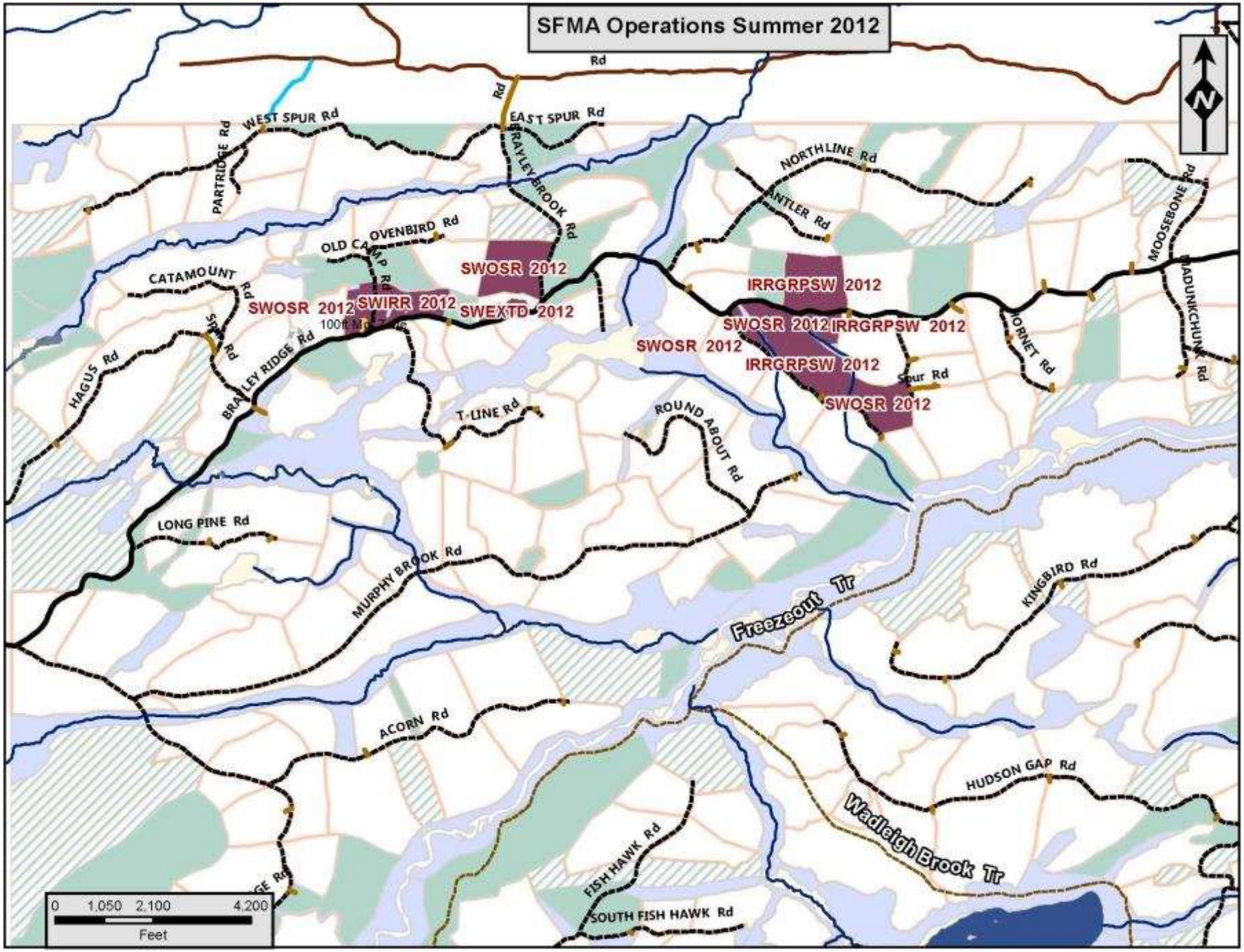
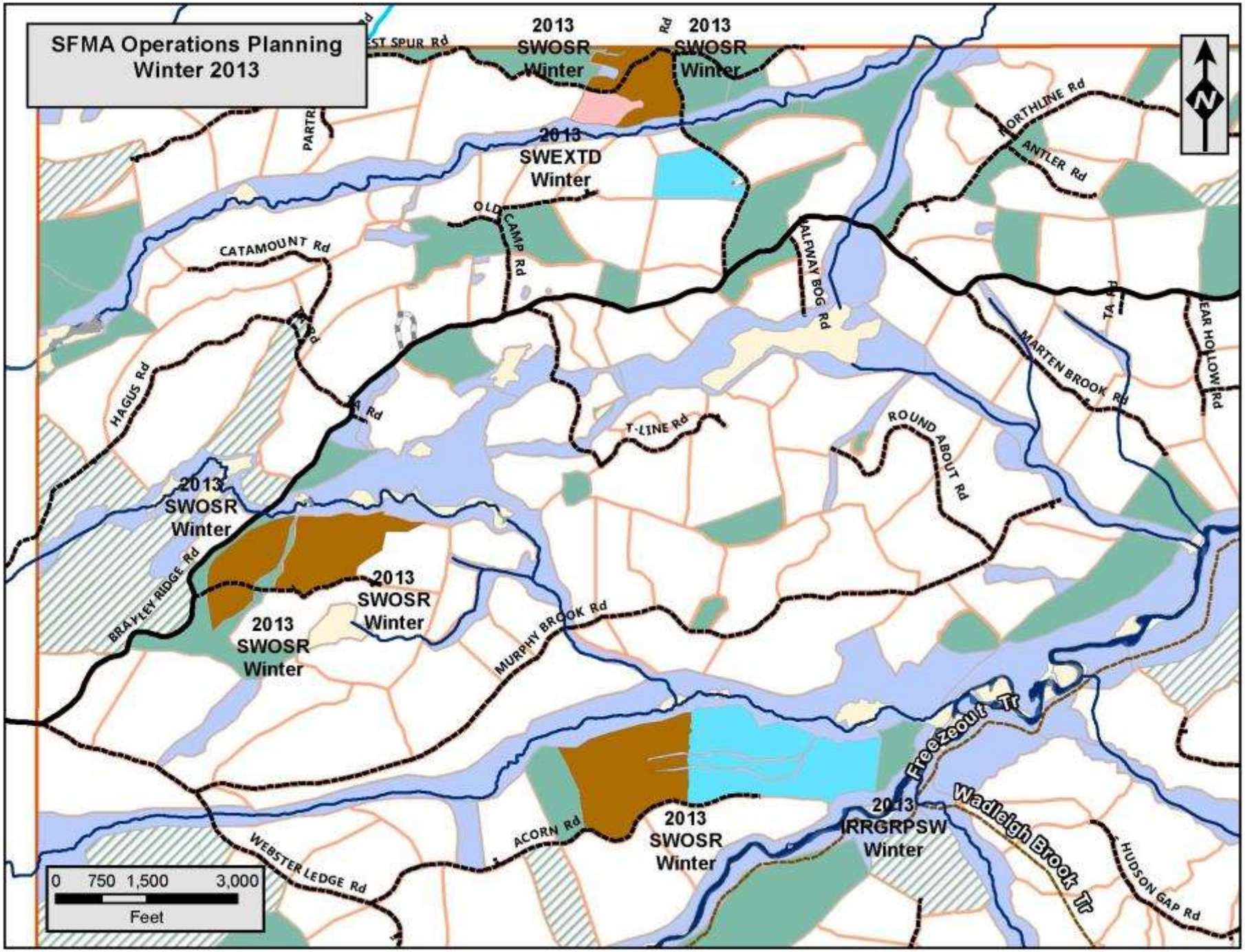
Scientific Forest Management Area Advisory Committee Meeting

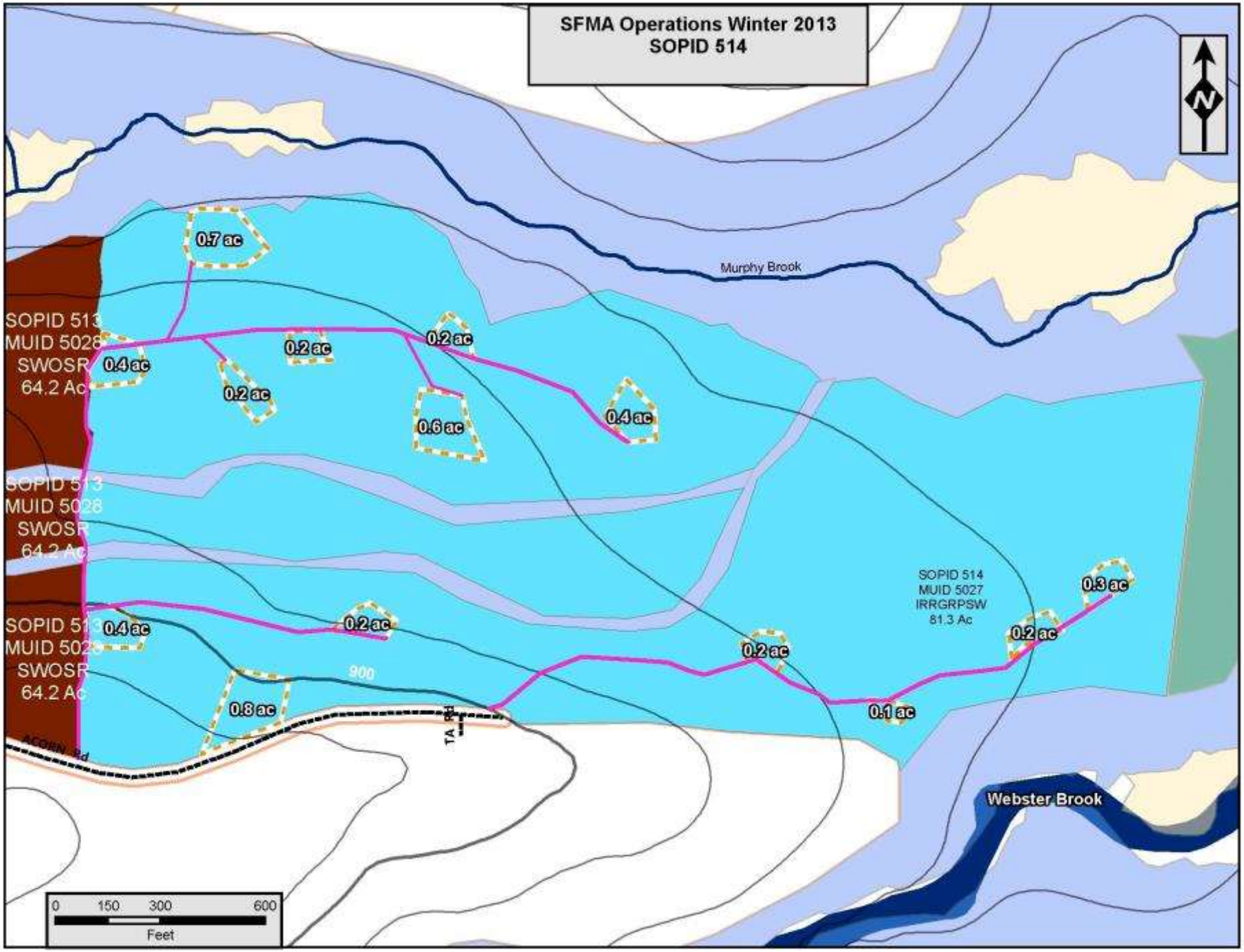
UMaine Campus

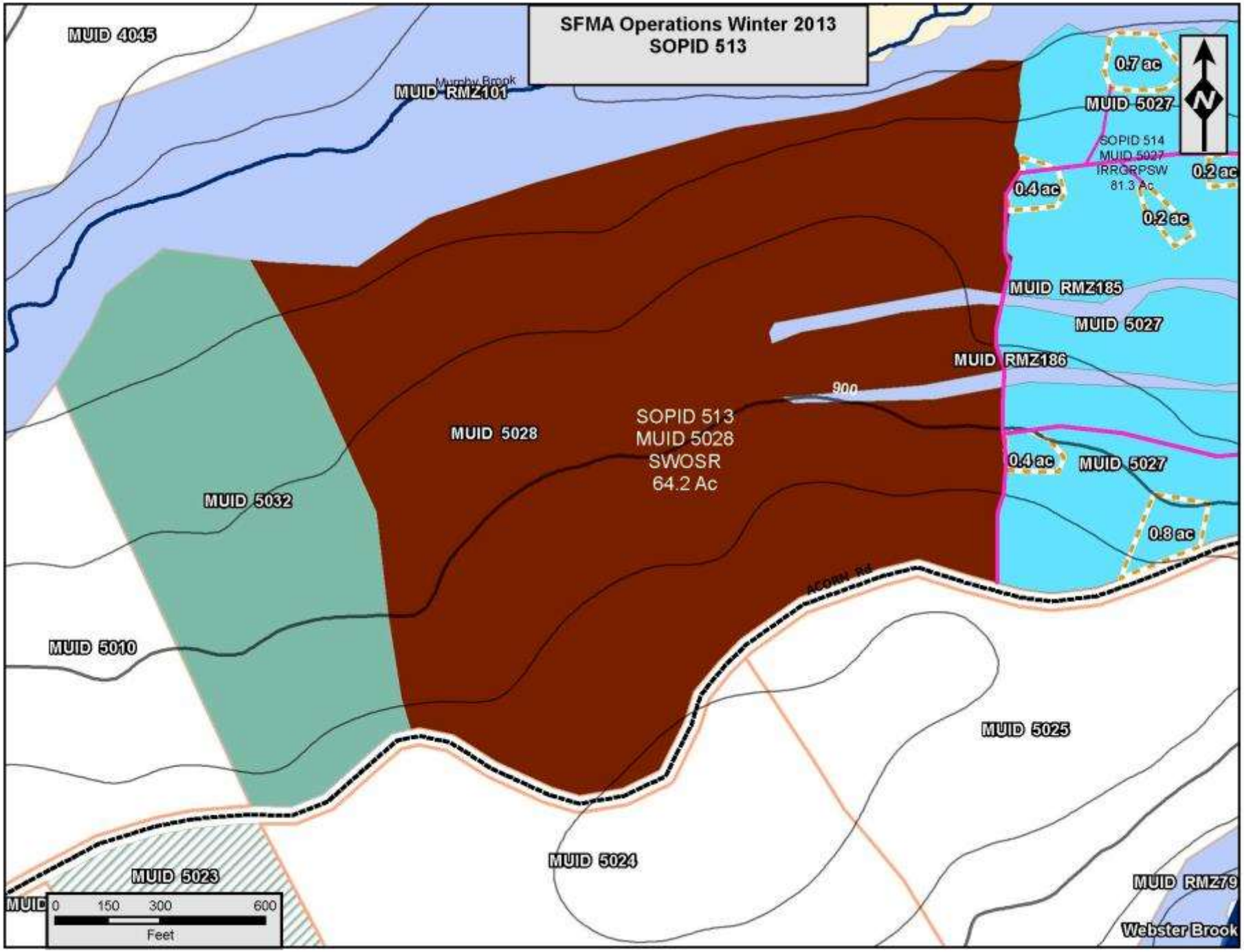
April 18, 2013

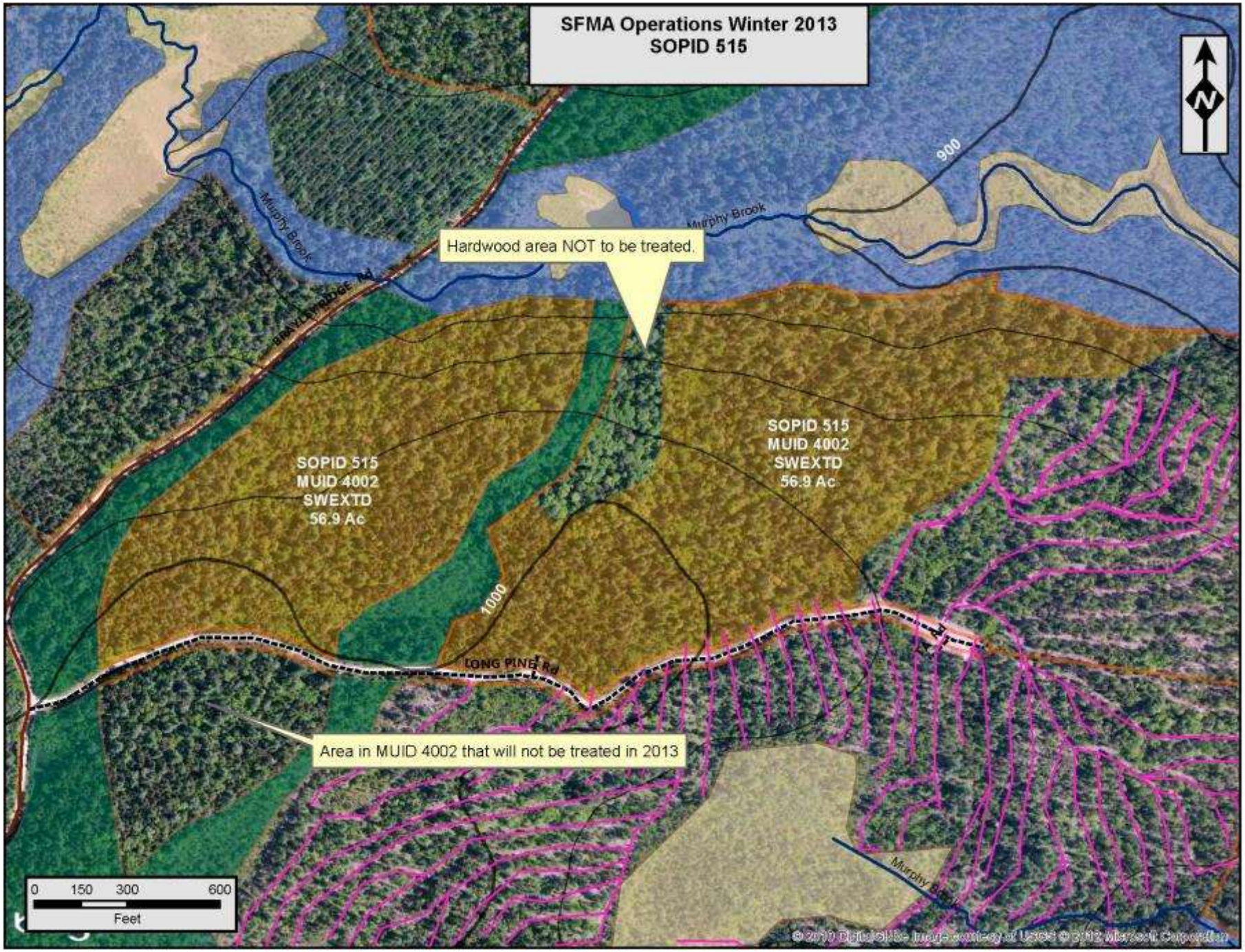
Rick Morrill, BSP Resource Manager


SFMA Operations Summer 2012
WEST SPUR Rd
EAST SPUR Rd
PARTRIDGE Rd
GRAYLEY BROOK Rd
NORTHLINE Rd
ANTLER Rd
MOOSEBONE Rd
OVENBIRD Rd
CATAMOUNT Rd
SWOSR 2012
SWIRR 2012
SWEXTD 2012
IRRGRPSW 2012
SWOSR 2012
IRRGRPSW 2012
SWOSR 2012
IRRGRPSW 2012
SWOSR 2012
HAGUS Rd
BRALEY RIDGE Rd
T-LINE Rd
ROUND ABOUT Rd
HORNET Rd
Spur Rd
LONG PINE Rd
MURPHY BROOK Rd
Freezeout Tr
KINGBIRD Rd
ACORN Rd
HUDSON GAP Rd
Wadleigh Brook Tr
FISH HAWK Rd
SOUTH FISH HAWK Rd
0 1,050 2,100 4,200
Feet

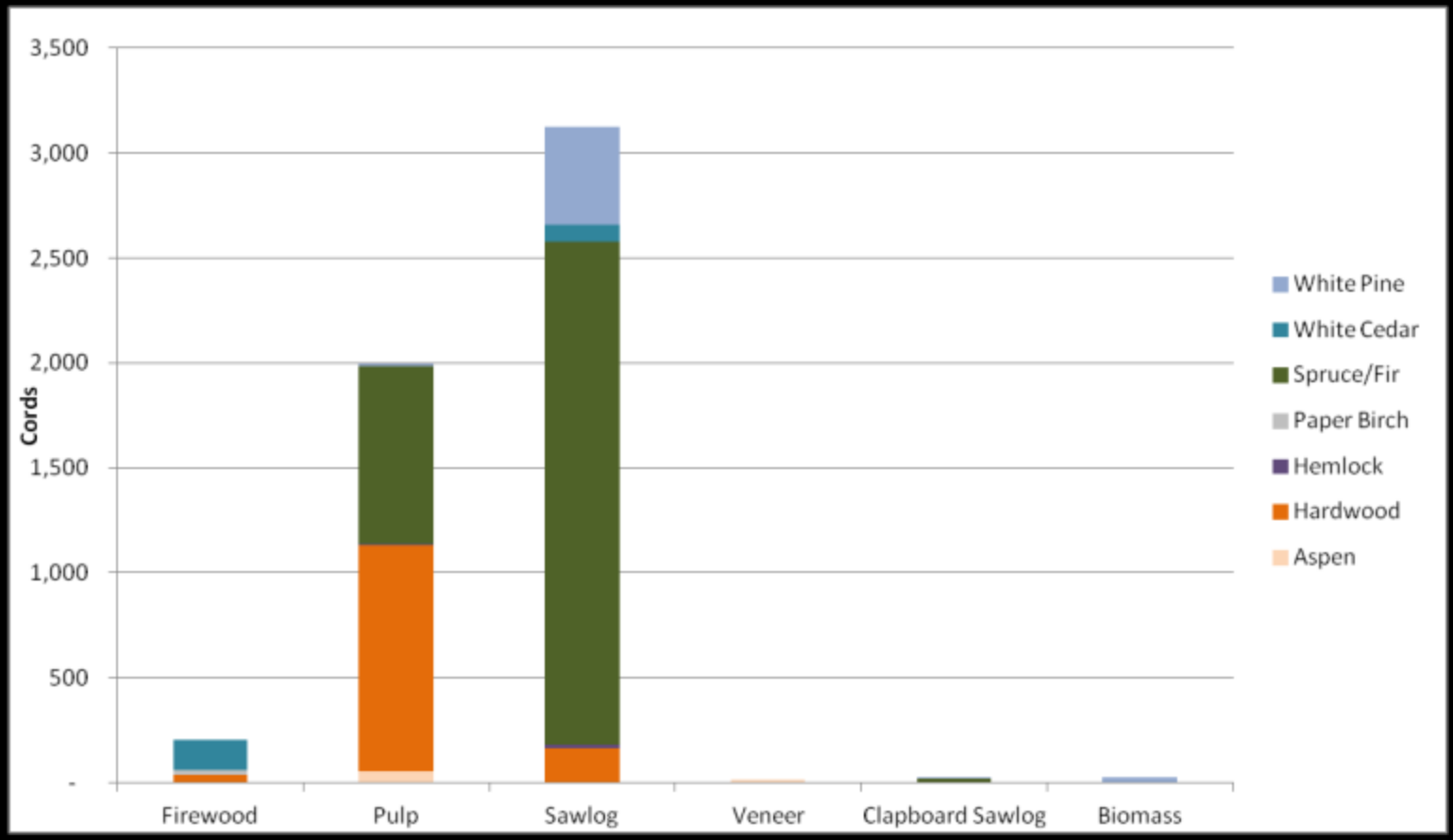

SFMA Operations Planning
Winter 2013
2013
SWOSR
Winter
2013
SWOSR
Winter
2013
SWEXTD
Winter
2013
SWOSR
Winter
2013
SWOSR
Winter
2013
SWOSR
Winter
2013
SWOSR
Winter
2013
IRRGRPSW
Winter
CATAMOUNT Rd
OLD CAMP Rd
HALFWAY BOG Rd
NORTHLINE Rd
ANTLER Rd
MARTEN BROOK Rd
BEAR HOLLOW Rd
ROUND ABOUT Rd
T-LINE Rd
HAGUS Rd
BRAYLEY RIDGE Rd
MURPHY BROOK Rd
ACORN Rd
WEBSTER LEDGE Rd
HUDSON GAP Rd
Freezeout Tr
Wadleigh Brook Tr
0 750 1,500 3,000
Feet


SFMA Operations Winter 2013
SOPID 514
N
Murphy Brook
0.7 ac
SOPID 513
MUID 5028
SWOSR
64.2 Ac
0.4 ac
0.2 ac
0.2 ac
0.2 ac
0.6 ac
0.4 ac
SOPID 513
MUID 5028
SWOSR
64.2 Ac
SOPID 514
MUID 5027
IRRGRPSW
81.3 Ac
0.3 ac
0.2 ac
SOPID 513
MUID 5028
SWOSR
64.2 Ac
0.4 ac
0.2 ac
0.2 ac
900
0.8 ac
0.1 ac
TA
Webster Brook
0 150 300 600
Feet


SFMA Operations Winter 2013
SOPID 513
MUID 4045
MUID RMZ101
Murphy Brook
0.7 ac
MUID 5027
SOPID 514
MUID 5027
IRRGRPSW
81.3 Ac
0.2 ac
0.4 ac
0.2 ac
MUID RMZ185
MUID 5027
MUID RMZ186
900
SOPID 513
MUID 5028
SWOSR
64.2 Ac
MUID 5028
0.4 ac
MUID 5027
MUID 5032
0.8 ac
ACORN Rd
MUID 5010
MUID 5025
MUID 5024
MUID 5023
MUID
0
150
300
600
Feet
MUID RMZ79
Webster Brook

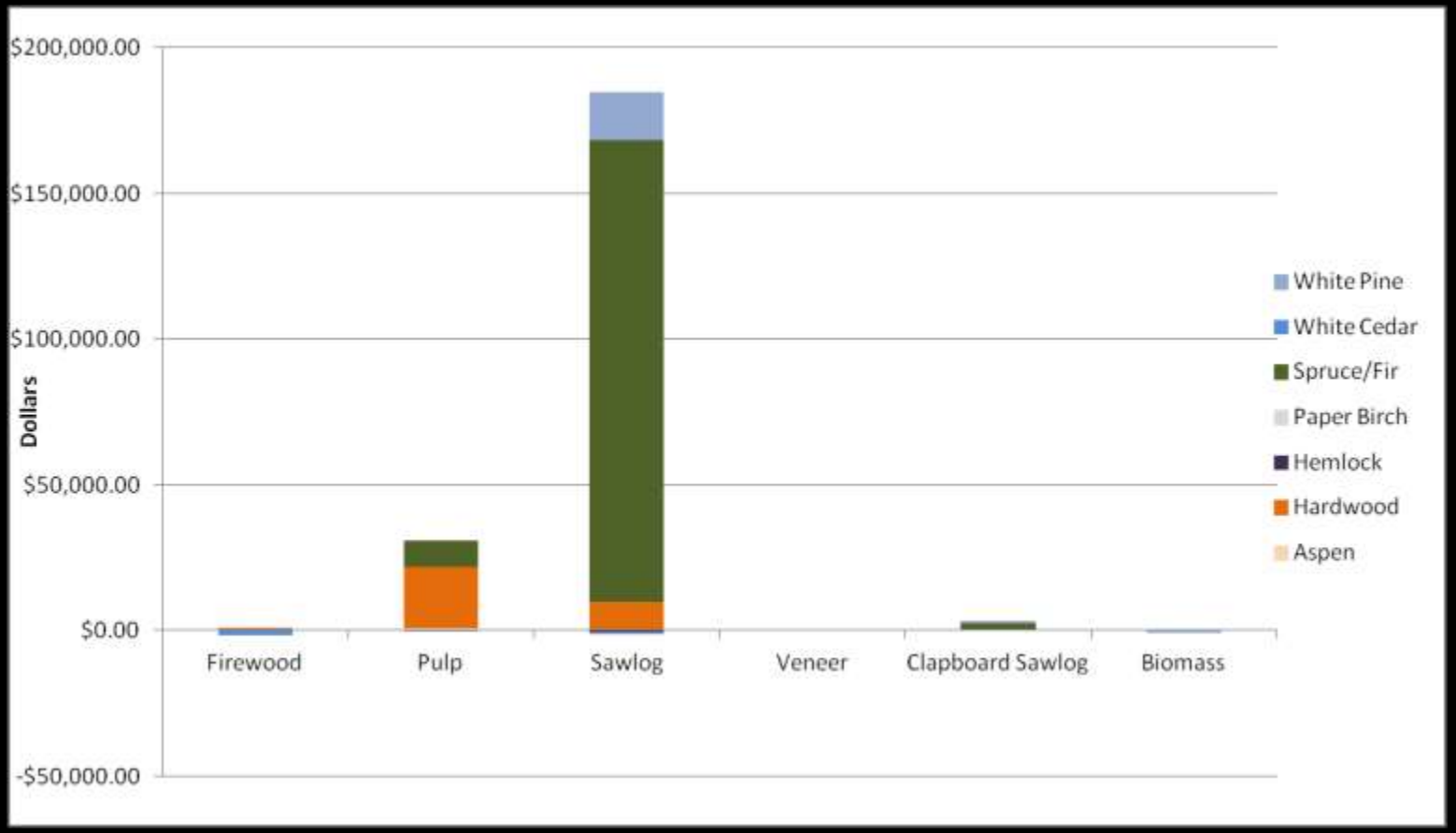

SFMA Operations Winter 2013
SOPID 515
N
900
Murphy Brook
Murphy Brook
BRAYLEY RIDGE Rd
Hardwood area NOT to be treated.
SOPID 515
MUID 4002
SWEXTD
56.9 Ac
SOPID 515
MUID 4002
SWEXTD
56.9 Ac
1000
LONG PINE Rd
Area in MUID 4002 that will not be treated in 2013
0 150 300 600
Feet

2012 SFMA Harvest Volumes



Sum of EstCords	Column Labels							
Row Labels	Aspen	Hardwood	Hemlock	Paper Birch	Spruce/Fir	White Cedar	White Pine	Grand Total
Firewood		38		22		144		204
Pulp	54	1,078	8		847		7	1,995
Sawlog		164	17		2,400	76	468	3,124
Veneer	17							17
Clapboard Sawlog					18		3	21
Biomass							29	29
Grand Total	**71**	**1,279**	**25**	**22**	**3,265**	**220**	**507**	**5,390**

2012 SFMA Harvest Revenues

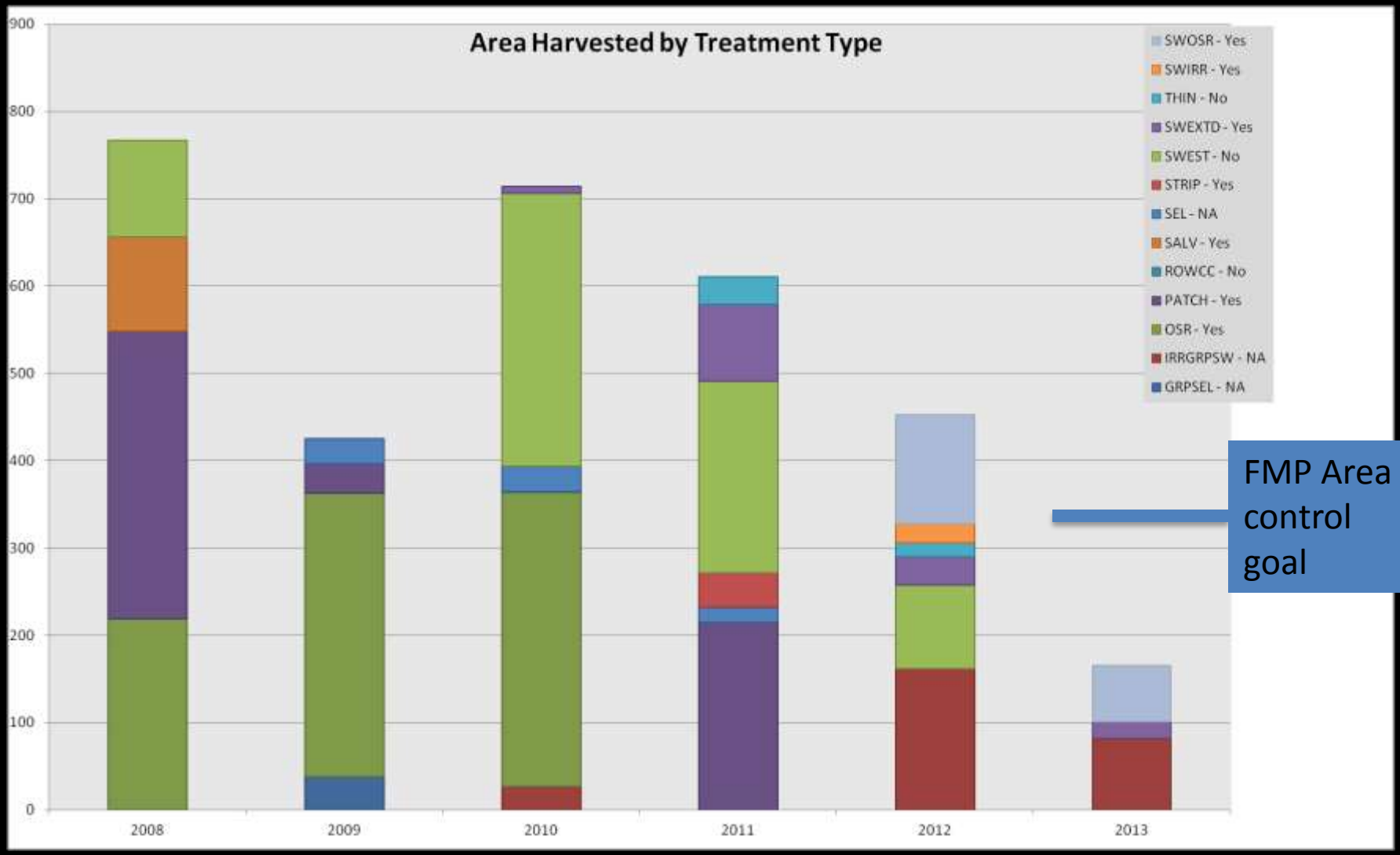


Sum of Net Rev	Column Labels							
Row Labels	Aspen	Hardwood	Hemlock	Paper Birch	Spruce/Fir	White Cedar	White Pine	Grand Total
Firewood		$704.56		$373.35		-$1,700.83		-$622.91
Pulp	$865.83	$20,986.71	-$202.66		$8,877.80		-$215.95	$30,311.73
Sawlog		$9,689.61	-$468.99		$158,563.44	-$793.77	$16,643.28	$183,633.58
Veneer	$237.45							$237.45
Clapboard Sawlog					$2,474.53		$761.21	$3,235.74
Biomass							-$883.96	-$883.96
Grand Total	**$1,103.28**	**$31,380.88**	**-$671.65**	**$373.35**	**$169,915.77**	**-$2,494.59**	**$16,304.57**	**$215,911.62**

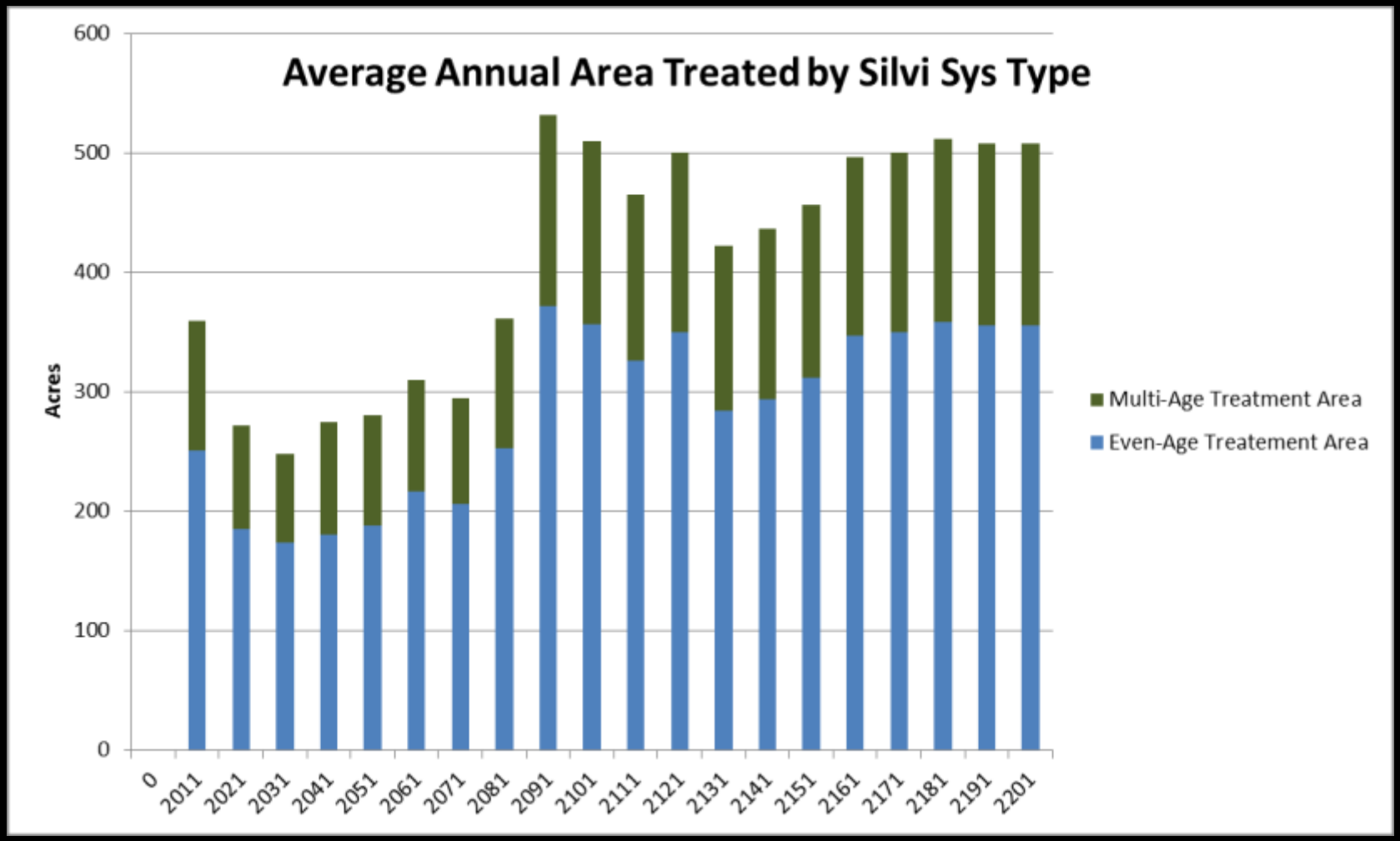
2012 Harvest Statisics		Version 3/27/2013								
Product Name	Species Name	Net Wt (LBS)	Net Vol (BF)	Cords	Gross Revenue	Service Payment	Bridge Tolls	Road Tolls	BSP Internal Use	*Net Revenue
Clapboard Sawlog	Spruce/Fir	76,853	7,864	18.1	$ 4,035.43	$1,443.31	$7.69	$109.90	N	$2,474.53
Clapboard Sawlog	White Pine	14,293	1,662	3.3	$ 1,053.50	$270.42	$1.43	$20.44	N	$761.21
Sawlog	Spruce/Fir	10,198,777	1,142,625	2,399.7	$ 377,231.08	$203,826.42	$1,019.88	$13,821.33	N	$158,563.44
Sawlog	White Pine	2,011,506	210,825	467.8	$ 59,532.19	$39,811.31	$201.15	$2,876.45	N	$16,643.28
Sawlog	Hardwood	900,460	63,270	163.7	$ 27,651.03	$16,831.34	$90.05	$1,040.03	N	$9,689.61
Veneer	Aspen	72,680	5,855	16.9	$ 1,716.13	$1,379.47	$7.27	$91.94	N	$237.45
Sawlog	White Cedar	266,000	0	76.0	$ 4,559.24	$4,977.21	$26.60	$349.20	Y	($793.77)
Sawlog	Hemlock	81,000	0	16.9	$ 1,139.27	$1,497.69	$8.10	$102.47	Y	($468.99)
Total Sawlog Values		**13,274,569**		**3,069.5**	**$ 471,219.34**	**$ 263,562.27**	**$ 1,327.46**	**$ 17,960.10**		**$188,369.52**
Pulp	Aspen	230,580	0	53.6	$ 5,418.63	$4,263.42	$23.06	$266.32	N	$865.83
Pulp	Hardwood	5,929,230	0	1,078.0	$ 139,300.15	$111,328.41	$545.03	$6,440.00	N	$20,986.71
Pulp	Hemlock	39,620	0	8.3	$ 633.92	$782.50	$3.96	$50.12	N	($202.66)
Pulp	Spruce/Fir	3,601,350	0	847.4	$ 81,455.63	$67,499.44	$360.14	$4,718.25	N	$8,877.80
Pulp	White Pine	32,040	0	7.5	$ 480.60	$647.53	$3.20	$45.82	N	($215.95)
Biomass	White Pine	123,200	0	28.7	$ 1,601.60	$2,330.94	$12.32	$142.30	N	($883.96)
Total Pulp Values		**9,832,820**		**1,994.7**	**$ 227,288.93**	**$ 184,521.30**	**$ 935.39**	**$ 11,520.50**		**$30,311.73**
Firewood	Hardwood	39,200	0	7.1	$ 901.60	$741.66	$3.92	$49.59	N	$106.43
Firewood	Hardwood	168,000	0	30.5	$ 4,020.80	$3,178.56	$16.80	$227.30	Y	$598.14
Firewood	Paper Birch	123,200	0	22.4	$ 2,912.00	$2,350.15	$12.32	$176.18	Y	$373.35
Firewood	White Cedar	504,000	0	144.0	$ 8,638.56	$9,568.27	$50.40	$720.72	Y	($1,700.83)
Total Misc Product Values		**834,400**		**204.1**	**$ 16,472.96**	**$ 15,838.64**	**$ 83.44**	**$ 1,173.79**		**($622.91)**
Total All Product Values		**23,941,789**		**5,268.4**	**$ 714,981.22**	**$ 463,922.21**	**$ 2,346.29**	**$ 30,654.39**		**$218,058.34**


514
BSP

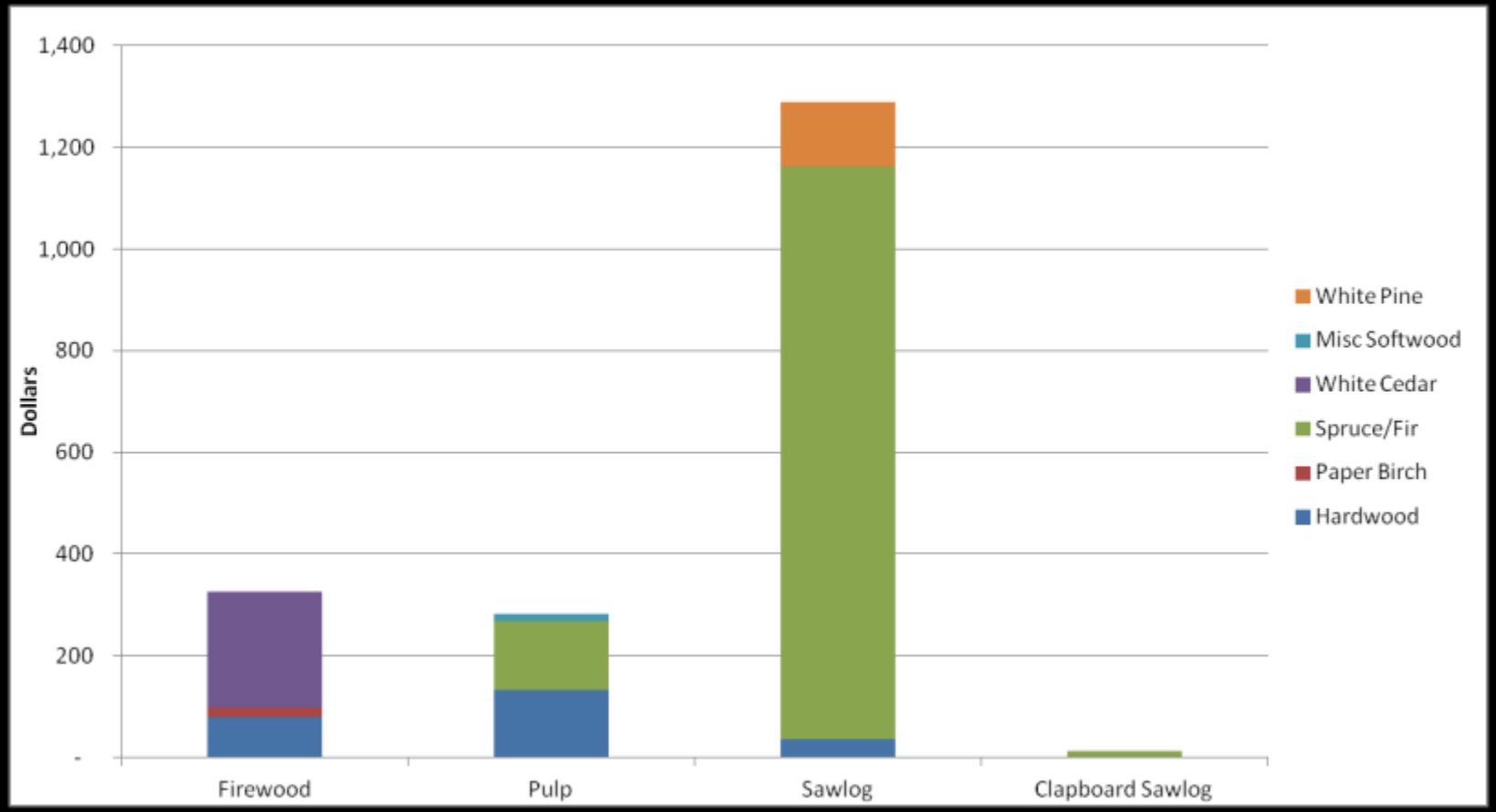
2012 SFMA Harvest Area by Treatment Type



2012 FMP 200 Year projection
SFMA Harvest Area by Silvi System

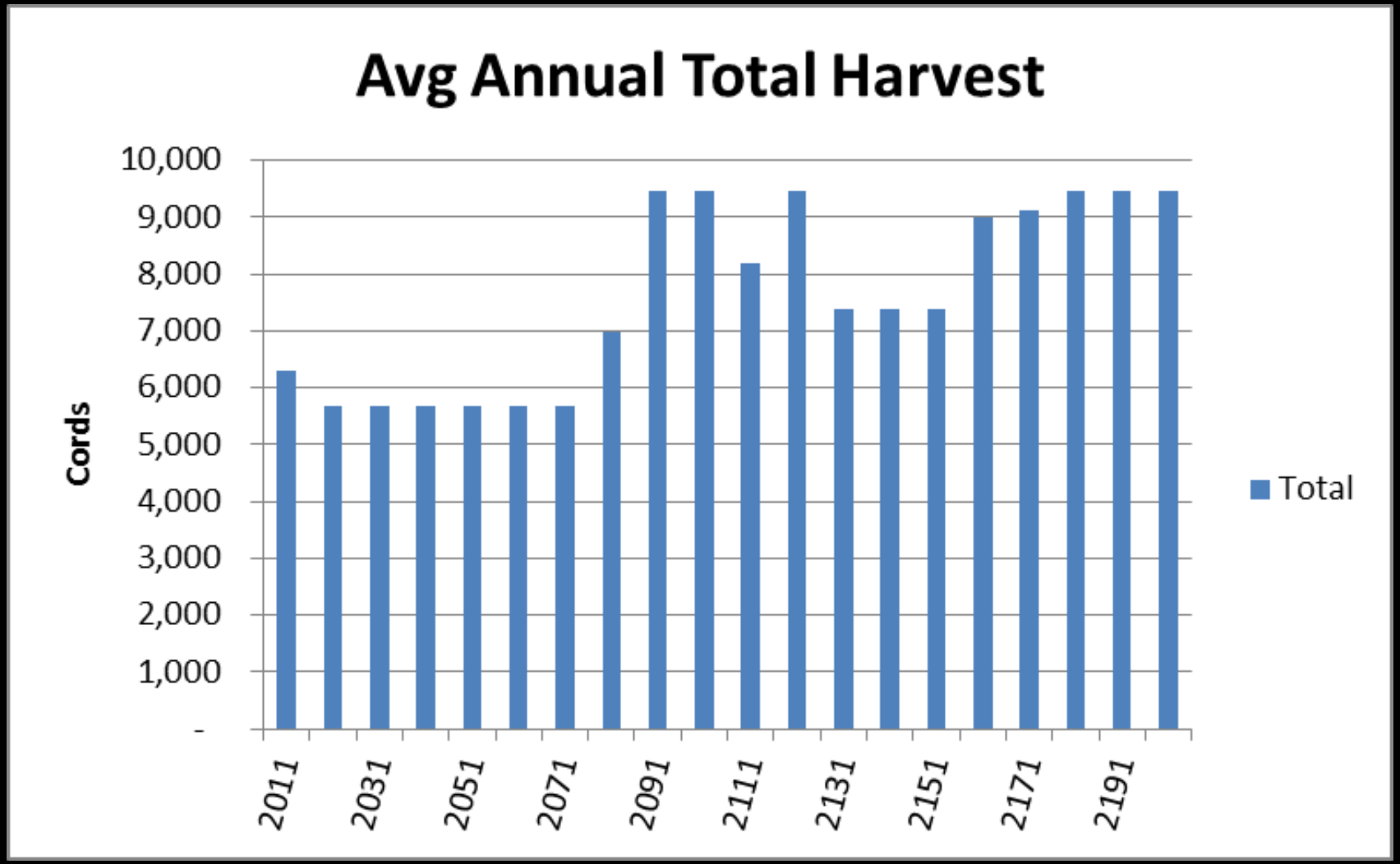


2013 Year to Date SFMA Harvest Volumes



Sum of EstCords	Column Labels						
Row Labels	Hardwood	Paper Birch	Spruce/Fir	White Cedar	Misc Softwood	White Pine	Grand Total
Firewood	78	20		227			326
Pulp	133		135		15		282
Sawlog	35		1,127			127	1,289
Clapboard Sawlog			14				14
Grand Total	**246**	**20**	**1,276**	**227**	**15**	**127**	**1,911**

2012 FMP 200 Year projection
SFMA Annual Harvest Volume




SFMA boundary line maintenance March 2013

SFMA Website – Revised in 2012

64 Balsam Drive Millinocket, ME 04462 | (207) 723-5140 | TTY:(207) 723-9905

Forest Management

SFMA Welcome

- Forest Management
  - Forest Ecology
  - Silviculture
  - Operations
  - Monitoring
  - Management Planning
  - Fiscal Planning
  - Certification
- Demonstration and Education
  - Interpretive Trail
  - Tours
  - Virtual Tour
  - Maps
- Recreation
  - Access
  - Hunting and Fishing
  - Hiking and Camping
- Advisory

Welcome to the Scientific Forest Management Area Page

"It has long been my purpose to create in our forests a large area wherein the State may practice the most modern methods of forest control reforestation and production..... I want this township to become a showplace for those interested in forestry, a place where a continuing timber crop can be cultivated, harvested, and sold, where reforestation and scientific cutting will be employed, an example and an inspiration to others. What is done in our forests today will help or harm the generations who follow us."
Percival P. Baxter, 1955

Percival P.Baxter

Many visitors to Baxter State Park might be surprised to learn that forest products are harvested in a portion of the 209,000+ acre Park, in accordance with directives of Park Donor Percival Baxter. The area, named the Scientific Forest Management Area (SFMA), is located in the Northwest Corner of the Park encompassing nearly 30,000 acres, including portions of Webster Lake, Webster Stream, and recreational features like the Freezeout Trail. Percival Baxter established the SFMA in 1955 to in his words, *"...Become a showplace for those interested in forestry, a place where a continuing timber crop can be cultivated, harvested, and sold, where reforestation and scientific cutting will be employed, an example and an inspiration to others..."* Baxter took the long view with respect to land conservation, purchasing forest land degraded by exploitative harvesting and subsequent wildfire, knowing that one day it would again become forest.

Forestry requires a similar long term perspective, owing to the patient nature by which forests develop from young to mature conditions, a process that can span the careers of multiple foresters. Forest managers use harvesting, just one of many tools, to influence the development of individual parts of a forest. Viewed together, these parts are managed as a forest landscape with the goal of orchestrating forest conditions over long time periods, to achieve management objectives such as: protecting water quality, protecting biodiversity, providing wildlife habitat, and enabling a sustained harvest of forest products.

You are entering the SFMA

The SFMA has been recognized for practicing exemplary forest management, receiving Forest Stewardship Council (FSC) certification in 2001. A SFMA advisory committee, comprised of forestry professionals and interested members of the public, help Park staff determine management directions and policy directives. See for yourself what forest management looks like by visiting one of the many forest management roads, hiking trails, or waterways in the SFMA. Tours for forestry groups and other interested parties can be arranged by contacting the Park Resource Manager (207-723-9616). Learn more about the SFMA at the Virtual Tour

http://www.baxterstateparkauthority.com/sfma/planning.htm

SFMA Outreach Opportunities/Ideas

- Website: (Lots of room for development; Ideas?)
- Tours: (Professional, Public, EDU.)
- Forest Ecology & Mgt Trail: (Interpretive Trail in development)
- Research: (SFMA supported research activities; areas of focus?)
- Publications: (None to date; potential topics, issues?)
- Speaking Engagements: (Lots of talks to Forestry EDU. Other audiences?)
- ACL and MCL Demonstration Forests: (Ways to expand demonstration aspects of these parcels?)

SFMA Financial Analysis

Jensen Bissell comments on SFMA Financial Analysis, April 2013:

Since the start of active management of the SFMA in 1978, the forest management of this unique area of the Park has evolved tremendously. The current management plan is a sterling example of state of the art management of a vibrant landscape. The quality of our management has been verified by a continuous FSC certification.

The SFMA has now accumulated a quarter century of forest management on the landscape that we use actively to demonstrate forest management to the public and our peers who manage other private and public forest lands in Maine. One aspect of forest management important to almost every manager is the economic viability of the management approach. To date, our assessment of the economic performance of the SFMA has been incomplete – the long term considerations of sustainability of many tightly interwoven resources on the forest landscape that comprises the SFMA provides considerable complexity to the holistic assessment of economic performance.

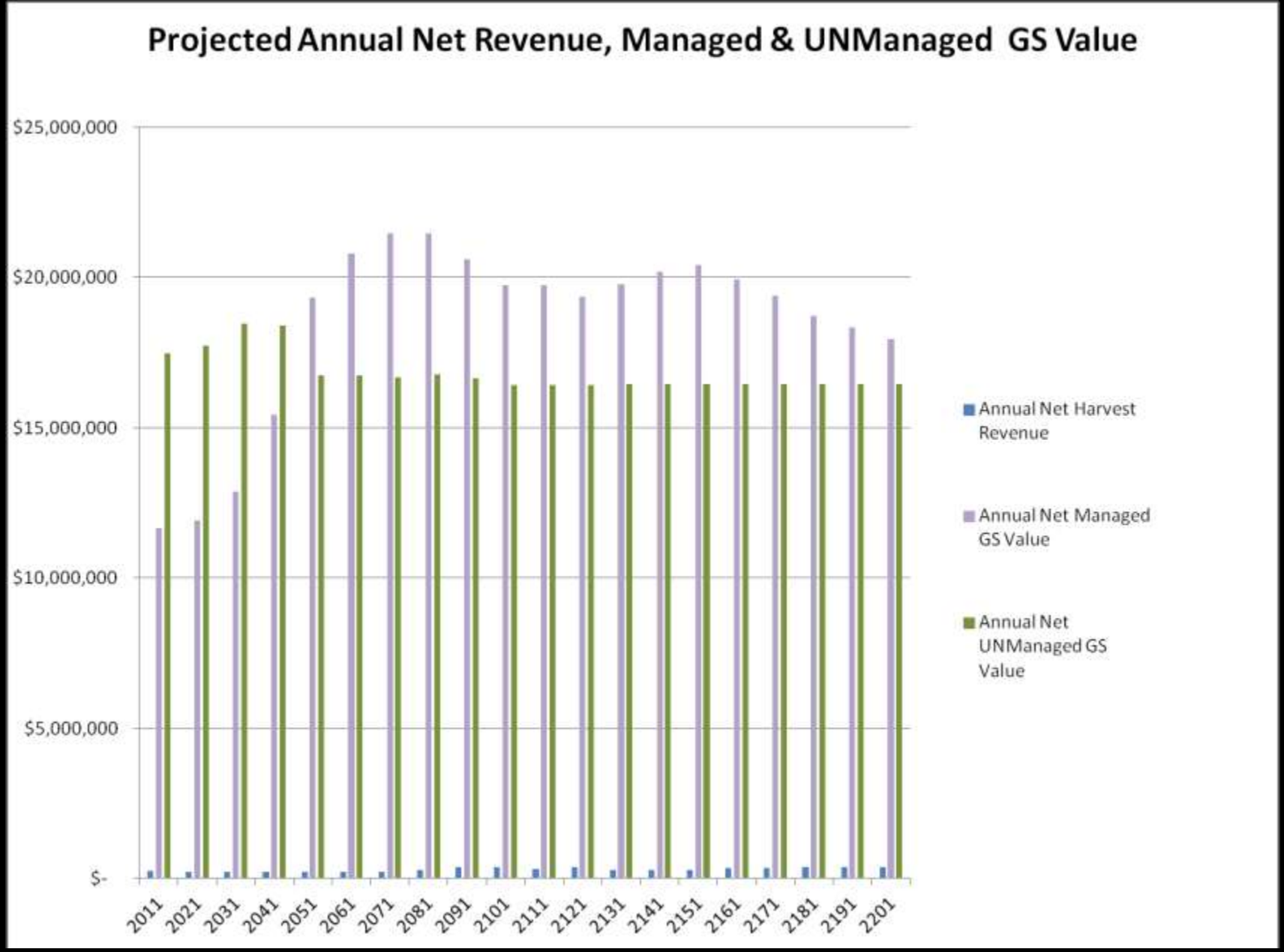
The long experience and demonstrated expertise of former Maine State Economist Lloyd Irland, provides the opportunity for the Park to complete this important element of the demonstration component of the forest management in the SFMA.

***See associated PDF document for proposal and project notes to date.**

SFMA Financial Analysis

Key Project Questions

- Does the SFMA operate at a profit annually?
- Does the SFMA NEED to make a profit annually?
- How should Reserve/RMZ areas factor into the analysis of profitability?
- Comparison to other managed forests lands in Maine. What are useful ways to structure comparisons?
- How do we look at long term profitability or Rate of Return for the SFMA?



This graph shows the projected annual net harvest revenue (real dollars) along side the standing value contained in the Reserve/RMZ/Undesignated (unmanaged) areas and the standing value in the operational (managed) areas.

SFMA Riparian Management Zones Policy

Riparian Management Zones Overview:

Riparian features occur throughout the SFMA, in the form of **waterbodies** and **wetlands**. From the perspective of overall resource value and diversity, riparian areas exceed all others in importance. Riparian zones provide an area for concentrated use by terrestrial wildlife, the filtering of runoff and floodwater, nesting and breeding sites for a variety of animals, and a focal point for human recreation within the SFMA. Riparian Management Zones (RMZ) are designed to help minimize and control the impact of management actions, like timber harvesting, on the natural functioning of riparian features and systems. Riparian Management Zones are more than just "stream buffers" based on a regulatory statute in the conventional forestry context. Two types of RMZ are defined in the SFMA, a RMZ Reserve and a RMZ Operational. More detail about these two types of RMZ will be provided in the following sections that cover topics relating to management goals, RMZ delineation, and management guidelines.

Riparian areas protect water quality by filtering and slowing movement of spring runoff and heavy rain events and provide streamside shading, leaf litter that serves as a primary source of energy in aquatic food webs, and a source of logs that create in-stream habitat structures, thereby protecting and enhancing habitat for brook trout and other aquatic species. Many animals (Appendix I) frequent the riparian zone, which is vital as winter deer cover, upland habitat for wood turtles, habitat for numerous reptiles and amphibians, and wildlife travel corridors. Shrubby margins provide nest habitat for birds including the Canada warbler, which is in documented decline. Diverse natural communities occur in riparian areas, although these have not yet been inventoried within the SFMA.

Gawler, Susan and Cutko, Andrew. Natural Landscapes of Maine: A Guide to Natural Communities and Ecosystems. 2010.

LURC: Excerpts from Timber Harvesting Chap 10- 10.27,E

Timber harvesting operations in P-SL1 and P-GP ***(250ft buffer)*** subdistricts shall be conducted …

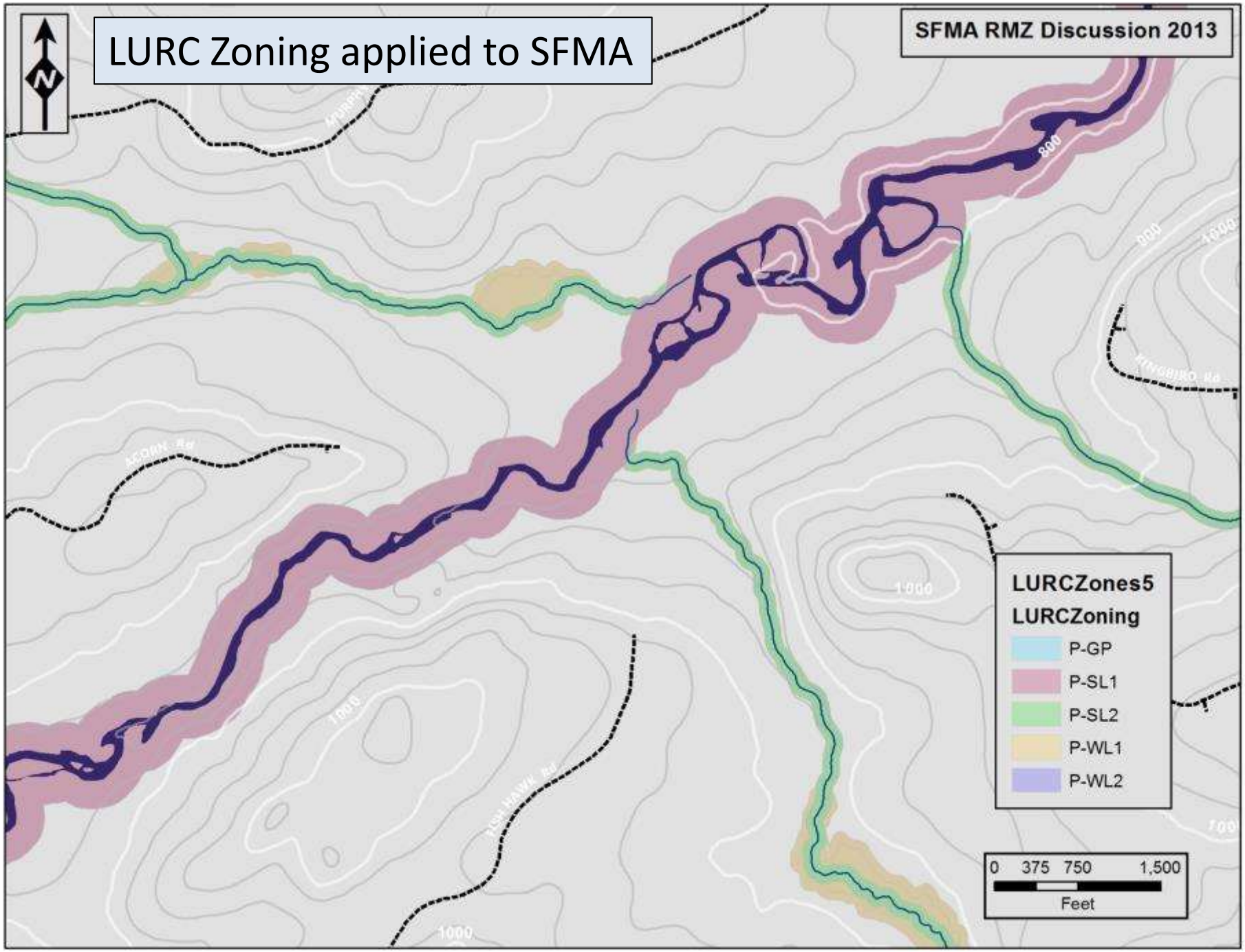
a. Within 50 feet of the normal high water mark, no clearcutting shall be allowed and harvesting operations shall be conducted in such a manner that a well-distributed stand of trees is retained so as to maintain the aesthetic and recreational value and water quality of the area and to reasonably avoid sedimentation of surface waters.

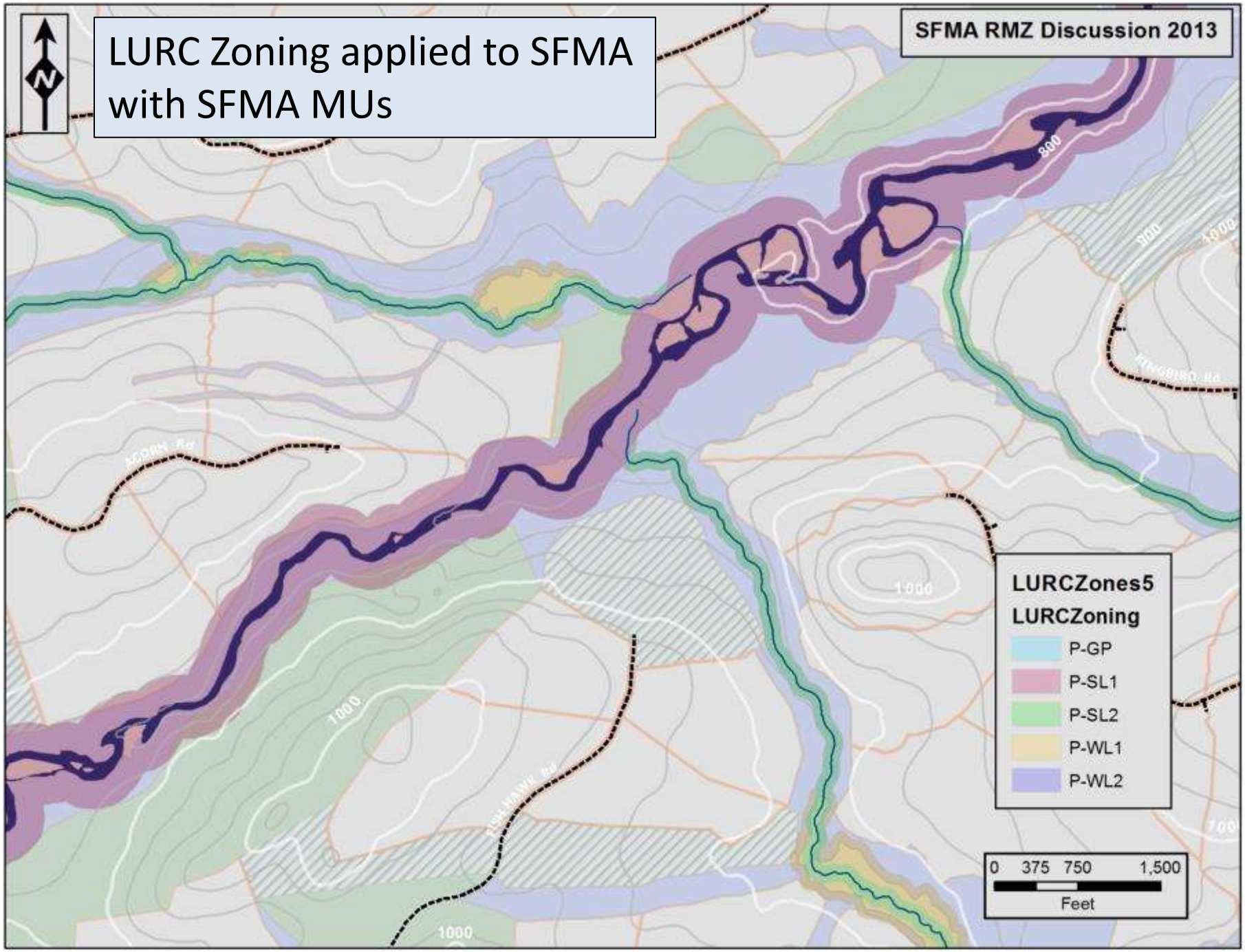
b. At distances greater than 50 feet from the normal high water mark, harvesting activities may not create single openings greater than 14,000 square feet in the forest canopy. In such areas single canopy openings of over 10,000 square feet shall be no closer than 100 feet apart.

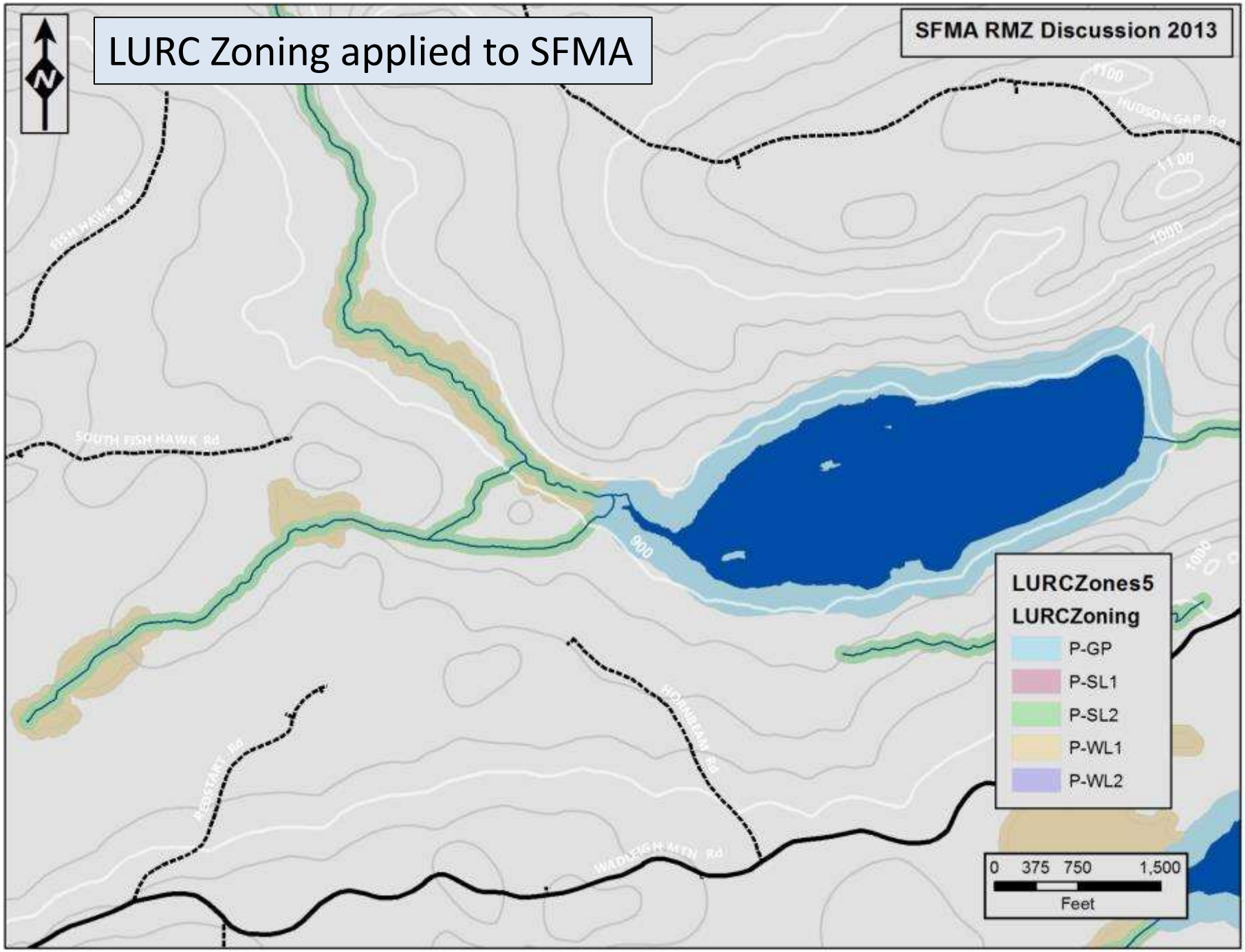
c. Harvesting shall not remove, in any ten year period, more than 40 percent of the volume on each acre involved of trees 6 inches in diameter and larger measured at 4½ feet above ground level. Removal of trees less than 6 inches in diameter, measured as above is permitted if otherwise in conformance with these regulations. For the purpose of these standards, volume may be determined as being equivalent to basal area.

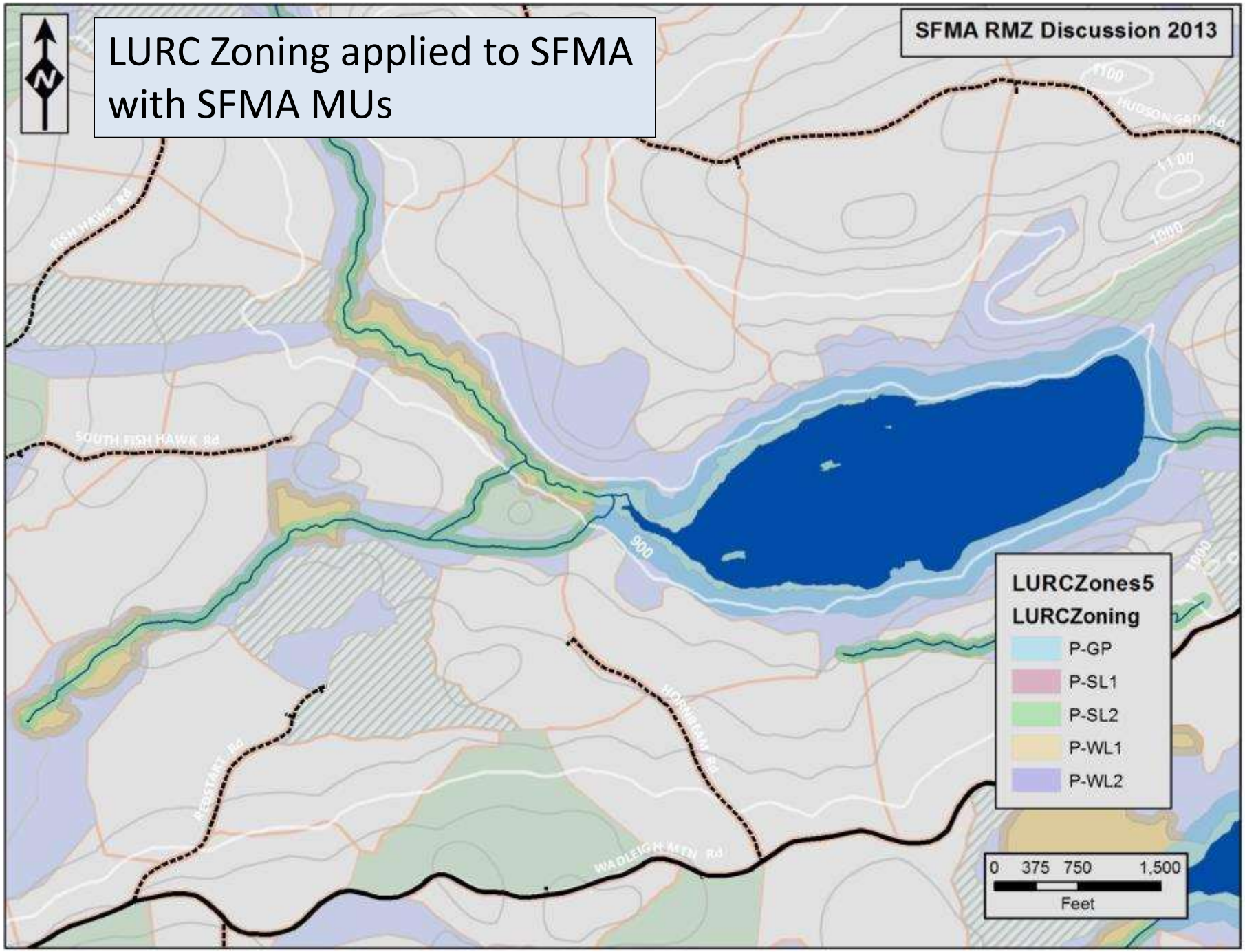
7. Timber harvesting operations in P-SL2 subdistricts ***(75ft buffer)*** along stream channels upstream from the point where they drain 300 acres or less, and in P-WL subdistricts adjacent to such P-SL2 subdistricts, may be conducted in a manner not in conformity with the requirements of the foregoing Sections 10.27,E,3, 5, and 6 provided that such operations are conducted so as to avoid the occurrence of sedimentation of water in excess of 25 Jackson Turbidity Units as measurable at the point where such stream channel drains 1 square mile or more. Jackson Turbidity Units are a standard measurement of the relative amount of light that will pass through a sample of water compared with the amount of light that will pass through a reference suspension; the Jackson Turbidity Unit measurement for water without turbidity is 0;

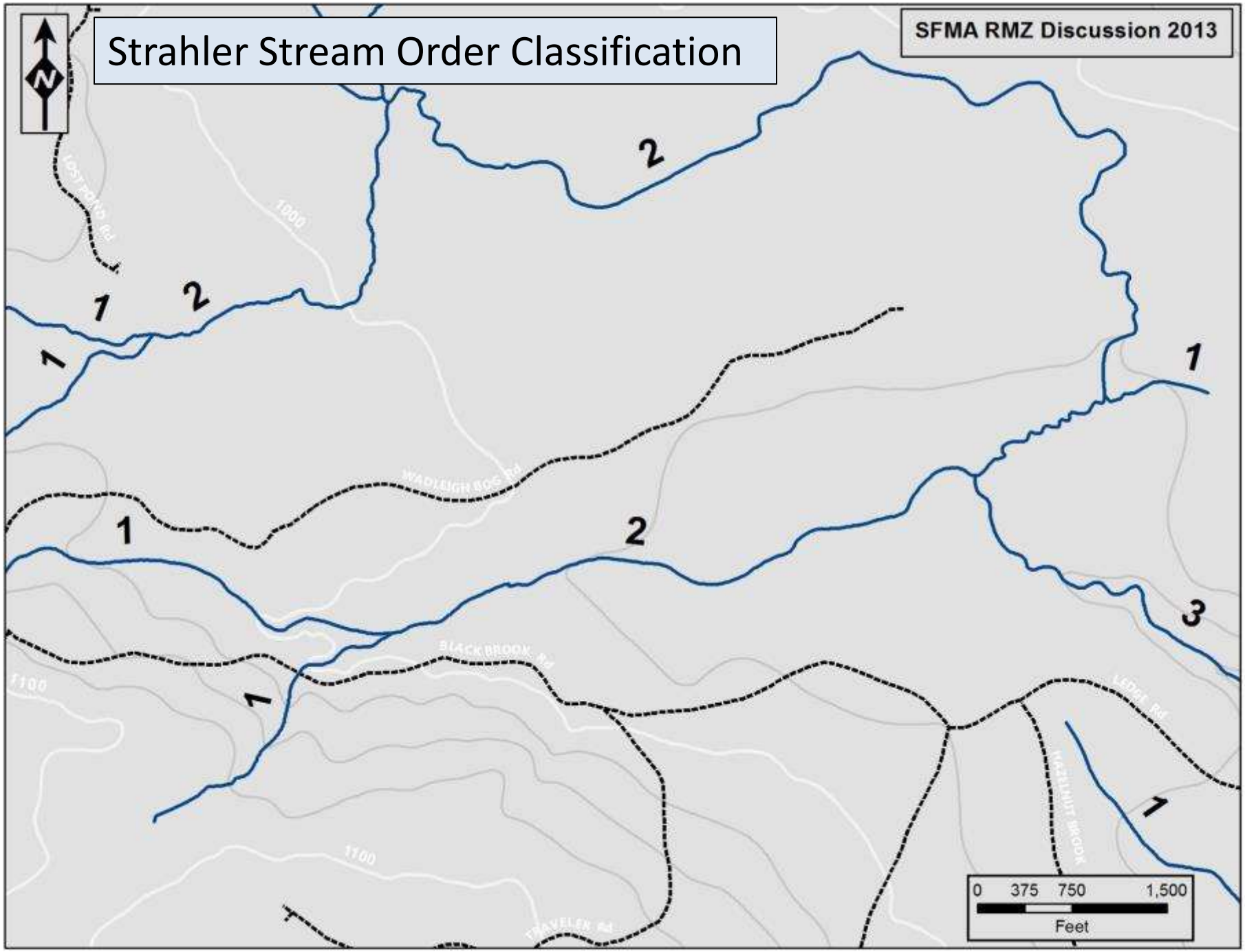
8. Harvesting operations in P-SL2 subdistricts along stream channels downstream from the point where they drain 300 acres or more and along bodies of standing water shall be conducted in such a manner that sufficient vegetation is retained to maintain shading of the surface waters;


LURC Zoning applied to SFMA
SFMA RMZ Discussion 2013
LURCZones5
LURCZoning
P-GP
P-SL1
P-SL2
P-WL1
P-WL2
0 375 750 1,500
Feet


LURC Zoning applied to SFMA with SFMA MUs
SFMA RMZ Discussion 2013
LURCZones5
LURCZoning
P-GP
P-SL1
P-SL2
P-WL1
P-WL2
0 375 750 1,500
Feet


LURC Zoning applied to SFMA
SFMA RMZ Discussion 2013
SOUTH FISH HAWK Rd
HORNBEAM Rd
WADLEIGH MTN Rd
LURCZones5
LURCZoning
P-GP
P-SL1
P-SL2
P-WL1
P-WL2
0 375 750 1,500
Feet


LURC Zoning applied to SFMA with SFMA MUs
SFMA RMZ Discussion 2013
SOUTH FISH HAWK Rd
900
LURCZones5
LURCZoning
P-GP
P-SL1
P-SL2
P-WL1
P-WL2
0 375 750 1,500
Feet


Strahler Stream Order Classification
SFMA RMZ Discussion 2013
N
1
2
3
0 375 750 1,500
Feet

Riparian Feature Specific Management Guidelines

Category 1: Ephemeral wetlands, intermittent streams, hillside seeps, other unique hydrologic features.

- **No equipment entry within 25-50+ft of riparian feature edge**.
- Minimize presence of hard stand boundary when RMZ is adjacent to even-age management unit, by feathering stand edge. (Ideally use individual tree marking to accomplish feathered result leaving 60-70% crown closure)

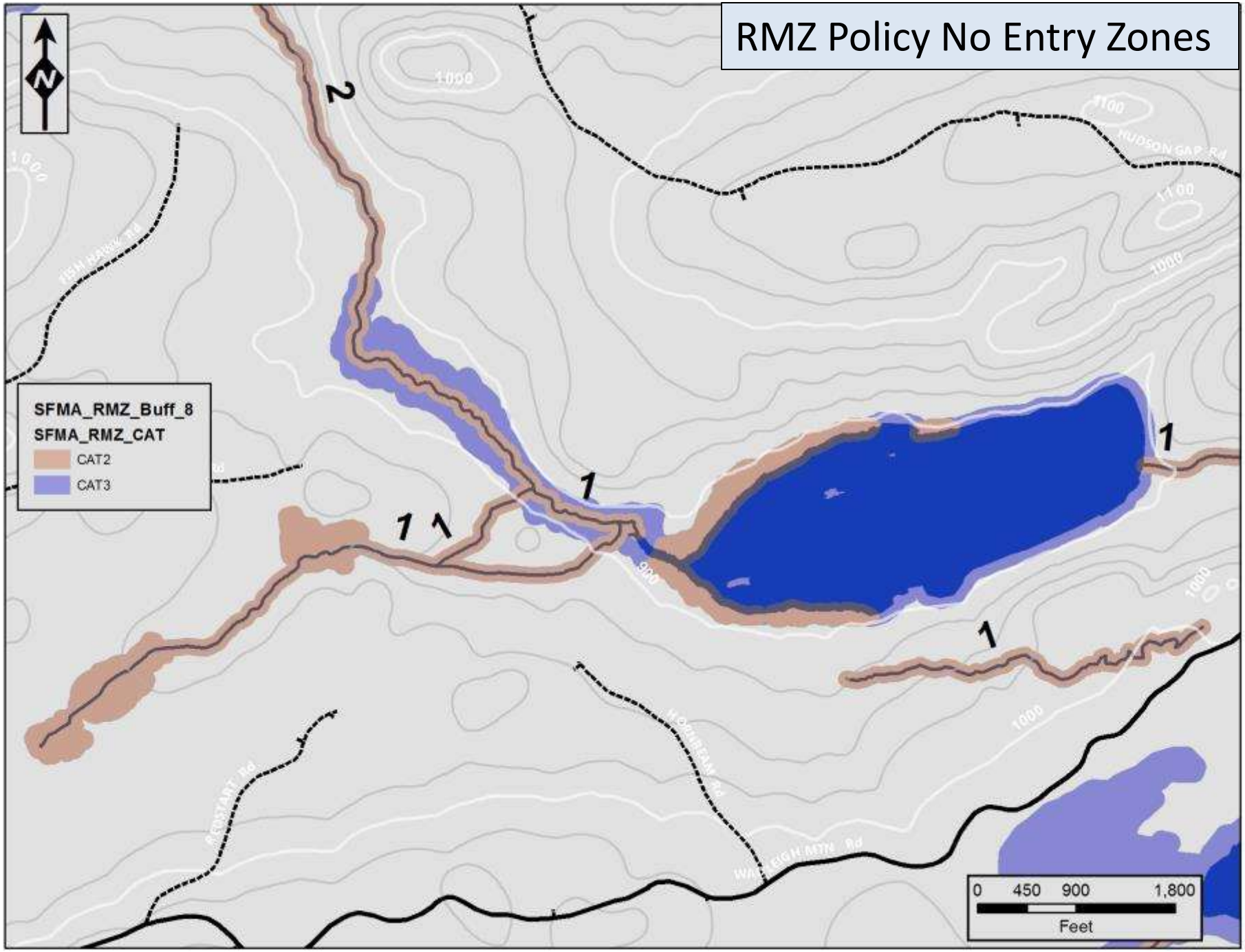
Category 2: All ponds, wetlands, and pond/wetland complexes less than 10 acres in size, all 1st and 2nd order streams.

- **No equipment entry within 75ft of riparian feature edge**.
- Minimize presence of hard stand boundary when RMZ is adjacent to even-age management unit, by feathering stand edge. (Ideally use individual tree marking to accomplish feathered result leaving 60-70% crown closure)
- Consider using multi-age management in RMZ if operational area is large enough to permit reasonable application of silvicultural system.
- Consider ways to integrate RMZ habitat attributes into management activities in adjacent management units.

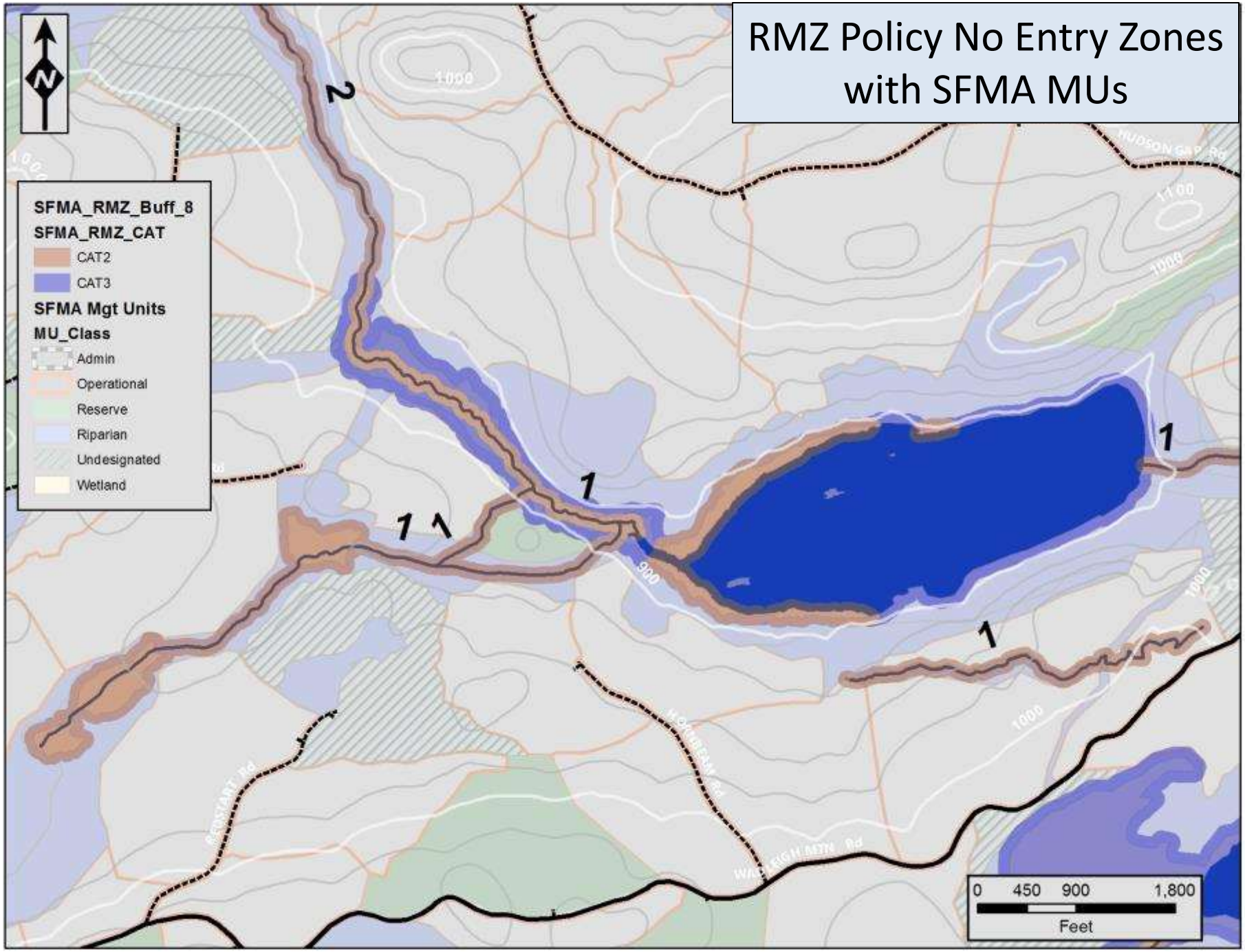
Category 3: All ponds, wetlands, and pond/wetland complexes greater than 10 acres in size, and all 3rd and 4th order streams.

- **No equipment entry within 100ft of riparian feature edge.**
- Minimize presence of hard stand boundary when RMZ is adjacent to even-age management unit, by feathering stand edge of operational unit. (Ideally use individual tree marking to accomplish feathered result leaving 60-70% crown closure)
- Strongly consider using multi-age management in RMZ if area is large enough to permit reasonable application of desired silvicultural system.
- Strongly consider ways to integrate RMZ habitat attributes into management activities in adjacent operational management units.

RMZ Policy No Entry Zones



RMZ Policy No Entry Zones with SFMA MUs



Stand Structure Goals?
Multi-Age

Stand Structure Goals?
Even-Age


Stand Structure Goals?
Irregular/Extended SW


Stand Structure Goals?
SBW Goals?

SFMA PCT Experimentation

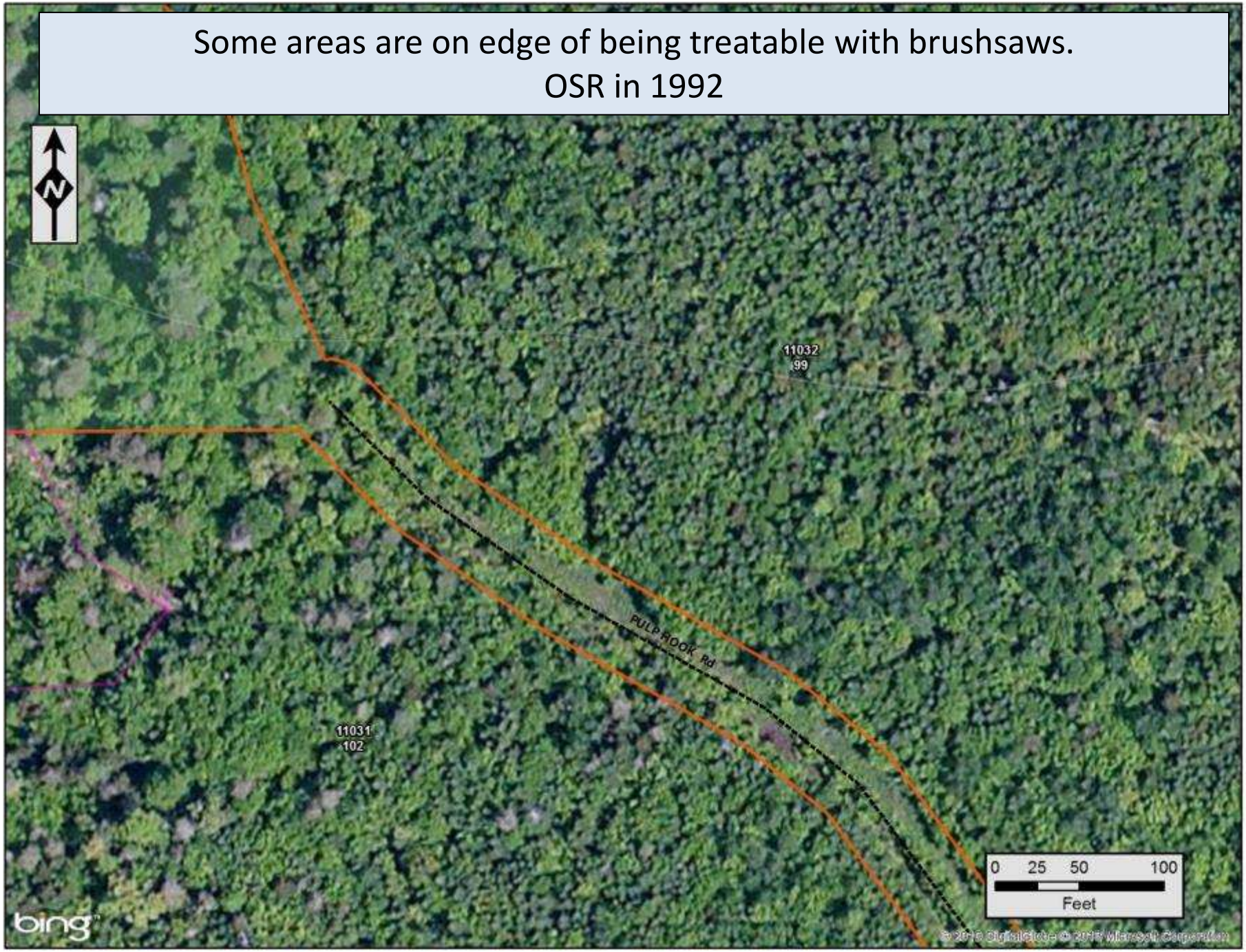
Notes and Ideas:

- Demonstration forest should demonstrate varied silvicultural sys.
- Opportunity to manage more intensively in Even-Age units.
- Grow more wood to offset Reserve/RMZ areas… (Triad).
- Control species composition in SW stands to favor RS and reduce BF.
- Shorten rotation age if Even-Age units?
- Annual treatment area = 30-50%? of operational area EA units (aprox 20-40)ac.
- Need to deal with backlog of stands?
- Potential use in Multi-Age units, PCT gaps to release RS, YB, WP.
- Spring 2013:

Work with processor operator C. Morrow as contractor to run PCT crew of 3. SFMA staff to provide equipment training and silvi training.

Basic RX = Leave all RS, WP, WC, space BF 6-8ft according to RS presence.

Some areas are on edge of being treatable with brushsaws.
OSR in 1992

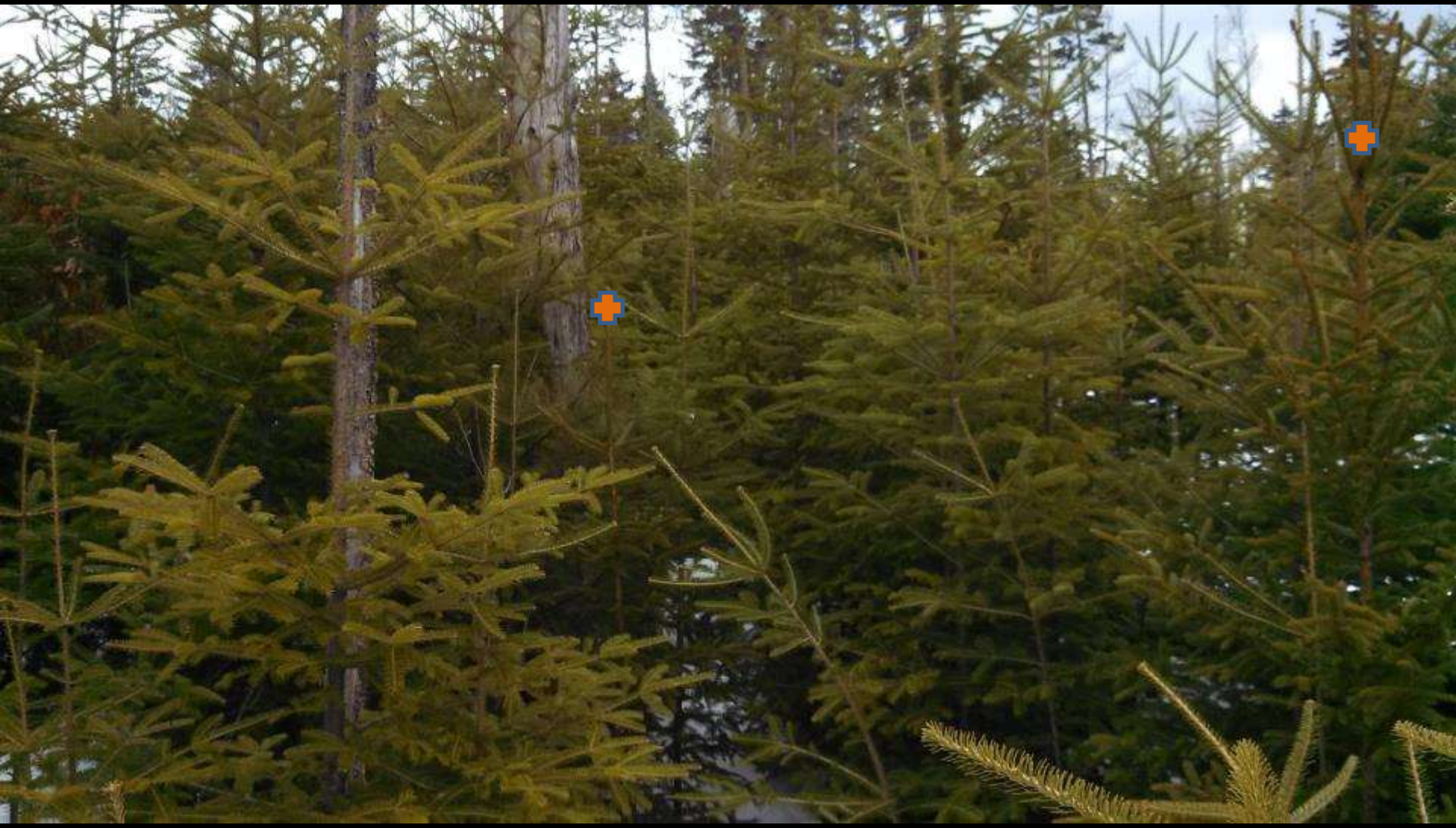


Other areas are on just about in sweet spot for PCT.
OSR in 2009


N
10052
387
10052
419
10051
420
10051
353
PEE WEE Rd
0 37.5 75 150
Feet
bing

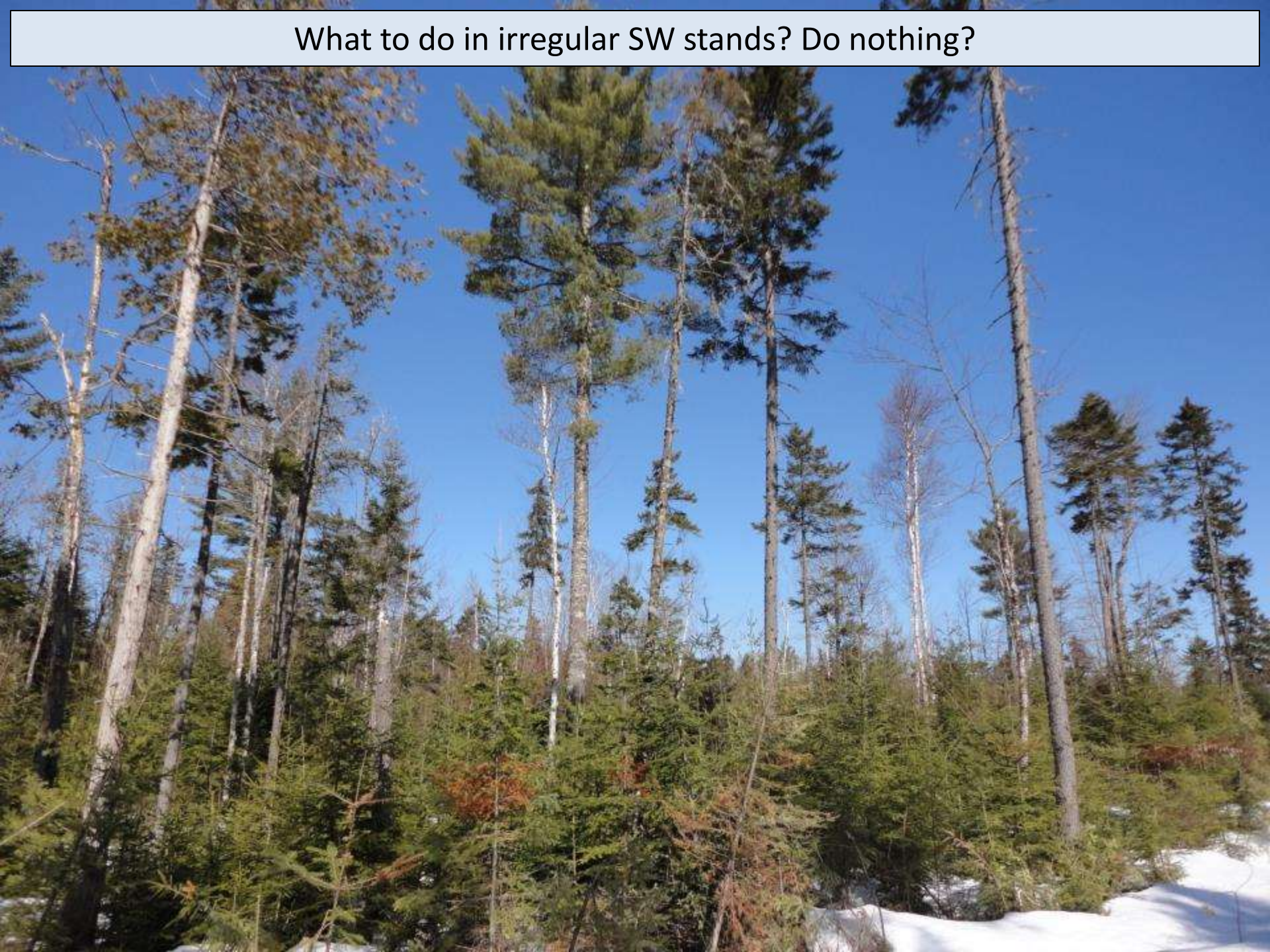
Want to play “Find the Spruce”?

6-8ft spacing between residual stems



6-8ft spacing between residual stems? What to do in hardwood voids? RS present

What to do in irregular SW stands? Do nothing?



Lots more stands coming online in next 20+ years.