NORTHERN REGION
FAIRBANKS AREA FORESTRY

FOREST LAND USE PLAN AND PRELIMINARY BEST INTEREST FINDING AND DECISION FOR TWO RIVERS BIRCH EAST

NC-1579-F
3/21/2017
ADL# 420101

Contents

INTRODUCTION ---------- **2**

A. Purpose ---------- *2*

B. Five-Year Sale Schedule ---------- *2*

C. Location ---------- *2*

D. Title, Classification and Other Active or Pending Interests ---------- *2*

E. General Timber Sale Program Objectives ---------- *2*

II. LEGAL AUTHORITY ---------- **3**

III. ADMINISTRATIVE RECORD ---------- **3**

IV. SCOPE OF DECISION ---------- **3**

V. DISCUSSION OF ISSUES ---------- **5**

A. Physical Characteristic of the Sale Area ---------- *5*

B. Historic and Current Land Use ---------- *5*

C. Wildlife Habitat ---------- *5*

D. Fisheries and Water Quality ---------- *6*

E. Subsistence ---------- *6*

F. Recreation and Tourism ---------- *6*

G. Scenic Resources ---------- *6*

H. Cultural Resources ---------- *6*

I. Allowable Cut ---------- *7*

J. Silvicultural Prescription ---------- *7*

L. Erosion ---------- *8*

M. Mining ---------- *8*

N. Materials ---------- *8*

O. Economics ---------- *8*

VI. MARKET CONDITIONS ---------- **9**

VII. ALTERNATIVE ACTIONS ---------- **9**

VIII. PUBLIC NOTICE ---------- **10**

IX. PRELIMINARY FINDING AND DECISION ---------- **10**

X. SIGNATURE ---------- **10**

INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources (DNR), Division of Forestry, Fairbanks Area, offering this proposed timber sale. This FLUP deals with site specific considerations of the sale. The boundaries and precise volume of the sale may be refined if and when the sale is developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements, and physical conditions that apply to the proposed sale area. The proposal is for the harvest of approximately (+/- 10%) 35 acres of land that is predicted to yield approximately (+/- 10%) 525 CCF of birch fuelwood. The sale design may be altered to mitigate potential conflicts. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

B. Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2016-2020 as required by AS 38.05.113. It has been listed in previous schedules.

C. Location

The proposed sale is located 17 miles northeast of Fairbanks within the Fairbanks North Star Borough and within the boundaries of the Tanana Valley State Forest. The proposed sale area is located within Sections 11 and 14 of Township 1 North, Range 3 East, Fairbanks Meridian. The tract is accessed from Fairbanks by driving east on the Chena Hot Springs Road to milepost 18. At this point turn north on the Two Rivers road and drive 4.4 miles to an intersection. At the intersection, Turn left (northwest) and drive approximately 1.4 miles down to the start of the proposed access road. Approximately 0.5 miles of new secondary road would need to be constructed to access the sale.

D. Title, Classification and Other Active or Pending Interests

The acquisition for the land upon which the sale is proposed is based on General Selection 1145. The title was transferred by Patent 50-66-0217. There are no title restrictions on the area. The primary land classification for the area is Forestry per Classification Order NC-82-065. The proposed sale area is within Unit 6 of the Tanana Valley State Forest (TVSF).

E. General Timber Sale Program Objectives

1. Develop the State's Renewable Resources

To follow the DNR's constitutional mandate to encourage the development of the State's renewable resources, making them available for maximum use consistent with

the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.

2. **Improve the State's Economy**

   To help the State's economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, jobs, and business.

3. **Improve Forest Health**

   To improve forest growth and vigor by harvesting mature and or declining stands and replace them with new healthy regenerating stands. The stand replacement will be accomplished while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Valley State Forest Management Plan.

4. **Improve Wildlife Habitat**

   Meet the statutory wildlife management objectives for the TVSF (AS 41.17.400(e)) that provides for the production of wildlife for a high level of sustained yield for human use through habitat improvement techniques to the extent consistent with the primary purpose of a state forest.

II. LEGAL AUTHORITY

The Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The Division will maintain an administrative record regarding the decision of whether or not to proceed with the action as proposed. This record will be maintained at the DOF's Fairbanks Office filed as NC-1579-F.

IV. SCOPE OF DECISION

This preliminary best interest finding (PBIF) provides information for step three of a six-step process to design, sell, and administer timber sales. This PBIF covers the sale of approximately 35 acres of birch on state land in the Two Rivers area. The following list summarizes the overall process:

Step 1: Regional planning. The Department of Natural Resources (DNR) develops area plans and state forest management plans to designate appropriate uses for state land, classify the land accordingly, and establish management guidelines for multiple use. These plans determine where timber sales are an allowed use, and what other uses must be considered when designing and implementing sales. Subsequent land use decisions must be consistent with the area plans. The area in this PBIF is covered by the Tanana Valley State Forest Management Plan, and the PBIF is consistent with this plan.

Step 2: Five-year Schedule of Timber Sales (AS 38.05.113). A proposed timber sale must appear in at least one of the two Five-year Schedules preceding the sale. The land covered by this PBIF appeared in the Fairbanks Area 5 Year Schedule of Timber Sales FY2016-2020.

Step 3: Best Interest Finding. The Division of Forestry (DOF) must adopt a final BIF before selling timber. A best interest finding is the decision document that:

- Establishes the overall area within which the timber sale may occur,
- Determines the amount of timber that will be offered for sale and the duration of the sale,
- Sets the overall harvest and reforestation strategy for the sale area,
- Determines whether the sale proposal complies with the Constitutional requirement to manage for sustained yield by evaluating the amount of timber in the sale and the annual allowable cut for the affected area,
- Selects the appropriate method of sale (i.e., competitive or negotiated sale), and
- Determines the appraisal method that will be used to determine the sale price.

DOF is issuing a Preliminary BIF covering the decision to sell approximately 35 acres of birch from state lands within the Two Rivers area in a competitive sale for commercial use.

This document is the preliminary BIF for Two Rivers Birch East. 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.

Step 4: Forest Land Use Plans (AS 38.05.112). Prior to authorizing harvest of timber on any area greater than 10 acres, the DOF must adopt a site-specific Forest Land Use Plan (FLUP) for the harvest area. DOF is issuing a draft FLUP concurrently with the PBIF and will adopt the final FLUP following review of comments. FLUPs specify the site, size, timing, and harvest methods for harvest unit within the sale area. FLUPs also address site-specific requirements for access construction and maintenance, reforestation, and multiple use management. FLUPs are based on additional field work, agency and community consultation, and site-specific analyses by the DOF, and are subject to public and agency review.

Step 5: Timber sales and contracts. Following adoption of the final BIF, and completion of the FLUP, DOF will offer the timber for sale by auctioning a competitive sale. The Division will sign a contract with the winning bidder for each sale. The contract will include stipulations to ensure compliance with the best interest finding, FLUP, and statutory requirements.

Step 6: Sale administration. DOF will administer the timber sale and conduct field inspections to ensure compliance with the final BIF, FLUP, timber sale contract, and applicable laws, including the Alaska Forest Resources and Practices Act and regulations (AS 41.17 and 11 AAC 95), and forest management statutes and regulations in AS 38.05 and 11 AAC 71.

V. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. Topography

The unit is on a moderate northeast facing slope, east of the Little Chena River. Elevation range of the site is approximately 750 to 1050 feet. The terrain is interspersed with hogbacks of varying directions with an average grade of 12 to 15 percent.

2. Soils

Soils in the sale area are classified as a Steese-Gilmore complex and an Ester-Gilmore complex. Steese soils are upland silt loam soils that formed in loess over weathered bedrock. Gilmore soils are well drained upland soils formed in loess over weathered schist. These soils are relatively productive and tend to be well drained. Ester Soils are hydric soils that tend to have a thick organic mat over colluvium or loess. Ester soils tend to have a restrictive layer of permafrost 7 to 30 inches below the surface. There is limited potential for erosion given the slope and the soil type.

3. Waterbodies

There are no defined drainages within the proposed unit boundaries. The closest water body is the Little Chena River which is approximately 1.6 miles west of the sale boundary. The State Department of Environmental Conservation had no comment on this sale during the review of the 2016-2020 FYSTS. The sale area presents no obstacles that would prevent implementation of the best management practices of the AFRPA to maintain water quality.

4. Stand Conditions

The timber stand consists of primarily of birch with pockets of aspen present. Approximate age of the dominant trees is 70-80 years old and the size classes are pole and sawtimber. There is an estimated 10% defect in the stand. The stand has shown some signs defect (result of trees bent over) in the birch due to the heavy snow loads and actual defect will be assessed during the layout and cruise.

B. Historic and Current Land Use

The historic uses of land in the general area have been logging, hunting, trapping, and general trail use. The current uses of the area are recreation, wood cutting, hunting and trapping. There are recreational trails currently being used which will cross the proposed access road. The Two Rivers Road receives heavy traffic for personal use firewood cutting during the summer and winter as well as hunting in the fall.

C. Wildlife Habitat

Wildlife typical of the interior are found here and during ground reconnaissance extensive moose sign was observed. Game trails are evident throughout the area. There are no known raptor nests within the proposed sale area. No critical wildlife habitat has been identified for this area (TVSF Management Plan), nor has any become apparent during ground reconnaissance.

Treatments proposed for this stand are projected to enhance habitat conditions for ruffed grouse, moose, voles, hares, and ultimately, lynx, marten and fox. Snags will be retained to provide late-successional wildlife habitat for hole nesting birds, woodpeckers, small mammals, and other species requiring perching habitat.

D. Fisheries and Water Quality

Approximately 0.5 miles of new secondary road construction will be required for this sale. Best management practices will be implemented to ensure water quality standards in all water courses. Erosion will be mitigated by backfilling skid trails with debris and through the installation of water bars if necessary. Harvest operations will be avoided during spring break-up and extremely wet time periods to mitigate erosion issues, but water bars will be installed if deemed necessary. There is no expectation that this harvest will have negative impacts on the Little Chena or the main branch of the Chena River.

E. Subsistence

The tract has not been designated as a subsistence zone. The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities. Subsistence activities of fishing, trapping, hunting and gathering of berries and other non timber forest products may occur on State owned lands.

F. Recreation and Tourism

Recreation use of this area is high, but not inconsistent with a timber sale. Primarily it consists of hunting and trapping activity, as well as some recreational snowmachining, ATV riding and dog mushing. Where trail use utilizes existing winter roads needed for access, sufficient snow cover will be left on the roads to enable continued winter recreational use. Cross trails will be kept free of either snow filled or brush filled berms.

G. Scenic Resources

The sale is located east of the Little Chena River. It will not be visible from the Chena Hot Springs Road, the Chena River or the Little Chena. It may be visible from the ridgeline trails to the northeast, and from some valley bottom winter trails. Leave trees and residuals will somewhat obscure the harvest area and help blend the cut border with existing landscape.

H. Cultural Resources

The TVSF Management Plan does not list any historic cultural or archaeological sites in the vicinity of the proposed harvest. During the course of activities associated with this timber sale, cultural and/or paleontological resources may be inadvertently discovered. Should such discovery occur, these sites shall be protected from further disturbance and OHA will be contacted immediately so that compliance with state laws governing cultural resources may begin.

Under the Alaska Historic Preservation Act (AS 41.35), all burials on state land are protected. If burials or human remains are found, all land altering activities that

would disturb the burial or remains shall cease and measures taken to protect it in place. OHA and a law enforcement officer will be notified immediately to ensure that proper procedures for dealing with human remains are followed.

I. Allowable Cut

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Fairbanks Area is outlined in the publication Timber Inventory of State Forest Lands in the Tanana Valley (Hanson, 2013). This sale complies with sustained yield/allowable cut principles outlined in the Fairbanks Area Five-Year Schedule of Timber Sales for FY 2016-2020. The AAC for the Fairbanks Management Area is approximately 4,606 acres. The AAC will not be exceeded for this proposed sale.

J. Silvicultural Prescription

1. Stand Silvics

Merchantable tree species here in the Tanana Valley generally include white spruce, aspen, balsam poplar and birch. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increase in site productivity. Even-aged management is normally accomplished through clear-cuts, patch cuts, and heavy partial cuts (such as seed tree or shelterwood systems) which open up the site to maximum solar gain. This management system results in the greatest production of both young hardwood, that is important to wildlife, and the spruce understory which is valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing stands in juxtaposition to older, undisturbed stands. Such placement of harvest units can optimize natural seeding and the edge effect.

2. Specific Management Objectives

Utilize the current commercial value of this timber stand before existing defect leads to further damage and more stem rot and insects are introduced, and then return this site to a productive mixed forest at an equal or greater basal area than currently exists. The overall stand composition is primarily birch fuelwood. Attempt to improve vigor by replacing the aging older birch with younger faster growing trees. White spruce would be reserved from harvest and would serve as future crop trees in any subsequent entry to the stand. Those trees that are younger, rather than just smaller, may benefit from release. The intent is to return the site to a productive, naturally even-aged, diverse mixed-species stand at an equal or greater basal area than currently exists. It is reasonable to assume that these objectives will be realized under the recommended prescription with some supplemental planting of white spruce if necessary.

3. Harvest Methods

The sale will be harvested by a heavy partial cut (diameter limit) silvicultural system. All birch 6” DBH or larger will be removed. Snags, and birch less than 6” will not be cut. Aspen harvest will be optional if available volumes warrant and will allow for suckering. Residual trees will be protected from damage during harvest operations.

Harvesting will be by the whole tree yarding system. Slash disposal at the landings will be by burning or by salvage for fuel wood use.

4. **Regeneration**

Birch and Aspen can regenerate vegetatively or by seed, however birch primarily regenerates by seed and aspen primarily regenerates vegetatively. Adjacent sites are composed of mixed birch and aspen stands that will provide seed to this unit. Aspen will regenerate more abundantly where existing stems have been cut. Due to likely grass competition post harvest, scarification will be required on birch harvested areas; it will not be required on the pocketed areas of aspen. A regeneration survey will be conducted three years after any harvest to ensure a stocking level that meets the standards of 11 AAC 95.375 (b 4).

K. **Transportation**

The planned access to the proposed sale is by all season roads. The harvest unit is accessed from Fairbanks by driving east on the Chena Hot Springs Road to milepost 18. At this point turn north on the Two Rivers road and drive 4.4 miles to an intersection. At the intersection, Turn left (northwest) and drive approximately 1.4 miles down to the start of the proposed access road. Approximately 0.5 miles of new secondary road would need to be constructed to access the sale. The all season access road will be maintained to AFRPA standards.

L. Erosion

There are two soil erosion concerns: surface erosion and mass wasting of soil and debris. Road construction and poor maintenance of roads primarily causes surface erosion. To avoid erosion, debris will be placed back onto skid trails and water bars installed if necessary. Harvesting will be suspended during periods of thawing soil conditions to assure there is minimal soil disturbance. The location of skid trails will optimize skidding distances and provide for adequate landing areas. The other aspect of erosion (mass wasting and debris avalanches) normally occurs on slopes of more than 70 percent therefore is not a particular concern because the proposed timber sale area does not reach that grade.

M. Mining

This unit of the TVSF has moderate to high levels of mineral activity. More detailed information on subsurface resource use is found in the TVSF Management Plan. Other than possibly sharing the same access road, this sale will have no impact on the potential mining resources or mining activity in this area.

N. Materials

No rock materials will be required for the construction of access roads.

O. Economics

In addition to generating royalties to the State's general fund, the proposed sale will create economic benefits to the Fairbanks North Star Borough, the community of Two Rivers, and to other locations in Alaska. The Borough business community will receive direct economic benefits from providing support services for the operators

through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. The residents of the Borough will receive an indirect benefit through taxes paid to cities and the Borough by the operator and employees during the course of the timber harvest operation.

The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. Additionally the public may benefit from access to additional personal use fuel wood areas.

VI. MARKET CONDITIONS

Even as heating oil has dropped in price locally, it continues to be more costly in the interior than the national average therefore residents are looking for an alternative and the only affordable one is wood. Local businesses are currently producing wood pellets as an alternative to traditional firewood. This market addresses an ongoing air quality issue in the Fairbanks area because these manufactured pellets produce almost no emissions. As this market continues to grow, the demand for material will increase. Other businesses are also looking into the use of biomass as a feedstock for producing electricity and heating alternatives in rural Alaska.

With improvements in wood stove technology for reducing emissions, firewood is also a viable alternative to heating oil. The demand for firewood has remained strong in the past few years and will likely continue to do so. Local suppliers of firewood continue to have a demand for accessible timber sales to deliver their product.

This sale also contains significant numbers of trees that will be suitable for hardwood lumber production. Its relative closeness to Fairbanks will be popular to a wide range of potential purchasers.

These three markets create jobs in the forest products industry. Loggers, log truck drivers, commercial firewood cutters and mill workers all benefit from a sustainable timber market. This sale will provide the material needed to sustain these industries. As the economy continues to rebound there will be more demand for the products that this sector of the labor force provides.

VII. ALTERNATIVE ACTIONS

After a review of the material and information discussed above, the following alternatives have been considered:

1. **<u>To continue the sale(s) as proposed.</u>**

   This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking. This

alternative also complies with the management objectives of the TVSF Management Plan for Unit 6.

2. **To modify the sale(s) by making them smaller or larger.**

   The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. **Defer the sale of this timber to a later date.**

   Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to make State-owned timber consistently available to the timber industry.

4. **Do not offer this timber for sale.**

   This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation.

VIII. PUBLIC NOTICE

The preliminary best interest finding and decision will be publicly noticed in compliance with AS 38.05.945. Notice was posted on the Alaska Online Public Notice System as well as both physical and electronic mailing lists.

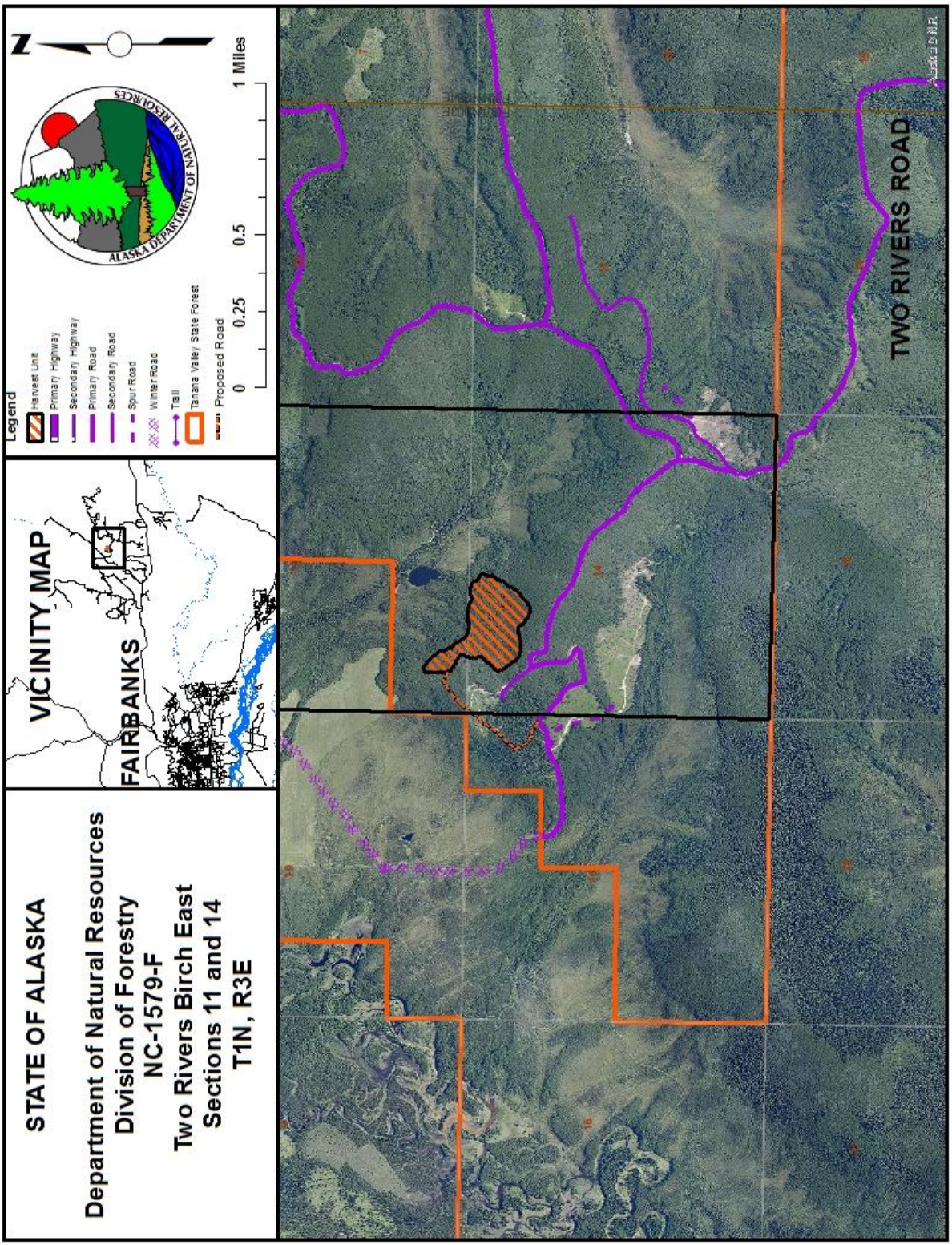
IX. PRELIMINARY FINDING AND DECISION

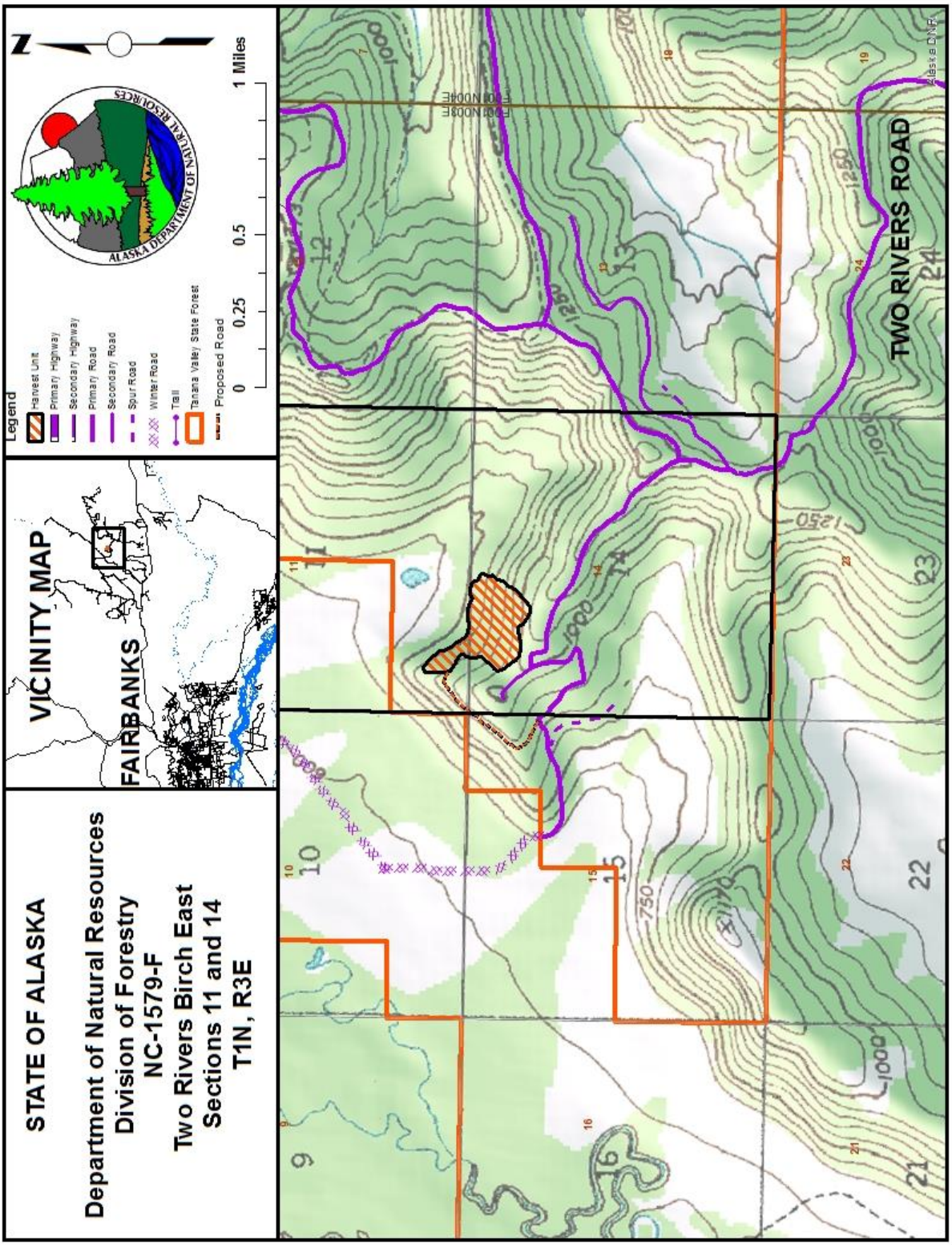
After due consideration of all pertinent information and alternatives, the DNR has reached the following preliminary decision: To offer for sale approximately 35 acres of birch to provide fuelwood as proposed in Alternative 1 and described in the PBIF. The DOF finds that this preliminary decision satisfies the objectives stated in this document and it is in the best interest of the State to proceed with this action under its authority of AS 38.05.035(e) (Powers and Duties of the Director) & AS 38.05.110-120; 11 AAC 71 (Timber Sale Statutes and Regulations; and AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

X. SIGNATURE

_____ _____

Kevin Meany, Fairbanks-Delta Area Resource Forester **Date**
Alaska Division of Forestry


STATE OF ALASKA
Department of Natural Resources
Division of Forestry
NC-1579-F
Two Rivers Birch East
Sections 11 and 14
T1N, R3E
VICINITY MAP
FAIRBANKS
Legend
Harvest Unit
Primary Highway
Secondary Highway
Primary Road
Secondary Road
Spur Road
Winter Road
Trail
Tanana Valley State Forest
Proposed Road
0
0.25
0.5
1 Miles
ALASKA DEPARTMENT OF NATURAL RESOURCES
TWO RIVERS ROAD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