STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION

FAIRBANKS AREA

# FOREST LAND USE PLAN

# FOR A PROPOSED TIMBER SALE

# FINAL REPORT AND BEST INTEREST FINDING

***Standard 6 Mile Spruce #2***
***NC-1446-F***

***ADL 418728***

April 2013

Prepared by: Brian Young
Resource Management Forester

# *Table of Contents*


**I. INTRODUCTION** ..... 1
- **A. Purpose** ..... 1
- **B. Five-Year Sale Schedule** ..... 1
- **C. Location** ..... 1
- **D. Title, Classification and Other Active or Pending Interests** ..... 1
- **E. General Timber Sale Program Objectives** ..... 1

**II. LEGAL AUTHORITY** ..... 2
**III. ADMINISTRATIVE RECORD** ..... 2
**IV. DISCUSSION OF ISSUES** ..... 2
- **A. Physical Characteristic of the Sale Area** ..... 2
- **B. Historic and Current Land Use** ..... 3
- **C. Wildlife Habitat** ..... 3
- **D. Fisheries and Water Quality** ..... 4
- **E. Subsistence** ..... 4
- **F. Recreation and Tourism** ..... 4
- **G. Scenic Resources** ..... 4
- **H. Cultural Resources** ..... 4
- **I. Sustained Yield and Allowable Cut** ..... 5
- **J. Silvicultural Prescription** ..... 5
- **K. Transportation** ..... 6
- **L. Mining** ..... 7
- **M. Materials** ..... 7
- **N. Economics** ..... 7

**V. MARKET CONDITIONS** ..... 7
**VI. ALTERNATIVE ACTIONS** ..... 8
**VII. FINAL FINDING AND DECISION** ..... 9

# I. 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%) 36 acres of land that is predicted to yield approximately (+/- 10%) 180 CCF of spruce sawtimber. 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 2012-2016 as required by AS 38.05.113. It has been listed in previous schedules.

## C. Location

The proposed sale is located 20 miles southwest of Fairbanks, within the Fairbanks North Star Borough and within the boundaries of the Doyon Region. The proposed sale area is located within Sections 29 and 32, Township 1 South Range 4 West, Fairbanks Meridian. The sale area is shown on the attached map and is within the United States Geological Survey 1:63,360 Quadrangle map titled Fairbanks D-3. The tract is accessed from Fairbanks by driving west on the Parks Highway for 13 miles until it intersects with the Old Nenana Highway. At this point the route continues along the Old Nenana Highway for 2 miles until it intersects with Standard Creek Road. The route then extends 6 ½ miles west along Standard Creek Road until reaching a spur road. The route then extends south along the spur road for 1.0 miles.

## D. Title, Classification and Other Active or Pending Interests

The acquisition for the land in Sections 29 and 32 are based on General Selection 34. The title was transferred by patent 50-73-0010 and 50-81-0171. 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 5A of the Tanana Valley Sate Forest (TVSF). There are no other special conditions applicable to this area.

## 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 Basin Area Plan.

4. **Improve Wildlife Habitat**

   Meet the statutory wildlife management objectives for the TVSF (AS 41.17.400(e)) that provides for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.

## 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 case file ADL 418728 and the Tanana Basin Area Plan constitute the administrative record for this finding.

## IV. DISCUSSION OF ISSUES

### A. Physical Characteristic of the Sale Area

1. **Topography**

   The site is on a south to southeast facing hill above the Ohio Creek valley. Elevation ranges from 550 feet to about 650 feet. The terrain is consistently gentle sloped ground with an average grade of 5 percent.

2. **Soils**

   Soils in the sale area are classified as the Fairbanks Series. Fairbanks soils are productive upland silt loam soils that have formed in moderately deep to deep loess

deposits. These soils commonly occur on south-facing slopes on low hills near alluvial plains.

3. **Waterbodies**

There are no defined drainages within the proposed unit boundaries. Nearby water features include Ohio Creek, ¾ miles to the southeast, and Goldstream Creek, 0.6 miles to the northwest. Both creeks are located in relatively wide black spruce covered valleys interspersed with numerous small ponds. The timber sale is anticipated to have minimal impact on water quality, due to the location of the proposed units in relationship to these surface waterbodies. The State Department of Environmental Conservation had no comment on this sale during review of the FY 2012-2016 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 and proposed harvest unit consists of white and black spruce and small amounts of aspen. There are at least two cohorts within the stand. The younger cohort of the stand averages about 110 years. The older cohort averages about 160 years of age. The stand has been selectively logged in the past and numerous small skid trails are present. Even though the moss is somewhat thick in this stand, especially in the areas of heavier black spruce, regeneration of both white and black spruce appears to be good. Regeneration is also present in the past harvest areas. Budworm is heavy in the white spruce, but as yet does not appear to have caused top kill. The aspen is over mature and defective with evidence of rot and broken tops. Understory vegetation includes scattered alder patches and low bush cranberry. The moss depth is moderate and averages 7 inches. The grass component is light in this stand and is estimated to cover 10% of the area. The stand is adjacent to a 1966 burn area which has excellent mixed species regeneration. There is an estimated 10% defect in the white spruce. The white spruce component of the stand $\geq$ 9" diameter breast height (dbh) has about 30 trees/acre, an average dbh of 12" and an average height of 76'. Basal area per acre is 26 square feet/acre. Residual spruce poletimber and advanced regeneration average 250 trees per acre. There is an additional 40 trees per acre of aspen.

## B. Historic and Current Land Use

The historic uses of land in the general area have been logging, hunting, trapping, mining and general trail use. The current uses of the area are settlement, recreation, wood cutting, hunting and trapping. Standard Creek Road is extremely popular for personal use firewood cutting and many of the cutting permits issued by the State are for this road system. Signs are posted at the beginning of Standard Creek Road informing users about active logging operations and encourage communication via Citizens Band channels. Milepost markers have also been installed along the road. Both the informative signs and mileposts help avoid user conflicts on the road system.

## C. Wildlife Habitat

Wildlife typical of the interior can be found in this area and during ground reconnaissance moose, grouse, and hares were observed. Moose damage in the form

of bark stripping on some of the aspen trees was also observed. No raptor nests were observed within the proposed sale area. Should an eagle nest tree be discovered in the sale area, the nest tree will be marked on the ground and a 330 foot no-harvest radius will be established in order to protect the tree. No critical 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. In the past, Alaska Department of Fish and Game, Division of Wildlife Conservation (ADFG) and now the DNR Office of Habitat Management and Permitting (OHMP) have recommended managing for as much diversity as possible when prescribing harvest unit size, shape and position to mimic the results of wildfire or other stand replacement phases such as insect outbreaks or flood events. To accomplish these objectives, snags will be retained to provide late-successional wildlife habitat for hole nesting birds, woodpeckers, small mammals, and other species requiring perching habitat. The units will be laid out with uneven edges along and between timber types. This layout design will create varied edge effects which are beneficial to many wildlife species.

**D. Fisheries and Water Quality**

During review of the FY 2012-2016 FYSTS OHMP had no particular fish or wildlife concerns with the proposed access road or harvest unit. Best management practices will be implemented to ensure water quality standards in all water courses. There is no reasonable expectation that operations on this level will have deleterious effects on fish habitat or water quality in Goldstream Creek or valley bottom wetlands.

**E. Subsistence**

The sale area lies within the Fairbanks Non-subsistence Area. 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 particular area is moderate due to the existence of all season forest roads and winter and summer trails. Primarily it consists of hunting and trapping activity, as well as some recreational snowmachining and dogmushing. During the hunting season in the fall the all season roads are used heavily. Depending on the level of road snow cover, hunting continues for grouse and hares through the winter.

**G. Scenic Resources**

The sale will not be visible from Standard Creek Road. It may be visible at very limited points from the Parks Highway. Its position on the slope, proximity to burn areas and leave trees of smaller white spruce and aspen 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. The State Office of History and Archaeology (OHA) do not list any sites on its inventory. 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. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

> "Sustained Yield" means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

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 based on a ten-year average as determined by the Parsons and Associates, Inc. report titled "Tanana State Forestry Lands Periodic Sustained Yield Analysis". This sale complies with sustained yield/allowable cut principles outlined in the Fairbanks Area Five-Year Schedule of Timber Sales for FY 2012-2016. The AAC for the Fairbanks Management Area is approximately 6,260 acres. The AAC will not be exceeded for this proposed sale.

## J. Silvicultural Prescription

### 1. Stand Silvics

The merchantable tree species here is white spruce. Data and research on regeneration and growth characteristics of these species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestations systems available in Interior Alaska are also reviewed and listed in the Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. 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**

   The largest, oldest and most valuable white spruce trees are being affected the most through needle defoliation and lateral branch dieback. The increment growth of these trees is beginning to decline due to the moss thickness and cooling of soil temperature. Attempt to utilize the current commercial value of this timber stand before the spruce budworm inflicts further damage and further individual tree degradation occurs. Attempt to improve vigor by replacing the aging older white spruce with younger faster growing trees. White spruce smaller than 9 inches in diameter will be reserved from harvest as well as all of the aspen. These trees will provide some cover for scenic attributes and regeneration sources. Provide a seed source from white spruce saw timber from outside the sale boundary. Maintain the hardwood component to provide wildlife trees and as a seed source. Return the site to a productive, naturally even-aged, diverse mixed-species stand at an equal or greater basal area than currently exists. White spruce occupies 85%, aspen 10% and black spruce 5% of the stand. It is expected that the hardwood component will increase to 40%. The objective is to maintain a white spruce component of 60% or better. 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 select cut system with reserves silvicultural system. White spruce trees nine inches dbh and larger will be removed. Snags, spruce less than 9 inches and all aspen will not be cut. Aspen trees may be used for bumper trees during skidding especially in area where pockets of advanced white spruce regeneration need to be protected. 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**

   Regeneration of white spruce occurs only from seeds. White spruce trees generally produce some level of seed crop every three to five years and large seed crops every five to seven years. Budworm is moderate in this area and cone production has been minimal. When the budworm infestation subsides white spruce from within and adjacent to the units are expected to provide seed. Residual and adjacent aspen will also supply seed and some sprouting of aspen will also occur. A regeneration survey will be conducted three years after any harvest. If the survey indicates inadequately stocked areas greater than ½ acre and totaling 2 acres then hand planting of white spruce seedlings will be performed on non-stocked areas. The goal for regeneration is to achieve a minimum of 450 evenly distributed trees per acre. Due to minimal white spruce cone production, it is anticipated that hand planting of seedlings will be necessary for this unit.

## K. Transportation

The planned access route to the proposed sale will follow Standard Creek Road, a primary all season access road, 6 ½ miles west until reaching a spur road. The route then extends south along the spur road for 1.0 miles. The all season spur road will require minor brushing and blading only. Access routes will be maintained to the standards set out in the AFRPA.

**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 is on mostly flat ground.

### L. Mining

This sub-unit of the TVSF has moderate mineral potential however; there are no mining claims within the sale boundary or proposed access routes. More detailed information on subsurface resource use is found in the TVSF Management Plan. Other than providing access, and sharing some of the same access roads, this sale will have no impact on the potential mining resources or mining activity in this area. Four miles to the northwest, considerable seismic survey work has been done in search of natural gas, but no development has occurred.

### M. Materials

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

### N. 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 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.

## V. MARKET CONDITIONS

Interior Alaska has a growing demand for biomass and firewood and a sustainable market for saw timber. Heating oil 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 high cost heating oil. The demand for firewood has steadily increased in the past few years and will likely continue to increase. Local suppliers of firewood continue to have a demand for accessible timber sales to deliver their product.

Residential construction and commercial operations throughout Alaska still need sawn products to support their operations. Local businesses that produce these products continue to pay for the delivered material.

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.

## VI. ALTERNATIVE ACTIONS

There are four possible alternatives to consider for this sale. A discussion of each of the four alternatives follows:

1. **To continue the sale(s) as proposed.**

   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 5A.

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. **<u>Do not offer this timber for sale.</u>**

   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.

## VII. FINAL FINDING AND DECISION

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
BEST INTEREST FINDING

# *Standard 6 Mile Spruce #2*
# *NC-1446-F*

I. <u>Formal review and response to objections, comments, or alternatives (summarized):</u>

The Agency and Public review of the Forest Land Use Plan (FLUP) started on February 20, 2013 and ended on March 22, 2013. The FLUP review advertisement was posted on the Department of Natural Resources, Division of Forestry web site on February 20, 2013. In addition, requests for comments were either e-mailed or sent to various agencies, organizations and members of the public.

The Division of Agriculture and the Office of History and Archaeology had no comment. The Alaska Department of Environmental Conservation had no particular concerns or comments to offer for the protection of water quality, particularly since the unit contains no perennial surface waters. The Forester-In-Charge ensures that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to AFRPA best management practices. The sale has been laid out to be screened from the view from the Parks Highway.

II. <u>Final Finding and Decision:</u>

The purpose of this decision is to determine if the Department of Natural Resources, Division of Forestry, shall make available 36.0 acres of spruce saw timber located in Sections 29 and 32, Township 1 South Range 4 West, Fairbanks Meridian, Alaska.

1. The sale meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate.
2. The sale 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.

3. The sale complies with the management objectives of the Tanana Valley State Forest (TVSF) Unit 5A, which allows for commercial and personal use timber production while protecting important wildlife habitat values.
4. Sale layout and design adhere with Region-III Riparian Standards. This sale is consistent with all statutes and plans.
5. The sale has undergone agency and public review and concerns have been resolved in the preparation, documentation and design of the sale.

The finding presented above has been reviewed and considered. The case file has been found to be complete. The requirements of all applicable statutes have been satisfied. Therefore, it is the finding of the Director that it **is in the best interest of the state** to approve this action under the authority of AS 38.05.035(e) and AS 38.05.110-120.

A person affected by this decision who provided timely written comment may appeal it, in accordance with 11 AAC 71.002. Any appeal must be received by May 14, 2013, and may be mailed or delivered to Dan Sullivan, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918, or sent by electronic mail to dnr.appeals@alaska.gov. If no appeal is filed by that date, this decision goes into effect as a final order and decision on May 14, 2013. An eligible person must first appeal this decision in accordance with 11 AAC 71.002 before appealing this decision to Superior Court. A copy of 11 AAC 71.002 may be obtained from any regional information office of the Department of Natural Resources. It is the Division of Forestry's intent to offer this timber sale by auction on or after May 15, 2013. If no qualified bid is received within the time specified during the auction, the Division of Forestry may offer the sale for purchase over-the-counter without re-advertisement for not less than the advertised minimum bid.

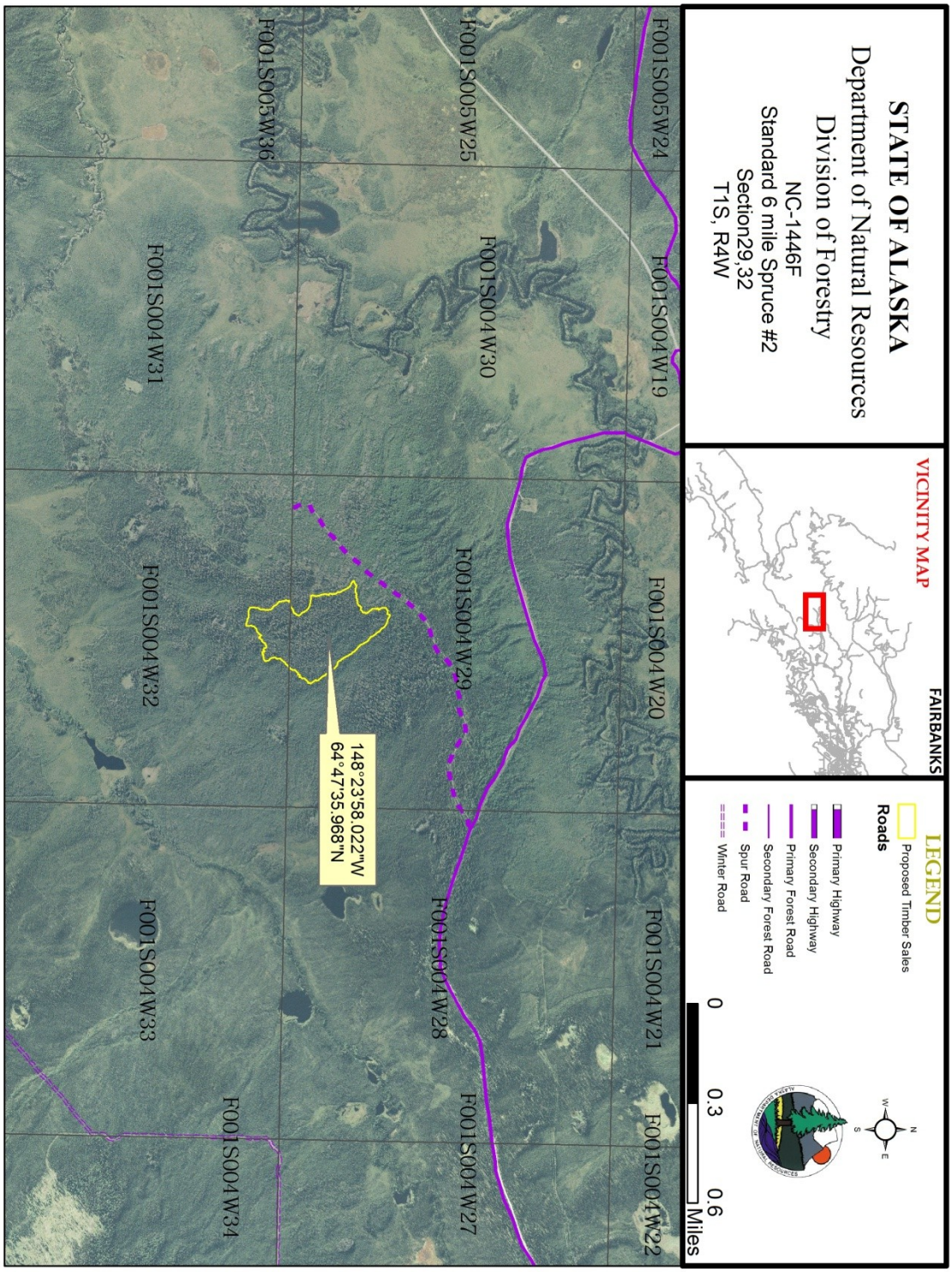
Prepared and Recommended by: Brian Young, Resource Management Forester

Concur ( X ) Do Not Concur ( )

Kathryn S Pyne

Kathryn Pyne
Fairbanks Area Forester

4/15/13
(Date)


STATE OF ALASKA
Department of Natural Resources
Division of Forestry
NC-1446F
Standard 6 mile Spruce #2
Section29,32
T1S, R4W
VICINITY MAP
FAIRBANKS
LEGEND
Proposed Timber Sales
Roads
Primary Highway
Secondary Highway
Primary Forest Road
Secondary Forest Road
Spur Road
Winter Road
0
0.3
0.6
Miles
F001S005W24
F001S004W19
F001S004W20
F001S004W21
F001S004W22
F001S005W25
F001S004W30
F001S004W29
F001S004W28
F001S004W27
148°23'58.022"W
64°47'35.968"N
F001S005W36
F001S004W31
F001S004W32
F001S004W33
F001S004W34