authorization to
32 occur and can be prohibited by not issuing a permit. The second list of activities are those that

1 are not now restricted, that do not require a permit, and are therefore much harder for the DNR
2 to monitor and control. Those uses would only be regulated if a problem developed with a
3 specific activity. In addition, the second list is not a complete list; it is only a list of examples of
4 activities that could be incompatible with other activities.

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

8 **Incompatible activities that require authorizations**

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

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

22 **Examples of activities that may become incompatible.**

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

34 **Access through Research Natural Areas:** An RNA shall not block access to or use of other
35 resources. When access through a RNA is necessary (if there is no other feasible and prudent
36 access route to resources beyond the RNA), roads will be designed and located to protect the

1 features for which the RNA was designated, as much as possible. Roads will be designed in
2 consultation with researchers or research agencies with a known interest in the RNA.

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

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

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

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

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

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

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

28 **Experimental Forests**

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

34 **Research and demonstration forest under University of Alaska direction:** The University of
35 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

1 studies, salmon monitoring studies, seismic monitoring, and permafrost observatories by the University
2 of Alaska Fairbanks, ADF&G, and Woodwell Climate Research Center.

3 K. SUBSURFACE RESOURCES

4 GOALS

5 **Mineral and Energy Supplies**

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

8 **Economic Opportunities**

9 Provide stable job opportunities and stimulate economic growth by making subsurface resources
10 available for development. Land in Tanana Valley State Forest is managed for the efficient and
11 environmentally sound development of subsurface resources, siting of infrastructure to support
12 subsurface resource development, and disposal of tailings.

13 **State Revenues**

14 Establish a stable source of state revenues.

15 **Environmental Quality and Cultural Values**

16 When developing subsurface resources, protect the integrity of the environment and affected cultures
17 to the extent feasible and prudent.

18 **State Support for Mining**

19 Aid in the development of infrastructure (for example, ports, roads, or railroads) and continue to provide
20 technical support to the mining industry.

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

23 MANAGEMENT GUIDELINES- MINERAL AND COAL DEVELOPMENT

24 **Implementation of AS 38.05.255(a) provisions on timber**

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

31 **Mineral and Coal Exploration**

32 State land in the Tanana Valley State Forest may be leased or opened for coal prospecting permits if
33 DNR determines it is in the best interest of the state as required by AS 38.05.035. Before a permit is
34 issued, DNR will determine if the surface values are significant enough to warrant restricting surface

1 entry. Decisions on surface entry for coal adjacent to streams will be made in consultation with the
2 affected agencies.

3 **Open to Mineral Location**

4 Under AS 41.17.230, the Tanana Valley State Forest management plan is required to consider and
5 permit uses of forest land for nontimber purposes including mineral location. Recognized exploration
6 methods for locatable minerals will be allowed on all state lands unless specifically closed to mining or
7 designated as special use land and will be subject to the conditions of a land use permit. DNR may
8 determine that some traditional forms of access will not be allowed in specific areas to avoid resource
9 damage. Where an area is open to mineral entry, a miner has the right to stake a claim regardless of the
10 surface use designation or classification. Any adverse effects of mining on surface resources or uses will
11 be managed through compliance with state laws and regulations and the management intent and
12 guidelines of this plan.

13 **Reclamation of Mined Land**

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

23 **Access for Mineral and Coal Development**

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

31 **Unauthorized Use of State Lands**

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

1 **Control of Visual Impacts**

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

7 **Approval of Plans of Operation**

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

13 **Guidelines for the application of locatable mineral closures**

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

20 **Guidelines for the application of the locatable mineral leasing program**

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

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

31 **Resource values that may conflict with coal or mineral development**

32 The decision to apply mineral closures or locatable mineral leasing will be made by the commissioner
33 within the parameters set by the Alaska Statutes. AS 38.05.185(a) requires that the commissioner
34 determine that mining is incompatible with a significant surface use before an area can be closed to
35 mining. The same section of statutes requires the commissioner to determine that a potential use
36 conflict exists before requiring the development of locatable minerals under a lease (see Appendix B,
37 Finding of Incompatibility).

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

10 **Lands With Significant Commercial, Industrial, or Public Use Values**

- 11 ○ Lands with significant coal, oil and gas, timber, or other commercial potential.
- 12 ○ Lands recognized as future transportation corridors where access for pipelines, road,
13 railroads, utility corridors, or other surface transportation infrastructure could be
14 blocked or impeded by mining claims. (After the alignment is established, areas will be
15 reopened if there is surplus land.)
- 16 ○ Lands and waters that provide unique or unusual opportunities for the human use and
17 enjoyment of fish or wildlife, including fishing, hunting, trapping, photography, and
18 viewing.
- 19 ○ Lands and waters that provide significant recreation opportunities, such as clear water
20 rivers that are now or are expected to be important for recreation, key public access
21 sites, and recreation facilities.
- 22 ○ Lands and waters with significant scientific or educational value.
- 23 ○ Lands and waters that are the watershed of a community water supply.
- 24 ○ Sand and gravel pits, stone quarries, or other significant known material sites that might
25 be lost to public use if mineral claims were staked.

26 **Lands With Significant Fish or Wildlife Resources**

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

35 **MANAGEMENT GUIDELINES - OIL AND GAS**

36
37 Generally, oil and gas exploration, development, and production will be encouraged on state
38 lands. Impacts on other important uses and resources will be managed through appropriate
39 mitigation measures developed during the permitting and leasing processes.

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

6 MANAGEMENT GUIDELINES - MATERIALS

7 **Preferred Materials Sites**

8 When responding to a request for a material sale or identifying a source for materials, the highest
9 priority should be given to using existing upland material sources. Using materials from wetlands, lakes,
10 and the active⁴ or inactive⁵ floodplain of rivers or streams should be avoided unless no feasible
11 alternative exists. Sales or permits for gravel extraction will not be permitted in fish spawning beds.
12 Material extraction from water sources may also be regulated by the Corps of Engineers. Material sites
13 should be located as near as is feasible to the location of material use in order to minimize construction
14 and maintenance cost of transportation facilities.

15 **Material Extraction from Extensive Areas**

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

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

23 **Maintaining Other Uses and Resources when Siting and Operating Material Sites**

24 Before allowing the extraction of materials, DNR will ensure that the requirements of the permit or
25 lease give adequate protection to other important resources and uses including, but not limited to
26 existing water rights; water resource quantity and quality; navigation; fish and wildlife habitat and
27 harvest; timber resources; recreation resources and opportunities; historic and archaeological
28 resources; adjacent land uses; and access to public or private lands. The disposal of materials should be
29 consistent with the applicable management intent statement and management guidelines of this plan.

⁴ 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.

⁵ 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.

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

3 **Screening and Rehabilitation**

4 Material sites should be screened from roads, residential areas, recreational areas, and other areas of
5 significant human use. Sufficient land should be allocated to the material site to allow for such
6 screening. Rehabilitation of materials sites must meet the requirements of AS 27.19.020 and 11 AAC
7 97.250(a). Design and closure of material sites should consider potential for future recreational use, such
8 as swimming. For additional guidelines that affect material extraction see policies under the Mineral and
9 Coal Development Guidelines in the Subsurface Resources section of this chapter.

10 **ACTIVITY SUMMARY**

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

14 Mineral exploration and development in the 24,993 acres (1.4 percent of the State Forest) that comprise
15 the Bonanza Creek Experimental Forest and the six designated research natural areas is subject to a
16 leasehold location order. Mining will be restricted in these areas if it will negatively impact the
17 overriding scientific values of the areas. In addition, mineral exploration is also restricted in the Bonanza
18 Creek Experimental Forest under the provisions of 11 AAC 96.140 (10).

19 **L. TIMBER MANAGEMENT INCLUDING FOREST RESOURCES PROTECTION**

20 **GOALS**

21 **Economic Development**

22 Contribute to Alaska's economy with a diversified forest products industry that provides a range of job
23 opportunities, net revenues to the state, competitively priced products and increased per capita income,
24 while ensuring that personal use needs of all Alaskans are met within the capabilities of the land.

25 Emphasize support of Alaskan value-added businesses when designing and offering timber sales in the
26 State Forest.

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

35 **Management of Tanana Valley State Forest Timber Resource**

36 Actively manage Tanana Valley State Forest (TVSF) to provide for production, utilization, and
37 replenishment of timber resources through silvicultural practices. Ensure a high level of sustained timber

1 productivity by maintaining a mosaic of forest types and stand ages characteristic of the boreal forest in
2 Interior Alaska. TVSF is managed to sustain a variety of resources dependent on forest ecosystems.

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

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

16 MANAGEMENT GUIDELINES

17 **Timber Management Principles**

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

21 **Sustained Yield**-Timber and other resources in the TVSF are managed using principles of sustained yield,
22 as required by the State Constitution (Art. VIII, sec. 4) and Alaska statutes (AS 41.17.220). For the
23 purposes of this document, sustained yield is defined as the “achievement and maintenance in
24 perpetuity of an annual or regular periodic output of the various renewable resources of the state land
25 consistent with multiple use” (AS 38.04.901). The DOF’s policy is to define “regular periodic output” as
26 output over a ten year period. Harvests may exceed the allowable cut only in unusual circumstances as
27 described by the Alaska Superior Court (First Judicial District) in their decision SEACC vs. Alaska, 1983. In
28 particular, departures are allowed for salvage cuts where trees have been killed or damaged, because
29 dead trees are not part of sustained yield. Proposals for salvage sales will be subject to public and
30 interagency review through the FLUP process. DOF will also include salvage sales on Five-Year Schedules
31 whenever possible. Salvage sales may be excluded from a Five-Year Schedule under AS 38.05.117 when
32 waiting for the Schedule will cause substantial losses of economic value on salvage sales.

33 **Annual Allowable Cut**-Management tools are required to plan practices that will support a sustained
34 yield of forest resources. the Annual Allowable Cut (AAC) value is one such tool, describing the volume
35 of timber that may be cut from a forest under optimum sustained yield management (Stoddard and
36 Stoddard, 1987). The amount of timber harvested each year will vary and may be more or less than the
37 annual allowable harvest figure for the state forest. However, at no time will the total amount of timber
38 harvested exceed the combined annual allowable harvest for a ten year period. In other words, if

1 harvests in year one and year two are each five times the annual allowable cut for the state forest, there
2 will be no harvest during the next eight years. The current allowable cut was determined using a
3 combination of the 2013 Tanana Valley Forest Inventory (Hanson, 2013) and Geographic Information
4 System (GIS) analysis. The timber base considered for this calculation includes legislatively designated
5 state forest lands, as well as forest classified state-owned lands.

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

9 The allowable cut is developed in three steps:

- 10 1. **Forest Inventory:** To determine how much timber can be removed on a sustained yield
11 basis, the forested area is spatially defined. Next, a forest inventory is conducted to
12 determine the species, distribution, quality, and quantity of the trees growing in the
13 defined area. The inventory identifies the acreage and standing volume of timber in the
14 defined area. The inventory also includes measurements of growth rate and mortality,
15 both natural processes within the forest. The inventory procedure is a sampling process
16 which combines the use of remotely sensed data and on-the-ground measurements to
17 establish an acceptable level of reliability of the sampling. The most recent
18 comprehensive forest inventory on the TVSF was published in 2013, reference “Timber
19 Inventory of State Forest Lands in the Tanana Valley 2013” for more information.
- 20 2. **Sustained Yield:** Areas that are not commercially viable are deleted from the timber base. In the
21 TVSF, for example, black spruce forest types are deleted from the timber base. The initial
22 rotation age is derived from culmination of mean annual increment. This assumption is used to
23 estimate the sustained yield of timber that could be harvested. See the consultant’s annual
24 allowable cut (AAC) report as a basis for the 2001 rotation age determination. See the Glossary,
25 Appendix A, for definition of culmination of mean annual increment.
- 26 3. **Allowable Cut:** The AAC modifies the sustained yield estimate to reflect the guidelines
27 and objectives in the Tanana Valley State Forest Management Plan.

28 Three factors affect the AAC:

29 **Site-specific factors:** Not all of the State Forest is available for harvest. For example, the
30 six research natural areas, the Chatanika River corridor, and the Bonanza Creek
31 Experimental Forest are not included in the timber base.

32
33 **Reduction Factors:** Reductions may be made from time to time as it is determined that
34 an area should not or cannot be harvested. Because managers know such conditions
35 exist, but not where they all occur, reduction factors (a percentage of each species) are
36 also applied to make the calculation conservative. The reduction factor is a reduction to
37 the allowable cut for unknown, on-the-ground situations where timber harvest may not
38 be feasible or appropriate. Reduction factors have been established for each of four
39 major forest vegetation types that may contribute to the sustained yield timber base.

1 These factors represent the estimated percentage of timber volume that will not be
2 available because of other values. They are based on the division’s experience preparing
3 timber sales. Reduction is highest for the vegetation types that are associated with
4 rivers where habitat and water quality concerns are highest. Reduction factors for
5 hardwoods are lower as they tend to occur in large expanses, away from rivers or other
6 site-specific resource concerns. The factors do not apply to research natural areas or the
7 Bonanza Creek Experimental Forest, because these areas have been excluded in total
8 from the sustained yield timber base.

9 **Rotation Age Adjustments:** Rotation age is adjusted to meet management objectives.
10 These rotations are applied to portions of the State Forest where timber harvesting is
11 allowed. Rotation may be based on many criteria, including mean size, age, culmination
12 of mean annual increment, attainment of a particular minimum physical or value growth
13 rate, and biological condition. There may be different rotation ages for different species,
14 growing sites, and other factors. For each species, application of the adjusted rotation
15 age to the sustained yield results in an allowable cut for the forest. Generally, it is
16 expressed as a ten-year periodic allowable cut to allow for fluctuations in harvest rates
17 due to market conditions and other variable factors. This is the allowable cut. See the
18 DOF’s Tanana Valley Allowable Cut Determination for more information.

19 NOTE: The annual allowable cut for the TVSF is incorporated in the Tanana Valley Allowable Cut
20 Determination. This report covers the allowable cut for the TVSF and state lands in the ETAP and
21 YTAP that are available for timber management.

22 **Inventory**

23 In 2013 DOF performed an inventory of forested lands in the Tanana River Basin, including
24 1,798,727 acres within TVSF boundaries. This inventory and the accompanying report were
25 designed and conducted to provide reliable data to assist in the management of forest resources
26 in the Tanana Valley. A combination of field measurements, aerial imagery, and GIS analysis was
27 used to provide estimates of volume, stocking, defects, and growth by individual tree species.
28 This information was used to produce accurate volume data and geographically referenced
29 spatial locations of individual timber stands. Thorough inventory data and understanding of
30 spatial distribution allow for more informed management decisions and precise placement of
31 boundaries.

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

39 **Procedures for Modification to the Allowable Cut** Examples of changes that would merit a
40 forest-wide revision of the AC, based on changes to the assumptions, include changes in
41 utilization standards, updated forest inventory data, revised site index data, or new yield tables

1 for commercial species. Forest-wide revisions will be noticed in the FYSTS and will be subject to a
2 technical review of the suggested changes. This could include peer review of the revised
3 sustained yield report, inventory report or other related documents. A final report would be
4 made to the TVSF Citizens' Advisory Committee and to the Board of Forestry for their review prior
5 to adopting the revisions. An opportunity for public comment will be provided.

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

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

17 **Availability of Timber for Harvest**

18 Any area in the State Forest is available for timber harvest and is part of the timber base for
19 calculating the allowable cut unless it is prohibited by law or by this plan through a finding of
20 incompatibility (see Appendix B, Finding of Incompatibility). When planning timber sales, the
21 Division shall weigh the pros and cons of dispersing the locations of sales versus concentrating
22 them, with consideration for public needs, forest management objectives, wildlife habitat
23 management and other factors. Ultimately, the DOF intends to expand access throughout the
24 majority of the TVSF, bringing the entire State Forest under active management. Expanding the
25 forest acreage under active management will support the State Forest purpose of sustainably
26 providing the timber resource to Alaskans while dispersing the impacts of timber harvest over a
27 greater area. Obstacles to this goal include landscape-level changes to geomorphology in the face
28 of current warming trends, access to roadbuilding materials, and long term road maintenance.
29 Some areas in the TVSF are excluded from timber harvest. These areas include Research Natural
30 Areas (RNA) and Experimental Forests. More information on these topics can be found in the
31 *Scientific Resources* section of this document.

32 **Priorities for Timber Sales**

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

38 **Economic Objectives**

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

- 42 • Competitive sales offered by sealed bid or oral auction (AS 38.05.120)

- 1 • Negotiated sales of up to 500 MBF for one year (AS 38.05.115)
- 2 • Negotiated sales in areas with high unemployment, under-utilized mill capacity, and under-
- 3 utilized allowable cut (AS 38.05.118)
- 4 • Negotiated sales of up to 10 MMBF per year for up to 10 years specifically for value-added
- 5 processing

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

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

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

20
21 In most cases, the economic value of timber sales in the State Forest will be sufficient to pay for
22 the costs of timber sale preparation and administration, reforestation, and road construction and
23 maintenance and result in net revenue to the state. Some projects may be conducted at a deficit
24 if they involve low-value timber or are designed to achieve other public goals such as maintaining
25 biological diversity, reducing risks from wildland fire near residential areas, accelerating
26 reforestation following infestations, providing capital improvements, or providing fuelwood to
27 local markets.

28
29 In weak markets, total sale costs including reforestation are more likely to exceed revenue than
30 in strong markets. However, even in weak markets, sales continue to meet the State's primary
31 economic objective for timber, which is to provide local jobs. To further this mission, some
32 sales are supported by CIP appropriations from the Legislature. Due to the multi-year nature of
33 forest planning, revenue generation may occur in different years than the design and approval
34 of a sale. Budgetary tracking should be considered across the entire sale timeframe rather than
35 by fiscal years.

36 **Salvage of Timber from Land Clearing**

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

41

1 **Timber Sale Planning**

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

10 **Timber Sale Coordination**

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

15 **Forest Resources and Practices Act**

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

22 **Silviculture and Harvest Practices**

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

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

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

33 Silvicultural systems used will:

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

39

1 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)

2

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

11 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

12 **Reforestation**

13 The Forest Resources and Practices Act (FRPA) sets the standards for reforestation following
 14 logging, including the minimum stocking of residual trees allowed without reforestation. In 2011,
 15 Division of Forestry and Fire Protection conducted an inter-agency review of the reforestation
 16 policies described in FRPA. Considering these revisions, the priorities for reforestation are: 1.

1 those required by the FRPA; and 2. deforested or understocked highly productive sites. Sites will
 2 be reforested with native commercial species. When artificial reforestation is used, seed should
 3 be sourced from a growth area with similar conditions to the harvest site as specified in 11 AAC
 4 95.375(f). Non-native species will be planted only for research purposes, not for forest
 5 management operations that would convert native forests to non-native species. The following
 6 table lists acceptable reforestation methods for major species.

7 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

8 **Spruce Reforestation Methods**

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

14 **Birch Reforestation Methods**

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

17 **Aspen and Balsam Poplar Reforestation Methods**

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

21 **Personal Use Firewood**

22 Harvest of wood for personal use as heating fuel is permitted in designated areas on state land with
 23 proper permitting. Information on approved cutting areas and permitting processes can be found at the
 24 DOF website in sections describing Forest Resources and Wood Energy. Permits can also be acquired in
 25 person at DOF region offices.
 26
 27

28 **Fire Management**

29 Consistent with AS 41.15.010 and AS 41.15.020, forest resources in TVSF will be protected from
 30 destructive agents commensurate with the values needing protection. The intent for fire management
 31 in the TVSF is to identify areas where wildland fire can be allowed or prescribed fire can be used to
 32 reduce costs of fire suppression, reduce risk of damaging fires, and maintain natural diversity and
 33

1 productivity of forest stands. Fire suppression will continue to be a priority near residential areas,
2 infrastructure developments, high value stands of timber and other investments. Specific
3 recommendations for changes in fire management options will be developed through the Fire
4 Management Option Change Procedures within the Alaska Interagency Wildland Fire Management Plan.
5 Timber and other resource assets will be considered when determining fire protection levels. These
6 practices will be described in a fire management plan that is developed as part of the Alaska Interagency
7 Fire Management planning process. (See also Chapter 4, Section X., Fire Disturbance, for
8 recommendations on changing fire suppression levels in the TVSF). For additional information on fire
9 management topics in this plan, the Hazardous Fuels and Prescribed Fire section of Chapter 2 and the
10 Fire Disturbance section of Chapter 4.

11

12 ACTIVITY SUMMARY

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

22 **Research and Information**

23 In the 2010's, several sources of inventory data covering the Tanana Valley have become available. In
24 2013, a short-term forest inventory was conducted, enhancing the Division's understanding of accessible
25 timberlands in the Tanana Valley. In 2016, Interior Alaska was added to the survey areas included in the
26 US Forest Service's Forest Inventory and Analysis (FIA) Project. After a five-year hiatus, measurement
27 resumed in 2020 on Cooperative Alaska Forest Inventory (CAFI) plots. This project was established in
28 1994, and its 200 plots ranging from the Kenai Peninsula north to Coldfoot constitute the longest-
29 standing inventory project in the state and includes 59 plots on TVSF or in forested lands near TVSF.
30 Other historical inventory plots are being considered for revival as funding allows.

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

1 In an effort to make information more widely available, the DOF has organized an online GIS-driven
2 Forestry Resource viewer. This resource can be found by searching the term “Alaska DNR Forestry
3 Resources Viewer” online and includes interactive map features visualizing up-to-date data such as
4 infrastructure, timber sales, and reforestation. See also Scientific Resources and Forest Health and
5 Climate Change sections in this chapter.

6 **Timber Products**

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

9 In general, Fairbanks-Delta Area is responsible for the majority of timber production in the interior and
10 produces the highest revenue and volume outside of Southern Southeast Alaska. Historically, timber
11 harvests primarily focused on supplying spruce sawlog timber. Fuelwood is an important but secondary
12 timber product harvested in the Fairbanks-Delta Area. Between 2001 and 2024, intensity of timber
13 harvest in the TVSF has hovered at approximately 10-20% of the total allowable cut. In the Tok
14 management area, timber sales and harvest have been more focused on fire suppression and vegetation
15 management. As timber harvest promotes the removal of resinous fuels such as spruce and
16 regeneration of fire-resistant hardwoods such as birch, many of the timber sales in the Tanana Valley
17 State Forest serve dual purposes as economic opportunities as well as fuels management tools.

18 **Management**

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

32 **M. NON-TIMBER FOREST PRODUCTS**

33 **GOALS**

34 Provide opportunities for commercial and personal use harvest of non-timber forest products (NTFPs)
35 while managing TVSF in accordance with guidance and regulations specified in the AS 41.17, the Alaska
36 Forest Resources and Practices Act. According to 11 AAC 96.250(23), non-timber forest products include
37 “mushrooms, conks, boughs, cones, leaves, burls, landscaping transplants, roots, flowers, and fruits.”

1 Non-timber forest products are specified as products derived from biological resources and do not
2 include minerals, soil, rocks, water, animals, or animal parts.

3 MANAGEMENT GUIDELINES

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

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

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

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

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

22 ACTIVITY SUMMARY

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

25 N. TOURISM

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

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

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

- 4
- 5 A. The Tanana Valley's forests provide natural settings for visitors engaged in activities
6 ranging from sightseeing to canoeing to wilderness camping and hiking.
- 7 B. Timber harvest in the Tanana Valley State Forest creates timber roads that can
8 provide access to the forest for people using all different modes of transportation,
9 including dogsled, foot, horses, skis, ATVs, and snowmachines.
- 10 C. The Tanana Valley State Forest Management Plan allows for the development of roads, boat
11 launches, pull-outs, campgrounds, cabins, and trails that would provide visitors with
12 opportunities to access recreational and scenic sites. The plan also encourages the
13 development of facilities that provide information about areas of cultural, economic, and/or
14 historical significance, or about forest history and ecology (such as visitor centers and
15 interpretive sites).

16 GOALS

17 **Tourism Opportunities**

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

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

28 **Tourism Resource Protection**

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

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

37 **Economic Development**

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

- 42 1. Manage Alaska's recreation resources to support a tourism industry that supplies
43 jobs, income, and revenue.
- 44 2. Minimize conflicts between tourism and other uses.

- 1 3. Allow for recreation and tourism facilities that enable appreciation of Alaska's
- 2 scenic and historic resources.

3 MANAGEMENT GUIDELINES

4 **Campgrounds, Public Use Cabins, and other Recreational Facilities.**

5 These facilities are addressed in the Recreation section of this chapter.

6 **Private Commercial or Public Nonprofit Recreation and Tourism Facilities**

7 Lodges, tent camps, ski areas, or other private facilities designed to be run as private, profit-

8 making, or public nonprofit recreation and/or tourism facilities may be permitted or leased if the

9 facility fulfills the following conditions:

- 10 1. The proposed development adds to or enhances public recreation and tourism
- 11 opportunities.
- 12 2. The amount of use generated by the facility will not conflict with the
- 13 management intent for the unit or site.

14 Tourism operations shall not preclude other uses of the State Forest, referenced in AS

15 38.05.112(c), unless a finding of incompatibility has been issued (see Appendix B).

16 The facility will be sited, designed, constructed, and operated to create the least conflict with natural

17 values and traditional uses of the area. It will also be sited and designed in accordance with

18 management guidelines for riparian and instream flow, fire management, access, and wetlands.

19 Final approval of a permit or lease for the facility will be given only after interagency and public

20 review. This review may be coordinated with the review of the Five-Year Schedule of Timber

21 Sales process. See Chapter 4 for a description of commercial use permit requirements.

22 **Management of Forest Resources for Tourism**

23 Tourism is one of the uses for which the Tanana Valley State Forest will be managed. According to

24 the Forest Resources and Practices Act, AS 41.17.060 (c)6, allowance shall be made for scenic

25 quality in or adjacent to areas of substantial importance to the tourism and recreation industry.

26 DOF can accommodate tourism in its operations by

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

32 Techniques to address scenic concerns are discussed in Management Guideline M., Silviculture

33 and Harvest Practices, part of the Timber Management section of Chapter 2. See also AS

34 41.17.060(c)(6) and 11AAC 95.820. The Protection of Scenic Resources guidelines in the

35 Transportation section of this chapter contains measures to help protect scenic resources, as well

36 as guidelines that provide opportunities for road-accessible recreation activities. Additionally, the

37 Scenic Values guidelines in the Recreation section of this chapter contains scenic value guidelines.

38 **Management of Sites**

39 Management of tourism sites will promote high quality recreation experiences,

1 environmental quality, and safety.

2

3 **Trails**

4 See the Trails section of this chapter.

5 **Information and Education**

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

9 **ACTIVITY SUMMARY**

10 To maintain structures such as camps or other facilities, or for overnight use of state lands for 14
11 days or longer, a business must apply for a permit or lease through DNR DMLW. As of 2002, all
12 commercial recreation businesses that use state uplands, shorelands, tidelands, and submerged
13 lands on a day-use basis must register with DNR pursuant to 11 AAC 96.018. Commercial
14 recreation operators that operate exclusively on state-owned waters are not required to register,
15 though way be subject to other regulation. Information regarding requirements and process for
16 leasing, permitting, or registration can be found on the DMLW Land Office webpage
17 (<https://dnr.alaska.gov/mlw/lands/>). There are currently no active permits or leases for Tourism
18 facilities on TVSF. Businesses that are registered for day use are organized by ADF&G Game
19 Management Unit (GMU), so a precise number of registered businesses operating on TVSF land is
20 not available. The GMUs containing TVSF each show approximately 15 to 20 businesses registered
21 for commercial recreation day use in 2021.

22 **O. RECREATION**

23 **GOALS**

24 **Recreation Opportunities**

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

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

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

21 **Recreation Resource Protection**

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

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

30 **Economic Development**

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

33 **MANAGEMENT GUIDELINES**

34 **Campgrounds and Other Recreational Facilities**

35 Guidelines for the establishment and maintenance of campgrounds, boat launches, and other
36 recreational facilities on State Forest land will be modeled after those of facilities managed by the DNR
37 Division of Parks and Outdoor Recreation on other state land. The DOF will adopt management

1 regulations similar to DPOR’s for these facilities. Construction of facilities is subject to available funding
2 for both construction and maintenance.

3
4

5 **Public Use Cabins**

6 This plan identifies general locations for public use cabins in Chapter 4, Table 14, and for each unit in
7 Chapter 3. The Five-Year Schedule of Timber Sales or other public review process will identify specific
8 locations where cabins will be constructed and maintained and will detail budget requirements.

9 Cooperation will be sought with municipal or federal governments or nonprofit organizations for
10 construction or maintenance of cabins. If cabins are constructed, DNR will develop administrative
11 procedures for managing the state public use cabin program within the Tanana Valley State Forest.

12 Public use cabins will be sited to avoid conflicts with existing or planned resource uses such as private
13 land use, and timber and mineral development. Construction of public use cabins is contingent on
14 available funding for both construction and maintenance.

15 **Private Commercial or Public Nonprofit Recreational Facilities**

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

18

19 **Private Recreational Facilities**

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

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

26 **Management of Sites**

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

29 **Trails**

30 See the Trails section of this chapter.

31 **Waterbodies**

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

33 **Scenic Values**

34 Development activities, such as timber harvesting, will be sited, designed, and carried out to minimize
35 adverse impacts to scenic values. Vegetation that obscures scenic vistas may be managed to facilitate
36 viewing. Techniques to address scenic concerns are discussed in Management Guideline D.

1 Management of Commercial Forest Types, and Guideline M., Silviculture and Harvest Practices, in the
2 Timber Management section in Chapter 2. See also AS 41.17.060(c)(6) and 11AAC 95.820.

3
4
5

6 **Information and Education**

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

10 **ACTIVITY SUMMARY**

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

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

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

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

33 Construction of these developments, however, is contingent upon funding for both construction and
34 maintenance. Few developed recreation facilities are anticipated to be constructed in the State Forest in
35 the next twenty years. Potential recreation facilities are listed in Chapter 4 in Table 4.2.

36

- 1 Table 2.9. Recreation Opportunities Matrix.
- 2 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.

3

4 P. TRAILS

5 **GOALS**

6 **Public Use Opportunities**

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

11

1 **Local Trails**

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

3 **Trail Corridors**

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

9 **MANAGEMENT GUIDELINES**

10 **Requirement for Access**

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

15 **Ownership**

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

19 **Width of Access Corridors**

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

26 **Trail rerouting**

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

31 **Alignment with Crossings**

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

36

1 **Land Use in Corridors**

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

6 **Conversion of Trails into Roads**

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

15 **Conversion of Roads into Trails**

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

22 **RS 2477 Trails**

23 The state of Alaska claims, occupies, and possesses each right-of-way identified in AS 19.20.400-420. A
24 right-of-way identified by these statutes is available for public use under regulations adopted by DNR or,
25 where applicable, the Department of Transportation and Public Facilities. RS 2477 trails represent an
26 enormous publicly available resource. Detailed management policy and a list of RS 2477 trails within
27 TVSF can be found in the *Public Access* section of this chapter.

28 **Trail Use Restrictions**

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

33 Before restrictions are put into place, DNR should attempt to resolve the problems through
34 management actions. Existing and traditional use of trails will not be restricted unless DNR finds that
35 overriding public concern requires restrictive use. Restrictions on the use of trails may be imposed to
36 prevent damage to the trail. Such restriction may limit the types of trail traffic based on trail conditions
37 or by season. Restrictions which are based on avoiding conflicts among different types of trail users will
38 require a plan amendment and incompatibility finding specifying the trail and the restrictions.

1 **Management of Future Trails**

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

5 **ACTIVITY SUMMARY**

6 Approximately 250 miles of trails have been designated to be of regional or statewide significance.
 7 These are listed in Table 2.10 and described in Chapter 3 of this plan
 8

Table 2.10. Trail corridors of regional or statewide significance.

Trail Name	Unit
Baker	1
Country	1
Fairbanks – Manley Hot Springs	1,2,4
Nenana	2
Dunbar – Livengood	3,4
Allen Creek – Dunbar	4
Keystone Ridge	4
Left Fork	4
Lincoln Creek	4
Martin – Dunbar	4
Cripple Creek – Rosie	5
Rosie Creek	5
Anaconda Creek	6
Flat Creek	6
Iowa Creek	6
Lyrad Creek	6
Jenny M. (East and West)	6

Smallwood Creek	6
Redmond Creek	7
Gilles Creek	7,8
Caribou Creek	8
Rosa Creek	8
Short Independent	8
Indian Creek	9
Prospect	9
Jolly's Cabin	9
Fortymile - Big Delta	9
Blue	10
George Lake	10
Goodpaster Historical	10
Sand Creek	10
Tanana Crossing Grundler	11,12
George	11
Michigan Creek	11
Eagle	12,14
Dennison Fork	13
Clearwater Creek	14

1 **Q. PUBLIC ACCESS**

2 **GOALS**

- 3 1. Maintain, enhance, or provide adequate access to publicly owned land and resources.
- 4 2. Ensure adequate opportunities for the public’s use of public resources of local, regional, or
 5 statewide significance.
- 6 3. Provide access to and within Tanana Valley State Forest, including bridge crossings of major
 7 rivers, consistent with federal and state design, environmental requirements, and DOF goals.
 8

1 MANAGEMENT GUIDELINES

2 **Reservation of Public Use Easements**

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

7 **Retain Access**

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

17 **Management of ANCSA 17(b) Easements**

18 ANCSA 17(b) easements are public easements through Alaska Native Corporation lands and waters. The
19 Bureau of Land Management manages 17(b) easements. Generally, DNR will not accept management of
20 17(b) easements unless it already actively manages a portion of the trailor easement, or unless state
21 management will best protect public access to state lands. The DNR Division of Mining, Land and Water
22 manages RS 2477 routes where they coincide with 17(b) easements. Information regarding ANCSA 17(b)
23 easements can be found online through DNR Division on Mining, Land, and Water
24 (<https://dnr.alaska.gov/mlw/paad/17b-easements/>).

25 **Access for Development**

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

29 **Public Access Rights**

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

34 **RS 2477 Designated Trails**

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

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

5
 6 The following RS 2477 rights-of-way are within the TVSF. The prescribed width for each right-of-way is
 7 100 feet (50 feet each side of centerline) under AS 19.10.015.

8 Table 2.11. RS 2477 trails

RST #	Trail Name	Unit(s) trail crosses
RST 66	Dunbar-Brooks Terminal	Unit 3B, 4D
RST 152	Nenana-Tanana (Serum Run)	Unit 2D, 2E
RST 70	Ester-Dunbar	Unit 5A
RST 188	Slana-Tanana Crossing	Unit 14
RST 264	Old Mail Trail (Nenana-Minto)	Unit 2E
RST 322	Salcha-Caribou Sled Road	Unit 7B
RST 333	Tanana Crossing –Grundler	Unit 10A, 10C, 11, 12A, 12B
RST 379	North Fork Fortymile – Big Delta	Unit 9A
RST 391	Tanacross–Ketchumstuck Trail	Unit 12A
RST 449	Goodpaster River Trail	Unit 9A
RST 500	Michigan Creek Trail	Unit 11
RST 688	Lake George Trail	Unit 10C
RST 1595	Dunbar-Minto-Tolovana	Unit 2E, 4D
RST 1598	Chena Lakes Trail	Unit 6

9 **Coordination with the Department of Transportation and Public Facilities (DOT/PF)**

10 Access needs, such as right-of-way widths or road locations, should be coordinated with
 11 DOT/PF.

12 **Limiting Access**

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

18
 19 Existing statutes address restrictions of easements and rights-of-way use (AS 38.04.058), and
 20 restrictions of traditional means of access (AS 38.04.200). These and subsequent statutes and
 21 regulations must be considered when contemplating use restrictions.

22 **Pipeline Access Roads and Crossings**

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

- 25
 26 1. Crossing on foot or by vehicles of less than 1,500 lbs. gross vehicle weight (GVW) is
 27 allowed without a permit.

- 1 2. Crossing by vehicles, pickups, four-wheel-drive vehicles, and all-terrain-vehicles over
- 2 1,500 lbs. GVW requires a permit except at designated vehicle crossings.
- 3 3. The public may not travel on the TAPS right-of-way parallel to the pipeline except by
- 4 permit from the DNR State Pipeline Coordinator's Office.

5 **Pipeline Crossings**

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

10 **ACTIVITY SUMMARY**

11 Public access to Tanana Valley State Forest by road, RS 2477 Trail, winter access, and navigable water is
12 available and managed for. Information for access permits, where necessary, is available online through
13 DNR Division of Mining, Land, and Water. A complete list of RS 2477 trails that cross Tanana Valley State
14 Forest is available in the *Trails* section of this chapter. Detailed information describing the nature of
15 access at specific locations is available in the *Transportation* section of this chapter. There are
16 approximately 30 active permits or leases within TVSF granting access to access via winter trail, road, or
17 pipeline road. The majority of these provide pipeline access, while a few grant access to personal
18 trapping cabins or small-scale mining operations or winter timber sales.

19 **R. TRANSPORTATION**

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

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

32 **GOALS**

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

35 **Minimize Costs**

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

1 **Minimize Adverse Impacts**

2 Develop a transportation system with minimal adverse impact on the environment, aesthetic and
3 cultural features, and other users.

4 **Promote Efficiency**

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

8 **Ensure Public Safety**

9 Develop a transportation system with a high standard of public safety.

10 **Minimize Access Restrictions**

11 Avoid unduly restricting access to TVSF land and resources

12 **MANAGEMENT GUIDELINES**

13 **Forest Road Construction and Maintenance Standards**

14 The DOF constructs and maintains forest roads on State Forest as well as other State land in support of
15 forest management activities. Forest road typically is constructed through timber sales, public works or
16 force account projects to meet the State's forest management objectives. The DOF managed
17 transportation infrastructure generally is accessible and is used by the public for recreation, subsistence,
18 personal use, firewood, etc. Detailed specifications are outlined in the DOF Road and Bridge Standards,
19 adopted in 2016. The standards described in the 2016 document represent acceptable conditions of
20 State Forest roads. In the Tanana Valley State Forest, road engineering specifications are outlined in
21 timber sale contracts on a case-by-case basis. These specifications are modeled after the 2016 road
22 standards as feasible and prudent, environmental characteristics of an area.

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

28 **Identification of Potential Transportation Routes**

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

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

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

5 **Access Plans for Resource Development Projects**

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

17 **Joint Use and Consolidation of Surface Areas**

18 Joint use and consolidation of surface access routes and facilities will be encouraged wherever it is
19 feasible and prudent to do so. Roads will be constructed for the use and development of resources and
20 will be open to the public to allow for the use and development of resources except for closures noted
21 in the Road Use Restrictions heading of this section. Surface access should be sited and designed to
22 accommodate future development and avoid unnecessary duplication. Access plans should be
23 coordinated with adjacent landowners to promote joint use and efficiency. The access needs of other
24 users should also be considered. The feasibility of using an existing route or facility will be evaluated
25 before the use of a new route or facility is authorized. If a forest road is used by a limited group of
26 people, such as for private land access, DNR will attempt to secure an agreement from the users for
27 their share of the maintenance of the road to enable continued use of the road during periods when
28 timber harvest is not occurring.

29 **Protection of Hydrologic Systems**

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

1 **Protection of Fish and Wildlife Resources**

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

7 **Protection of Cultural Resources**

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

11 **Protection of Scenic Resources**

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

15 **Timber Salvage from Rights of Way**

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

18 **Material Sites**

19 To minimize the construction and maintenance costs of transportation facilities, material sites should be
20 located as near to material use as practicable. Transportation corridors that require material should be
21 located with reference to material potential identified in the Tanana Valley State Forest Resource
22 Analysis, Part III.

23 Material sites should be screened from roads, residential areas, recreational areas, and other areas of
24 significant human use. Sufficient land should be allocated to the material site to allow for such
25 screening. Rehabilitation of material sites shall meet the requirements of 11 AAC 97.250(a).

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

28 **Off-Road Vehicle Activity**

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

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

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

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

17 **Siting Utilities**

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

21 **Other Design Standards**

22 Bridges greater than 20 feet in length will be approved by Alaska Department of Transportation and
23 Public Facilities. Roads crossing fish-bearing waters will provide fish passage consistent with AS
24 16.05.840, and those crossing cataloged anadromous waters, with AS 16.05.870.

25 **Road Use Restrictions**

26 Forest roads may be closed temporarily or seasonally for public safety or to protect the road surface
27 from damage. Road use may be restricted temporarily to minimize hazards that result from conflicting
28 use, such as during periods of active industrial use.

29 Access restrictions shall comply with AS 41.17.200(b), AS 41.17.230(a), AS 38.05.300(a), AS 38.04.058,
30 and AS 38.04.200 and other applicable statutes. Access restrictions for reasons other than protecting the
31 resource or providing for public safety will require a finding of incompatibility.

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

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

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

9 **Winter Roads**

10 Winter roads are roads that can normally support regular logging vehicle traffic only during winter
11 months and that have a load bearing capacity derived from a combination of frost, snow, or ice (11 AAC
12 95.900(90)). Construction techniques for winter access routes depend on the range of terrain
13 encountered and may include clearing vegetation and ground cover needed to provide a level running
14 surface. Road surfaces may be composed of frozen mineral soil, packed snow, ice, or surface organics.
15 11 AAC 95.290(f) and (g) address winter road construction and design. Some segments of winter roads
16 may cross terrain that requires construction to all-season standards.

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

1 **ACTIVITY SUMMARY**

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

9 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, and 2E.
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.

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