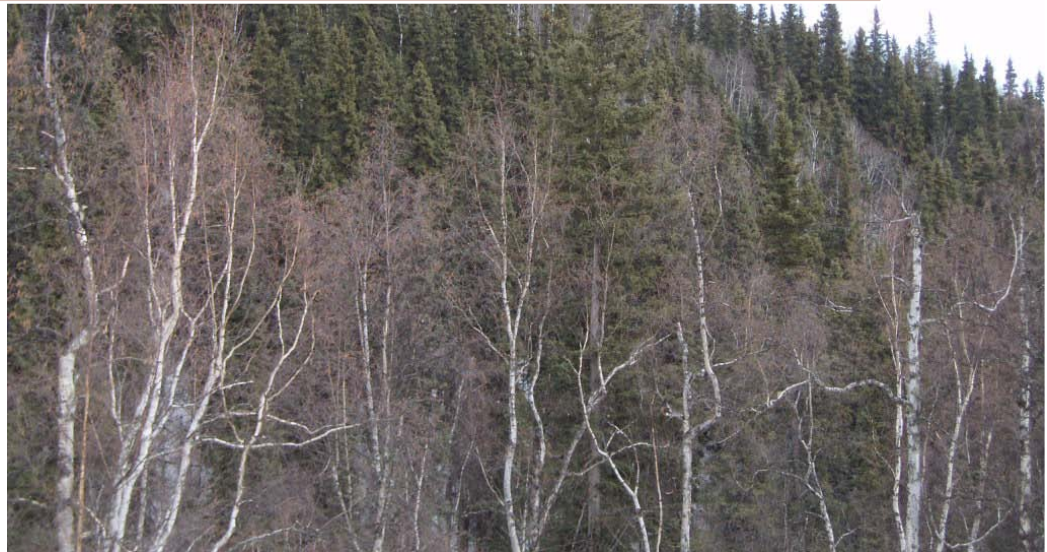


2012

Forest Inventory Summary For Mental Heath Trust Authority Lands In The Fairbanks Vicinity



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I. EXECUTIVE SUMMARY

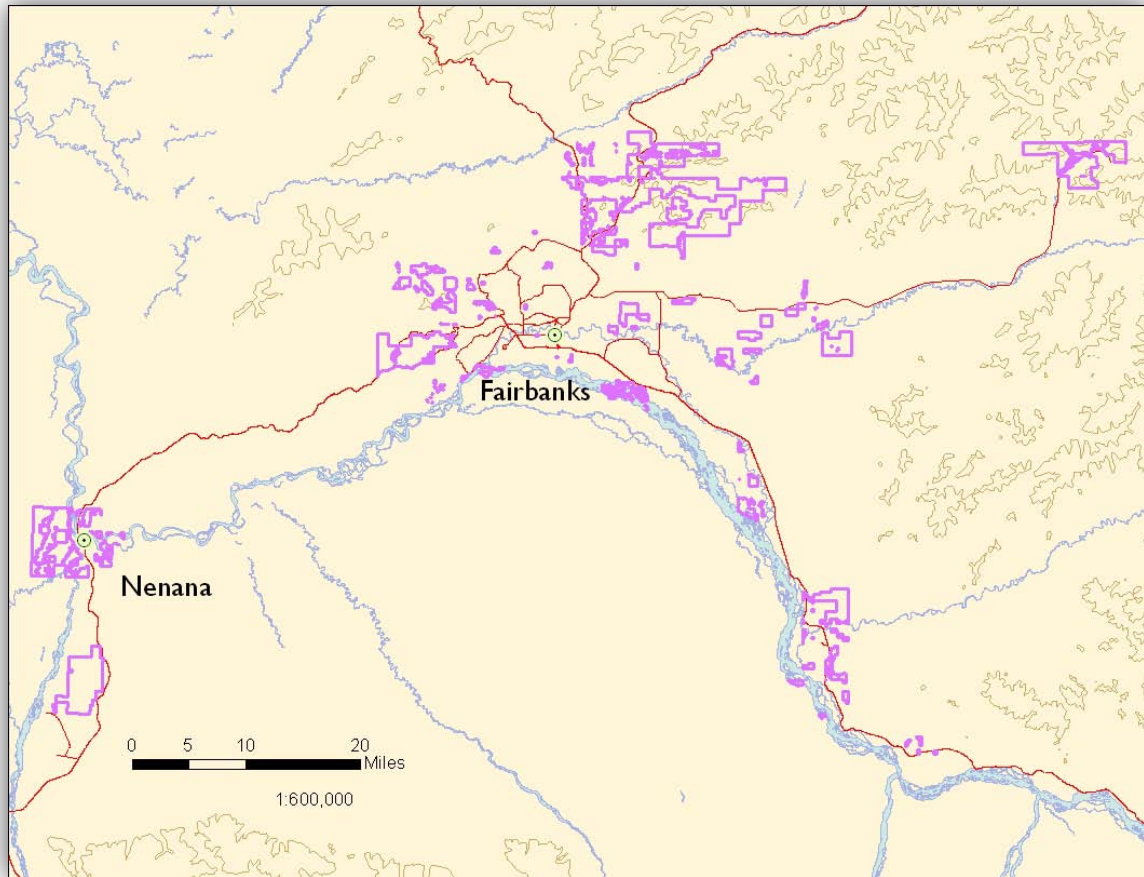
Mental Health Trust Authority (MHT) lands comprising 107,781 acres within the Fairbanks area have been classified for vegetation to determine timber type volume and acreage. Forest information from the State Division of Forestry's (DOF) Draft Tanana Valley Inventory Update 2010 (Hanson 2010) is used as source data for the analysis. In addition data from the Tok Area Forestry tree weight study is used to estimate available biomass tons.

Acres			
Inventory Area Land Classification			
Timberland			60,616
Dwarf Forests			32,628
Non-Forest			13,275
Water			<u>1,262</u>
Total Inventory Area:			107,781
Timberland Area by Timber Type Size Class			
Sawtimber			8,822
Mixed Sawtimber/Poletimber			16,702
Poletimber			4,879
Reproduction			<u>30,213</u>
Total Timberland Area:			60,616
Timberland Area by Timber Type Species Class			
Aspen			3,929
Birch			6,758
Black and White Spruce/Hardwood			21,501
Hardwood			2,822
White Spruce			3,926
White Spruce/Balsam Poplar			1,717
White Spruce/Birch			7,361
White Spruce/Hardwood			<u>12,602</u>
Total Timberland Area:			60,616
Total Net Volume			
Cubic Feet (≥ 5"dbh)	Tons (≥ 5"dbh)	Biomass Tons ≥ 2"dbh	Board Feet (≥ 9"dbh)
65,736,272	1,329,973	3,559,017	145,540,427

TABLE I. INVENTORY VOLUME AND ACREAGE SUMMARY.

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FIGURE 1. MENTAL HEALTH TRUST AUTHORITY FOREST INVENTORY VICINITY MAP.



II. OBJECTIVES

The objective of this report is to provide reliable forest inventory data to assist in locating and quantifying forest volumes on Mental Health Trust Authority lands. A geographic information system (GIS) dataset has also been created and allows interactive querying of the spatial data.

III. METHODS

The forest inventory update for the Tanana Valley State Forest (TVSF) was initiated in 2007 and is ongoing. Volume per acre data from the inventory is applied to the MHT timber types to calculate overall volume by timber type and strata. The MHT timber is mostly adjacent or nearby to the Tanana Valley State Forest timber and is similar in stand structure. In addition to standard forms of volume measurement, above ground biomass is also reported. Above ground biomass utilizes regression equations developed from tree weight measurements conducted by the DOF Tok Area Forestry office. The GIS dataset created for the MHT contains spatially referenced timber stands linked to an attribute table which describes the type of timber, volume and acreage. In Microsoft Access the attribute tables are linked to additional inventory data to allow a variety of output reports.

A. VEGETATION TYPING

Natural color digital ortho photographs at 1:40,000 (1 inch = .63 miles) are used for the project. The dates of aerial photo coverage are between 2007 and 2008. Vegetation typing utilizes Summit Evolution Dat/Em software which allows digital photo pairs to be viewed in stereo on a computer screen. Individual features (polygons) are determined from the stereo image and drawn with a computer mouse directly on the screen. The software is linked to ArcMap GIS software where the attributed vegetation polygons are stored. The smallest size of the polygons drawn is approximately one acre. Delineation of the forestland types is based on tree species, size class and stand density. The most prevalent species determines the timber type. In mixed timber types, the secondary species represents at least 30% density of the type in question. Aids used in the interpretation of timber types on the imagery include color, texture, hue and physical location of the stand in question. The other component of forestland; dwarf forests, generally comprise black spruce stands that are less than 25 feet tall at maturity. These stands have not been sampled in the inventory and are of low productivity. Currently these stands are considered non-commercial even for the use of biomass, however emerging harvest technology and/or market development could change this status.

I. TIMBERLAND DESCRIPTION, OCCURRENCE AND VALUE, WHITE SPRUCE

White spruce (*Picea glauca*) 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. Concentrations of white spruce occur north of the Salcha River, on Tanana River islands near Eielson Air Force Base, and along East and West Middle River near Nenana. The State Division of Forestry currently receives between \$500 and \$1,000 per acre for timber sales in well stocked stands.

2. TIMBERLAND DESCRIPTION, OCCURRENCE AND VALUE, BIRCH

Paper birch (*Betula papyrifera*) 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 unburnt birch trees spread considerable amounts of seed on the newly exposed sites.

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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 actively flooding zones. Closed birch stands occur throughout the project area mostly on the upland sites. Concentrations of birch also occur along East and West Middle River near Nenana. The State Division of Forestry currently receives between \$300 and \$400 per acre for timber sales in well stocked stands.

3. TIMBERLAND DESCRIPTION, OCCURRENCE AND VALUE, ASPEN

Quaking aspen (*Populus tremuloides*) 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. It also occurs in areas with shallow organic layers underlain by gravel or sand where aspen is commonly growing with black spruce. Stand development results from fire similar to birch. Closed aspen stands occur on upland sites with southerly aspects and are concentrated north of Fox, west of Ester along the Old Nenana Highway, and on the hills immediately north of Nenana. A limited market has existed for aspen and the State Division of Forestry has sold few sales. This however is changing because the recently completed Superior Pellets facility is utilizing aspen for a portion of its raw material source.

B. DATA SUMMARY

The MHT inventory contains 16 separate volume strata (Table 2) that contain data from TVSF field measurements. Individual timber types are grouped into strata for volume compilation. A land cover key (Table 3) describes the vegetation codes. A timber type stratum grouping table is shown in Appendix A.

Stratum	Description	Acres	Percent
1	White Spruce Sawtimber	2,403	4.0%
2	White Spruce Poletimber	1,523	2.5%
3	Birch Closed	6,503	10.7%
4	Birch Open	255	0.4%
5	Aspen Closed	3,902	6.4%
6	Aspen Open	26	0.0%
7	Birch-Aspen Closed	2,739	4.5%
8	Birch-Aspen Open	83	0.1%
9	White Spruce-Birch Sawtimber	5,370	8.9%
10	White Spruce-Birch Poletimber	1,991	3.3%
11	White Spruce-Birch-Aspen Sawtimber	1,049	1.7%
12	White Spruce-Birch-Aspen Poletimber	1,365	2.3%
13	White Spruce-Balsam Poplar	1,717	2.8%
14	Black and White Spruce-Birch-Aspen	1,477	2.4%
15	White Spruce-Hardwood Reproduction	10,188	16.8%
16	Black and White Spruce-Hardwood Reproduction	20,025	33.0%
Total Timberland Acres		60,616	100.0%

TABLE 2. VOLUME STRATA AND ACREAGE.

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LAND COVER KEY			
FOREST SPECIES			
1	Black Spruce	31	White Spruce-Birch
2	White Spruce	32	White Spruce-Black Spruce-Birch
3	Black Spruce-White Spruce	33	Black Spruce-Aspen
16	Balsam Poplar	34	White Spruce-Aspen
17	Birch	35	White Spruce-Black Spruce-Aspen
18	Aspen	37	White Spruce-Birch-Aspen
19	Birch-Aspen	38	White Spruce-Balsam Poplar
30	Black Spruce-Birch	39	White Spruce-Black Spruce-Birch-Aspen
DESCRIPTORS (Forests - Tree Size Class)			
S	Sawtimber	≥	9.0 inches DBH
P	Poletimber		5.0 inches to 8.9 inches DBH
R	Reproduction	<	5.0 inches DBH
D	Dwarf	<	25 feet at maturity
BR Recently Burned			
W Wetland			
FOREST DENSITY			
	X	60-100%	Calls are based on crown closure percent.
	Y	25-59%	
	Z	10-24%	
NON-FOREST			
63	Mixed Tall Shrub Closed	95	Urban-Suburban
68	Mixed Tall Shrub Open	96	Agriculture
70	Mixed Low Shrub Closed	97	Gravel pits, mines, quarries
71	Mixed Low Shrub Open	98	Roads
76	Dry Midgrass-Herb-Sedge	99	Pipelines/Power lines
79	Wet Sedge-Grass	100	Clouds
80	Lakes-Ponds	101	Timber Sales Logged
88	Rivers-Flowing Water	102	Timber Sales Proposed
94	Bare Ground		

TABLE 3. LAND COVER KEY.

IV. RESULTS

A. TIMBERLAND VOLUME DEFINITIONS

Estimates of timber volume are calculated with four different measurements; cubic foot volume, board foot volume, green tons and above ground biomass tons. The first three measurements are related to traditional log based timber harvesting where volume only includes the merchantable bole of the tree, for example, a minimum 5 inch diameter at breast height (dbh) and a minimum top diameter of 4 inches.

I. CUBIC AND BOARD FOOT MEASUREMENTS

The cubic foot measurement includes all timber greater than or equal to five inches dbh. 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. The board foot measurement is commonly used to determine the amount of lumber that can be sawn from a log. Because the measurement is based on actual boards that can be sawn from a log, it disregards all material wasted in the process such as slabs and sawdust. The board foot measurement only includes timber equal to or greater than 9 inches dbh.

Volume calculations for both cubic and board foot measurements are based on volume equations produced for Interior Alaska; U.S. Forest Service research notes NOR-5, NOR-6 and PNW-59. Cubic volume is reported in Smalian's rule and for spruce and hardwoods includes volume to a 4-inch top (NOR-6). Board foot volume is reported in Scribner Decimal C scale and is based on 16-foot log segments (short log scale). For spruce it is reported to a 6-inch top (PNW-59) and for hardwoods to an 8-inch top (NOR-5).

Volume Formula Name	Volume Unit	Species	Formula
NOR-6	Cubic Foot 4-inch Top	White and Black Spruce	$(-2.055)+0.2982*(dbh)+0.00181*(dbh)^2*ht$
NOR-6	Cubic 4-inch Top	Birch	$(-2.5767)+0.9524*(dbh)-0.10446*(dbh)^2-0.03303*(ht)+0.00282*(dbh)^2*(ht)$
NOR-6	Cubic 4-inch Top	Aspen	$(-0.5553)-0.02216*dbh^2+0.00246*dbh^2*ht$
NOR-6	Cubic 4-inch Top	Balsam Poplar	$(-3.2187)+0.8281*(dbh)-0.05908*(dbh)^2-0.01985*(ht)+0.00199*(dbh)^2*(ht)$
PNW-59	Board Foot Scribner 6-inch Top	White and Black Spruce	$39.71+4.2659*dbh-0.55865*dbh^2-1.1184*ht+0.016113*dbh^2*ht-437.92/dbh^2$
NOR-5	Board Foot Scribner 8-inch Top	Birch and Aspen	$(-27.263)+0.00995*dbh^2*ht$
NOR-5	Board Foot Scribner 8-inch Top	Balsam Poplar	$(-46.7415)+0.00956*dbh^2*ht$

TABLE 4. VOLUME FORMULAS BY SPECIES FOR POLETIMBER AND SAWTIMBER SIZE CLASSES.

2. TON MEASUREMENTS

Computation of tons was derived from weight ratios produced for Alaska wood species (Sturgeon 1979. *Wood as a Fuel*). *Wood as a Fuel* lists the weight of green cord wood which can be converted into pounds per cubic foot. The inventory cubic foot values are converted to tons using these ratios (Table 5). A cord of wood is assumed to

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contain 90 cubic feet of solid wood. The ton measurement represents the same diameter ranges as included in the cubic feet measurements (≥ 5 " dbh to a 4 inch minimum top).

Species	Pounds per Cubic Foot
White Spruce	34
Black Spruce	34
Birch	50
Aspen	43
Balsam Poplar	43

TABLE 5. INVENTORY SPECIES AND WEIGHT FOR POLETIMBER AND SAWTIMBER.

3. ABOVE GROUND BIOMASS TON MEASUREMENTS

Computation of above ground biomass tons was derived from biomass regression equations that relate the weight of the total above ground portion of the tree including branches and needles to total height and dbh measurements. The DOF Tok Area Forestry Office conducted green weight measurements on 1/100th acre plots for white spruce and aspen between 2008 and 2011. From these datasets regression equations were computed in Microsoft Excel. Due to inaccuracies in projecting weight of very small trees (negative regression values) the equations were only applied to trees ≥ 2 inches dbh. The diameter limit also reflects what may constitute actual biomass harvest utilization. For the purpose of a naming convention, the measurement is referred to as biomass tons.

Species	Green Weight in Pounds
White Spruce	$-51.272*[\text{dbh}] + 11.28*([\text{dbh}]^2 + 3.752*[\text{ht}])$
Black Spruce	
Birch	
Aspen	$-52.125*[\text{dbh}] + 11.408*([\text{dbh}]^2 + 3.433*[\text{ht}])$
Balsam Poplar	

TABLE 6. REGRESSION EQUATION FOR WEIGHT OF ABOVE GROUND BIOMASS.

B. VOLUME OF TIMBERLAND

Table 7 lists per acre volume by strata. Strata per acre volume figures have been multiplied by acreage to calculate total volume on MHT lands (Table 8). Appendix B provides detailed per acre figures by strata. The figures that follow Tables 7 and 8 identify concentrations of higher volume timber in various regions of the project area by timberland timber type species.

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Stratum	Description	Net CF/Acre	Net Tons/Ac.	Biomass Tons/Ac.	Net BF/Ac.
1	White Spruce Sawtimber	3,137	55	111	12,637
2	White Spruce Poletimber	2,384	41	105	6,204
3	Birch Closed	1,703	41	83	1,794
4	Birch Open	1,222	29	59	3,362
5	Aspen Closed	2,291	49	101	2,345
6	Aspen Open	1,473	31	75	1,534
7	Birch-Aspen Closed	1,781	40	101	2,502
8	Birch-Aspen Open	1,424	32	67	4,074
9	White Spruce-Birch Sawtimber	2,208	42	92	8,366
10	White Spruce-Birch Poletimber	1,516	30	69	3,989
11	White Spruce-Birch-Aspen Sawtimber	2,336	46	89	6,960
12	White Spruce-Birch-Aspen Poletimber	1,800	36	80	4,434
13	White Spruce-Balsam Poplar	1,486	30	92	2,401
14	Black and White Spruce-Birch-Aspen	1,351	27	66	2,310
15	White Spruce-Hardwood Reproduction	95	2	36	0
16	Black and White Spruce-Hardwood Reproduction	187	3	22	99

TABLE 7. AVERAGE PER ACRE VOLUME BY STRATA.

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Stratum	Description	Net CF	Net Tons	Biomass Tons	Net BF
1	White Spruce Sawtimber	7,538,211	131,348	267,142	30,366,711
2	White Spruce Poletimber	3,630,832	62,915	160,357	9,448,692
3	Birch Closed	11,074,609	263,762	541,180	11,666,382
4	Birch Open	311,610	7,454	15,025	857,310
5	Aspen Closed	8,939,482	190,730	393,946	9,150,190
6	Aspen Open	38,298	800	1,953	39,884
7	Birch-Aspen Closed	4,878,159	109,861	275,927	6,852,978
8	Birch-Aspen Open	118,192	2,668	5,569	338,142
9	White Spruce-Birch Sawtimber	11,856,960	227,044	495,651	44,925,420
10	White Spruce-Birch Poletimber	3,018,356	59,451	137,717	7,942,099
11	White Spruce-Birch-Aspen Sawtimber	2,450,464	47,971	92,931	7,301,040
12	White Spruce-Birch-Aspen Poletimber	2,457,000	48,512	109,432	6,052,410
13	White Spruce-Balsam Poplar	2,551,462	51,562	157,895	4,122,517
14	Black and White Spruce-Birch- Aspen	1,995,427	39,155	97,083	3,411,870
15	White Spruce-Hardwood Reproduction	967,860	23,127	368,398	0
16	Black and White Spruce- Hardwood Reproduction	3,744,675	64,681	431,739	1,982,475
Sum		65,736,272	1,329,973	3,559,017	145,540,427

TABLE 8. TOTAL VOLUME BY STRATA.

FIGURE 2. TIMBER TYPE SPECIES CLASS DISTRIBUTION BY AREA.

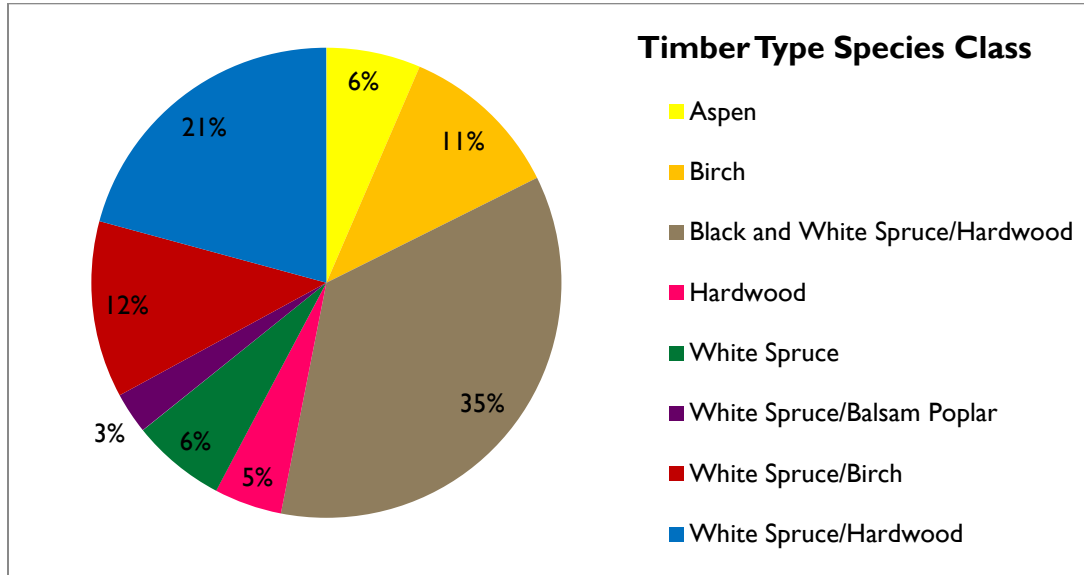


FIGURE 3. TIMBERLAND AREA BY TIMBER TYPE SPECIES CLASS NENANA AREA.

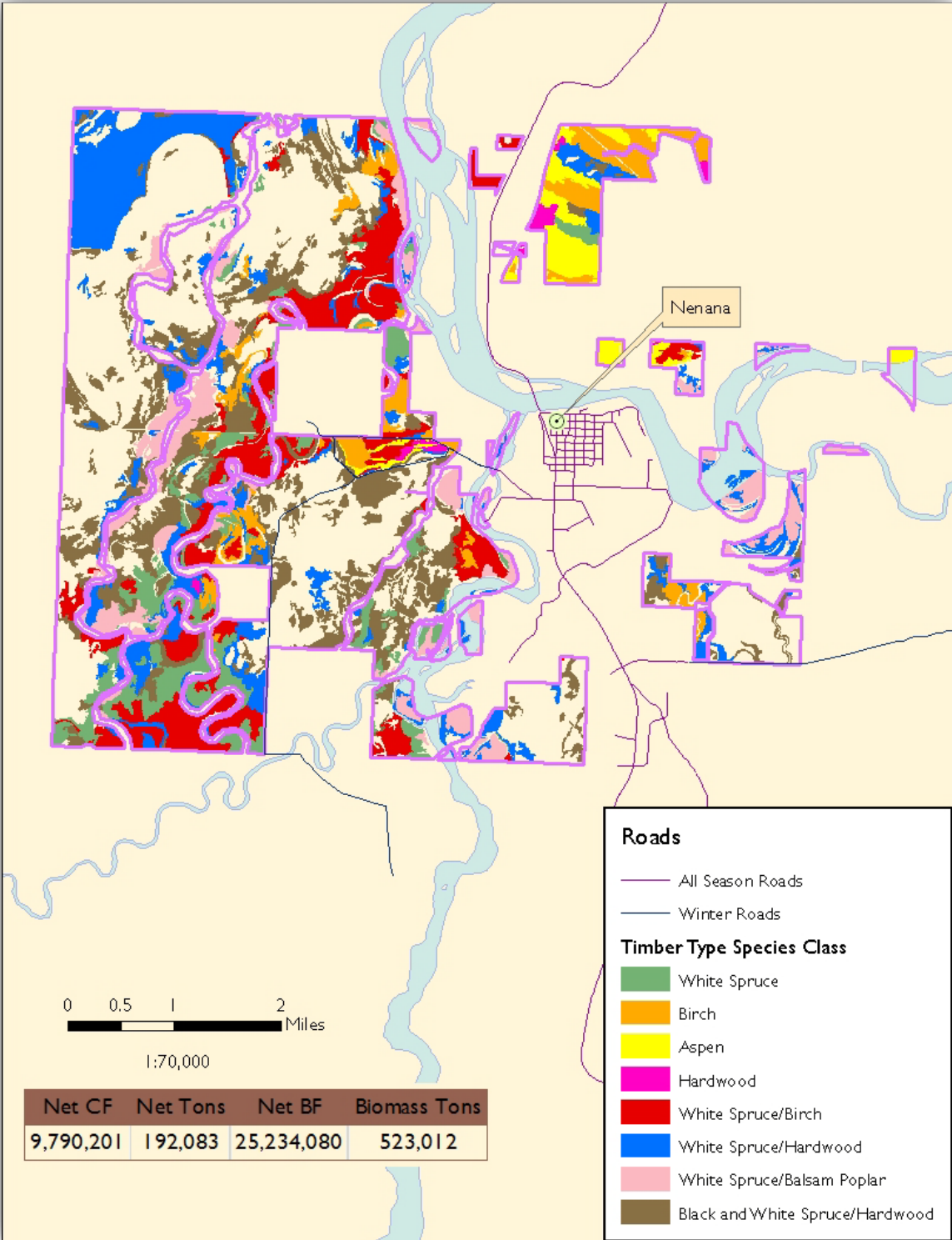


FIGURE 4. TIMBERLAND AREA BY TIMBER TYPE SPECIES CLASS ESTER AREA.

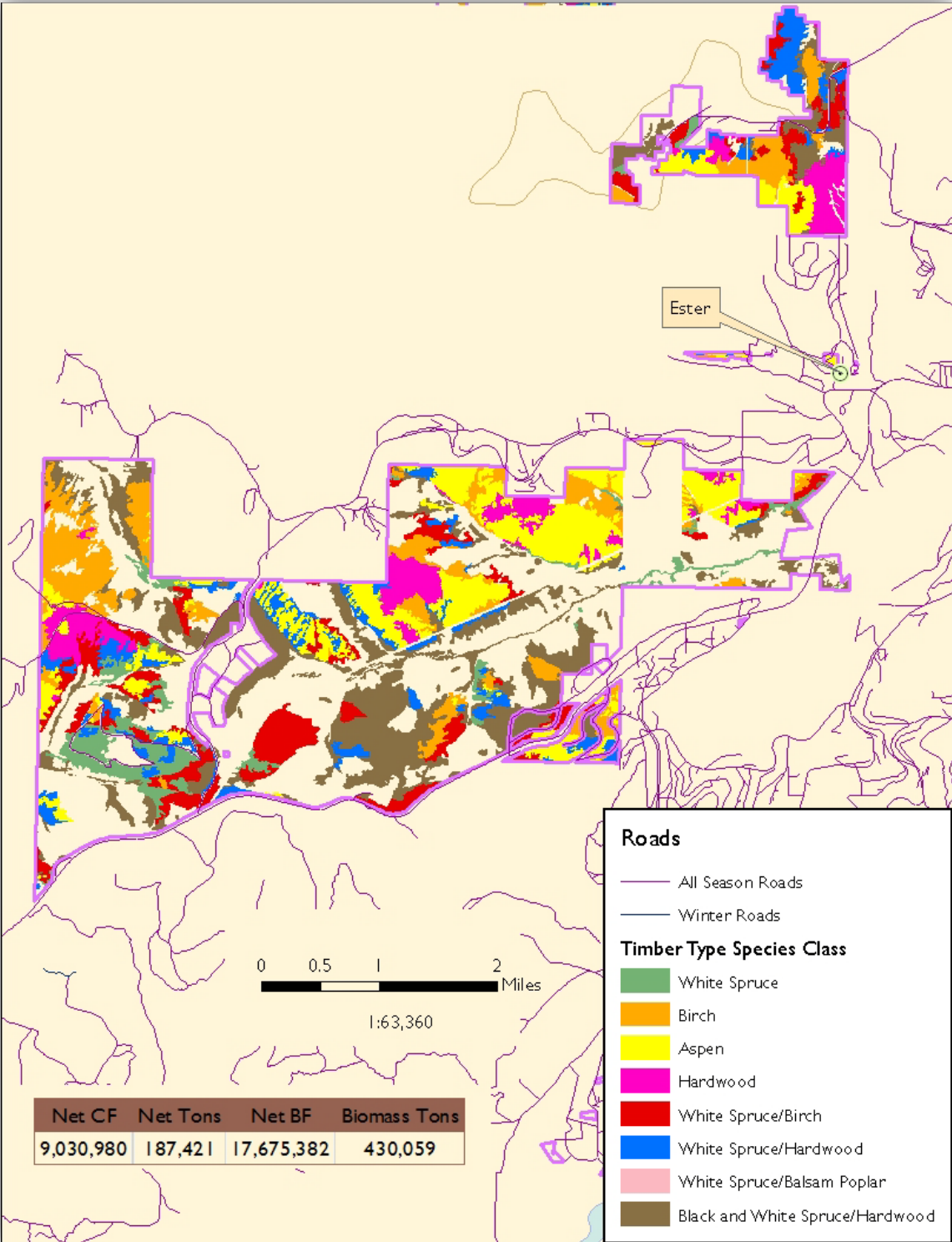


FIGURE 5. TIMBERLAND AREA BY TIMBER TYPE SPECIES CLASS FOX AREA.

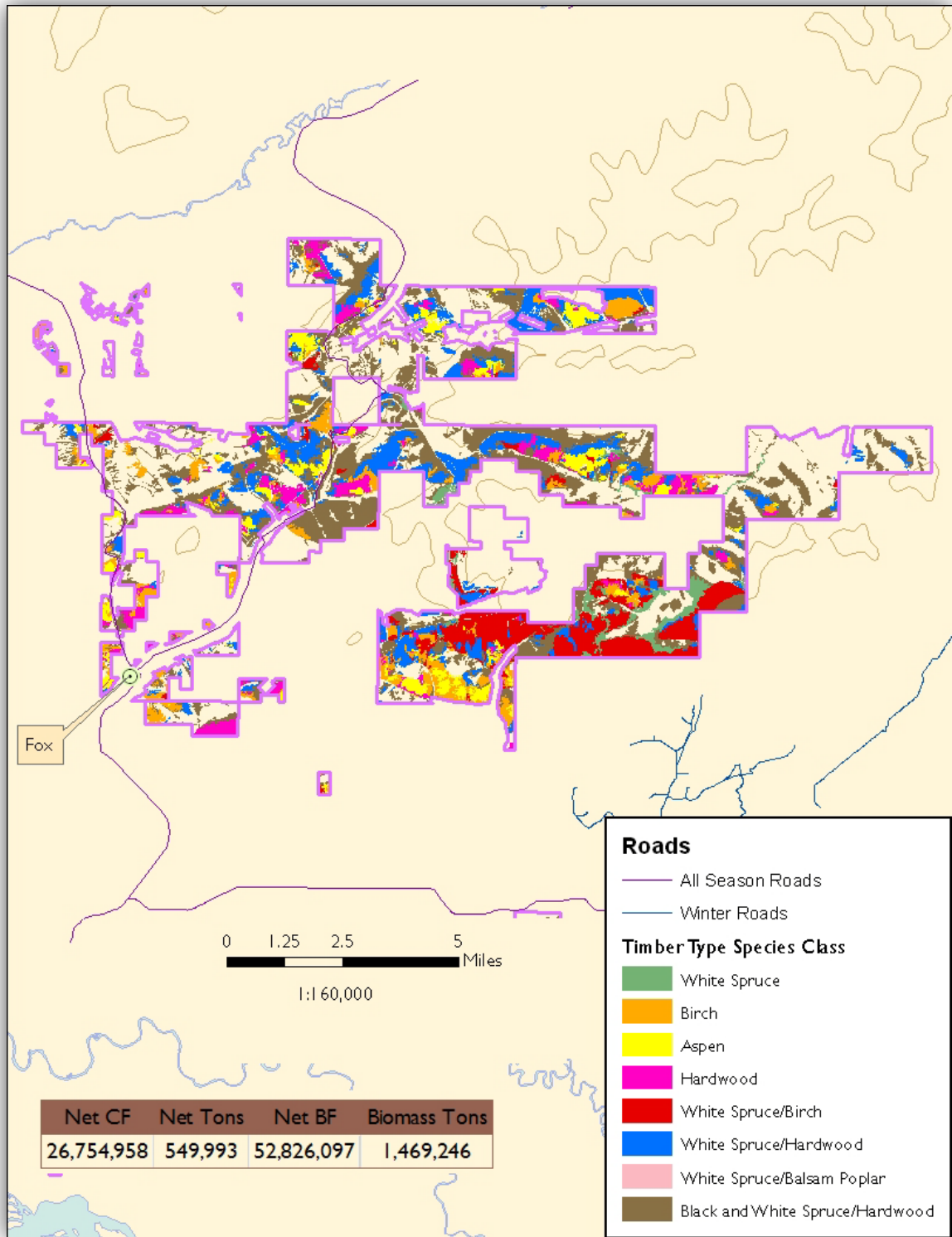
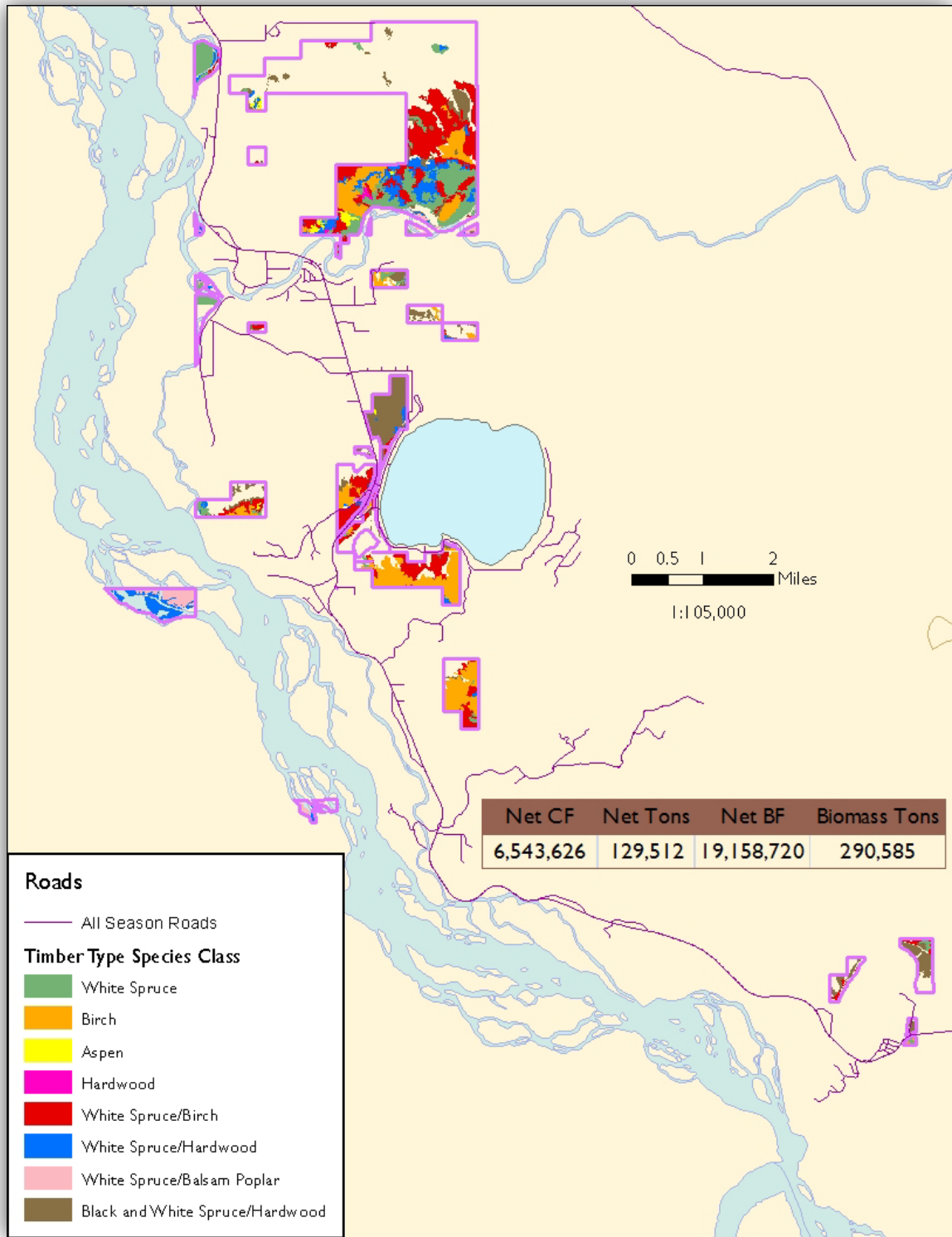


FIGURE 6. TIMBERLAND AREA BY TIMBER TYPE SPECIES CLASS HARDING LAKE AREA.



V. LITERATURE CITED

Hanson, D. 2010. *Draft Timber Resources on State Forest Lands in the Tanana Valley Inventory Update 2010*. State of Alaska Dept. of Natural Resources, Division of Forestry.

Sturgeon, J. 1979. *Wood as a fuel*. Series No. R10-40. USDA Forest Service Alaska Region.

Appendix A
TIMBER TYPE ACREAGE BY STRATUM

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Vegetation Type		Acres
Stratum	1	White Spruce Sawtimber
	2SX	2,001
	2SZ	7
	2SY	153
	3SX	69
	3SY	174
Sum		2,403
Stratum	2	White Spruce Poletimber
	3PX	497
	1PX	76
	3PY	20
	2PY	275
	1PY	74
	2PX	580
Sum		1,523
Stratum	3	Birch Closed
	17PX	3,224
	17SX	3,279
Sum		6,503
Stratum	4	Birch Open
	17PY	114
	17PZ	9
	17SY	74
	17SZ	58
Sum		255
Stratum	5	Aspen Closed
	18SX	2,774
	18PX	1,128
Sum		3,902
Stratum	6	Aspen Open
	18SY	11
	18PY	13
	18PZ	2
Sum		26
Stratum	7	Birch-Aspen Closed
	19PX	957
	19SX	1,783
Sum		2,739
Stratum	8	Birch-Aspen Open
	19SY	78
	19SZ	2
	19PZ	3
Sum		83
Stratum	9	White Spruce-Birch Sawtimber

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Vegetation Type		Acres
	31SY	380
	31SX	4,988
	31SZ	2
Sum		5,370
Stratum	10	White Spruce-Birch Poletimber
	31PX	1,535
	31PZ	29
	31PY	426
Sum		1,991
Stratum	11	White Spruce-Birch-Aspen Sawtimber
	37SX	814
	37SY	109
	37SZ	24
	34SX	62
	34SY	40
Sum		1,049
Stratum	12	White Spruce-Birch-Aspen Poletimber
	37PY	196
	37PZ	10
	37PX	1,038
	34PY	13
	34PX	108
Sum		1,365
Stratum	13	White Spruce-Balsam Poplar
	38PX	160
	16SZ	3
	38SX	395
	38PY	34
	16PY	56
	16SX	714
	16SY	97
	38SY	83
	16PX	176
Sum		1,717
Stratum	14	Black and White Spruce-Birch-Aspen
	32SXBR	6
	32SX	73
	32PZ	7
	32PY	114
	32PX	696
	30SX	59
	30PX	193
	30SY	46
	30PY	33
	39SX	1

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Vegetation Type		Acres
	39PY	54
	35PX	10
	39PZ	2
	35SX	4
	39PX	181
Sum		1,477
Stratum	15	White Spruce-Hardwood Reproduction
	16SXBR	23
	30PXBR	1
	18RX	451
	18PXBR	58
	18RY	21
	17RX	1,250
	18RYBR	5
	18RZ	3
	17RYBR	27
	38RYBR	4
	18RXBR	43
	19PXBR	155
	16RY	29
	17PXBR	305
	16RXBR	4
	17RXBR	163
	2SYBR	7
	17SXBR	321
	2SXBR	6
	17RZ	3
	2PYBR	4
	2PXBR	10
	34RY	97
	17RY	164
	17SYBR	8
	32PXBR	130
	34RXBR	6
	34RX	110
	34RZ	2
	19RX	476
	19RXBR	170
	19RY	106
	37PXBR	496
	10I	309
	37RX	982
	16RX	668
	37RXBR	428
	16PYBR	1
	31RX	922

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Vegetation Type		Acres
38RY		43
31PXBR		497
38RX		390
32PYBR		38
38PXBR		2
37RY		262
31RXBR		196
31RY		475
31RYBR		69
31RZ		112
37SXBR		37
31SXBR		43
37RYBR		53
Sum		10,188
Stratum	16	Black and White Spruce-Hardwood Reproduction
3RXBR		1,091
3RX		4,462
1RXBR		19
1RY		1,056
3RY		450
1RYBR		8
1RZ		28
1RX		2,754
30RX		1,830
35RX		20
32RZ		14
32RYBR		394
32RY		931
32RXBR		115
32RX		2,031
30RZ		100
30RYBR		924
3RYBR		9
30RXBR		172
30RZBR		33
39RY		163
3RZ		42
39RBR		7
39RX		603
2RZ		141
2RY		425
2RXBR		17
2RX		1,396
39RXBR		43
30RY		747
Sum		20,025

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Vegetation Type		Acres
Stratum	20	Black and White Spruce-Hardwood Dwarf
	17DX	6
	17DY	2
	2DZ	7
	32DX	59
	31DZ	78
	30DZWBR	9
	30DZBR	22
	30DZ	370
	30DYBR	149
	30DY	768
	2DY	15
	30DX	183
	2DX	4
	3DX	426
	1DZWBR	47
	1DYBR	1,020
	3DY	137
	1DZBR	160
	1DX	17,827
	1DXBR	911
	1DY	8,125
	1DZ	2,254
	30DXBR	51
Sum		32,628
Stratum	30	Tall Shrub
	68BR	119
	68	2,891
Sum		3,009
Stratum	40	Low Shrub
	71	4,127
	76BR	16
	71BR	251
	76	155
Sum		4,550
Stratum	50	Wet Meadow
	79BR	512
	79	2,345
Sum		2,857
Stratum	60	Water
	80	162
Sum		162
Stratum	70	Rivers
	88	1,100

Forest Inventory Summary For Mental Heath Trust Authority Lands In The Fairbanks
Vicinity

<i>Vegetation Type</i>			<i>Acres</i>
Sum			<i>1,100</i>
Stratum	80	Urban-Suburban	
	95		16
	96		32
	99		231
	97		1,852
	98		632
	94		95
Sum			<i>2,858</i>
Grand Total Mental Health Trust Project Area			<i>107,781</i>

Appendix B
PER ACRE SUMMARY BY STRATUM AND SPECIES

Forest Inventory Summary For Mental Heath Trust Authority Lands In The Fairbanks
Vicinity

	Trees >2"	BA >5"	Gross CF >5"	Net CF >5"	Gross Tons >5"	Net Tons >5"	Biomass Tons >2"	Gross BF >9"	Net BF >9"
Stratum 1									
Aspen	2	1	24	21	0.52	0.46	0.78	52	47
Balsam Poplar	9	1	18	13	0.40	0.28	0.90	49	34
Birch	90	9	178	146	4.44	3.65	8.24	336	266
Black Spruce	3	0	7	7	0.12	0.12	0.27	21	21
White Spruce	225	116	3,079	2,950	52.35	50.15	100.98	12,773	12,269
	329	127	3,306	3,137	57.83	54.66	111.17	13,231	12,637
Stratum 2									
Aspen	11	3	59	50	1.26	1.07	2.28	57	45
Balsam Poplar	0	0	2	2	0.03	0.03	0.08	2	2
Birch	48	5	78	70	1.94	1.75	3.86	35	32
Black Spruce	111	15	249	244	4.23	4.15	12.21	199	191
White Spruce	379	93	2,101	2,018	35.72	34.31	86.86	6,190	5,934
	549	116	2,489	2,384	43.18	41.31	105.29	6,483	6,204
Stratum 3									
Aspen	20	6	143	127	3.07	2.73	5.19	275	230
Balsam Poplar	3	0	6	5	0.12	0.12	0.30	0	0
Birch	481	76	1,478	1,374	36.95	34.36	67.21	1,248	1,092
Black Spruce	13	1	16	15	0.27	0.25	0.91	28	27
White Spruce	118	10	190	182	3.22	3.10	9.61	470	445
	635	93	1,833	1,703	43.63	40.56	83.22	2,021	1,794
Stratum 4									
Aspen	4	3	48	43	1.04	0.93	2.39	148	131
Birch	206	61	1,180	1,031	29.49	25.78	50.24	3,150	2,673
White Spruce	60	7	155	148	2.64	2.52	6.29	582	558
	270	71	1,383	1,222	33.17	29.23	58.92	3,880	3,362
Stratum 5									
Aspen	428	94	2,048	1,852	44.04	39.82	76.50	1,964	1,743
Balsam Poplar	7	1	11	10	0.24	0.23	0.65		
Birch	165	12	215	191	5.38	4.78	12.14	103	94
Black Spruce	18	0	3	3	0.05	0.05	0.74		
White Spruce	134	13	242	235	4.12	4.00	10.93	527	508
	752	120	2,519	2,291	53.83	48.88	100.96	2,594	2,345
Stratum 6									
Aspen	681	64	1,517	1,255	32.61	26.98	49.93	1,596	1,218
Balsam Poplar	59	2	24	17	0.51	0.36	4.53		
Birch	25						0.83		
White Spruce	1,374	14	210	201	3.57	3.42	19.82	336	316
	2,139	80	1,751	1,473	36.69	30.76	75.11	1,932	1,534

Forest Inventory Summary For Mental Heath Trust Authority Lands In The Fairbanks
Vicinity

	<i>Trees >2"</i>	<i>BA >5"</i>	<i>Gross CF >5"</i>	<i>Net CF >5"</i>	<i>Gross Tons >5"</i>	<i>Net Tons >5"</i>	<i>Biomass Tons >2"</i>	<i>Gross BF >9"</i>	<i>Net BF >9"</i>
Stratum 7									
Aspen	167	40	828	748	17.80	16.07	48.01	1,115	980
Balsam Poplar	1	1	12	11	0.25	0.24	0.43	24	23
Birch	318	49	910	801	22.75	20.04	41.77	1,121	888
Black Spruce	31	1	13	12	0.23	0.21	1.46		
White Spruce	79	11	217	209	3.70	3.55	9.07	639	611
	596	102	1,980	1,781	44.73	40.11	100.74	2,899	2,502
Stratum 8									
Aspen	154	26	567	451	12.18	9.71	21.30	1,454	1,048
Birch	119	51	1,015	738	25.37	18.45	36.06	3,263	2,240
White Spruce	43	12	264	235	4.50	3.99	9.74	879	786
	316	89	1,846	1,424	42.05	32.15	67.10	5,596	4,074
Stratum 9									
Aspen	1	0	8	6	0.17	0.13	0.26	19	12
Balsam Poplar	6	2	45	34	0.97	0.73	1.64	140	99
Birch	106	36	722	570	18.06	14.25	28.62	2,199	1,685
Black Spruce	3	1	18	15	0.31	0.26	0.66	49	37
White Spruce	165	68	1,710	1,583	29.07	26.91	61.12	7,038	6,533
	281	107	2,503	2,208	48.58	42.28	92.30	9,445	8,366
Stratum 10									
Aspen	1	1	14	13	0.30	0.28	0.38	53	49
Balsam Poplar	1	1	11	8	0.25	0.18	0.45	42	29
Birch	172	36	594	498	14.86	12.45	28.31	924	745
Black Spruce	77	6	95	91	1.62	1.55	5.72	112	109
White Spruce	170	43	941	906	16.00	15.40	34.31	3,191	3,057
	421	87	1,655	1,516	33.03	29.86	69.17	4,322	3,989
Stratum 11									
Aspen	68	21	474	437	10.19	9.39	15.67	770	700
Balsam Poplar	13	8	166	116	3.58	2.50	6.13	536	371
Birch	58	23	467	441	11.67	11.03	17.71	1,425	1,323
White Spruce	237	59	1,374	1,342	23.36	22.81	49.08	4,707	4,566
	376	111	2,481	2,336	48.80	45.73	88.59	7,438	6,960
Stratum 12									
Aspen	40	12	259	238	5.58	5.11	9.16	509	483
Birch	208	31	554	483	13.84	12.08	28.50	823	675
Black Spruce	64	10	181	167	3.08	2.84	7.62	336	306
White Spruce	163	42	931	912	15.83	15.51	34.89	3,028	2,970
	475	95	1,925	1,800	38.33	35.54	80.17	4,696	4,434

Forest Inventory Summary For Mental Heath Trust Authority Lands In The Fairbanks
Vicinity

	<i>Trees >2"</i>	<i>BA >5"</i>	<i>Gross CF >5"</i>	<i>Net CF >5"</i>	<i>Gross Tons >5"</i>	<i>Net Tons >5"</i>	<i>Biomass Tons >2"</i>	<i>Gross BF >9"</i>	<i>Net BF >9"</i>
Stratum 13									
Aspen	13	4	83	77	1.78	1.65	2.91	142	137
Balsam Poplar	147	50	798	648	17.15	13.92	40.00	1,471	1,083
Birch	80	12	217	189	5.42	4.72	10.60	227	189
Black Spruce	26	0	3	3	0.06	0.06	0.84		
White Spruce	388	32	589	569	10.02	9.68	37.61	1,059	992
	654	98	1,690	1,486	34.43	30.03	91.96	2,899	2,401
Stratum 14									
Aspen	38	8	155	142	3.33	3.05	6.37	190	175
Balsam Poplar	4	3	53	46	1.13	0.98	1.98	150	130
Birch	179	25	388	338	9.70	8.44	20.39	350	284
Black Spruce	77	12	201	179	3.41	3.05	10.04	156	131
White Spruce	146	34	698	646	11.87	10.99	26.95	1,671	1,590
	444	82	1,495	1,351	29.44	26.51	65.73	2,517	2,310
Stratum 15									
Aspen	206						3.55		
Balsam Poplar	17						0.32		
Birch	911	8	85	84	2.12	2.09	29.82	0	0
Black Spruce	33						0.21		
White Spruce	159	1	11	11	0.18	0.18	2.26		
	1,326	9	96	95	2.30	2.27	36.16	0	0
Stratum 16									
Birch	71	1	6	5	0.15	0.13	1.78		
Black Spruce	1,379	9	89	88	1.51	1.50	17.54		
White Spruce	207	7	94	94	1.60	1.60	2.24	99	99
	1,657	17	189	187	3.26	3.23	21.56	99	99