

Final Best Interest Finding

For a

Long Term Timber Sale for Biomass Utilization in Tok, Alaska

NC-1075T

April 3, 2013



State of Alaska
Department of Natural Resources
Division of Forestry

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Definitions

The following terms are commonly used throughout the document or in supporting documents. The reader is advised to reference these terms prior to reading the document to understand the context and perspective of the document.

Adaptive Management - The systematic and iterative approach of observation and documentation for improving sustainable forest management decisions and enhancing benefits by emphasizing learning from management outcomes. Adaptive management explores alternative ways to meet management objectives, predicts the outcomes of alternatives based on what is known, implements one or more alternatives, monitors the outcomes, and uses the results to update knowledge and adjust management actions.

All Season Road - A forest road capable of supporting highway vehicles and logging equipment throughout the year, however closures may occur during periods of heavy rain or spring break-up.

Annual Allowable Cut (AAC) - The annual allowable cut (AAC) is the average amount of timber that may be sustainably cut from a forest that will maintain a balance between net growth and harvest while meeting the management intent for the land.

Board Foot (BF) -Used to describe the measurement of sawn lumber or round log measure. Nominally, a rough-sawn, green board 1 inch x 12 inch x 12 inch, or equivalent. Logs and lumber are sold in many parts of the world based on increments of one thousand board feet or MBF.

Bone Dry - Equivalent to Oven Dry.

Bone Dry Tons (BDT) - 2,000 pounds of woody biomass dried to 0% moisture content. Also called an oven dry ton.

Bone Dry Unit (BDU) - 2,400 pounds of woody biomass dried to 0% moisture content

Critical Protection - Suppression action provided on a wildland fire that threatens human life, inhabited property, designated physical developments and structural resources such as those designated as National Historic Landmarks. The suppression objective is to provide complete protection to identified sites and control the fire at the smallest acreage reasonably possible. The allocation of suppression resources to fires threatening critical sites is given the highest priority.

CUNIT (CCF) - One hundred cubic feet of solid wood. Used as a log measure or as a measure of solid wood content.

Cord - A measure of roundwood or pulpwood representing a stack of such wood 4 ft. x 4 ft. x 8 ft. or 128 ft³. Often used for pulpwood or firewood measurement.

Fiber Saturation Point - The point at which all free water has been removed from the wood, but all “bound “water” remains (water in the cell walls). This is approximately 25-30% moisture content, (Oven Dry weight basis), for all species. Below this point shrinkage occurs in the wood.

DBH - An abbreviation for diameter at breast height. A common tree diameter measurement point located at 4.5 feet above the ground.

Forest Management Lands - Lands within the Tanana Valley State Forest and state owned lands outside the State Forest and designated (classified) in the Tanana Basin Area Plan (TBAP) as either Forestry Primary or Co-primary which are used to determine the Annual Allowable Cut (AAC). These lands are often referred to as "Forestry Classified" lands.

Full Protection - Suppression action provided on a wildland fire that threatens uninhabited private property, high-valued natural resource areas, and other high-valued areas such as identified cultural and historical sites. The suppression objective is to control the fire at the smallest acreage reasonably possible. The allocation of suppression resources to fires receiving the full protection option is second in priority only to fires threatening a critical protection area

Green - Description of living wood or wood that has been recently harvested and thus has a moisture content in excess of the fiber saturation point.

Green Ton (GT) - 2,000 pounds of woody biomass with moisture content in excess of the fiber saturation point.

Land Classification - Identifies the general purposes for which state land will be managed. All classification categories are for multiple uses, although a particular use may be considered primary. Land may be given a total of three classifications in combination.

Limited Protection - Lowest level of suppression action provided on a wildland fire in areas where values to be protected do not justify the expense of a higher level of protection, and where opportunities can be provided for fire to help achieve land and resource protection objectives. The suppression objective is to minimize suppression costs without compromising protection of higher-valued adjacent resources. The allocation of suppression resources to fires receiving the limited protection option is of the lowest priority. Surveillance is an acceptable suppression response as long as higher valued adjacent resources are not threatened.

Mainline Road - A primary forest road collecting secondary and spur roads and serving a large ownership block.

Oven Dry - Having zero percent moisture content. Wood heated in an oven to a constant temperature of 100-105 Centigrade until its weight stabilizes is considered oven dry.

Pole Timber - Is a stand of trees with an average diameter that is between 5-8.9 inches at four feet above expected stump height.

Primary Harvest Area - The area from which the majority of the woody biomass for this project is anticipated to be harvested. This area has been designated as primary for the most part due to its proximity to Tok. The Primary Harvest area is a subset of the Project Area.

Project Area - The general area of state land considered in this Best Interest Finding for harvest or required for the harvest. The area is limited by topography, timber types, land ownership, management intent and access.

Sapling - Is a stand of trees with an average diameter that is less than 5 inches at four feet above expected stump height.

Saw Timber - Is a stand of timber greater than 9 inches diameter at four feet above expected stump height.

Secondary Harvest Area - The remaining area from within the Project Area, which is not designated as Primary Harvest Area.

Secondary Road - A forest road collecting spur roads and serving several harvest units.

Seral Stages - Also called successional stages. In a forestry context, the series of plant community conditions that develop during ecological succession from bare ground (or major disturbance) to the climax stage.

Serotinous - Term that describes cones (typically *Pinaceae* species) that, although containing viable seed, remain on the tree for many years and only open to release their seed when stimulated by the heat of a fire or intense heat from the sun.

Spur Road - A short, low-standard forest road that usually supports one or two harvest units.

Torrefaction -Is a pre-treatment technology to make biomass more suitable for cofiring applications, such as in coal fired power plants. It is a thermo chemical treatment method carried out under atmospheric conditions in the absence of oxygen. A torrefaction process typically consists of pre-drying, torrefaction, product cooling and combustion of the torrefaction gas to generate heat for drying and torrefaction. Whole Tree Harvesting - A harvesting method in which the whole tree (above the stump) is felled and skidded to the landing for processing into logs, high quality wood chips or woody biomass fuel.

Winter Road - A forest road that has a load-bearing capacity derived from a combination of soil, frost, snow, or ice that typically only seasonally supports highway vehicles and logging equipment.

Woody Biomass - For this finding, refers to the aboveground portions of white and black spruce, birch, aspen and balsam poplar.

Abbreviations

AAC: Annual Allowable Cut

ADF&G: Alaska Department of Fish and Game

AEA: Alaska Energy Authority

AP&T: Alaska Power and Telephone

BIA: Bureau of Indian Affairs

BIF: Best Interest Finding

BMPs: Best Management Practices

CWPP: Community Wildfire Protection Plan

DBH: Diameter at Breast Height

DEC: Department of Environmental Conservation

DNR: Department of Natural Resources

DOF: Division of Forestry

DOT/PF: Department of Transportation/Public Facilities

ETAP: Eastern Tanana Area Plan

FF: Final Finding

FLUP: Forest Land Use Plan

FRPA: Alaska Forest Resources and Practices Act

FYSTS: Five-year Schedule of Timber Sales

MBF: One Thousand Board Feet of Lumber

PBIF: Preliminary Best Interest Finding

RCA: Regulatory Commission of Alaska

SHPO: State Historic Preservation Office

TBAP: Tanana Basin Area Plan

TVSF: Tanana Valley State Forest

USF&WS: United Fish and Wildlife Service

I. Introduction

A. Proposed Action

A previous Preliminary Best Interest Finding (PBIF) was published during the spring of 2012. That PBIF proposed conducting a 25-year negotiated sale of timber and biomass under the authority of AS 38.05.118 with Alaska Power & Telephone (AP&T). Due to competitive interest in the proposed sale and other public comment, the State rescinded the original PBIF finding on September 14, 2012, and issued a revised PBIF on December 17, 2012.

This BIF describes the director's determination that the best interest of the State will be served by the Department of Natural Resources (DNR) Division of Forestry (DOF) selling woody biomass material from state land to supply a proposed cogeneration and/or forest products facility(s), near Tok, Alaska. The biomass would be offered as a competitive 25-year timber sale contract. The contract volume will be measured as green tons of woody biomass removed from state land. Specific sale units within the area covered by the best interest finding will be identified through Five-Year Schedules of Timber Sales (FYSTS) under AS 38.05.113 and site-specific Forest Land Use Plans (FLUPs) under AS 38.05.112.

To be eligible to appeal this final decision, a person must have provided written comment by February 4, 2013.

B. Location

The sale area encompasses state land within an approximate 40 mile radius of the community of Tok, Alaska located in Township 18N, Range 13E, in the Copper River Meridian. Tok is found on the United States Geological Survey 1:63,360 Quadrangle map titled Tanacross B-4. The sale area is shown on the attached Map I Tok Vicinity & Land Ownership.

Two Alaska Native regional corporations Doyon, Limited and Ahtna, Incorporated, plus the following village corporations own land adjacent to the proposed project: Tanacross Incorporated, Dot Lake Native Corporation, and Tetlin Native Corporation. The Tanana Chiefs Conference Inc. and the Copper River Native Association are the area's regional Native non-profit organizations. The area's Tribal Governments include the Tok Native Association, Northway Native Association, Native Village of Tanacross, Mentasta Traditional Council, Tetlin Village Council and the Village of Dot Lake.

C. Project Timeline and Scheduling

In keeping with the objective of the BIF to reduce hazardous fuels, the operations will first target areas nearest the community of Tok, then transition to forest lands outside the community. Establishing defensible space near the community will take five to ten years. The BIF maps depict the project area in which the DOF may operate over the project life span. The project area is subdivided on the maps showing area outlines from within which the harvesting is likely to occur (primary harvest areas) along with approximate timelines; the remaining land is depicted as "secondary harvest areas." The secondary areas will be used at the DOF's discretion once the initial objective of reducing hazardous fuels near Tok has been accomplished. The plan is to recover the majority if not all of the volume required for the contract from the "primary areas." If conditions change in the primary area (land use, major wildland fire, etc.) the secondary area will be utilized to meet contract obligations in

keeping with the objectives of this BIF. The areas depicted on the maps represent a pool from which the harvest will occur; the complete area outlined will not be harvested during the course of the contract. Harvest units within the primary and secondary areas will be chosen by professional judgment of the DOF in order to make the best use of the State's resources. These specific decisions will be described in FLUPs prior to harvesting.

D. Objectives

1. Decrease wildland fire risk.

To remove combustible contiguous forest fuel types currently adjacent to or near the community of Tok. This objective has similarly been outlined as an objective in the Tok Community Wildfire Protection Plan (CWPP). Where site conditions make it favorable to do so, promote conversion of highly combustible spruce forest fuel types to less combustible hardwood fuel timber types and /or to a forest stand configuration with lower fuel loading along with breaks in the forest fuel types.

2. Support renewable resource development.

To encourage sustainable development of the State's forest resources, making them available for maximum use consistent with the public interest. If market conditions are favorable, encourage the use of the resource for sustainable local energy that could contribute to the State's overall goal of 50% renewable electrical power by 2025.

3. Promote forest health.

Improve timber growth and vigor by harvesting and replacing mature stands with new healthy stands, while protecting and maintaining other forest resources. The actions authorized under this decision will adhere to sustained use and multiple-use management principles and, as appropriate, the site specific management objectives and guidelines developed by the Tanana Basin Area Plan, the Tanana Valley State Forest Management Plan, Forest Land Use Plans, and other applicable DNR decision documents.

4. Maintain or improve wildlife habitat.

To increase the diversity of forest stand types and age classes adjacent to or near the community of Tok for a variety of local wildlife species.

E. Scope of Decision

This best interest finding is Phase two of a statutory six-step process used to design, sell, and administer timber sales. This BIF specifically pertains to the sale of a 25 year timber sale in the Tok area. The following list summarizes the overall process: (Appendix 2 graphically shows the process)

1. Phase one: Regional planning.

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 best interest finding is covered by the Tanana Valley State Forest Management Plan and Tanana Basin Area Plan. The finding also considers fire management plans, including the Alaska

Interagency Wildland Fire Management Plan and the Community Wildfire Protection Plan for the Tok area.

2. Phase two: Best Interest Finding.

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.

This best interest finding covers the decision to sell 35,000 tons of green woody biomass per year for 25 years as a competitive sale under AS 38.05.120 in the Tok area as shown on Maps I through IX in this document. This volume of timber is well within the allowable cut for the affected area (see “Sustained Yield and Allowable Cut”). The harvest and reforestation strategy is described on pp. 18-19. The sale will be sold at fair market value; see “Method of Appraisal” pp. 31 for the explanation of the appraisal process.

3. Phase three: Five-Year Schedule of Timber Sales (AS 38.05.113).

Following adoption of the final best interest finding, the DOF will identify specific harvest areas within the overall sale area identified in this best interest finding that may occur within the next five years. Proposed harvest areas and road routes will be included in one or more Five-Year Schedules of Timber Sales (FYSTS) for the Tok Area. The FYSTS are scoping documents that provide an opportunity for public, agency, and industry to identify potential issues and specific areas of interest. The FYSTS are updated every two years or as the DOF determines necessary to adequately portray potential areas of future timber harvest activity.

4. Phase four: Timber sale and contract.

Following adoption of the final best interest finding and publication of the FYSTS, DOF may auction off the timber covered by the finding, and sign a contract with the winning bidder. The contract will include stipulations to ensure compliance with the finding and statutory requirements.

5. Phase five: 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. The DOF will prepare FLUPs for harvest areas within the overall sale area covered by this best interest finding. 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. The DOF provides opportunity for public and agency comment on draft FLUPs. For the land covered by this best interest finding, multiple FLUPs will be prepared for groups of units that will be harvested in a given time period. For, example, the first FLUP might cover the units to be harvested in the first three to five years, and additional FLUPs would be prepared for subsequent time periods.

6. Phase six: Sale administration.

The DOF administers timber sales and conducts field inspections to ensure compliance with this final finding, the timber sale contract, FLUP, 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.

II. Administrative Record

The DOF will maintain an administrative record regarding the decision of whether or not to sell a 25-year biomass and timber sale in the Tok area. This record will be maintained at the DOF's Tok Office filed as NC-1075T.

III. Legal Authority

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

IV. Discussion of Issues

A. Physical Characteristics of the Sale Area

The topography ranges from the relatively flat Tanana and Tok River bottomland to the rolling hills north of the Tanana River. The elevation varies from 1,450 feet to 3,200 feet. Slopes in the sale area include nearly flat bottomlands and valleys along the major drainages to the rolling (20% to 50%) slopes in the hills north of the Tanana. Steeper slopes will likely preclude any significant operations.

B. Current Land Use

Much of the state land proposed for the sale area is in the Tanana Valley State Forest or is designated Forestry as its primary or co-primary use in the TBAP (see Map II State Land Use Designation). In addition, there are a substantial number of tracts near Tok and along the Alaska Highway that are designated Settlement as their primary use and, based on the CWPP, are being considered for some level of harvest under this proposed sale. Any proposed activity on these lands, as well as other lands not designated Forestry will need prior specific approval of DNR's Division of Mining, Land and Water. All State lands around Tok have been incorporated in the Tok CWPP. One of the Plan's objectives is to identify, prioritize and reduce hazardous fuels within and surrounding the community. The plan focuses on reducing the spruce component of a stand to create a less flammable hardwood forest. To date, fuels treatments have been limited due to no market for the woody biomass that would be generated or available state or federal funding to pay for treatments. As of 2011, some of the biomass being removed under the CWPP was being utilized to fuel the wood-chip boiler at the Tok School.

There are several significant high-use public trails including the Eagle, Tetlin, Tanana Crossing-Grundler, Slana-Tanana Crossing, Tanacross-Ketchumstuk, Dennison Fork Winter, and Johnny Trails within the sale area. Many unnamed minor trails exist in the area as well.

There are several Alaska Native allotments within the project area. The allotments are associated with historical Alaska Native use. These allotments are privately held property that is overseen in most cases through an agreement with the allotment owner and the Bureau of Indian Affairs (BIA). The BIA has subsequently empowered the Tanana Chiefs Conference, Inc. to assist in the management of the individual parcels. The specific location, owner and attributes of these parcels are restricted information and are not generally available to the public. The DOF is aware of the location of these parcels through an interagency agreement and will respect the location as it develops site specific management adjacent to them in the FLUP process in consultation with the Tanana Chiefs Conference, Inc.

Existing logging roads include both all-weather roads and winter roads. Snow machines, dog mushers, 4-wheelers and other recreationalists also use logging roads.

Hunting, trapping, fishing, berry-picking are all done in the area. Commercial as well as personal use mushroom harvesters also use the area, especially after recent wildfires.

There exist several mining claim blocks in the area. The area is generally open to mining entry, with the exception of the former Tok Research Forest that is protected by Leasehold Location Order #31. There are no active mines in the area.

The University of Alaska tentatively received title to approximately 4,007 acres north of Red Fox Drive as the result of legislation (HB-130) passed in 2005. A legal challenge to the legislation occurred, and as part of the court ruling, these lands reverted to the Division of Mining, Land and Water (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 in Section 7. 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.

C. Sustained Yield and Allowable Cut

AS38.04.910 (12) defines sustained yield as “the achievement and maintenance in perpetuity of a high level annual or periodic output of various renewable resources of state land consistent with multiple use.” The annual allowable cut (AAC) is the calculated amount of timber that can be harvested from an area managed under the sustained yield principal.

1. Tanana Valley AAC

In 2000, Parsons and Associates, Inc., under contract with the DOF, calculated the AAC for the Tanana Valley. Their analysis divided the land base into four different Management Areas of which one is Tok. Calculations were based on lands designated forestry as primary and co-primary in the Tanana Basin Area Plan and lands within the Tanana Valley State Forest henceforth described as forest management lands. The DOF subsequently adjusted the Parsons and Associates estimate to reflect somewhat longer rotation ages and a retention factor to better capture acreage retained for other values. The retention factors are described in Table 10, Chapter 2 of the

[TVSF Management Plan](http://forestry.alaska.gov/management/tvsf_final_plan.htm) (http://forestry.alaska.gov/management/tvsf_final_plan.htm). The longer rotation ages were based on comments by professionals who thought the rotations were short for certain areas with low productivity. Timber stands can be a mix of tree species and age classes or a homogenous stand of trees with little variation in species or age. The rotation ages are assigned based on predominate timber species in the stand. The revised rotation ages use 70 years for hardwood forests and 120 years for spruce forests.

In preparation for new biomass uses in the Tanana Valley, the DOF expanded its inventory data to include the higher volume black spruce and mixed black spruce stands that were initially excluded from the Parsons and Associates sustained yield analysis (see Map III Project Area Timber Types). If the Parsons and Associates methodology is used with the adjusted rotation age and retention factors, approximately 3,100 acres are available each year for harvest in the Tok Area on a sustainable basis. With the additional black spruce and black spruce/ hardwood acres the sustained yield is likely to increase and will be updated in the revised TVSF inventory.

2. Other State Land

In the Project Area, there are also 7,900 acres of other state lands managed by the DNR's Division of Mining, Land and Water that could be harvested with their concurrence. The DMLW has collaborated with the DOF in developing the general harvest plan as outlined in this PBIF. These lands are not part of the AAC calculations since these lands are designated for conversion to other uses. For example, lands identified for settlement will be subdivided and sold as residential or recreational property making it inappropriate to consider them part of a renewable fiber supply although, in the long term, some recurring contribution may be available from maintaining defensive space. Most of these lands are part of the Community Wildfire Protection Plan and have been proposed for some form of initial treatment (see Map XI). As a result of discussions with the local community during the formation of the Community Wildfire Protection Plan and with the Division of Mining, Land, and Water, the DOF estimates the need to retain 40 % of these stands for aesthetic and other values or demands. This partial harvest is anticipated to make 4,700 acres of land available for biomass harvest from these other state lands. As these treated lands regenerate and grow, over the next 25 years the adjacent untreated stands may also require some level of treatment to keep to the objectives discussed in the CWPP.

3. Fire

Fire plays a significant role in the ecology of the Tok Area. Since 1947, wildland fire has burned 205,600 acres within the Tanana Valley State Forest and forest classified lands in the Tok Management Area - averaging 3,200 acres per year. About 220 acres per year or over 14,000 acres burned within the proposed operable area during the same 65 year period, (see Map X Historical Fires in the Project Area). Based on these historic numbers, the amount of land that may burn during the 25 year period of this project is approximately 7% of the project area. As these burned over stands regenerate and age, they grow into size classes (recruitment) that could be harvested or burn again.

A significant amount of residual trees within past and future fire perimeters may be capable of being salvaged for woody biomass uses for some time after being burned and from "islands" of trees within a fire's perimeter that were not burned.

As the harvest progresses, increased access and stand conversion to less fire prone species such as aspen and birch will reduce the potential for large fires and increase the likelihood of an effectively larger acreage pool being available for future harvest over the long term.

4. Biomass Inventory (State Land)

There is a total of 3,370,000 green tons of biomass in the project area (Map III). This tonnage is derived from destructive sampling conducted by the DOF, timber typing and forest inventory measurements, and USFS (Anderson et al. 2010) and DOF sampling during 2009. The DOF measured a total of 630 plots in 63 timber stands. The total sampling error for these 630 plots was 7.9 percent.

The sapling size class was not originally sampled but has been determined to contain useable biomass. To provide an estimate of the sapling type characteristics, the 2009 USFS data has been applied using the same volume and weight equations as the other size classes and timber types. More sampling was done during the summer of 2012 and the data collected will be merged with existing data to produce a final report with a statistical analysis in 2013.

The method of representing and estimating these volumes is complex and based on parameters requiring qualification based on a number of factors. Please see Appendix 1 for further discussion on biomass inventory methodology. Table 1 details the estimated acreage by timber type within the land classes, the resulting volumes of associated timber by species in these respective types (Saw Timber, Pole Timber, Sapling) and finally a weight of the woody biomass (green tons). Table 2 represents the same set of estimates for the Primary Timber Sale Area. See Section I(C), page 8 (Project Timeline and Scheduling) for an explanation of “Primary Timber Sale Area.”

The timber types represented in the inventory are described by size class to give an indication of stocking and timber size characteristics. Many of the stands regardless of the size class are mature based on the rotation age. Many of the stands adjacent to Tok and included in this project are grossly overstocked; this significantly limits growth of the trees. Many 3 inch DBH trees are over 100 years old. So even though the stand is typed sapling the stand is relatively old and tree growth is stagnant. This again is mostly due to the overstocking condition of these stands.

Table 1. Project Area Timber Type Summary

(CCF means “hundred cubic feet”)

	TVSF		Forest Classified		Other State		Total	Total	Total
	CCF	GT	CCF	GT	CCF	GT	CCF	GT	Acres
Saw Timber									
Acres	1,481		357		0				1,838
<i>Aspen</i>	23	153	21	123			44	276	
<i>Balsam Poplar</i>	288	1,558	66	358			354	1,916	
<i>Birch</i>	460	3,165	51	397			511	3,562	
<i>Black Spruce</i>	726	6,485	167	1,489			893	7,974	
<i>White Spruce</i>	36,692	142,888	8,664	33,066			45,356	175,954	
SubTotal	38,189	154,249	8,969	35,433	0	0	47,158	189,682	
Pole Timber									
Acres	13,092		7,803		1,473				22,368
<i>Aspen</i>	19,332	101,141	6,065	34,068	1,078	6,144	26,475	141,353	
<i>Balsam Poplar</i>	27,379	143,177	957	4,731			28,336	147,908	
<i>Birch</i>	8,875	50,673	4,360	22,652	1,019	5,244	14,254	78,569	
<i>Black Spruce</i>	2,745	17,026	1,760	11,833	278	1,878	4,783	30,737	
<i>White Spruce</i>	136,206	608,964	97,289	429,237	18,233	80,985	251,728	1,119,186	
SubTotal	194,537	920,981	110,431	502,521	20,608	94,251	325,576	1,517,753	
Sapling									
Acres	24,063		10,460		6,388				40,911
<i>Aspen</i>	19,732	208,872	8,577	90,791	5,239	55,452	33,548	355,115	
<i>Balsam Poplar</i>	6,257	32,486	2,720	14,121	1,661	8,624	10,638	55,231	
<i>Birch</i>	1,684	14,679	732	6,380	447	3,897	2,863	24,956	
<i>Black Spruce</i>	11,310	130,665	4,916	56,797	3,003	34,690	19,229	222,152	
<i>White Spruce</i>	92,885	591,001	40,375	256,893	24,660	156,901	157,920	1,004,795	
SubTotal	131,868	977,703	57,320	424,982	35,010	259,564	224,198	1,662,249	
GrandTotal	364,594	2,052,933	176,720	962,936	55,618	353,815	596,932	3,369,684	
SubTotal Acres	38,636		18,620		7,861				65,117
Burned Acres	3,904		1,472		0				5,376
Non-Forest Acres	13,843		1,010		30				14,883
Total Gross Acres	56,383		21,102		7,891				85,376

Table 2. Primary Timber Sale Area Summary

Saw Timber	CCF	GT	CCF	GT	CCF	GT	CCF	GT	Acres
Acres	235		236		0				471
<i>Aspen</i>	5	35	18	103			23	138	
<i>Balsam Poplar</i>	48	258	42	227			90	485	
<i>Birch</i>	277	1,854	32	263			309	2,117	
<i>Black Spruce</i>	120	1,076	106	945			226	2,021	
<i>White Spruce</i>	6,621	26,182	5,609	21,254			12,230	47,436	
SubTotal	7,071	29,405	5,807	22,792	0	0	12,878	52,197	
Pole Timber									
Acres	3,354		6,746		1,473				11,573
<i>Aspen</i>	7,032	35,900	4,175	23,160	1,078	6,143	12,285	65,203	
<i>Balsam Poplar</i>	3,541	17,380	600	3,009			4,141	20,389	
<i>Birch</i>	2,232	12,446	3,719	19,310	1,019	5,242	6,970	36,998	
<i>Black Spruce</i>	646	4,147	1,649	11,081	278	1,878	2,573	17,106	
<i>White Spruce</i>	33,930	151,759	87,557	383,766	18,230	80,973	139,717	616,498	
SubTotal	47,381	221,632	97,700	440,326	20,605	94,236	165,686	756,194	
Sapling									
Acres	4,156		9,341		6,388				19,885
<i>Aspen</i>	3,408	36,070	7,660	81,082	5,238	55,451	16,306	172,603	
<i>Balsam Poplar</i>	1,080	5,610	2,429	12,611	1,661	8,624	5,170	26,845	
<i>Birch</i>	291	2,535	654	5,698	447	3,897	1,392	12,130	
<i>Black Spruce</i>	1,953	22,565	4,390	50,723	3,003	34,689	9,346	107,977	
<i>White Spruce</i>	16,040	102,060	36,057	229,421	24,659	156,898	76,756	488,379	
SubTotal	22,772	168,840	51,190	379,535	35,008	259,559	108,970	807,934	
GrandTotal	77,224	419,877	154,697	842,653	55,613	353,795	287,534	1,616,325	
GrandTotal									
Acres	7,745		16,323		7,861				31,929

D. Stand Conditions

1. Existing

There are five different tree species present in the Tok Area: white spruce (*Picea glauca*), black spruce (*Picea mariana*), paper birch (*Betula neoalaskana*), quaking aspen (*Populus tremuloides*), and balsam poplar (*Populus balsamifera*).

White spruce occurs in pure stands and in mixed stands with birch, balsam poplar, aspen and black spruce. It attains its best development on well-drained to moderately well-drained silt and sand loams. The well-stocked white spruce type represents the most productive sites (Viereck et al. 1992). The white spruce type is considered to be the climax vegetation type on the well-drained upland sites. Over several centuries on some floodplain sites, or in upland sites in the absence of fire, white spruce types may be replaced by black spruce as permafrost develops on the site.

Black spruce occurs in pure stands but may have a mixture of white spruce and hardwoods. Black spruce occurs commonly on organic soils with poor drainage, often underlain by permafrost. Generally, pure stands of black spruce are less than 25 feet in height but some stands occurring on better sites can reach pole timber size of 5 inches diameter at 4.5 feet (DBH).

Paper birch occurs in pure stands but may have a mixture of white spruce, black spruce and other hardwoods. Birch attains its best development on well-drained silt loam soils. The stands generally result from fires where adjacent unburned birch trees spread considerable amounts of seed on the newly exposed sites. Upland stands typically grow on aspects other than due north or due south. Stands will also grow on flood plain sites, but are usually not associated with the most active flood zones. In these areas balsam poplar is the dominate timber type.

Quaking aspen occurs in pure stands but may have a mixture of white spruce, black spruce and other hardwoods. Aspen attains its best development on well-drained silt loam soils, but on areas that are warmer than the birch sites. Stand development results from fire similar to birch. Aspen can also be regenerated vegetatively (coppice sprouting). This is accomplished by totally removing the aspen overstory which allows shoots to sprout from the roots. These shoots become new trees which are actually clones of the original stand.

Balsam poplar is generally found in nearly pure stands on floodplains, but may have a mixture of white spruce. These stands are usually found where erosion and flooding are active. These sites usually are quite productive, but are limited in nature to river bottomlands. Balsam poplar stands develop as a successional sequence that begins with alder-willow thickets on exposed sandbars. These stands eventually develop into white spruce forest.

2. Harvest Prescription

The predominant harvest method will be patch clear-cuts with reserves. The patches will be separated by uncut timber stands while the reserves will consist of uncut clumps of trees within the patch clear-cut. Unharvested areas which include the reserves and uncut timber between the patches will be approximately 40% of the area. Size and shape of each cut will be determined by site specific characteristics such as terrain, soils, and water bodies and will be addressed in the Forest Land Use Plan that will be required prior to harvest. Timber types within the project area comprise a wide range of stand ages. Much of the sapling and pole timber types are relatively old with pole timber averaging up to 160 years old. Timber harvest will be designed to leave patches that are true young growth while harvesting older trees. Specific objectives for hazard fuel reduction may overrule this prescription for some stands.

3. Harvest Methods

Harvesting forest biomass for energy is relatively new to Alaska. For the project to succeed, systems using mechanical falling and skidding are the only methods that can efficiently and economically harvest stands with large number of small diameter stems. There are systems developed in Canada and Scandinavia specifically for small diameter wood which may fit the conditions for this project.

Once the trees are skidded or forwarded to a roadside, the trees can then be loaded on conventional log trucks to be processed at the energy plant, or chipped in the woods and loaded in chip vans and delivered to the plant ready for the boilers.

By processing the wood at the plant, conventional logging trucks and loaders could be used. This method would not lend itself to whole-tree harvesting where the limbs as well as the bole are utilized. An in the woods delimeter and ample log storage space at the plant would be needed for this system.

Chipping in the woods is a common approach for this type of operation but has not been done in Alaska for any length of time. Whole trees are chipped and then hauled to the plant. A mobile chipper, chip vans, chip-truck dump and a chip storage facility at the plant would be required for this system. Road construction standards may need to be more refined than normal logging roads because some types of chip vans have less clearance and are less tolerant of bumps and sudden changes in grade.

4. Proposed Reforestation

The sale will encourage the regeneration of hardwoods for use as a wildland fire fuel buffer for the community of Tok. Hardwood stands are generally a less volatile fuel type, especially when compared to conifer stands of white and black spruce that dominate much of the area. Where aspen (which is the predominate hardwood) is present, the total removal of the aspen and spruce overstory will promote aspen's natural reaction to grow new shoots from its roots – a common practice where aspen is managed as a forest crop.

Where birch is present, the regeneration prescription will encourage natural regeneration through seeding from adjacent stands or seed trees left in the harvest unit. Once the unit has been harvested, the unit will be scarified to provide an optimum seedbed by exposing mineral soil. Birch is a relatively minor species component in the local stands.

High utilization of browse by moose and hares at the time of stand establishment may have a strong effect on successional trajectory, potentially reducing hardwood biomass and increasing spruce dominance (and fire risk) at the desired rotation period. Management objectives for biomass production, stand species composition and herbivore abundance will be balanced in the Forest Land Use Plans to increase the potential for the desired stand outcome. Stand structure will be created from retained logging debris and other actions will also be considered.

Hardwood regeneration will be encouraged over the spruce near settled areas to promote a more fire resistant forest. Although the spruces in these areas are not the desired species, these species periodically produce seed and some will become established after a harvest, resulting in mixed spruce-hardwood forest stands. Both spruce species are shade tolerant and if given the time will outlast the shorter lived hardwoods and dominate the site. Harvested spruce stands outside the desired fire resistant buffers described above will be encouraged to regenerate freely to continue to provide timber products and the forest mosaic needed for diverse wildlife habitat.

Regeneration will comply with the reforestation standards in the Forest Resources and Practices regulations, 11 AAC 95.375-.390.

E. Fire Hazards, Wildland Fire Management, and Fire Suppression Costs

Most of the forest stands in the area are the result of wildfires. After a fire, hardwoods regenerate from seed, root and stump sprouting and seeds from surrounding spruce, and those released by the heat of the fire from the serotinous cones of black spruce, regenerate the area. The faster growing hardwoods typically dominate the site for many years while the spruce remains in the understory. Early on, the stand is relatively fire resistant as

hardwoods offer little fuel for a wildfire. Spruce, on the other hand, provides fuel with their low dead limbs acting as a ladder for ground based fires to reach the explosive needles in their crown. As the stand ages, these longer lived spruces eventually take over, creating conditions ripe for another wildfire and starting the process all over again. Historically, wildfires produced a forest with a mosaic of young and old stands.

Fire suppression over the last several decades has changed this pattern. Close to the Tok community, most of the timber sale area is in Critical or Full fire protection levels under the Alaska Interagency Wildland Fire Management Plan to protect life and property. This has created an older forest around Tok where fire-prone spruce dominates the landscape. These protection levels require aggressive firefighting strategies during the most fire prone part of the season. The more remote parts of the area remain in a Limited protection level where fires are usually monitored and are only fought if they threaten life and property.

Fighting fires is expensive. For example, the last large fire in Tok was the 18,000 acre Eagle Trail Fire in 2010 and cost the state \$9.3 million and the federal government over \$4 million. Costs associated with large fires threatening communities vary between \$500 thousand to \$20 million. These fires are typically fueled by white and black spruce and during favorable weather conditions are very difficult to control.

Active forest management can reduce the risk of wildfire to the Tok community by reducing fuel loading, breaking up extensive stands of flammable spruce, and encouraging reforestation by less-flammable hardwoods. Roads constructed during timber harvest operations allow firefighters easier ground access to additional areas, lowering the cost of fire suppression operations. Even closed roads provide better access than heavy brush. Quick response also improves the chance to contain a fire while it is small, which reduces costs and damages.

F. Wildlife Habitat

The basis for wildlife habitat protection and enhancement on state land is provided in AS 41.17.010(1) and AS 41.17.060(c) (7), and on the Tanana Valley State Forest is provided in AS 41.17.400(e). The following section has been provided by the Department of Fish and Game:

The term “wildlife” broadly includes birds and mammals in Alaska. Some resident wildlife is managed by the Alaska Department of Fish and Game (ADF&G) on the sustained yield basis for harvest, such as moose, caribou, grouse and ptarmigan. Migratory wildlife is managed by the U.S. Fish and Wildlife Service (USF&WS) under international treaties; in forested ecosystems this includes waterfowl harvest and songbird conservation. USF&WS does not list any wildlife species with a range overlapping the sale area as endangered, threatened, or as a candidate for listing.

Per FRPA a no-harvest radius of 330 feet will be planned for and established to protect the nest site of bald eagles. Peregrine falcons (formerly listed) will be treated in a similar manner, and the USF&WS will be notified about nest locations discovered during sale layout.

Wildlife habitat is composed of food, water, and cover at the proper spatial scale and arrangement to meet the life requirements of a given species to live in an area. In forested ecosystems, living and dead wood provide food (e.g., shrubs and hardwood saplings are winter forage for moose, dead wood harbors insects for birds) and structure (e.g., overhead cover against predation, cavities for nesting) at the stand level. Larger structures used by wildlife generally are found in older or dead trees and are comparatively rare on the landscape. Some late stand features require time to develop and cannot be hastened by silvicultural practices to increase rate of tree

growth (structural size). For example, the biomass or volume of lichens (especially those of the genus *Cladina*) attractive to barren-ground caribou as winter range takes >50 years to re-develop after disturbance by fire or heavy grazing and trampling (reviewed in July 2011). Potentially it takes at least the same period on wood harvest sites if lichens are crushed by equipment or if post-logging site conditions initially favor competing vegetation, such as grasses and forbs.

Habitat suitability for a species is also a factor of the arrangement of harvested and non-harvested stands and other vegetation types in a broader landscape, particularly for avian and larger mammal species that have home ranges or migratory routes across multiple stands. The quality of habitat is ultimately expressed in the fitness of animals through success in reproduction and survival. Understanding fitness requires life history studies of individual species using specific habitat types. The focus on individual species management, typical for harvested species, is considered a “fine filter” approach to maintaining a wildlife species at the desired abundance. Information on fitness is lacking for most non-harvested species, so maintaining their presence and relative abundance in a managed landscape is often sought through a “coarse filter” approach of maintaining the present (or achieving a desired) mix of stand types, stand age classes, and their spatial pattern among other vegetation types in the landscape.

Mimicking the patterns and features of natural disturbances is a first approach with a coarse filter. The future distribution of stand ages across the landscape will be affected by the desired rotation for biomass production. As stands are identified for harvest during the course of this contract period, the design of harvest unit size, shape, and position on the landscape relative to areas not harvested will include consultation with ADF&G staff to consider the needs of wildlife populations and habitat.

Roads and associated clearings are a habitat attribute that may function as a corridor or filter (hindrance or barrier) for movement by wildlife, depending on the species and its type and scale of terrestrial use (e.g., rodent or ungulate). Roads for forest management are also a major source of hunter and trapper access by highway vehicle, ATV, or snow machine from the road system near Tok. An increase in road access can increase wildlife harvest (including Dall sheep (*Ovis dalli dalli*) at higher elevations outside the forest) and may require regulatory restrictions (e.g., antler restrictions on moose) to ensure sustained yield. Such antler restriction can reduce the harvest while still providing opportunity to hunt. Aside from habitat considerations, planning of new roads on public lands, including temporary or seasonal access, will involve consultation regarding uses with communities and the locally affected state Fish and Game Advisory Committees.

1. Existing Habitat

The existing wildlife habitat in the Tok area may be approximated from forest inventory data combined with knowledge from fitness studies on selected species or guilds (groups of species, such as insect gleaners or cavity nesting songbirds) from similar ecosystems. In lieu of fitness, data on species diversity and relative abundance may be instructive, such as point counts for migratory passerines. Species and habitat information then could be used with a statement of goals and objectives to identify Best Management Practices for maintaining or improving wildlife habitat features at the stand and landscape level with respect to biomass harvest and silviculture. For example, consult with a local ADF&G wildlife biologist before allowing timber harvest near a mineral lick used by ungulates to avoid displacement by disturbance or vegetation removal. Another example is that confirmed bear dens should be protected from mechanical damage by equipment, and disturbance of the immediate area should be avoided during winter harvest operations.

Invertebrates and non-vascular plants provide the greatest species diversity in boreal forests (Pastor et al. 1996).

Below are selected vertebrate species managed for harvest in forested habitats and for which knowledge of habitat requirements is relatively better known compared with species that are not hunted or trapped.

Black and brown bear (*Ursus americanus* and *Ursus arctos horribilis*)—Both bear species occur in the sale area, although brown bears are less abundant and more likely present near subalpine terrain. Both species consume young vegetation in spring, prey on young ungulate calves, salvage ungulate carcasses, and concentrate on ripe berries and roots in fall. Forb, root, and berry production could be increased with forest harvesting. Black bears may den in lower elevation forest where suitable digging is afforded on hillsides or old river terraces.

Caribou (*Rangifer tarandus granti*)—Caribou typically occur in small groups but can aggregate at times in larger herds in the sale area. They travel through frozen marshes, burns, and other large open areas. Forested areas where biomass of lichen understory is adequate and snow is loosely consolidated to allow digging can serve as winter range. If wildland fire burns an increasing proportion of winter range for the Fortymile and Nelchina caribou herds, the area of late-seral woodland with lichen understory may decline. Mitigation of forest management effects on lichen biomass could become important if harvest of open or woodland forest with dense lichen understory increases. At this time this type of forest is not a targeted harvest type.

Grouse and ptarmigan—Three species of grouse inhabit forest in the upper Tanana Valley: spruce grouse (*Falcapennis canadensis*), ruffed grouse (*Bonasa umbellus*), and sharp-tailed grouse (*Tympanuchus phasianellus*). Spruce and ruffed grouse nest in mid-late seral forests, with brood rearing habitat optimal in adjacent shrub or hardwood stands in dense early-seral regeneration, providing concealment or escape from predators. Young birds eat insects for protein and transition to an adult grouse diet of primarily leaves in spring and summer, berries in fall, and woody buds in winter (and spruce needles for spruce grouse). Sharp-tailed grouse inhabit more open habitats such as grassland, agricultural fields, woodland forest, or recent burns. During winter, rock or willow ptarmigan may occupy forested areas to consume buds.

Lynx (*Lynx canadensis*)—This carnivore preys primarily on snowshoe hares and grouse, and its abundance tracks these prey species. Maternal dens are commonly in or near deadfall.

Marten (*Martes americana*)—Martens eat primarily small mammals and berries and occasionally snowshoe hares. Abundance is correlated spatially with small mammal biomass, which often peaks with forb and grass abundance after wildland fire. Deadfall provides hunting access to subnivean spaces, particularly in burns. Maternal dens are commonly in or near deadfall or in larger tree cavities.

Moose (*Alces alces*)—Moose forage on a wide range of aquatic plants, forbs, and woody plant leaves during summer to gain nutritional reserves as muscle and fat but exist almost entirely on browse during winter, generally a period of declining nutritional reserves. Moose often concentrate on winter range where hardwood or willow regeneration is abundant in active river floodplains and recent burns. Forest management may increase woody forage in certain circumstances and attract local moose to sites where they are more visible to hunters for a few years, but an increase in the moose population may be restricted by predation. Increasing forage near highways could increase risk of vehicle collisions during migration or winter concentration.

Migratory moose use lower elevations of the Tok River drainage during winter (NC-837-T FLUP, amended 2003).

Snowshoe hare (*Lepus americanus*)—Abundance of this keystone species fluctuates sometimes dramatically on a roughly decadal basis, influencing local and regional abundance of several mammalian and avian predators. Dense early-mid seral hardwoods, shrubs, and spruce regeneration provide optimal forage and concealment cover from predators, but hares may be forced to inhabit poor quality habitats during peak abundance.

Wolf (*Canis lupus*)—Wolves are a primary predator of caribou and moose and broadly occupy the sale area. Their relative abundance is correlated spatially with ungulate density. Wolves are sought by trappers as a fur resource, and their abundance may be controlled by management activities to increase abundance of caribou and moose.

2. Projected Habitat

Fire suppression and limited timber markets presently hinder maintenance of early seral hardwood forest and shrubs for wildlife habitat near settlements in interior Alaska (Haggstrom and Kelleyhouse 1996). Future amount and distribution of habitat in the sale area is expected to be influenced primarily by forest management (including hazardous fuels reduction) and wildland fire on upland sites and fluvial action in active riparian areas. Mineral development and other surface activities may also influence vegetation. Trends in climate may influence the rate of vegetative response to disturbance through potential effects on nutrient cycling, growing season length, soil moisture, and other ecological effects.

Biomass harvest will provide an opportunity to create stand type and age class diversity in areas where wildland fire suppression has maintained contiguous spruce forest, particularly near communities. However, biomass harvest will differ from the present sawlog harvest by utilizing more hardwoods and smaller diameter spruce trees and by salvage of standing dead wood and tops from larger trees. Regeneration of shrubs and hardwoods on harvested spruce sites may require mechanical or prescribed fire scarification where grass (especially *Calamagrostis canadensis*) exists and its dense regeneration can hinder woody species. Maintenance of late-seral features (snags, cavity trees, spruce rust brooms), particularly the larger, more rare features in the landscape, will require operator education to identify them for avoidance. Open canopy spruce forest with dense lichen understory will require identification during sale unit layout to evaluate the potential for minimizing lichen damage in caribou migration corridors or on winter range. The migration corridor has been documented to be generally outside the project area. This may be important in the context of recent fire history where lichen biomass was greatly reduced but will not be a significant amount of the project area and should be able to be avoided under most circumstances.

Wildlife use of much of the proposed contract area is presently driven primarily by wildland fires in uplands and fluvial action (inundation and ice scouring) in floodplains. Since the annual and total harvest areas from this contract will be significantly larger than those associated with typical harvest activities of the past 30 years, additional measures may need to be implemented, including habitat enhancement, to accommodate important wildlife habitats in the contract area. ADF&G staff from the divisions of Wildlife Conservation and of Habitat will work with DOF to develop preliminary BMPs for large game, furbearers, birds, and small mammals to assist in meeting that objective.

To monitor the effects of road networks, biomass harvest, and forest regeneration on wildlife populations and habitat, and the effectiveness of those preliminary BMPs, it will be important to understand the present conditions and be able to forecast future scenarios based on clearly stated assumptions developed in coordination with DOF. Such an improved understanding of how vegetation and wildlife species respond to treatments at the stand and landscape scales will allow adaptive management to incorporate scientific information over time to potentially modify the preliminary BMPs. Public education during the planning process will also allow informed engagement on policy decisions.

Some bird and small mammal species known to use habitats that will likely be affected by biomass harvest are considered Species of Greatest Conservation Need (SGCN) in Alaska's Wildlife Action Plan. That Plan aims to keep species from becoming listed as threatened or endangered. The opportunity to work with DOF on first developing and then field testing BMPs is timely since ADF&G's Wildlife Diversity Program is considering a potential project aimed at a pre- and post-treatment inventory of SGCN birds and small mammals at biomass sites. Any BMPs that successfully minimize impacts to species of concern will have important benefits in present and future sale areas.

G. Fisheries and Water Quality

The Forest Practices Act and its Regulations establish standards for timber harvests and forest road construction and maintenance. The sale areas will be designed, and operations will be conducted in compliance with the Alaska Forest Resources and Practices Act (FRPA). To maintain water quality during road construction and harvest operations, the Division of Forestry will mandate implementation of FRPA's Best Management Practices in the timber sale contract. To protect water quality of non-fish bearing water bodies a combination of retention areas, directional felling, partial suspension of logs, split-yarding, and removal of logging debris from stream channels will be required.

The Alaska Forest Resources and Practices Act best management practices have been determined to provide adequate protection from potential water degradation. Information from field inspections, compliance monitoring, and the state's Alaska Clean Water Actions database indicate that FRPA is effective in protecting water quality. The annual report from the Department of Environmental Conservation (DEC) on the effectiveness of FRPA concluded that, "when properly implemented, the BMPs are effective at protecting water quality." No streams have been identified or listed for violation of water quality standards as a result of forest operations subject to the FRPA best management practices.

These standards are designed to minimize the potential for adverse effects to water quality due to forest harvesting activities. Issues specific to a harvest unit will be addressed in subsequent FLUPs.

Anadromous and resident fish streams will be managed in accordance with AS 41.17.118 *Riparian standards for state lands*, AS 41.17.950 *Definitions*, and the regulations in 11 AAC 95.260 *Riparian standards*. The Habitat Division of the Department of Fish and Game will be consulted during the process of writing specific Forest Land Use Plans. Habitat permits will be secured if stream crossings are needed.

In addition to the riparian standards required under the Forest Resources and Practices Act, the following water bodies have special management zones required by the Tanana Valley State Forest Management Plan. The width of the zone is determined on a case-by-case basis but in no case will it be less than 100 feet:

Tanana River	Sand Creek	Bear Creek
Billy Creek and Associated Lakes	Fish Lake	Mansfield Creek and Associated Lakes
Mansfield Lake	Robertson River	Round Lake
T Lake	Porcupine Creek	Clearwater Creek
Little Tok River	Tok River	

H. Soils, Erosion and Nutrient Cycling

The Forest Practices Act and its regulations establish standards for timber harvests and forest road construction and maintenance. These standards are designed to reduce the likelihood of erosion caused by road construction or harvesting equipment. Issues specific to a harvest unit will be addressed in subsequent FLUPs.

Research into the effects of timber harvesting on nutrient cycling and long and short term forest stand productivity is limited in the Tanana Valley. Much of the information that is available on the distribution and cycling of various nutrients has been collected for the major forest types near the Fairbanks area and must be extrapolated for Tok. Although the soil type in Tok is different than in Fairbanks, similarities are present in terms of low temperatures, moisture regime, and plant cover.

Chipping and processing in the woods retains more nutrients on a site than removing whole trees for processing off-site. Whole tree harvesting has the potential to remove non-merchantable fines that include nutrients left on site during wildland fire (as ash) or conventional logging (as tops). Much of the commercial harvest of fuelwood and sawlogs however, within the Tanana Valley State Forest contains prescriptions for whole tree harvest. Whole tree harvest has been prescribed to facilitate regeneration and there has not been evidence of nutrient decline. Generally interior tree species have relatively small branch diameters especially in spruce. Through the combination of felling and skidding many of the branches fall off and remain on the forest floor. Large and small woody debris along with other soil organic matter, once released by decomposition, are also a major source of nutrients that promote plant productivity (Chapin, Kielland, McGuire, Valentine, and Van Cleve 2006). The harvest of trees warms the soils and has the potential to promote decomposition and improve the availability of nitrogen and other nutrients (Van Cleve, Oliver, Schlentner, Viereck, and Dyrness 1983). Short rotation intensively managed forests require, in most cases, fertilization in order to maintain productivity due to the time involved for forest organics to decay into nitrogen in forms that are useable for tree growth. In mature forest systems this level of available nitrogen production is generally balanced. Once harvested, in temperate coniferous forest regions, a time period of between 20 to 30 years may be required for the forest ecology to make useable nitrogen available consistent with the rate of demand created by the vigor of new growth; with significantly longer periods of time potentially required in the cool boreal forest region (Gordon and Van Cleve 1983). Longer rotation time periods of 70 and 120 years for hardwoods and softwoods respectively, will allow the replenishment of any nutrient cycling capacity loss. Studies of birch forests (Van Cleve et al. 1979) have shown that leaf fall can be a major contributor to nutrient replenishment. With expected natural aspen regeneration to occur in many of the stands, leaf fall from these hardwoods will also serve to be a nutrient replacement mechanism.

Certain soil types are prone to poor nutrient availability to vegetation. Thin, porous soils have a tendency to leach needed nutrients while poorly drained soils are less likely to decompose the organic layer subsequently not making nutrients available to growing plants. The identification of these soils types and the potential effect of nutrient removal from these sites will be considered in the Forest Land Use Plan harvest prescription.

The DOF will continue to monitor and encourage research to better understand the dynamics of soil nutrients and harvesting and use the results to manage the state's forests. For example, DOF is collaborating with the forest researchers at the University of Alaska Fairbanks who are implementing the Boreal Alaska-Learning, Adaption, and Production (BAK-LAP) project whose purpose is to investigate biomass questions.

I. Subsistence

The harvested units will revert to younger, early successional plant species which will, in turn, support wildlife adapted to those plant communities such as moose and ruffed grouse, allowing for a potential increase in those wildlife populations and increased hunting opportunity. Required riparian and wetland zones and other retention areas will provide habitat required by species needing an older forest. Furbearer trapping success may increase, remain stable, or decline for a period of time in logged areas depending on the forest harvest and silvicultural practices applied and the population response and habitat use of the animal species. Berry-picking should increase as stands are opened up allowing existing plants to multiply or new berry plants to establish. With adherence to the FRPA and its protection of water bodies, the proposed harvest activities should cause no noticeable effect on fishing.

Roads resulting from harvest operations will increase access whether the roads are closed or kept open for subsequent forest management activities. Highway vehicles may not be able to use the closed roads but ATVs, snow machines, and mushers will take advantage of the closed roads.

J. Recreation

Increased access will be the primary impact to recreation. The roads associated with the harvest will allow people broader access to streams and to areas for hunting, berry-picking, and mushroom gathering. Closed roads will be used by ATVs, snow machines, skiers, mushers and hikers.

K. Scenic Resources

A significant portion of the harvest associated with the CWPP will be adjacent to the community of Tok and will initially be partially visible. State lands designated for settlement will be harvested to create harvested and unharvested areas that provide wildfire protection while retaining the forest stands that many people desire in their backyards and neighborhoods. Aspen will be the targeted species for reforestation near the community. This species is a fast growing tree and should quickly reforest the site. Where feasible, given access routes and ownership, harvest units outside the community will be designed with irregular borders following natural terrain breaks and stream corridors. These units, once revegetated, will look much like the past burns scattered throughout the region. No harvest units are expected to be seen from the Alaska Highway.

L. Cultural Resources

Besides the several historical trails in the operational area, there is the potential for archeological sites. Prior to committing to individual harvest areas, the DOF and the Office of History and Archaeology/ State Historic Preservation Office (SHPO) will develop an assessment model for the overall project area covered by this BIF. This model will be used to focus and prioritize field surveys. In addition, SHPO will have the opportunity to review each individual Forest Land Use Plan.

As specific harvest areas are planned, local tribal governments, Native corporations and associations will continue to be consulted to identify and address concerns about potential impacts on traditional uses or archaeological sites.

During the course of activities associated with this sale, cultural resources (historic, prehistoric, and archaeological sites, locations, remains, or objects) may be inadvertently discovered. Should such a discovery occur, the site shall be protected from any disturbance, and DOF will contact SHPO immediately to evaluate whether the resources should be preserved in the public interest and their concurrence shall be requested for continuing activities (as specified at Section 41.35.070[d]).

1. Burials/Human Remains

If burials or human remains are found, all land-altering activities that would disturb the burial or remains shall cease and measures will be taken to protect it in place. The Alaska State Troopers, State Historic Preservation Office (SHPO), and the State Medical Examiner shall be contacted for further guidance pursuant to State laws and protocols pertaining to the discovery of human remains within the State of Alaska.

M. Mining Impact

Mining is a subsurface land interest. Timber harvest is generally allowed on these lands. The new road access from this harvest can be of benefit to existing and future mining claims.

Individual mining claims will be addressed as site specific FLUPs are presented for review.

N. Transportation

1. Characteristics

Access to the harvest areas will include existing maintained roads, abandoned and currently unmaintained roads and new forest roads. Unmaintained roads such as portions of the Eagle Trail and the abandoned Alaska Highway will need to be reconditioned prior to use. These roads will be maintained if needed for continued forest access and management activities. The Tok Cut-Off, the Alaska Highway, and the Taylor Highway (Alaska Routes 1, 2, & 5) are the major state highways serving the Tok area. Other secondary roads serving subdivisions will be used to access stands for treatment proposed by the local CWPP. The DOF will also use existing logging roads and develop new secondary and spur roads. The DOF will maintain the existing and new forest roads unless they are closed to highway vehicle traffic or placed in storage status. Proposed new road routes will be shown in the DOF's Five-Year Schedule of Timber Sales when known, and will be included in the FLUPs. The FYSTSs and FLUPs will provide opportunities for public input on access proposals.

New road construction will include both winter and all-weather roads. Winter roads are generally used where terrain such as muskegs make it very difficult to build conventional roads. Winter roads are built on frozen ground, only removing material as necessary for a smooth road at an acceptable grade. Snow and ice bridges are typically used for winter roads. All weather roads, on the other hand, require much more excavation and movement of material to get a good running surface at an acceptable grade. Manufactured bridges and culverts are required for this type of road construction. These roads are much more expensive but they can be used year round.

Roads will generally be minimal in construction cost due to favorable soil bearing capacity of alluvial outwash gravels that allow firm year round travel along with the use of winter road construction elsewhere when needed. All weather roads are likely to be economic when located on well-drained sites (not muskegs). Most of the ground is generally capable of supporting truck traffic during the majority of the year with the removal of only

the duff layer. The rivers of the area will force a large majority of the more remote timber harvesting and hauling to occur in the winter when operators can utilize ice bridges and winter roads.

All forest roads used in timber and biomass operations are subject to the road construction and maintenance standards in 11 AAC 95.285 to 11 AAC 95.335. In addition, forest roads in the Tanana Valley State Forest are required to follow guidelines in the Transportation section of the Forest's Management Plan as well as the standards in the Plan's Appendix F.

2. Management

Existing and new road management will require consultation with other agencies, local governments, land managers, and the public.

3. Access

Concern for public safety may require limited access to forest roads during active harvest operations but will not preclude access to residences.

4. Closure

Once forest roads are deemed not necessary for future forest management activities, they will be closed as required under 11 AAC 95.320 [Road Closure]. Road closure requires removing drainage structures, shaping roads to provide drainage and prevent erosion, and preventing use by highway vehicles. Decisions to close specific roads and limit road access will be made during the FLUP process. Agencies and the public will have the opportunity to comment on these actions at that time.

Roads may be closed if they are determined to be an undue maintenance expense, lead to environmental degradation (widespread illegal dumping or stream bank degradation), or serve as access for trespass on adjacent private land.

In addition, roads may be temporarily controlled for hunting access by the Alaska Board of Game as a regulatory action to manage for sustained yield of some species like moose. DOF may also use temporary closures to protect the integrity of the road when conditions would result in significant damage.

O. Economics and Market Conditions

1. Current Regional Timber Prices

In 2012, the DOF Fairbanks Area Office sold spruce sawlogs for \$31.13/ hundred cubic feet (CCF). This equates to approximately \$18.31/green ton. At the same sale, birch cordwood sold for \$25.03/ CCF which is equivalent to \$10.01/green ton. These conversions are based on volume tables utilizing logs to a 6 inch and 4 inch top respectively and tons/CCF ratios of 1.7 and 2.5 respectively.

Superior Pellet Fuels, LLC is currently paying operators approximately \$40/green ton for residual round log wood delivered to their wood pellet mill in Fairbanks. This type of wood is a mix of spruce, birch, and some aspen logs that do not meet the quality required for sawlogs.

Several small mill operators and firewood suppliers operate in the Tok area. Young's Timber Inc. has a 10 year contract with the DOF for \$40/MBF for sawlogs and \$8 per cord for low grade wood.

Recent sale of wood from the 2012 Dry Creek blow-down has started at \$10/MBF for sawlogs, \$5/cord for firewood, \$1/green ton for biomass. The location and cost of operating in the blown-down timber resulted in low stumpage prices for this wood.

2. **Woody Biomass**

Woody biomass comes in a variety of forms. In most parts of the world, woody biomass used for heat or power generation is residual or waste wood from timber and sawmill operations. Biomass users try to minimize wood handling, transportation, processing, and waste disposal costs. With increasing costs of petroleum-based energy, the economic feasibility of using wood waste for energy has improved.

a) Tok Woody Biomass (State)

Based on timber stand inventories, timber harvested as part of this proposed operation could produce sawlogs, cordwood, and woody biomass. The sale area encompasses a variety of stand sizes and types. The majority of the wood fiber harvested will be material that would previously have been considered sub-merchantable due to its small size. In 2007, the DOF started a pilot study looking at available fiber and its net energy value in a variety of timber types. Based on sampling, stands in the Tok area generally contain more weight in fiber and thus more BTUs of potential energy than previously documented. Prior volume tables for these timber types focused on sawlog and cordwood products, whereas recent work has included all trees in the stand. The recent sampling focused on whole-tree harvesting systems that use tree boles, limbs, tops, and bark for fuel. The usable timber types were also expanded to include black spruce pole-timber types that are more than 25 feet tall.

An initial outcome of this work was the installation of the Tok School wood heat boiler that is powered by whole-tree chipping and wood waste from the local area. The initial goals were to reduce energy heating costs and wildfire risk near the school and community. A secondary phase of the project added electrical generation capacity to the system to reduce their monthly electrical costs. Based on the first year of operation, the Tok School project will achieve its goals. The DOF has supported this project by guiding and encouraging the location of harvesting operations within the community on private and public land to provide biomass and mitigate wildland fire. The DOF estimates the school needs 40 acres per year to supply its boiler. The 40 acres per year required is relatively small compared to this BIF and is exclusive of the ground proposed for the BIF project. In addition, the school has a four to seven year supply of decked wood for the school boiler in the form of wood purchased from the DOF that was harvested as part of a hazardous fuels reduction project. The school bought the wood for \$2/green ton and contracted for delivery to the school at \$52/green ton. The relatively high delivery cost was less than the displaced cost of diesel. Economies of scale appear to be driving this high delivery rate and limit market interest because of the small quantity over which to amortize operating costs. Costs estimates based on time and motion studies indicate that delivery cost should be roughly 25% lower for the scale of the operation proposed for this BIF.

In 2010, AP&T started considering displacing diesel fuel for electrical generation with a combined heat and power facility (CHP) fueled by woody biomass. The feasibility analysis for the AP&T proposal was partly funded by a grant from the Alaska Energy Authority (AEA).

Potential purchasers are developing various business models linked to the generation of power in Tok. With most power generation, and in particular with woody biomass, low grade heat is a byproduct of the electrical generation process. This can be used to heat buildings or wood-drying facilities adjacent to the power facility. Recovering heat increases the overall efficiency and economics of power projects. Potential purchasers are also

evaluating opportunities for making densified fuels from some of the wood. Densifying biomass creates an economically transportable fuel that has an increased amount of recoverable heat per unit of weight. Densified wood also burns more efficiently than raw chips or cordwood. Examples of densified fuels are pellets, fuel bricks, briquettes, or torrefied wood pellets. Densified wood could be sold as a commodity. Packaging multiple woody biomass products (electricity, heat, lumber, densified wood, etc.) together may lower electrical rates to Tok consumers. On the other hand, it introduces dependency on markets for multiple products. Future changes in any of the markets could affect the future viability of the project.

b) Other Sources of Woody Biomass

The other major owners of forested land in the area are Alaska Native corporations and local tribal councils. Some of these landowners have voiced interest in managing their timber lands which could contribute to the woody biomass supply. If this happens, it will help create a more resilient and economic fiber supply. It may also achieve other landowner goals such as forest health, wildlife habitat improvement, reduced wildfire hazard, and forest access. There is not a large potential for revenue to landowners due to the low value of the resource; the value to the landowner comes in the associated benefits.

P. Economic Effect on Current and Projected Forest Resource Use

The total gross annual area available for harvest in the Tok Management Area is 3,300 acres. Historically, less than 1% of the timber on the management area is burned annually. Current timber sales in the area harvest an average of 200 acres per year, two-thirds of which has been salvaged from previous burns. The salvage harvesting reduces the sawlog demand for green timber to 70 acres per year. In addition, the Tok School biomass facility will need an estimated 40 acres per year to produce heat and electricity. Removing these historical and anticipated needs from the available acreage in the Tok Management Area leaves 3,000 acres/year available for timber sales. The estimated need for this proposed biomass sale is 700 to 900 acres/year depending on the timber type targeted in a given year. This would leave approximately 2,100-2,300 acres per year in the management area for future projects.

Harvesting associated with a project as described in this BIF, will likely provide greater management flexibility for all landowners by providing a market for low-value wood. Due to the relative low value of the small trees used for biomass energy, the direct economic benefit to the land owner will be modest. At times during the proposed project, the sawlog and cordwood quantities available to the local market may exceed demand due to the increase in stand access. The price for larger logs that could be used for a variety of uses will depend on the market price for their final products. The price the market will bear will vary somewhat but not significantly because this aspect of the market is constrained by the price the market is willing to pay for the quality of the products that can be produced from the material. The demand and price for these logs will reflect the cost of comparable substitutes in the region. There is no significant export market for wood from the Tok area at present, nor is an increase in export demand anticipated.

Other potential demand in the region may come from the proposed Fort Greely combined heat and power facility that Siemens Industry Inc. is working towards with the US Army. This project will require in the neighborhood of 110,000 green tons per year of biomass or, in other words, 1,000 to 5,000 acres per year. The Fort Greely project may benefit from the Tok project's experience and contractor pool or may compete for available wood. However, direct competition will likely be limited because the supply for that project would primarily come from the Delta Area. Until that supply is defined, some portions of the Tok area might be

considered operable for the Fort Greely project. If the Tok and Fort Greely projects proceed simultaneously, the demand for competent contractors will rise. Experienced loggers and contractors should have opportunities not present at his time.

Q. Method of Appraisal

The Alaska Statutes (AS) Title 38 (Public Land) and Alaska Administrative Code (AAC) Title 11 (Natural Resources) apply to contracts with a purchaser of state resources. Per 11 AAC 71.092 (Pricing for sale of timber).

(c) ...“the department will sell timber on the basis of its appraised price. The appraised price is a formal determination of the timber's fair market value and is determined by an appraisal conducted by the commissioner. The commissioner will, in the commissioner's discretion, select and apply one or more appraisal methods to determine the appraised price of the timber. Appraisal methods include, at the discretion of the commissioner, comparative market or transactional evidence; end or residual values; other methods customarily used for appraising timber; or another method designed to yield fair market value as determined by the commissioner. To make the appraisal, the commissioner will, in the commissioner's discretion, use costs, prices, values, and other information obtained from prudent operators, state and federal agencies, industry associations, price or market reporting services, or other sources that the commissioner considers reliable.”

(d) “The commissioner will, in the commissioner's discretion, adjust the appraised price or adjust the method of appraisal under (c) of this section to allow for operating costs. Operating costs that the commissioner may allow include, but are not limited to, costs for activities such as recovering, removing, handling, storing, or transporting the timber.”

“In addition to the initial appraisal of the timber value, the contract rate will be redetermined at an interval of approximately every five years or when the DOF determines that a major change has occurred in the market of the resource.”

The DOF believes that it is in the state’s best interest to appraise this sale specifically as follows:

- A standard for wood utilization will be developed that reflects the majority of the woody forest material on the targeted forest sites in the Tok area, best available technology, industry operating practices, FRPA, and other environmental requirements.
- The DOF will estimate the highest and best use of the products in the project area.
- The DOF will calculate likely values for delivered logs, cordwood, and biomass based on transactional evidence and market demand. The State will be compensated based on those values minus the estimated total cost of delivery to market. The DOF will factor in local demand, timber type, and economies of scale, and differentiate round log products from the remainder of the biomass in a given FLUP. It will be the purchaser’s decision to use the log at that price for round wood products or biomass energy production. Payment will be based on the scaled weight of woody biomass (likely in green tons) removed from State land. As part of the timber sale contract, the timber and biomass values will be redetermined to reflect fair market value (11 AAC 71.092) at least every five years.
- The DOF anticipates that these collective costs will not leave much residual value for stumpage return to the State. However, the stumpage will at a minimum recover the costs to the State of preparing and administering the sale. These costs will include the costs of designing, engineering, laying out the harvest and transportation systems, estimating the timber volume and values, developing the specific FLUPs, and preparing and administering the sale contract. DOF conducts FRPA implementation

activities as part of the contract administration on state sales. Other agency costs such as SHPO Surveys and specific ADF&G consultation not specifically itemized by the legislature will also be included. At this time the DOF estimates it will require the addition of one full-time Forester II to manage the contract and a full-time Forest Technician III to assist with field duties.

- Reforestation costs are not anticipated to be significant for the state based on past harvest experience in the area because natural regeneration has been generally adequate with techniques described in earlier sections and as documented by past reforestation surveys (Putman 1995).
- Road construction costs will be borne by the purchaser. If the DOF determines that higher standard, long-term roads are needed for purposes beyond this sale, alternative funding will be addressed prior to construction. Prior to building a permanent road the long-term maintenance will be addressed in a FLUP for the area it serves. The majority of the roads associated with this proposed sale will be temporary. Existing roads used as part of this operation will be maintained as part of the sale contract proportional to their use.

In 2012, the Legislature appropriated \$200,000 to the DOF for a Tok Biomass Capital Improvement Project (CIP). The DOF is using this CIP to assess the available biomass and develop administrative systems to support a 25-year biomass sale that uses whole-tree harvesting. Initial costs include inventory analysis, preparation of the BIF and final finding, contract development, and interagency consultation to ensure adequate resource protection. Funds will also be used for layout and associated costs once the timber sale is sold.

R. Jobs

1. Plant

Facility construction will provide jobs for one to two years. A CHP or forest product complex capable of utilizing the biomass will likely require more personnel to operate than a comparable diesel generation or sawmill facility due to the biomass handling requirements and added machinery. Facility operation will require semi-skilled laborers and trained technicians and mechanics. Job numbers will depend on the final design, and the purchaser's business plan for end products other than heat and power.

2. Harvesting

The harvesting operations will likely employ six to eight skilled laborers, loggers, and mechanics year-round to support the operation. Some road-building capacity will also be added in the area and with it some associated employment.

3. Support

The operation will require a number of additional technical support staff that may or may not be accommodated by the existing methods of business in the region. The added machinery and manpower will likely generate some economic spin off to the local community along with Fairbanks and Anchorage due to the complexity of the systems typically employed in the plant and the harvesting equipment.

S. Energy Discussion

The state's energy policy encourages economic development by:

“promoting the development of renewable energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy, for use by Alaskans and for export; working to identify and assist with development of the most cost-effective, long-term sources of energy for each community

statewide; creating and maintaining a state fiscal regime that encourages private sector development of the state's energy resources" (AS 44.99.115(Declaration of state energy policy.)).

1. Existing Conditions

Electrical power in the Tok area is produced locally by a diesel generation plant. Efficiency upgrades have been ongoing to the Tok diesel generators since 2006. In Fiscal Year 2011, average residential electrical rates in Tok were 51.02 cents / kilowatt-hour (kWh). The State Power Cost Equalization program offset that cost by 32.56 cents /kWh for the first 500 kWh per month of electricity for residential users; use over that is at the calculated average residential rate. Other rural users such as State and federal offices, commercial entities, and schools pay the rates developed by the utility under the oversight of the Regulatory Commission of Alaska (RCA). The RCA rates reflect the cost of electricity in a regulated environment for profit-driven utility companies in Alaska. Detailed information on the RCA can be found on their web site <http://rca.alaska.gov/RCAWeb/home.aspx>.

2. Alternative Sources of Energy Considered

AP&T has evaluated a variety of potential energy sources to decrease cost. Alternatives considered include natural gas, hydro, wind, and woody biomass. AP&T examined the hydro potential of Yerrick Creek and initially determined that it could be economical to build a "run of the river" facility to provide power while the creek runs (May-October). Land ownership issues during permitting and licensing tabled this project. Another seasonal "run of river" site is being considered near Clearwater Creek. Wind and solar resources have been examined but indications are that the resources are not economically viable relative to the demand. Liquefied Natural Gas has not appeared to be an alternative either without a gas liquefaction plant and/or a gas line. Natural gas's energy density to price is less than diesel and likely will not be competitive without a proximate and low cost source.

3. Future Electrical Rate Determination

The DOF does not set electrical rates (see discussion of RCA regulations above). AP&T has indicated they will seek to achieve electrical rates through the use of biomass that are comparable to or lower than predicted diesel-generated electricity rates.

A CHP facility run by an independent energy or forest products company will fall under regulatory oversight of the RCA if it chooses to sell power in the public market. Per State regulations, renewable energy facility owners may recover costs of generation up to the equivalent cost of the displaced diesel power generation realized by the utility purchasing the power. Essentially what is required of the regulated utility or facility is that it costs no more purchasing or delivering the power than it would cost by delivering petroleum produced power generation. The method of defining these costs is structured by the RCA.

V. Public Comment and Outreach

The DOF engaged in extensive public outreach for the initial Preliminary Best Interest Finding (PBIF) during the 30-day public review and comment period that began on May 17, 2012. Due to evidence of competitive interest in the proposed sale and other public comment received, the DOF decided to withdraw the Preliminary Best Interest Finding and redraft the finding as a competitive sale under AS 38.05.120. Subsequently, the Revised Preliminary Best Interest Finding was available for public review and comment between December 17, 2012 and February 4, 2013.

During both rounds of public review for this finding, the division used a variety of methods to contact interested agencies, organizations and individuals concerning the proposed long-term timber sale in Tok. In addition to posting the public notice and copies of the PBIF on the state's web pages, the division placed display ads in the local Tok, Delta, and Fairbanks newspapers, in the Anchorage Daily News, and in the Alaska Journal of Commerce. DNR's Public Information Center distributed a press release to Alaska's media; public notices were mailed for posting at area Post Offices and Public Libraries; copies of the PBIF were available for viewing at the public libraries and Area Offices in Tok and Delta; and public notices were mailed or emailed to the DOF mailing list for FLUPs in the Tok Area and to Alaska Native organizations and tribal groups in the area. Finally, two public meetings on the PBIF took place in Tok, and two in Fairbanks in conjunction with Tanana Valley State Forest Citizens' Advisory Committee meetings. Tok Area DOF staff engaged in direct consultations with Alaska Native entities and landowners about this proposed finding. Division staff also worked with the Alaska Department of Fish and Game, who provided substantive input on the BIF.

Approximately 20 people commented on the initial PBIF, and 36 people provided comments on the revised PBIF. The Tanana Valley State Forest Citizens' Advisory Committee unanimously adopted a resolution in support of the Preliminary Best Interest Finding during their January 31, 2013 meeting. Commenters were generally supportive of utilizing state timber resources for biomass energy and the concept of a long-term sale as long as sustainability of forest resources is assured. Several commenters said a negotiated sale process would better serve the Tok area. The Tetlin Village Council wrote in opposition to the sale, citing concerns over increased access and effects on wildlife habitat, especially with regards to moose. Young's Timber, Inc. requested the finding either be rescinded or the deadline extended until more specific study is done and the Five Year Schedule of Timber Sales representing all proposed sales is made available.

The public comments have been consolidated into a matrix (Appendix 3) that is a separate appendix of this final finding and are a summary of agency and public comments received and DOF's response to those comments.

VI. Action Alternatives Considered

1. Negotiate a 25-year timber sale with a purchaser under AS 38.05.118 for the harvest of approximately 700-900 acres per year to provide woody biomass for some form of combined heat and power (CHP) or wood manufacturing facility located in the vicinity of Tok. Competitive interest in the resource precludes this option at this time. Where competitive interest exists, competitive sales are preferred to ensure fair access to public resources.
2. Offer a 25-year competitive timber sale under AS 38.05.110-120 for approximately 700-900 acres per year. This option offers equal opportunity to public resources and provides sufficient time to amortize the large capital costs of a combined heat and power (CHP) or forest products manufacturing facility. This document has outlined the existing framework that is in place to protect the State's resources and interests during and following the proposed timber sale. With this alternative the DOF has reserved enough AAC capacity to continue offering other short-term timber sales in response to demand from other existing wood users, both commercial and personal use. This option will also help the State meet alternative energy, economic development and job creation goals, especially for smaller, rural communities.

3. Sell timber competitively in the quantity outlined in this document as necessary for a biomass facility (700-900 acres per year) based on short term contracts (1-3 years). Under this alternative the DOF would offer timber to meet the industry demand up to the AAC for the area. This option would potentially offer recurring opportunity to multiple purchasers. Given the capital expenses of a biomass or forest products manufacturing facility, the configuration of the land base, and unknown availability of other timber supplies, this option is not practical in the market place. The high capital costs of developing facilities typically require longer contract time horizons to retain investors and raise the needed capital.

4. Do nothing. This option does not mitigate the wildfire risk to the community, make maximum use of the forest resources consistent with the public interest nor will it help meet the goals of the state energy policy or economic development and job creation goals.

VII. Final Finding and Best Interest Decision

This finding determines that it is in the best interest of the Department of Natural Resources, Division of Forestry, to offer a competitive timber sale of approximately 700-900 acres per year of timber to provide biomass in the vicinity of Tok, Alaska. After due consideration of all pertinent information and alternatives, the DNR has reached the following **Final Finding: To competitively sell woody biomass as described in Alternative 2.** In addition, the DNR finds that this final finding satisfies the objectives as stated in this document and it is in the best interest of the State to proceed with this action.

The finding presented above has been reviewed and considered. Public notice has been accomplished in accordance with AS 38.05.945. The case file has been found to be complete and the requirements of all applicable statutes have been satisfied. I find that it is in the best interests of the State to proceed with this conveyance under the authority of AS 38.05.035(e) (Best Interest Finding); AS 38.05.110-120; 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

Signed



April 3, 2013

John "Chris" Maisch C.F.

Date

Division Director and State Forester

Requests for Reconsideration

A person affected by this decision who provided timely written comment or public hearing testimony on this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received by April 26, 2013 and may be mailed or delivered to Daniel 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 <mailto: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 7, 2013. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 is enclosed.

If you have any questions, please contact Jeff Hermanns of the Tok Area Office at (907) 883-1400 or e-mail Jeffery.hermanns@alaska.gov.

Links to Planning Documents

Tanana Basin Area Plan

<http://dnr.alaska.gov/mlw/planning/areaplans/tanana/>

Tanana Valley State Forest Management Plan

http://forestry.alaska.gov/management/tvsf_final_plan.htm

Parsons and Associates Sustained Yield Report

http://forestry.alaska.gov/pdfs/sustn_yld.pdf

Annual Allowable Cut Report – DOF

<http://forestry.alaska.gov/pdfs/aac.pdf>

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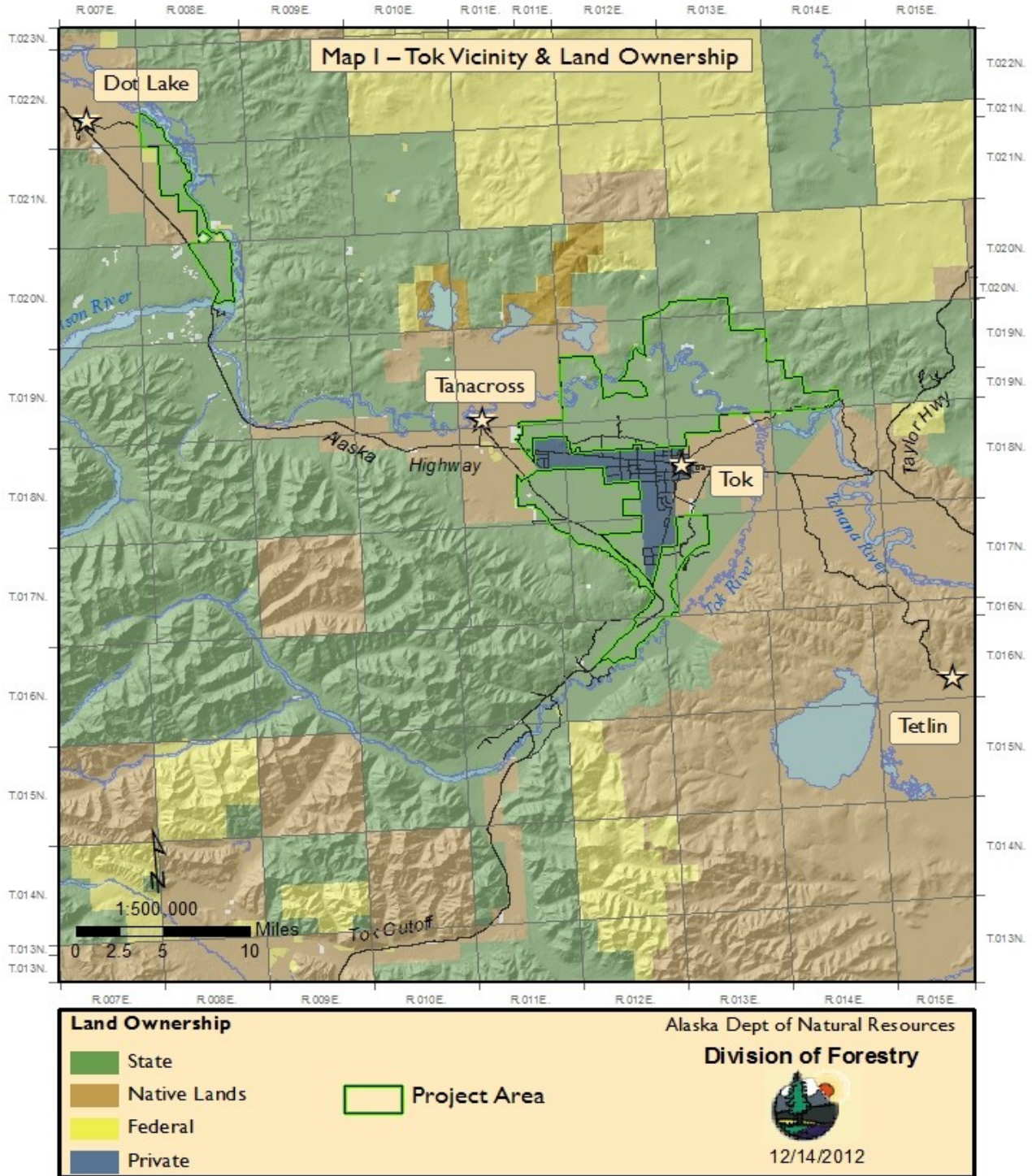
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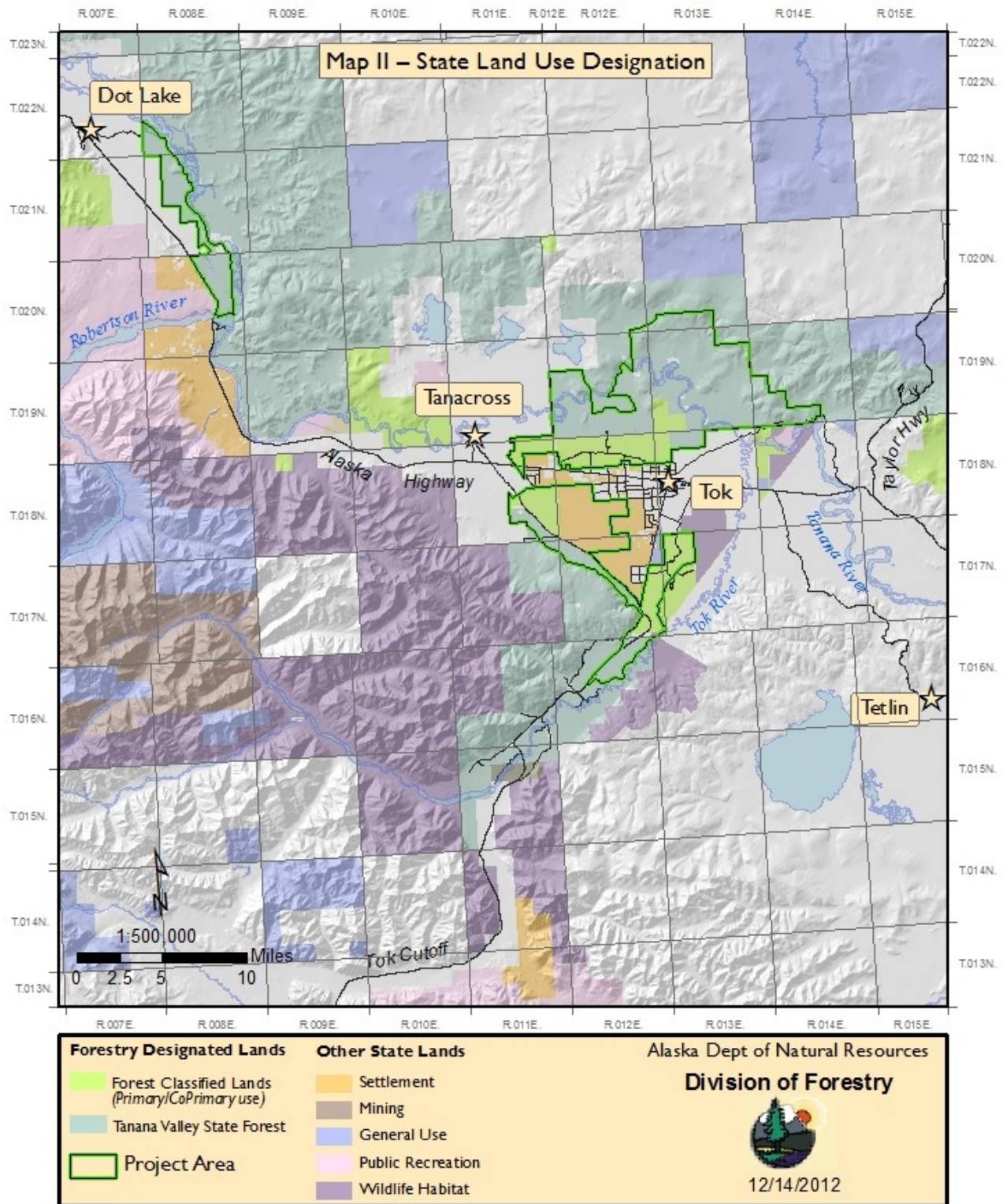
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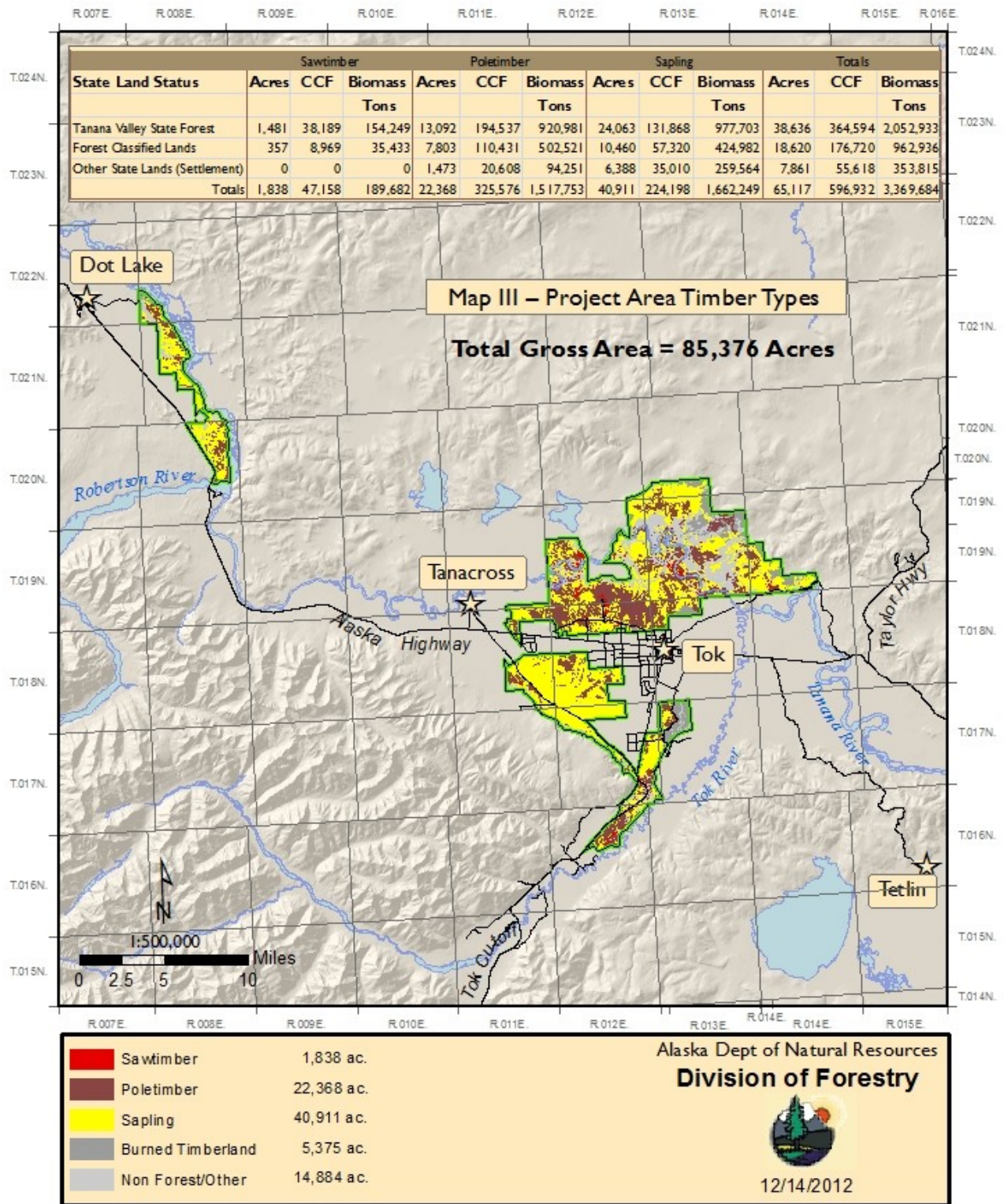
Map I Tok Vicinity & Land Ownership



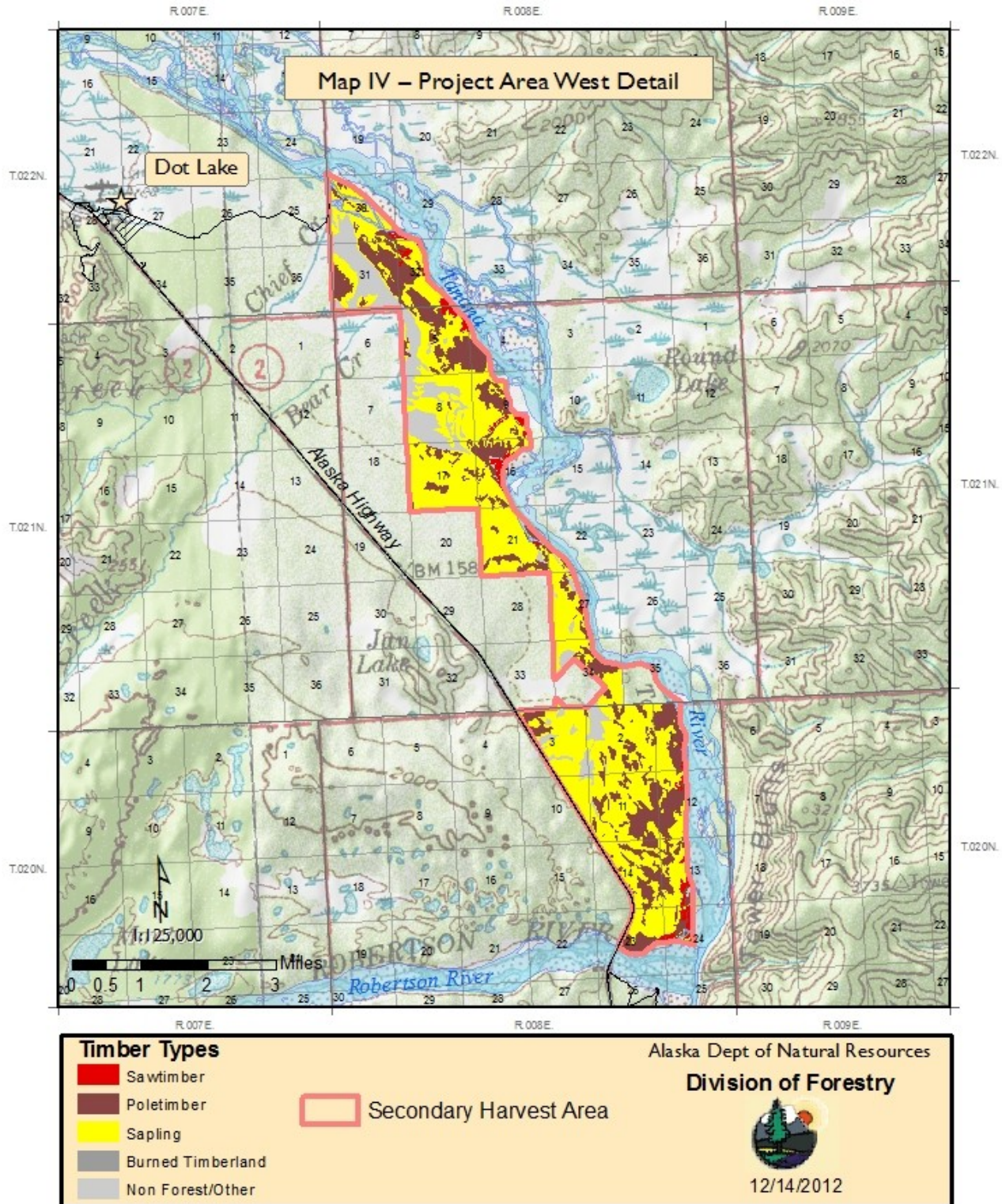
Map II State Land Use Designation



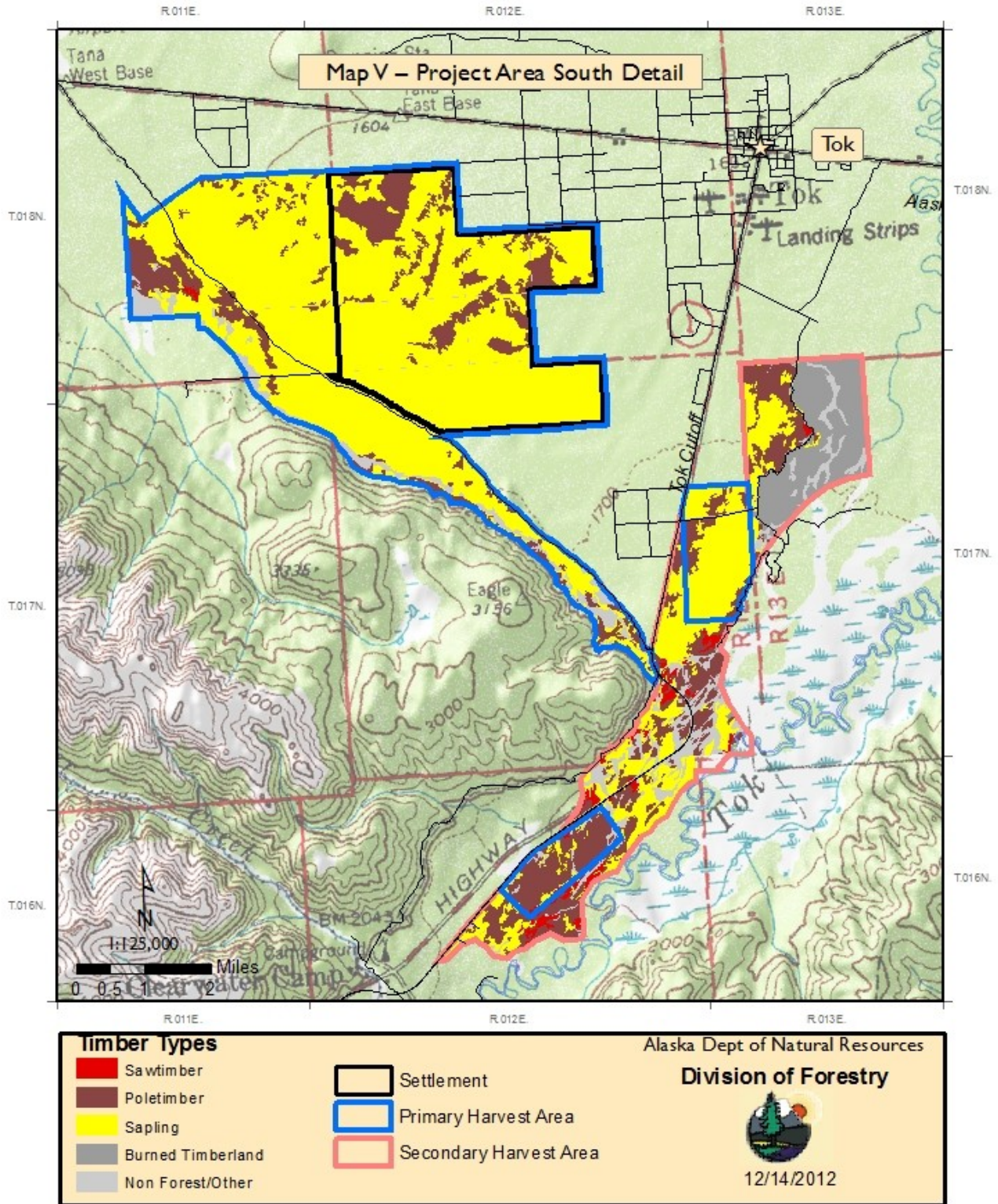
Map III Project Area Timber Types



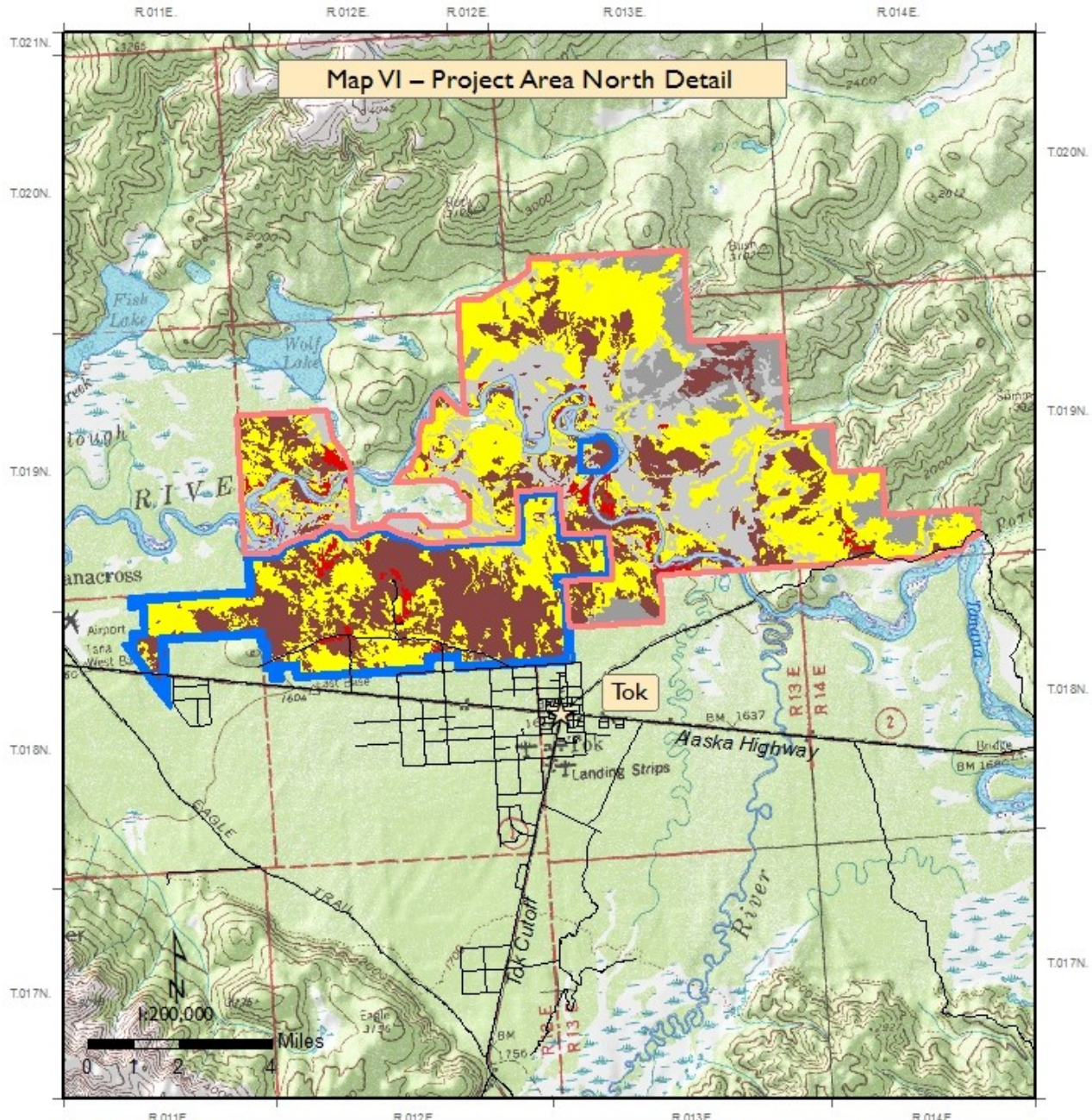
Map IV Project Area West Detail



Map V Project Area South Detail

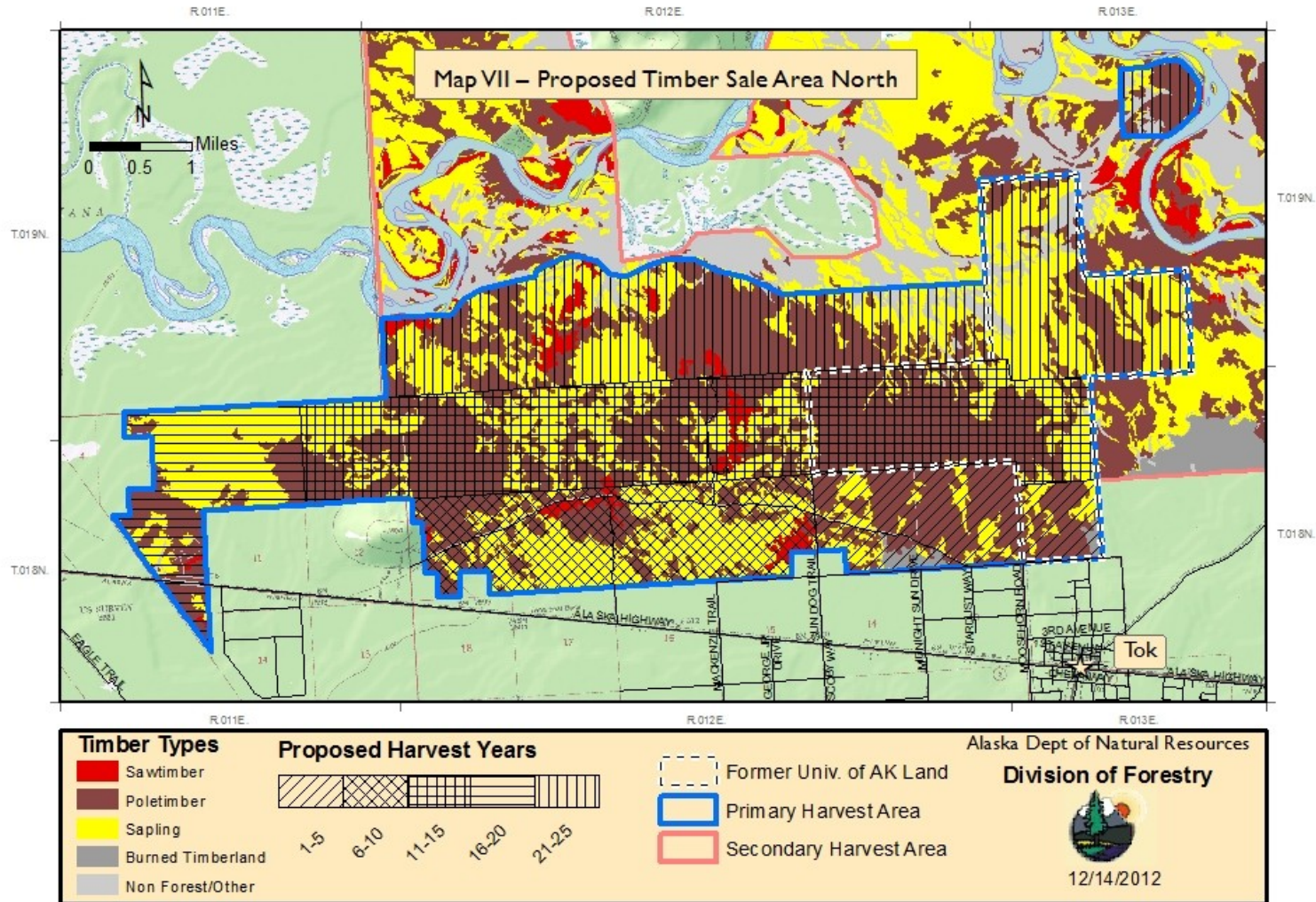


Map VI Project Area North Detail

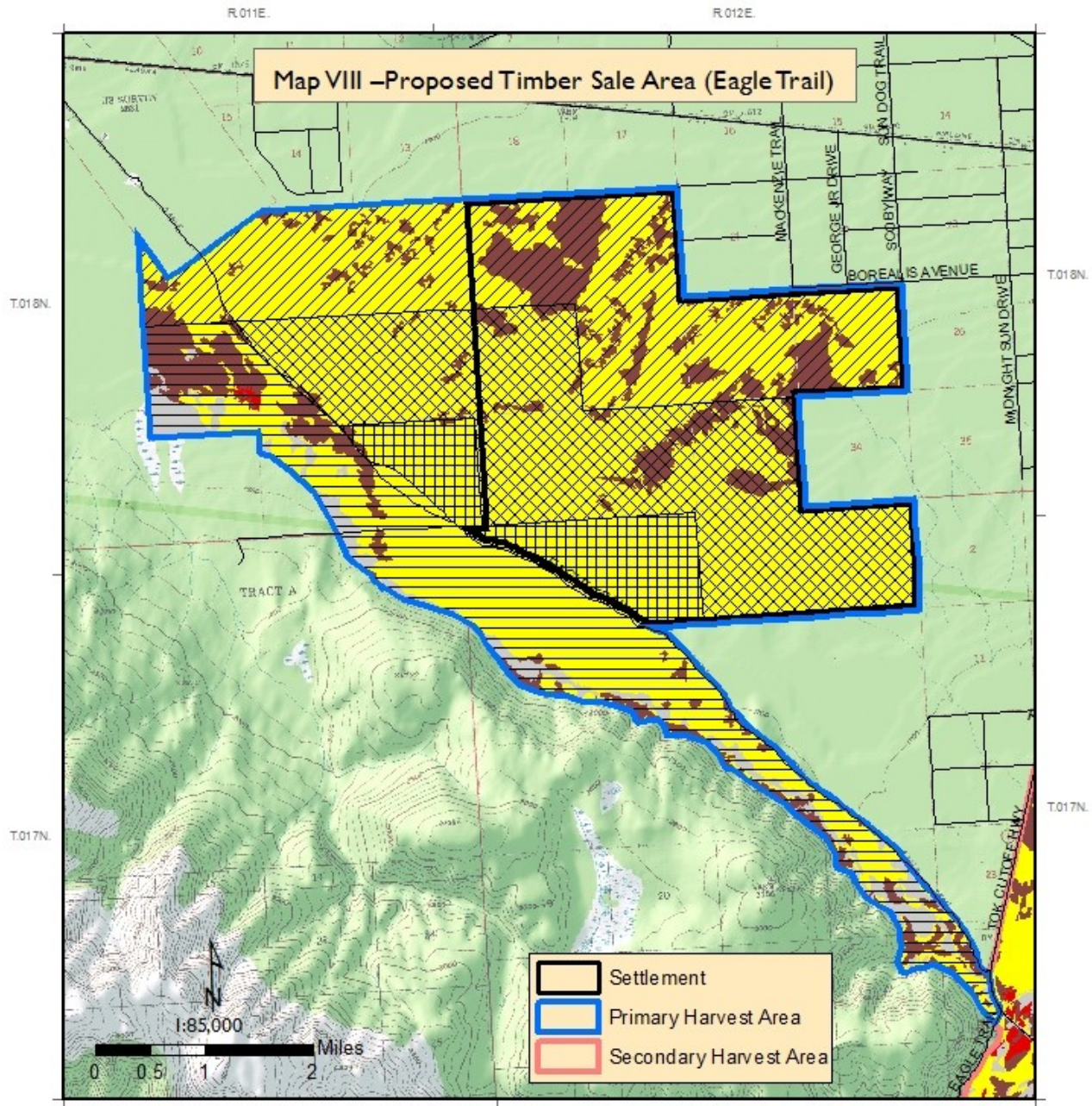


Timber Types		Alaska Dept of Natural Resources	
	Sawtimber		Primary Harvest Area
	Poletimber		Secondary Harvest Area
	Sapling		
	Burned Timberland		
	Non Forest/Other		
		12/14/2012	

Map VII Proposed Timber Sale Area North

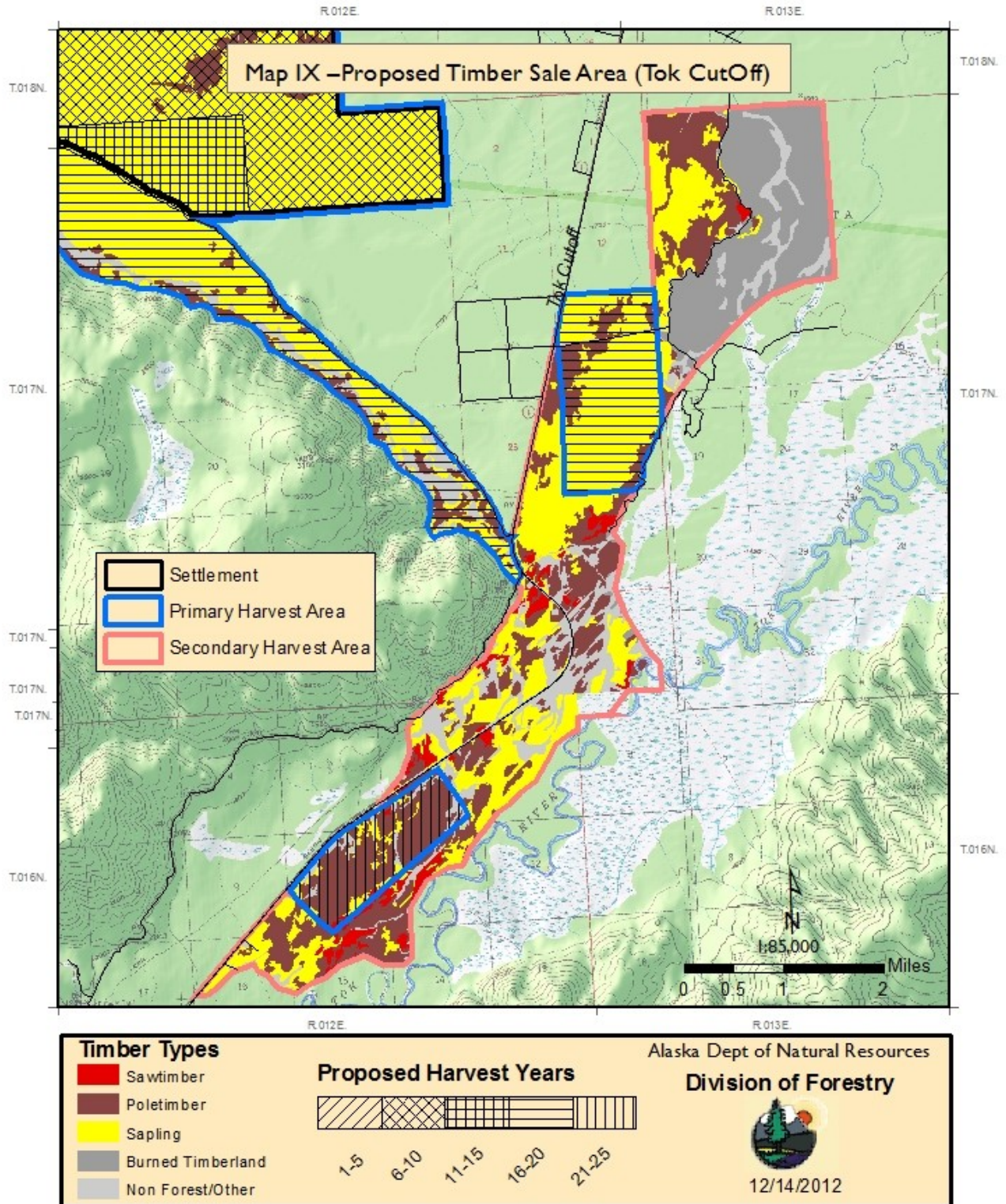


Map VIII Proposed Timber Sale Area (Eagle Trail)

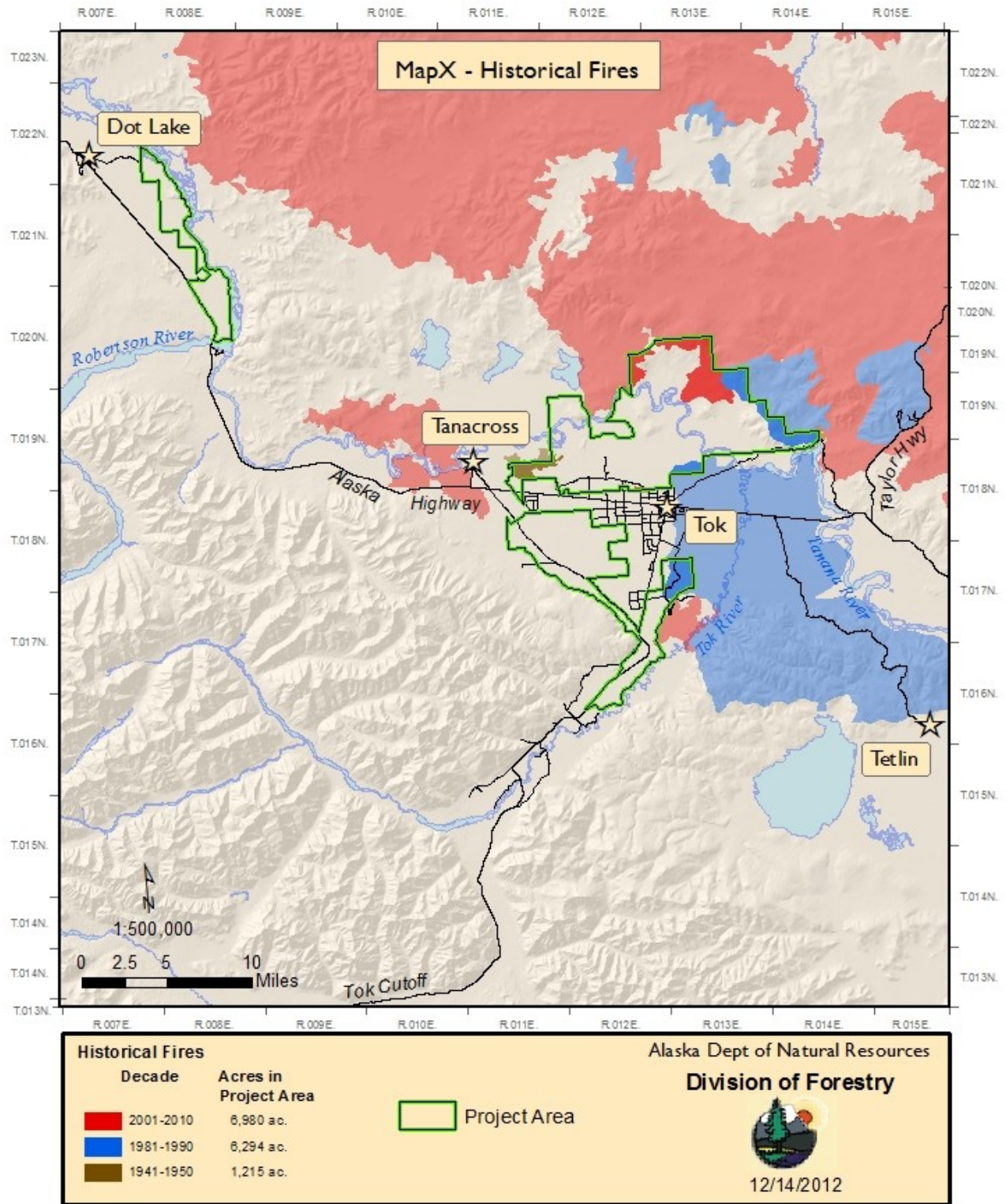


Timber Types <ul style="list-style-type: none"> Sawtimber Poletimber Sapling Burned Timberland Non Forest/Other 		Proposed Harvest Years <ul style="list-style-type: none"> 1-5 6-10 11-15 16-20 21-25 		Alaska Dept of Natural Resources Division of Forestry 12/14/2012	
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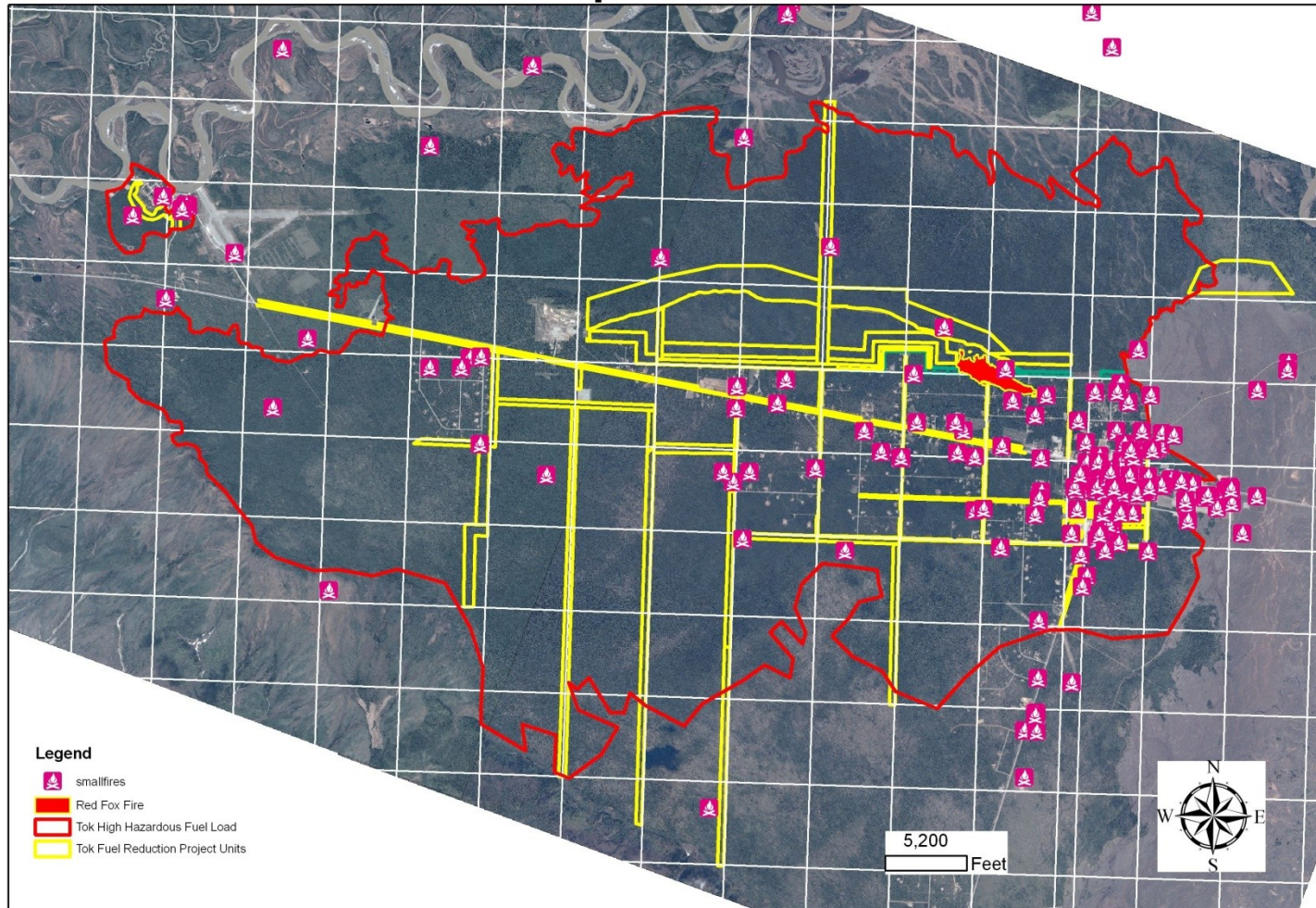
Map IX Proposed Timber Sale Area (Tok Cut Off)



Map X Historical Fires in the Project Area



Tok Community Wildfire Protection Plan April 2009



Appendix 1 Timber Type Volume

A. Inventory Methods

Estimates of timber volume utilize updated timber typing and forest inventory information collected during the 2010 update of the Tanana Valley State Forest (TVSF) inventory (Hanson 2010). This data was combined with U.S. Forest Service samples collected as part of a study to test the use of the Light Detection and Ranging (LIDAR) remote sensing system for timber stand mapping applications (Anderson et.al. 2010). During the TVSF inventory update, field samples were conducted within the pole timber and saw timber components of the forest. For the Tok area a total of 63 individual timber stands were field sampled during the summer of 2009. These field samples comprised 630 individual measurement plots. Reproduction, burned timber, and dwarf timber types (mostly black spruce less than 25 feet tall at maturity) were not sampled initially for the update.

In 2011 a document was prepared that examined biomass supply within various radii of the community of Tok (Hanson 2011). In performing the analysis, reproduction and burned timber types were considered to contain volume useable as biomass. To provide estimates of volume for the reproduction and burned timber types prior to the completion of the TVSF inventory update, the Forest Service plot data that corresponded to those timber types were utilized. The two data sets were merged within a Microsoft Access database for volume and tree attribute calculations. The Forest Service plots were measured during the summer and fall of 2009. A total of 30 plots within sapling and burned timber types were utilized to calculate volumes within these forest types.

The Tanana Valley State Forest inventory continues to be updated and additional plots installed by state forestry in sapling and other types this summer in Tok will be merged into the data to produce a final inventory report sometime in 2013.

Timber volume considered in this preliminary best interest finding does not however include the burned timber types. This decision was based on the high variability of volumes found within these areas and merchantability concerns which will require additional field verification for potential timber sale layout. Salvage of burned biomass volume may occur in future timber sales. Timber volume also does not include dwarf black spruce timber types. Dwarf black spruce is defined as trees that are less than 25 feet in height at maturity. More productive black spruce sapling, pole timber and saw timber is however included as available timber.

Volume Definitions

Cubic Measurements

The cubic foot measurement includes all timber equal to or greater than five inches diameter breast height and is divided among the live and dead pole timber and saw timber components of the forest. In terms of calculations for wood energy resources, the cubic foot value is important in that it can readily be converted into cords (approximately 90 cubic feet of solid wood per cord) and the measurement relates well to delivered wood in round log form. Volume calculations are based on volume equations produced for Interior Alaska; U.S. Forest Service research note NOR-6. Cubic volume is reported in Smalian's rule and for spruce and hardwoods include volume inside bark to a 4-inch top. Both live and dead volume is reported. Dead volume includes recently dead trees estimated to have died within the last 5 years.

Biomass Tons Measurements

In the Tok biomass supply analysis report, computation of above ground biomass tons was derived from published dry weight regressions (Yarie et al. 2007). Regression equations within this document however

produced a range of values that were found not to be truly representative of the Tok area. In 2008 Tok Area Forestry embarked on a research project to produce local total above ground green weight values for its area. A total of approximately 700 trees were measured, cut and weighed to determine total green weight by diameter and height. Regression equations were developed for spruce and hardwoods and applied to the inventory tree dataset to produce revised total above ground green biomass ton estimates. The biomass tons measurement includes all timber equal to or greater than two inches diameter breast height and is divided among the live and dead sapling, pole timber and saw timber components of the forest.

Sample Error by Strata

The 2010 TVSF inventory update sampled timber types within the project area which were combined into strata to compute volume estimates. A total of 14 volume strata were identified. Estimates of sample error at one standard deviation of the mean by strata and combined estimates are shown below. Project area maps shown in the preliminary best interest finding use the corresponding volume per acre by strata sorted by size class to produce volume estimates in hundred cubic feet (CCF) and biomass tons by tree size classes of saw timber, pole timber and sapling.

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Technical Questions

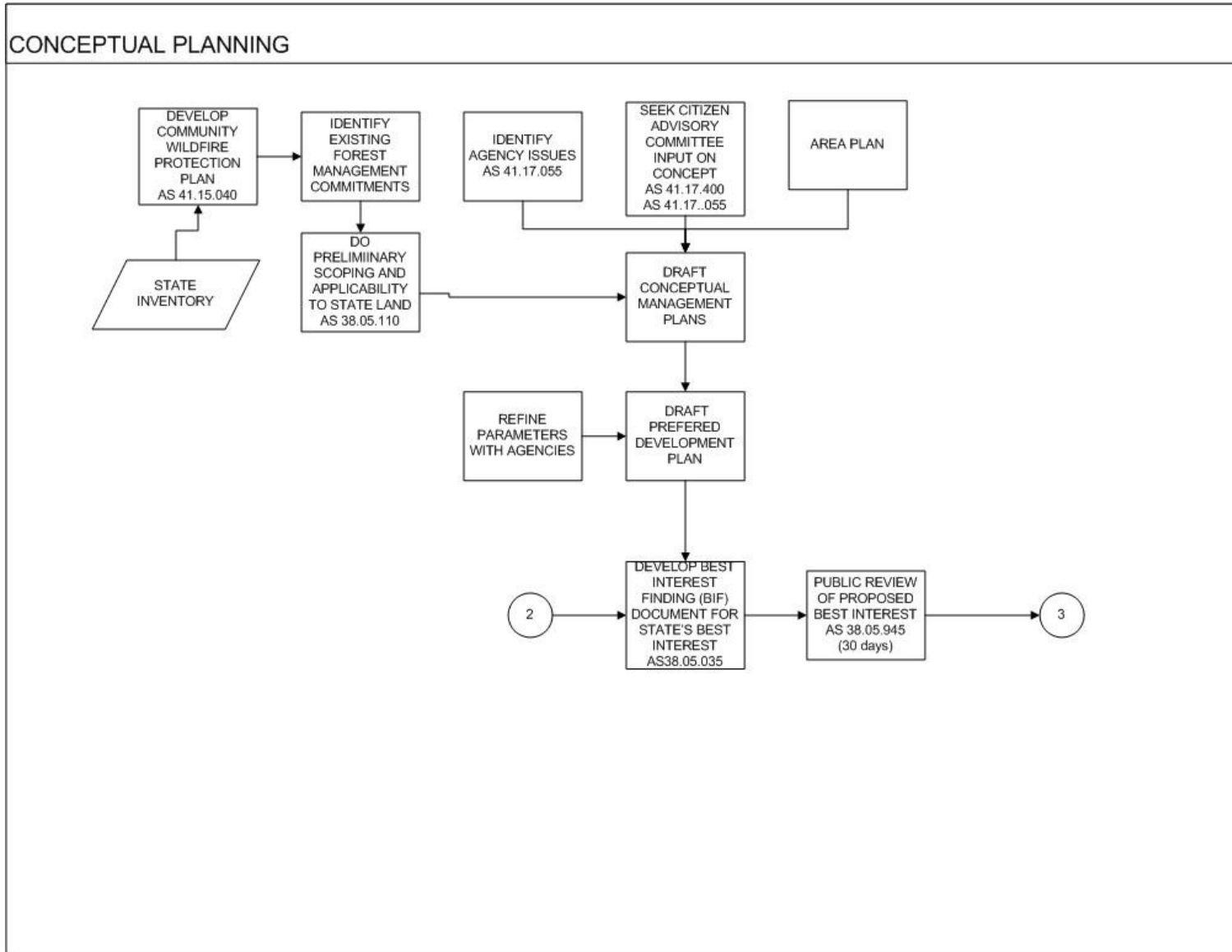
For specific questions regarding the inventory or to examine the associated data please contact:
State Inventory Forester
Division of Forestry
Fairbanks, Alaska 99709
Phone: 907-374-3755

Inventory Summary Table

Strata		Number of Plots	% Sampling Error
1	Black and White Spruce Saw timber	100	4.8
2	Black and White Spruce Pole timber	130	5.0
3	Birch Closed	40	10.2
4	Birch Open	20	21.8
5	Aspen Closed	50	9.3
6	Aspen Open	20	13.1
7	Birch-Aspen Closed	20	16.2
8	Birch-Aspen Open	20	11.7
9	White Spruce-Birch Saw timber	20	16.1
10	White Spruce-Birch Pole timber	40	8.8
11	White Spruce-Birch-Aspen Saw timber	20	15.9
12	White Spruce-Birch-Aspen Pole timber	70	8.2
13	White Spruce-Balsam Poplar	60	8.0
14	Black and White Spruce-Birch-Aspen	20	14.0
		Totals 630	Combined 7.9

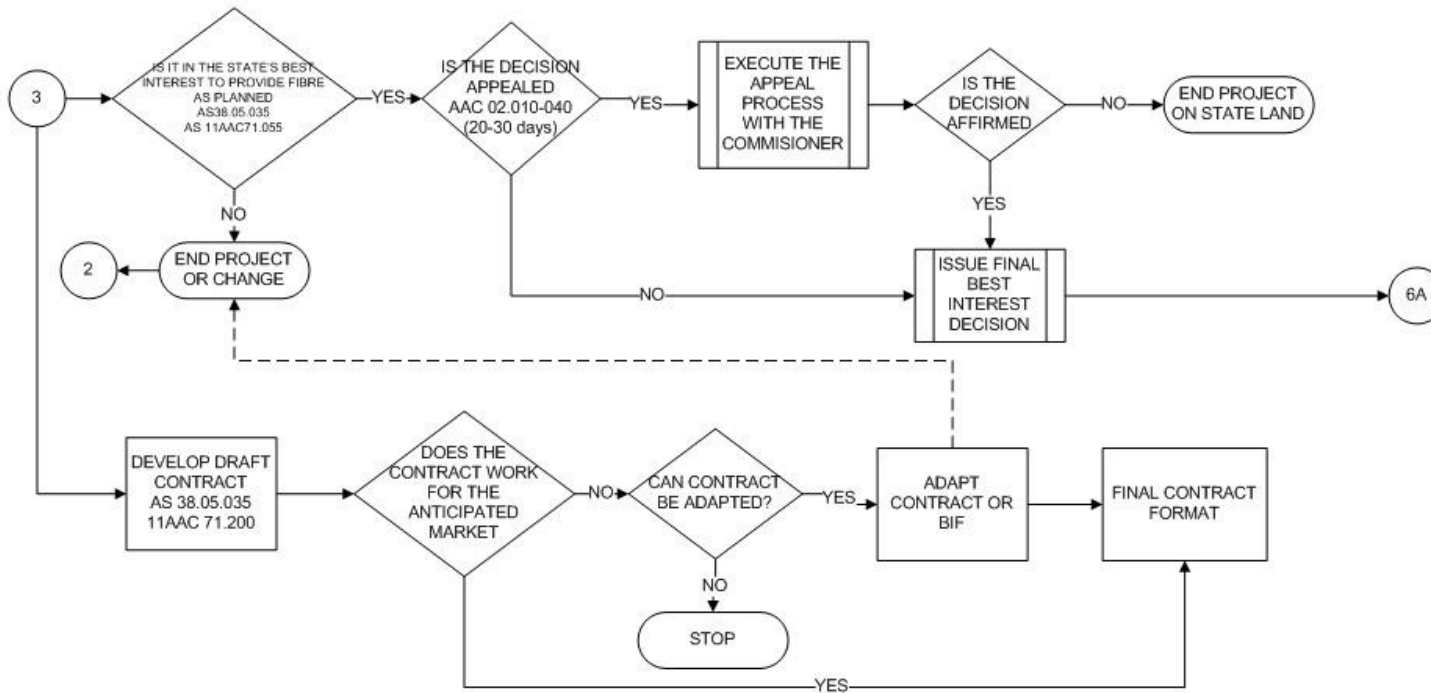
Appendix 2 Timber Sale Flow Chart

(Conceptual Planning)



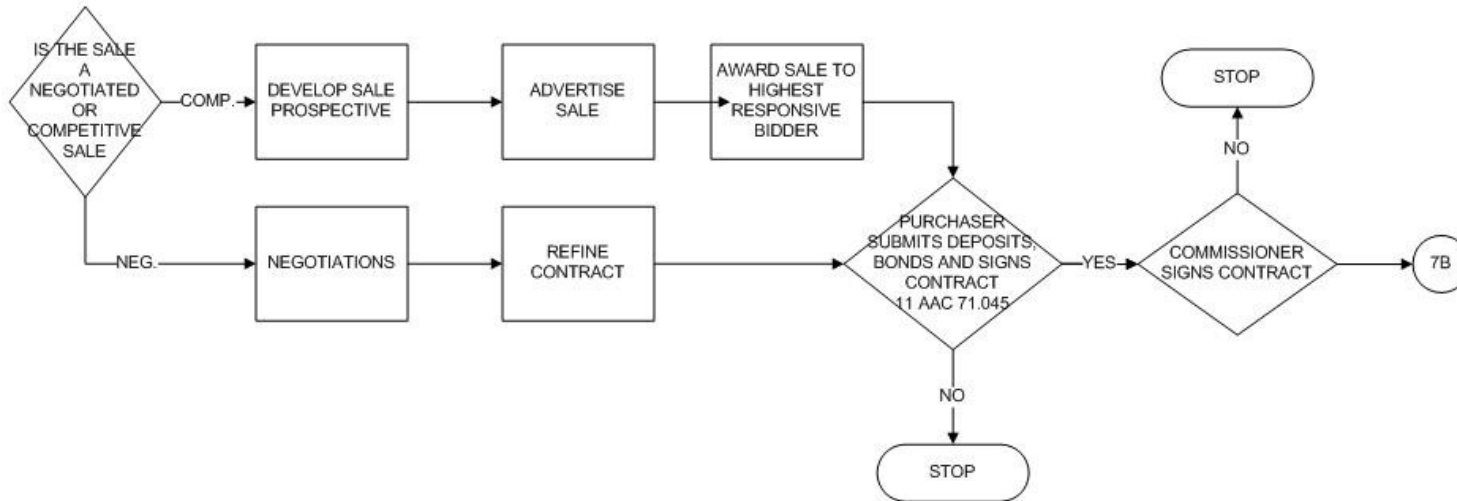
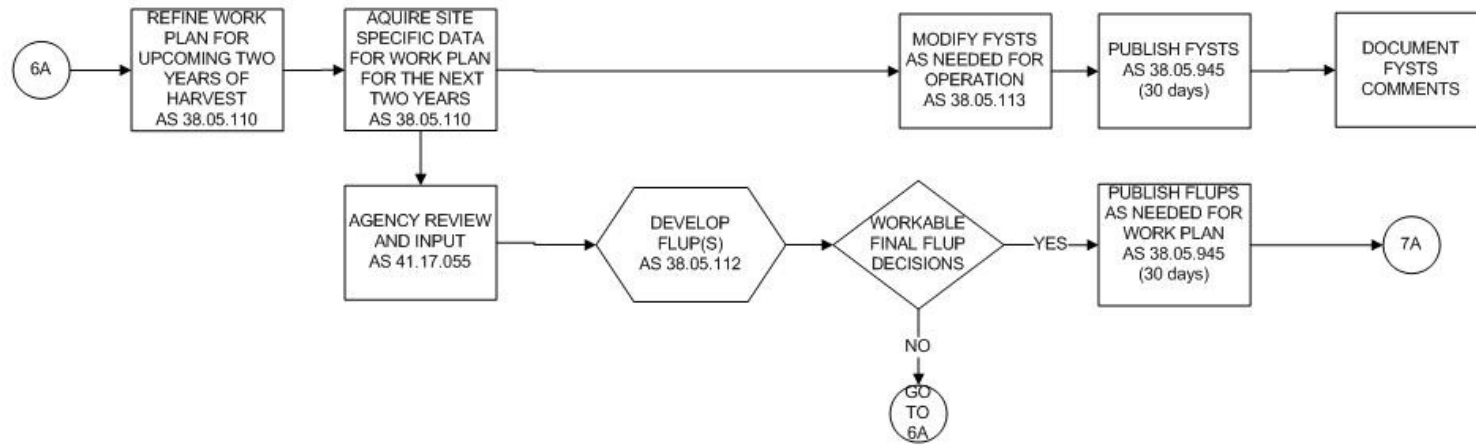
(BIF and Contract Development)

BEST INTEREST AND DRAFT CONTRACT

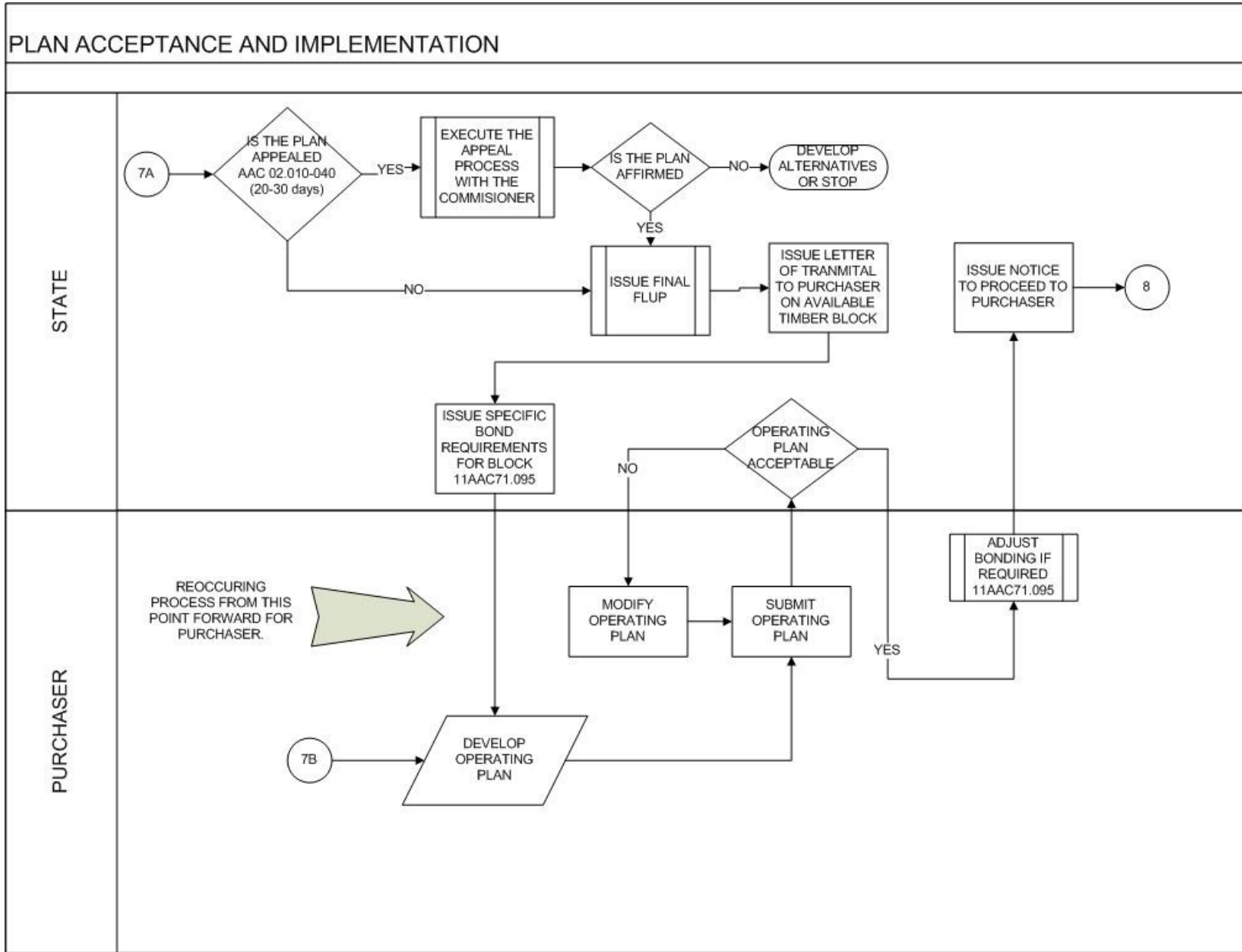


(FLUP, FYSTS and Sale Process)

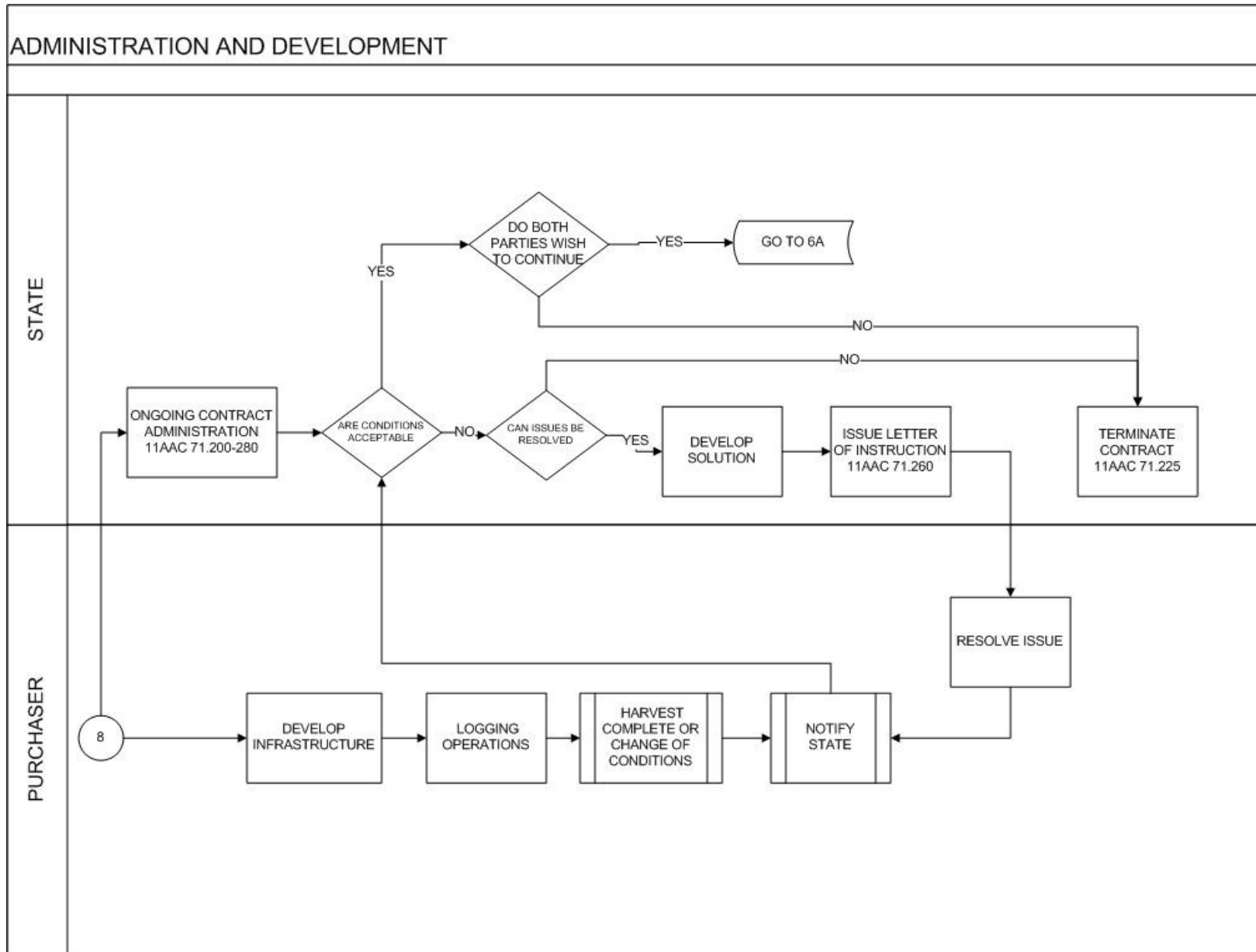
FLUP, SALE AND FYSTS DEVELOPMENT



(Plan Acceptance and Implementation)



(Administration and Development)



Appendix 3 Comments Received from the Public

December 17, 2013 to February 4, 2013

See separate document by the title of this page.

Appendix 4 Appeal and Request for Reconsideration Regulations

Note: "Appeal" means a request to the commissioner to review a decision that the commissioner did not sign or cosign. "Request for reconsideration" means a petition or request to the commissioner to review an original decision that the commissioner signed or cosigned. [11 AAC 02.900, Definitions, below.]

TITLE 11. NATURAL RESOURCES.

CHAPTER 02. APPEALS.

Section	Section
10. Applicability and eligibility	50. Hearings
15. Combined decisions	60. Stays; exceptions
20. Finality of a decision for purposes of appeal to court	70. Waiver of procedural violations
30. Filing an appeal or request for reconsideration	80. (Repealed)
40. Timely filing; issuance of decision	900. Definitions

11 AAC 02.010. APPLICABILITY AND ELIGIBILITY. (a) This chapter sets out the administrative review procedure available to a person affected by a decision of the department. If a statute or a provision of this title prescribes a different procedure with respect to a particular decision, that procedure must be followed when it conflicts with this chapter.

(b) Unless a statute does not permit an appeal, an applicant is eligible to appeal or request reconsideration of the department's decision on the application. An applicant is eligible to participate in any appeal or request for reconsideration filed by any other eligible party.

(c) If a statute restricts eligibility to appeal or request reconsideration of a decision to those who have provided timely written comment or public hearing testimony on the decision, the department will give notice of that eligibility restriction as part of its public notice announcing the opportunity to comment.

(d) If the department gives public notice and allows a public comment period of at least 30 days on a proposed action, and if no statute requires opportunity for public comment, the department may restrict eligibility to appeal or request reconsideration to those who have provided timely written comment or public hearing testimony on the proposed action by including notice of the restriction as part of its public notice announcing the opportunity to comment.

(e) An eligible person affected by a decision of the department that the commissioner did not sign or cosign may appeal the decision to the commissioner within the period set by 11 AAC 02.040.

(f) An eligible person affected by a decision of the department that the commissioner signed or cosigned may request the commissioner's reconsideration within the period set by 11 AAC 02.040.

(g) A person may not both appeal and request reconsideration of a decision. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 44.37.011
AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.15.020
AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020 AS 46.17.030

11 AAC 02.015. COMBINED DECISIONS. (a) When the department issues a combined decision that is both a final disposal decision under AS 38.05.035(e) and any other decision, including a disposal decision combined with a land use plan decision, or a disposal decision to grant certain applications combined with a decision to deny others, the appeal process set out for a disposal decision in AS 38.05.035(i) - (m) and this chapter applies to the combined decision.

(b) A decision of the department may include a statement that a final consistency determination under AS 46.40 (Alaska Coastal Management Program) has been rendered in conjunction with the decision. A person may not, under this chapter, appeal or request reconsideration of the final consistency determination, including a requirement necessary solely to ensure the activity is consistent with the Alaska coastal management program as approved under AS 46.40. (Eff. 9/19/2001, Register 159)

Authority: AS 29.65.050 AS 38.04.900 AS 38.05.035 AS 38.09.110
AS 29.65.120 AS 38.05.020 AS 38.08.110 AS 38.50.160

11 AAC 02.020. FINALITY OF A DECISION FOR PURPOSES OF APPEAL TO COURT. (a) Unless otherwise provided in a statute or a provision of this title, an eligible person must first either appeal or request reconsideration of a decision in accordance with this chapter before appealing a decision to superior court.

(b) The commissioner's decision on appeal is the final administrative order and decision of the department for purposes of appeal to the superior court.

(c) The commissioner may order or deny a request for reconsideration within 30 calendar days after issuance of the decision, as determined under 11 AAC 02.040(c)-(e). If the commissioner takes no action during the 30-day period, the request for reconsideration is considered denied. Denial of a request for reconsideration is the final administrative order and decision of the department for purposes of appeal to the superior court.

(d) If the commissioner timely orders reconsideration of the decision, the commissioner may affirm the decision, issue a new or modified decision, or remand the matter to the director for further proceedings. The commissioner's decision, other than a remand decision, is the final administrative order and decision of the department for purposes of appeal to the superior court. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 44.37.011

AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.15.020

AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020 AS 46.17.030

11 AAC 02.030. FILING AN APPEAL OR REQUEST FOR RECONSIDERATION. (a) An appeal or request for reconsideration under this chapter must

(1) be in writing;

(2) be filed by personal service, mail, fax, or electronic mail;

(3) be signed by the appellant or the appellant's attorney, unless filed by electronic mail; an appeal or request for reconsideration filed by electronic mail must state the name of the person appealing or requesting reconsideration and a single point of contact to which any notice or decision concerning the appeal or request for reconsideration is to be sent;

(4) be correctly addressed;

(5) be timely filed in accordance with 11 AAC 02.040;

(6) specify the case reference number used by the department, if any;

(7) specify the decision being appealed or for which reconsideration is being requested;

(8) specify the basis upon which the decision is challenged;

(9) specify any material facts disputed by the appellant;

(10) specify the remedy requested by the appellant;

(11) state the address to which any notice or decision concerning the appeal or request for reconsideration is to be mailed; an appellant may also provide a telephone number where the appellant can be reached during the day or an electronic mail address; an appeal or request for reconsideration filed electronically must state a single address to which any notice or decision concerning the appeal or request for reconsideration is to be mailed;

(12) identify any other affected agreement, contract, lease, permit, or application by case reference number, if any; and

(13) include a request for an oral hearing, if desired; in the appeal or request for reconsideration, the appellant may include a request for any special procedures to be used at the hearing; the appeal or request for reconsideration must describe the factual issues to be considered at the hearing.

(b) At the time an appeal is filed, and up until the deadline set out in 11 AAC 02.040(a) to file the appeal, an appellant may submit additional written material in support of the appeal, including evidence or legal argument.

(c) If public notice announcing a comment period of at least 30 days was given before the decision, an appellant may not submit additional written material after the deadline for filing the appeal, unless the appeal

meets the requirement of (a) of this section and includes a request for an extension of time, and the department determines that the appellant has shown good cause for an extension. In considering whether the appellant has shown good cause, the department will consider factors including one or more of the following:

- (1) comments already received from the appellant and others;
- (2) whether the additional material is likely to affect the outcome of the appeal;
- (3) whether the additional material could reasonably have been submitted without an extension;
- (4) the length of the extension requested;
- (5) the potential effect of delay if an extension is granted.

(d) If public notice announcing a comment period of at least 30 days was not given before the decision, an appellant may submit additional written material after the deadline for filing the appeal, if the appeal meets the requirements of (a) of this section and includes a notice of intent to file the additional written material. The department must receive the additional written material within 20 days after the deadline for filing the appeal, unless the appeal also includes a request for an extension of time, and the department determines that the appellant has shown good cause for an extension. In considering whether the appellant has shown good cause, the department will consider factors including one or more of the following:

- (1) comments already received from the appellant and others;
- (2) whether the additional material is likely to affect the outcome of the appeal;
- (3) whether the additional material could reasonably have been submitted without an extension;
- (4) the length of the extension requested;
- (5) the potential effect of delay if an extension is granted.

(e) At the time a request for reconsideration is filed, and up until the deadline to file a request for reconsideration, an appellant may submit additional written material in support of the request for reconsideration, including evidence or legal argument. No additional written material may be submitted after the deadline for filing the request for reconsideration.

(f) If the decision is one described in 11 AAC 02.060(c), an appellant who believes a stay of the decision is justified may ask for a stay as part of the appeal or request for reconsideration. The appellant must include an argument as to why the public interest requires a stay. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 44.37.011
AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.15.020
AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020 AS 46.17.030

Editor's note: The address for an appeal or request for reconsideration by personal service and by mail is: Department of Natural Resources, Commissioner's Office, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska

99501-3561. The number for an appeal or request for reconsideration by fax is: 1-907-269-8918. The electronic mailing address for an appeal or request for reconsideration by electronic mail is: dnr_appeals@dnr.state.ak.us

11 AAC 02.040. TIMELY FILING; ISSUANCE OF DECISION. (a) To be timely filed, an appeal or request for reconsideration must be received by the commissioner's office within 20 calendar days after issuance of the decision, as determined under (c) or (d) of this section, unless another period is set by statute, regulation, or existing contract. If the 20th day falls on a day when the department is officially closed, the appeal or request for reconsideration must be filed by the next working day.

(b) An appeal or request for reconsideration will not be accepted if it is not timely filed.

(c) If the appellant is a person to whom the department delivers a decision by personal service or by certified mail, return receipt requested, issuance occurs when the addressee or the addressee's agent signs for the decision. If the addressee or the addressee's agent neglects or refuses to sign for the certified mail, or if the address that the addressee provided to the department is not correct, issuance by certified mail occurs when the decision is deposited in a United States general or branch post office, enclosed in a postage-paid wrapper or envelope, addressed to the person's current address of record with the department, or to the address specified by the appellant under 11 AAC 02.030(a)(11).

(d) If the appellant is a person to whom the department did not deliver a decision by personal service or certified mail, issuance occurs

(1) when the department gives public notice of the decision; or

(2) if no public notice is given, when the decision is signed; however, the department may state in the decision a later date of issuance and the corresponding due date for any appeal or request for reconsideration.

(e) The date of issuance constitutes delivery or mailing for purposes of a reconsideration request under AS 44.37.011(d) or AS 44.62.540(a). (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 44.37.011
AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.15.020
AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020 AS 46.17.030

11 AAC 02.050. HEARINGS. (a) The department will, in its discretion, hold a hearing when questions of fact must be resolved.

(b) The hearing procedure will be determined by the department on a case-by-case basis. As provided in 11 AAC 02.030(a)(13), any request for special procedures must be included with the request for a hearing.

(c) In a hearing held under this section

(1) formal rules of evidence need not apply; and

(2) the hearing will be recorded, and may be transcribed at the request and expense of the party requesting the transcript. (Eff. 11/7/90, Register 116)

Authority: AS 03.05.010 AS 38.04.900 AS 38.09.110 AS 41.17.055 AS 46.17.030
AS 29.65.050 AS 38.05.020 AS 38.50.160 AS 41.21.020
AS 29.65.120 AS 38.08.110 AS 41.15.020 AS 46.15.020

11 AAC 02.060. STAYS; EXCEPTIONS. (a) Except as provided in (c) and (d) of this section, timely appealing or requesting reconsideration of a decision in accordance with this chapter stays the decision during the commissioner's consideration of the appeal or request for reconsideration. If the commissioner determines that the public interest requires removal of the stay, the commissioner will remove the stay and allow all or part of the decision to take effect on the date set in the decision or a date set by the commissioner.

(b) Repealed 9/19/2001.

(c) Unless otherwise provided, in a statute or a provision of this title, a decision takes effect immediately if it is a decision to

(1) issue a permit, that is revocable at will;

(2) approve surface operations for a disposal that has already occurred or a property right that has already vested; or

(3) administer an issued oil and gas lease or license, or an oil and gas unit agreement.

(d) Timely appealing or requesting reconsideration of a decision described in (c) of this section does not automatically stay the decision. However, the commissioner will impose a stay, on the commissioner's own motion or at the request of an appellant, if the commissioner determines that the public interest requires it.

(e) A decision takes effect immediately if no party is eligible to appeal or request reconsideration and the commissioner waives the commissioner's right to review or reconsider the decision. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 46.15.020
AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.17.030
AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020

11 AAC 02.070. WAIVER OF PROCEDURAL VIOLATIONS. The commissioner may, to the extent allowed by applicable law, waive a requirement of this chapter if the public interest or the interests of justice so require. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 29.65.120 AS 38.05.035 AS 38.50.160 AS 41.21.020

AS 03.10.020 AS 38.04.900 AS 38.08.110 AS 41.15.020 AS 46.15.020

AS 29.65.050 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 46.17.030

11 AAC 02.080. DEFINITIONS. Repealed. (Eff. 11/7/90, Register 116; repealed 9/19/2001, Register 159)

Editor's note: The subject matter formerly set out at 11 AAC 02.080 has been moved to 11 AAC 02.900.

11 AAC 02.900. DEFINITIONS. In this chapter,

(1) "appeal" means a request to the commissioner to review a decision that the commissioner did not sign or cosign;

(2) "appellant" means a person who files an appeal or a request for reconsideration.

(3) "commissioner" means the commissioner of natural resources;

(4) "decision" means a written discretionary or factual determination by the department specifying the details of the action to be allowed or taken;

(5) "department" means, depending of the particular context in which the term is used, the Department of Natural Resources, the commissioner, the director of a division within the Department of Natural Resources, or an authorized employee of the Department of Natural Resources;

(6) "request for reconsideration" means a petition or request to the commissioner to review an original decision that the commissioner signed or cosigned. (Eff. 11/7/90, Register 116; am 9/19/2001, Register 159)

Authority: AS 03.05.010 AS 38.05.020 AS 38.09.110 AS 41.17.055 AS 44.62.540

AS 29.65.050 AS 38.05.035 AS 38.50.160 AS 41.21.020 AS 46.15.020

AS 29.65.120 AS 38.08.110 AS 41.15.020 AS 44.37.011 AS 46.17.030

AS 38.04.900

Editor's note: The subject matter of 11 AAC 02.900 was formerly located at 11 AAC 02.080. The history notes for 11 AAC 02.900 does not reflect the history of the earlier section.