

State of Alaska
Department of Natural Resources
Division of Forestry
Fairbanks Area Office



**Forest Land Use Plan
Healy Lake Fire Salvage
NC-1652-D
10/21/2016**

I. Introduction.....	3
A. Legal description	4
B. Operational Period	4
C. Timber Disposal	4
D. Objectives and Summary.....	4
II. Affected Land Owners/Jurisdictions	4
A. State	4
B. Other Land Ownership	4
III. Harvest Methods, Silvicultural Actions, and Management of Non-timber Resources	
A. Timber Stand Description and History	5
B. Timber Harvest Activities	5
C. Site Preparation	5
D. Reforestation	6
E. Slash Abatement	7
F. Surface Water Protection	7
G. Wildlife Habitat	7
H. Cultural and Historical Resource Protection	8
I. Other Resources Affected by Timber Harvest and Management	8
IV. Roads and Crossing Structures	8
A. Road Design, Construction, and Maintenance.....	8
B. Side Slopes/ Mass Wasting	9
C. Crossing Structures	9
D. Road Closures.....	10
E. Material Extraction	10
F. Other Resources Affected by Roads or Material Extraction.....	10
V. Approval.....	12
Appendix A: Timber Sale Maps	13

I. Introduction

Project File Number: NC-1652-D

Division of Forestry Office: Delta
Area Forester: Paul Keech
Forest Practices Geographic Region (AS 41.17.950): 3

This Forest Land Use Plan (FLUP) covers proposed forest operations on approximately 452 acres of land east of Delta Junction in the area of Cummings Road. It is intended to provide the best available information regarding the proposed harvest of timber, and management of other non-timber uses in compliance with AS 38.05.112 and AS 41.17.060, and must be adopted by the DNR before the proposed activity can occur.

This Forest Land Use Plan is for timber sale(s) which have been determined to be in the best interest of the state pursuant to AS 38.05.035 (e) and 38.05.945; *ADL#420602*

This Draft Forest Land Use Plan is for timber sale(s) for which a Preliminary Best Interest Finding is currently out for review. A final best interest finding must be completed prior to adoptions of a final FLUP pursuant to AS 38.05.035 (e) and 38.05.945;

This [Draft/Final] Forest Land Use Plan is for timber to be harvested that does not require a final finding pursuant to 38.05.035 (e) and notification under 38.05.945.

A draft of this plan was distributed to the Department of Fish & Game (ADF&G) and the Department of Environmental Conservation (DEC) for their review and comments relevant to the consistency of this proposed project with the statutes governing forest land use plans (AS 38.05.112) and the requirements of the Alaska Forest Resources & Practices Act (AS 41.17) and its Regulations (11 AAC 95).

The public and agencies are invited to comment on specific requirements for harvest, access, and reforestation operations in this draft FLUP. The decision on whether or not to offer timber for sale is made through the best interest finding process, and is not subject to review under the FLUP. Objections or comments pertaining to the draft FLUP must be received in writing by the DOF Fairbanks Area Office by **12/5/2016** in order to ensure consideration for review. Comments should be mailed to the State of Alaska, Division of Forestry, 3700 Airport Way Fairbanks, Alaska 99709, or by email to kevin.meany@alaska.gov. For more information you may contact Kevin Meany or Paul Keech, 907-451-2600. To be eligible to appeal the final decision, a person must have provided written comment by **12/5/2016**.

After public and agency review of the draft FLUP, the DOF will review comments, make changes as appropriate, and issue a final FLUP. A person affected by the final decision who provided timely written comment or public hearing testimony on the preliminary decision may appeal it, in accordance with 11 AAC 02.

Other Documents are referenced in this FLUP. This timber sale is designed to be consistent with the management intent of the following documents:

- Tanana Valley State Forest Management Plan

The administrative record for this sale is maintained at the Division of Forestry Fairbanks Area Office filed as NC-1652-D.

A. Legal description (see also map in Appendix A): The project is located between the Tanana River and Healy Lake within Sections 3, 4, 5, 6, 7, and 8 of Township 12 South, Range 15 East and Section 36 of Township 11 South, Range 14 East, Fairbanks Meridian, Alaska.

B. Operational Period: Tentatively Winter 2016/2017-Spring 2021

C. Timber Disposal

Timber will be sold and will have a contract administrated by the State

Timber will be available to the public; permits obtained by the public will be issued by the State.

Other

D. Objectives and Summary

The fire burned from June 16th through August 23, 2015. White spruce damaged by fire before August attracts infestations of the large white spotted sawyer. These are large black flying insects with a small white patch on the back behind the head and long black antenna. They are common in the Tanana Basin during July. The beetles can be easily heard boring holes to lay larvae that will hatch next summer. White spruce with large beetle infestations will be riddled with 3/8” sized holes in the wood, devaluing its marketability by fall of the next year. Due to the late fire occurrence, damage from these boring insects may be minimal in 2015 but damage is certain in the summer of 2016, reducing the white spruce to fuelwood use exclusively.

A mature stand of burned spruce or mixed spruce and aspen/birch typically reforests to aspen or birch as the primary species after the fire. Birch and aspen stands typically recolonize burned areas within 4-6 years. The mechanics of how white spruce reforests after a fire are not well understood. In this fire, there were many proposed salvage areas that had a low intensity ground fire or “under burn” and some that burned intensely with crown fires. The area was ultimately ground truthed by boat in September. Following identification of the area, DOF reviewed existing land use plans, considered markets for the salvage timber, and designed this proposal to salvage as much timber as possible from within the identified area on state land, while protecting the fish, wildlife, and water resources, and avoiding impacts to local access, recreation uses and archaeological sites.

The management objectives for the proposed timber sales are:

- Harvest the commercial sawtimber and fuelwood before further significant loss occurs.

- Provide timber products for the industry and the state and local economy.
- Provide a source of accessible firewood for the residential heating needs of local residents.

II. Affected Land Owners/Jurisdictions

Activity on ownership:	Access Easement	Harvest	Written Representative Approval
A. State			
<input checked="" type="checkbox"/> Tanana Valley State Forest	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Other state land managed by DNR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> University of Alaska	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mental Health Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> School Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Other Land Ownership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Land Owner: _____

Land Owner Representative: _____

III. Harvest Methods, Silvicultural Actions, and Management of Non-timber Resources

Forest operations will be designed to:

- Protect fish habitat and water quality in compliance with the best management practices in 11 AAC 95.260-.370,
- Manage for the other land uses and activities identified in AS 41.17.060 and the Best Interest Finding for this timber sale, and
- Ensure prompt reforestation and maintenance of site productivity in compliance with AS 41.17.060(c) and 11 AAC 95 .375-.390.

Harvest and Silvicultural Methods:

The silvicultural actions are described in this document, and no prescription was written or is necessary

A silvicultural prescription has been written and is attached to this document in Appendix B

A. Timber Stand Description and History

The forest stands to be salvaged were a mixture of fully mature white spruce, aspen and birch 31% sawtimber and 69% poletimber prior to the 2015 fire. There were some stands of young white spruce, birch, balsam poplar, and aspen, but most of the burned area had mature forested stands. An estimated 57% of the stands were composed of hardwood species, 33% spruce, and 10% mixed spruce hardwood. The forested stands surrounding the proposed project area comprise a variety of stand mixtures including mature white spruce, black spruce, birch, and aspen.

B. Timber Harvest Activities

Timber Harvest Activities are displayed in Table 1.

Table 1. Timber Harvest Activities

Legal Description	Acres	Topography	Silvicultural Action	Logging Method
T12S, R15E, Sec. 3,4,5,6,7, 8 T11S, R14E, Sec. 36	~452	Relatively Flat/Flood Plain	Clearcut	Ground

C. Site Preparation

Site preparation will not be necessary. There is either sufficient residual stocking, or because there has been sufficient soil disturbance by logging to forego scarification.

Site preparation will be implemented and described in Table 2:

Table 2. Site Preparation

Unit	Acres	Site Preparation Method	Date of Completion

D. Reforestation:

Clearcut, **Salvage Operation**

Partial Harvest:

Region I: leaving more than 50% live basal area (11 AAC 95(b)(3))

Region II/III: Relying on residual trees to result in a stocking level that meets standards of 11 AAC 95.375 (b 4). Stocking levels will be calculated subject to the methods below:

Table 3. Stocking Level Requirements

Average DBH (Diameter at breast height)	Residual Trees (Trees / acre)	Minimum Stocking Standard(Trees/ acre)	Percent Stocking
> 9"		120	%
6" to 8"		170	%
1" to 5"		200	%
Total Residual Stocking			%

Seedlings Required:

Percentage Under stocked = 100 – Total Residual Stocking %

Percentage Under stocked = 100 – _____% = _____%

Seedlings/ Acre Required = Percentage Understocked/100 x 450

Seedlings/ Acre Required = _____% /100 x 450 = _____

Natural regeneration

List species: Birch, White Spruce, Black Spruce, Balsam Poplar

Coppice

List species: Balsam Poplar

Artificial regeneration

Seeding-source of seed (general vicinity location of seed source)

Planting: Date of proposed planting: _____

Source of seedlings (location of seed source): __

E. Slash Abatement

Potential for insect infestations caused by slash accumulations exists. Slash abatement for controlling infestations will be implemented as required by 11AAC 95.370.

Lop and scatter slash; accumulations will be kept to less than 2 feet in height.

Slash will be disposed of by the operator Slash will be disposed of by the State

Other - method of slash disposal: removal off site crushing or grinding burning

Burn permits necessary from DOF and DEC to be acquired.

The operator will contact the Division of Forestry local area office prior to ignition of debris.

F. Timber Harvest—Surface Water Protection:

There are no streams or lakes abutting or within a harvest unit.

Known surface waters and protection measures are described in Table 4 below.

Locations are included in the operational map in the Appendices

Table 4. Protection for Known Surface Waters

Unit	Waterbody Name	AS 41.17.950 Classification	ADF&G AWC #	Required Riparian Protection	Site-specific actions to minimize impacts on riparian area

All	Tanana River	Type III-B	334-40-11000-2490	Establish a 100' foot no cut Buffer on Commercial Operations	Title 16 Crossing Permit Required
-----	--------------	------------	-------------------	--	-----------------------------------

Surface waters listed above were reviewed by the Department of Fish and Game:

- During the timber sale planning process
- During the agency review conducted for the Best Interest Finding for this sale
- During the drafting of this Forest Land Use Plan
- Stream Crossings (Title 16) Permits are needed per ADF&G Division of Habitat

Surface waters listed above were reviewed by the Department of Environmental Conservation:

- During the timber sale planning process
- During the agency review conducted for the Best Interest Finding for this sale
- During the drafting of this Forest Land Use Plan

Non-classified surface waters are subject to applicable BMPs in 11 AAC 95.

G. Wildlife Habitat:

- Wildlife species and allowances for their important habitats were addressed in writing by the Department of Fish & Game during the Best Interest Finding review.
- Wildlife species and allowances for their important habitats were addressed in writing by the Department of Fish & Game during the drafting of this Forest Land Use Plan.

Silvicultural practices to be applied to minimize impacts to wildlife habitat or wildlife management:

- Timber retention - concentrations of timber surrounding harvest units, or interspersed within harvest units to provide cover.
- Snag Retention- snags or isolated trees left for cavity nesting species.
- Large Woody Debris – concentrations of downed timber or logging debris interspersed within harvest units to provide cover left on site.
- Other actions; **the patchiness of timber types and the riparian buffers will create a great deal of edge habitat, and that dead and dying trees within the buffers (and the insects associated with them) will provide feeding, roosting, and perching habitat for a variety of bird species.**

H. Cultural and Historical Resource Protection:

- This project was reviewed by the State Historic and Preservation Office (SHPO).
- No artifacts have been reported within the project area(s).
- Known or likely sites have been identified and a mitigation plan is in place. (Describe the mitigation actions.)

I. Other Resources Affected by Timber Harvest and Management

- There are other resources and areas of concern besides surface water, fish habitat, and wildlife habitat that may be affected. Mitigations actions were addressed in the Best Interest Finding.

Table 5. Other Affected Resources/ Areas of Concern.

Impacted Resource	Reviewing Agency	Impact/ Mitigation Actions

[X] There are no affected resources or areas of concern other than surface water, fish habitat, and wildlife habitat, which are addressed in this Forest Land Use Plan.

IV. Roads and Crossing Structures

A. Road Design, Construction, and Maintenance:

Roads will be designed, constructed, and maintained to prevent significant adverse impacts on water quality and fish habitat (AS 41.17.060(b) (5)), and site productivity (AS 41.17.060(c) (5)). Roads will comply with the best management practices in the Forest Resources and Practices Regulations (11 AAC 95.285 – 95.335)

Roads or other means required for the access and removal of this timber from the harvest area(s) or unit(s) are listed in Table 6.

Table 6. Road Construction and Use

Road ID	Harvest Unit	Road Miles	Road Type	Maximum Grade	Constructed by	Maintained by
Winter Road	All	~4 Miles	Winter	0%	DOF/Operator	Operator

**Note: Roads must be less than 20% grade per 8 AAC 61.1060 Additional Logging Standards*

B. Side Slopes / Mass Wasting:

For slopes over 50%, identify indicators of unstable areas (landslide scars, jack-strawed trees, gullied or dissected slopes, high density of streams or zero-order basins, or evidence of soil creep). Attach location specific road design that potentially mitigates identified areas of unstable soils.

Maximum percent side slopes: 0

- There are no slopes >50%
- There are no indicators of unstable areas where roads will be constructed
- Indicators of unstable areas were identified and will be mitigated by actions indicated below.
 - Full benching will be constructed to help ensure slope stability
 - Full benching is not required for roads in this project
 - End hauling will be implemented to help ensure slope stability
 - End hauling is not necessary for roads in this project.

Are you removing or replacing drainage structures? YES NO

General Erosion Control:

- grass seeding erosion control mats wattle Other: Waterbars
 not applicable

C. Crossing Structures:

- No crossing structures are needed within the project area.
 Crossing structures will be placed along access roads as described in the table below:

Table 7. Required Drainage and Crossing Structures on Known Surface Waters

Road	Mile / Station	Diameter Culvert	Bridge Type: -Log Stringer -Fabricated -Ice	AS 41.17.950 Stream Classification	Fish & Game AWC Number	Duration of crossing structure in place
Winter Road	0-4 Miles	N/A	Ice	Anadromous		Ice Dependent

D. Road Closure:

Roads constructed for the timber sale that are left open will be subject to maintenance standards under 11 AAC 95. 315. Otherwise, roads constructed for the timber sale will be closed, subject to standards under 11 AAC 95.320.

Table 8. Road Closures

Road ID	Unit	All Season/Winter	Estimated Closure Date	Projected Road Use after Timber Harvest

E. Material Extraction:

- There will be no material extraction sites in the project area.
 Material extraction and associated overburden disposal will be located outside of riparian areas and muskegs. Material extraction and disposal will be located as shown on the operation map, in a manner that prevents runoff from entering surface waters.
 Other:

F. Other Resources Affected by-Roads or Material Extraction:

List resources other than water, habitat or cultural resources potentially impacted by road construction, and indicate how impacts will be mitigated. Other affected resources could be, but are not limited to mining claims, scenic areas, recreational trails, etc.

Table 9. Other Affected Resources

Impacted Resource	Reviewing Agency	Impact/ Mitigation Actions

V. Approvals

If you have any questions, please contact Paul Keech of the Fairbanks Area Office at (907) 451-2601 or e-mail paul.keech@alaska.gov.

This Forest Land Use Plan has been reviewed by the Division of Forestry and provides the necessary information for public and by agency review of the project described in this document.

Fairbanks /Delta Area Forester

Date

Appendix A: Timber Sale Maps





