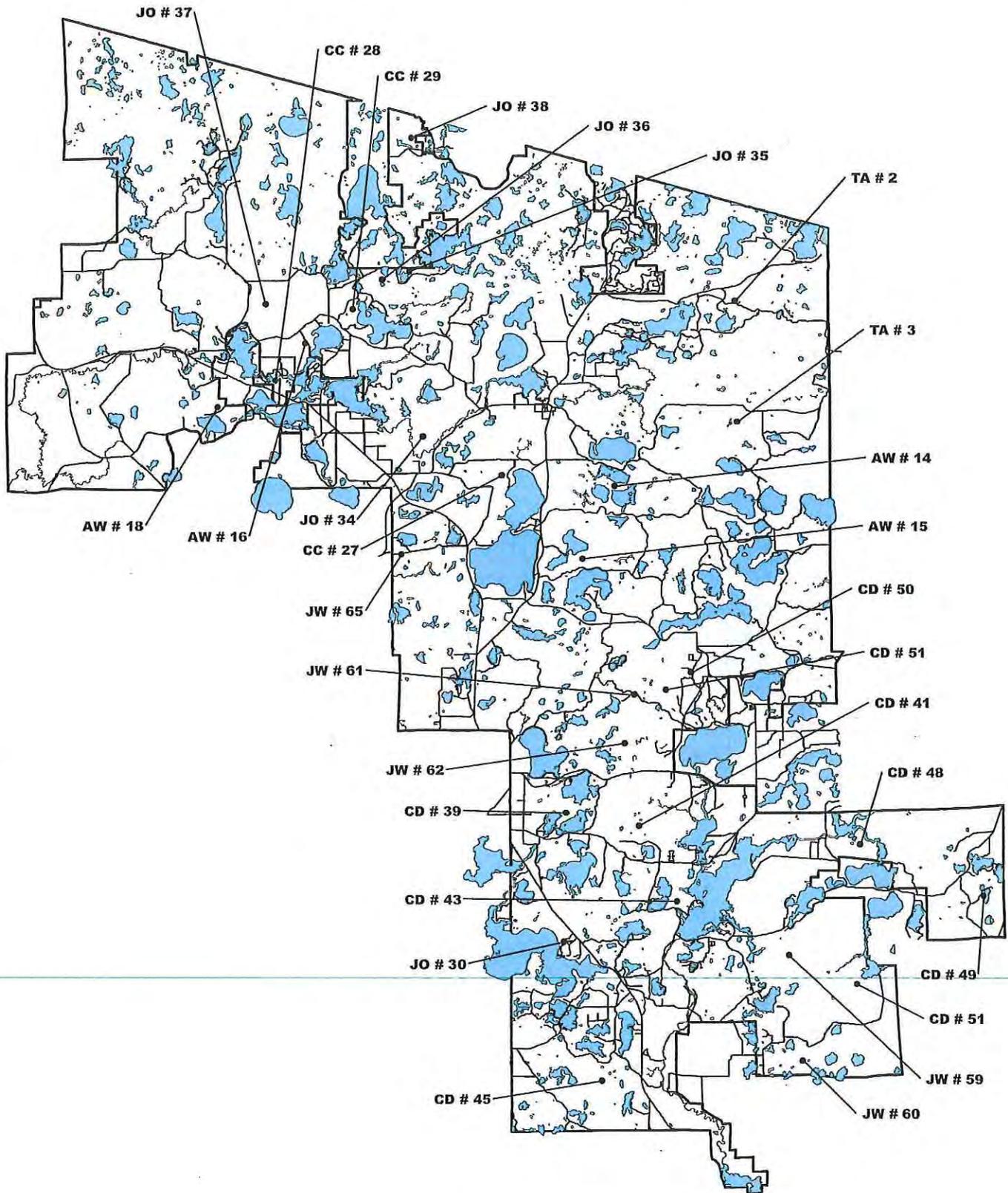
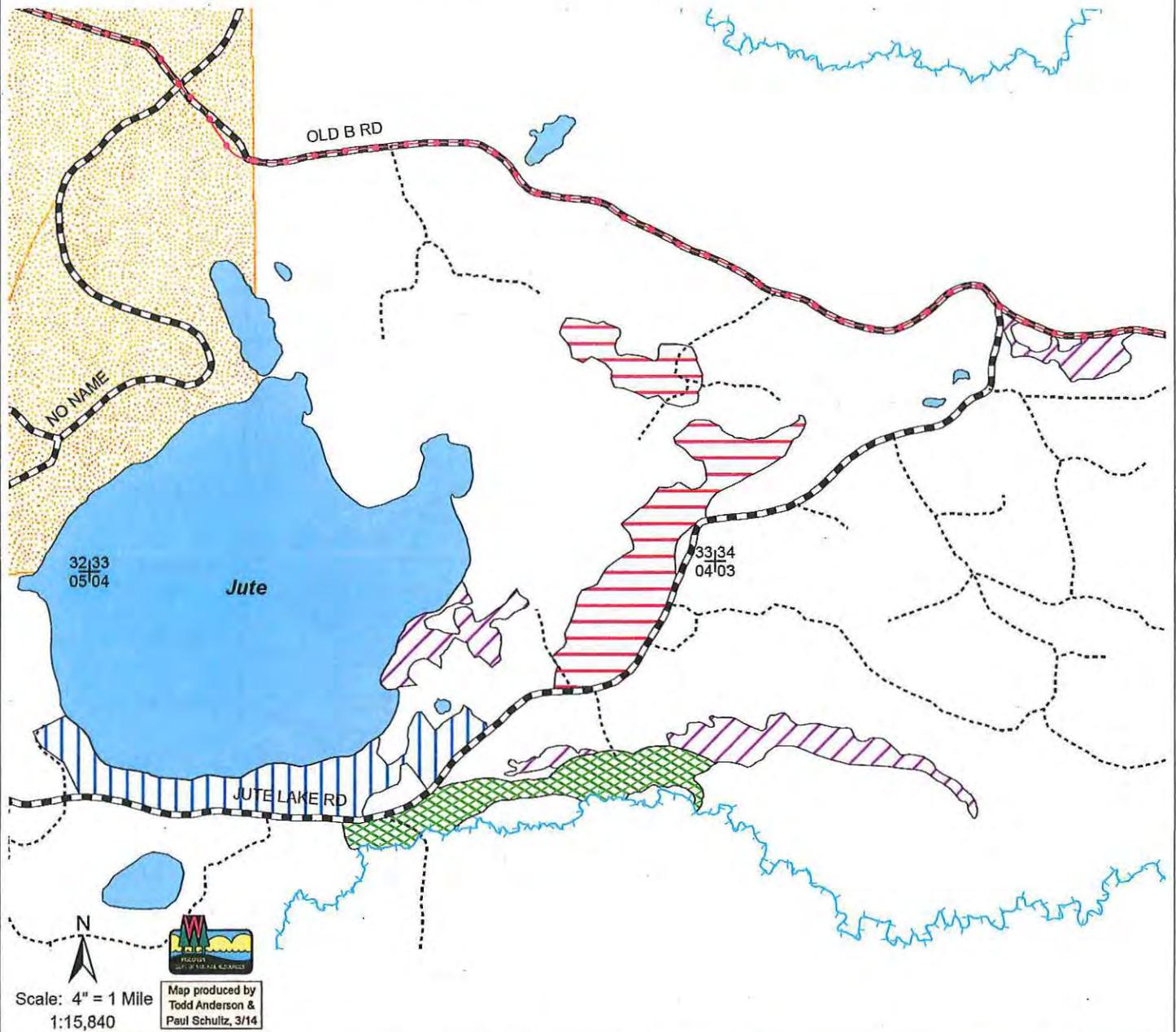


Northern Highland American Legion Pre-Sales 2014/2015 Timber Sale Establishment Location Map



Northern Highland – American Legion State Forest
C30H Stands 9, 14, 18 and 21; C60H Stand 4, 5 9 and 10; C61H Stand 4
Jute Lake 127 acres

Town of Land O Lakes, Vilas County, T42N R8E Sec. 3, 4 and 5 T43N R8E Sec. 33 and 34
NHAL – SF Master Plan: Mgmt. Area 3 – Vilas Sandy Plains North – Forest Production
Mgmt. Area 9 – Hemlock / Northern Hardwoods – Jute Lk Site - Native Community



Legend

- Section Corner
- Rivers and Streams
- Woods Roads
- Snowmobile Trails
- Highways and Town Roads
- Aspen Proposed Area
- Aspen/NC Proposed Area
- Northern Hardwood Proposed Area
- Oak Proposed Area
- Lakes
- Private Lands

The objective for stands in the forest production area is to maintain aspen, jack pine, tamarack, black spruce and current levels of red oak.

The objective for the Aspen/NC area is to increase the age diversity and composition of the hemlock and northern hardwood stands.

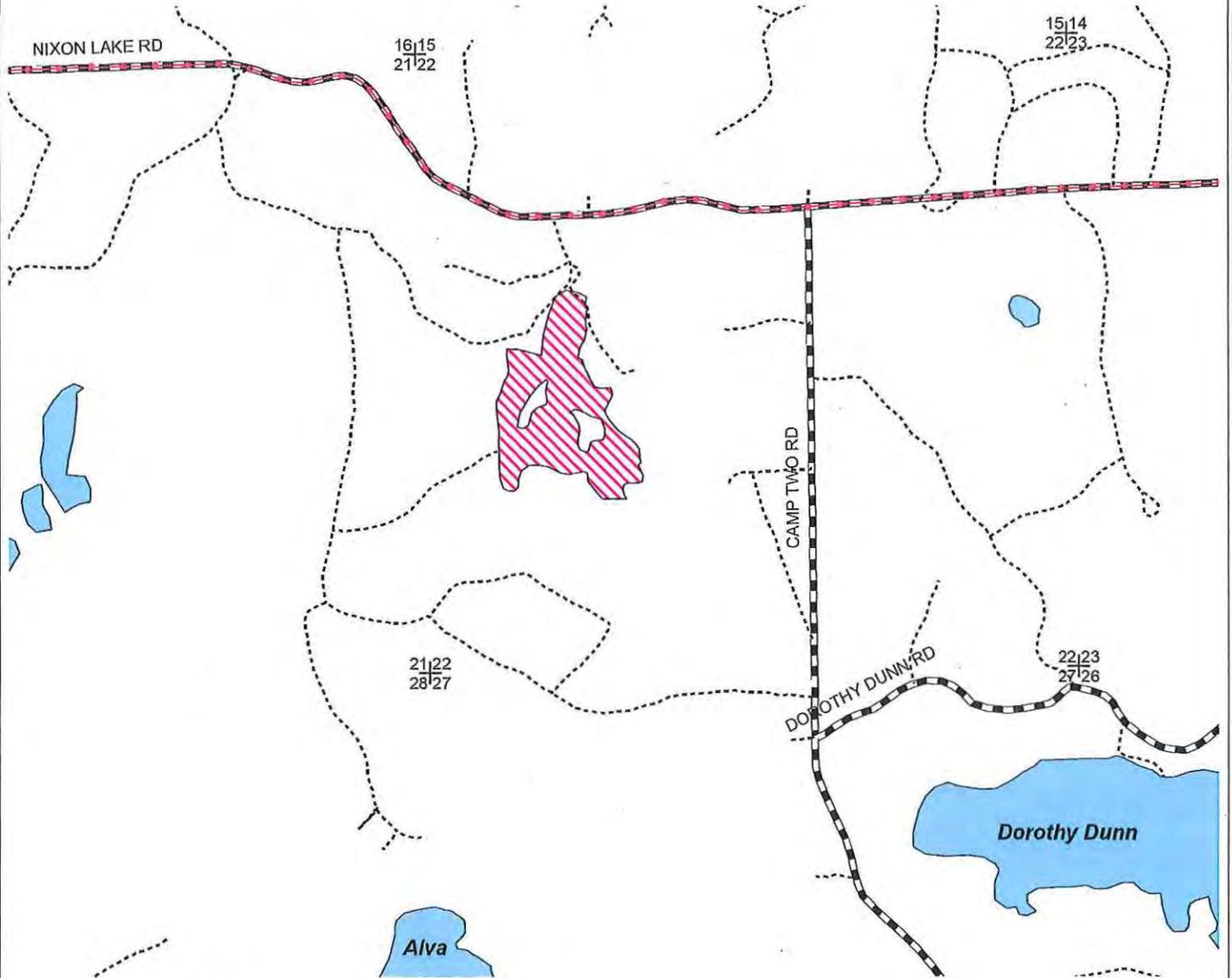
In the Aspen Area the aspen and jack pine will be clearcut to regenerate these stands.

The Oak Area stand will undergo an initial shelterwood harvest. This will allow more sunlight to reach the forest floor, allowing oak seedlings to become established.

The Northern Hardwood Area stand will be selectively marked. Trees that are den or potential snag trees will be retained. In the future these snag trees will fall down and become critter habitat on the forest floor. Trees of all size and age classes will remain after the harvest. Biomass harvesting will not be allowed. Best Management Practices for Water Quality will be adhered to in the Jute Lake Riparian Management Zone.

Northern Highland – American Legion State Forest
 C32H Stand 10 Nixon Lk Rd and Camp 2 Rd 25 acres
 Town of Plum Lake, Vilas County, T42N R8E Sec. 22

NHAL – SF Master Plan: Mgmt. Area 3 – Vilas Sandy Plains North – Forest Production



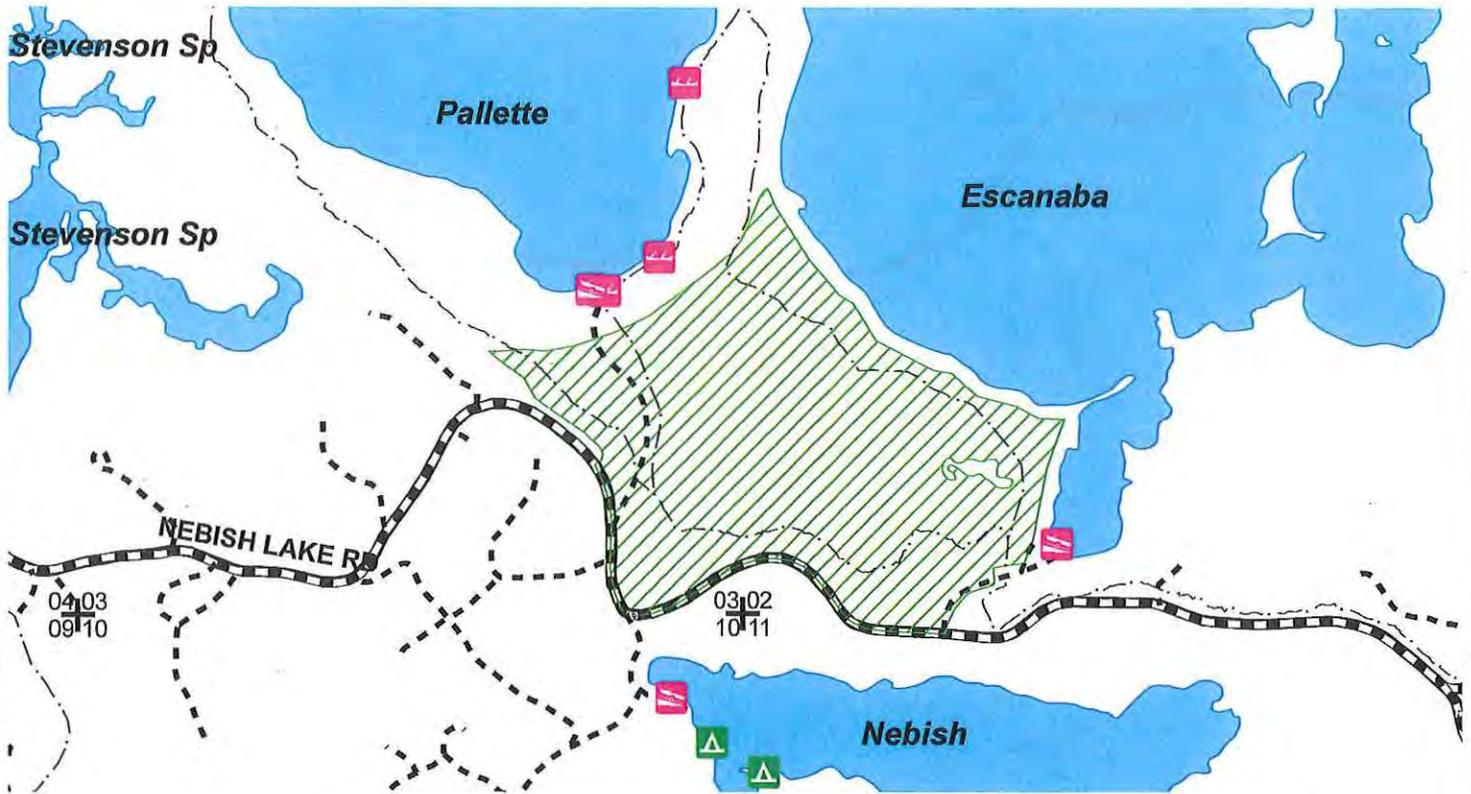
Scale: 4" = 1 Mile
 1:15,840

Map produced by
 Todd Anderson &
 Paul Schultz, 3/14

Legend	
+	Section Corner
-----	Woods Roads
—●—	Snowmobile Trails
—+—	Highways and Town Roads
▨	Aspen Proposed Area
■	Lakes
■	Private Lands

The objective for this area is to maintain aspen as a strong component in mixed stands and increase the presence and age of red and white pine. The 95-year old aspen stand will be regenerated using a coppice with standards harvest, so the aspen can regenerate through root suckers. Residual red and white pine as well as red oak will remain. Biomass harvesting is not allowed due to the poor soils.

Northern Highland - American Legion State Forest
C97H Stand 2
Escanaba Oak - 140 acres
Town of Plum Lake, Vilas County, T41N R7E Sections 2 & 3
NHAL Master Plan: Area 12 - Mixed Forest Native Community Area



Legend

-  Stand 2 (Oak)
-  Section Corners
-  Escanaba Trail
-  Boat Landings
-  Canoe Campsite
-  Remote Campsite
-  Woods Roads
-  Public Roads
-  Lakes
-  Private Lands

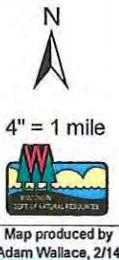
Mgmt Class Goals: Area 12 - Enhance the development of mixed forest dominated by old trees, maintain mid-tolerant tree species composition while incorporating variable patch sizes, and to create and enhance old forest and old growth characteristics. Escanaba, Palette, and Nebish Lakes are all research lakes and thus Science Services will be consulted for input on this sale.

Stand Attributes, History, Prescription: Stand 2 is a 96 year old oak stand with no prior management history. Northern hardwood is mixed into the stand on the south and west sides, but disappears on the north and east sides. Quality and health of trees also declines to the north and east, but oak health is good overall. The prescription is to thin the oak and northern hardwood types to improve stand health and to push this stand towards old forest with some old growth characteristics. All aspen, fir, and white birch will be designated for cutting, except for some which will be green marked and left for diversity, cavity trees, and future snags. Most red maple will be cut in the northeast area as there is considerable crown dieback there, but some will be left for wildlife and aesthetics.

Biomass Suitability: No, the stand contains restricted soils and as much coarse woody debris must be left as possible in this mgmt class.

Recreation/Aesthetic Concerns: A riparian mgmt. zone buffer along Escanaba Lake should minimize aesthetic impacts from the lake. Escanaba Trail crossings for logging will be kept to a minimum. This sale overall will be a light thinning with only a few small scattered gaps so aesthetic impacts should be minimal as viewed from the trail and roads.

Season Restrictions, Access Concerns: Oak wilt restrictions will be in effect. A new access road and landing will likely be needed. Logging will only be allowed during daylight hours to minimize concerns with the remote campsites along the lakes. Escanaba Trail will need to be partially closed or rerouted while logging is occurring and logging will not be allowed during winter to minimize impacts to ski trail users.



Map produced by Adam Wallace, 2/14

Northern Highland - American Legion State Forest

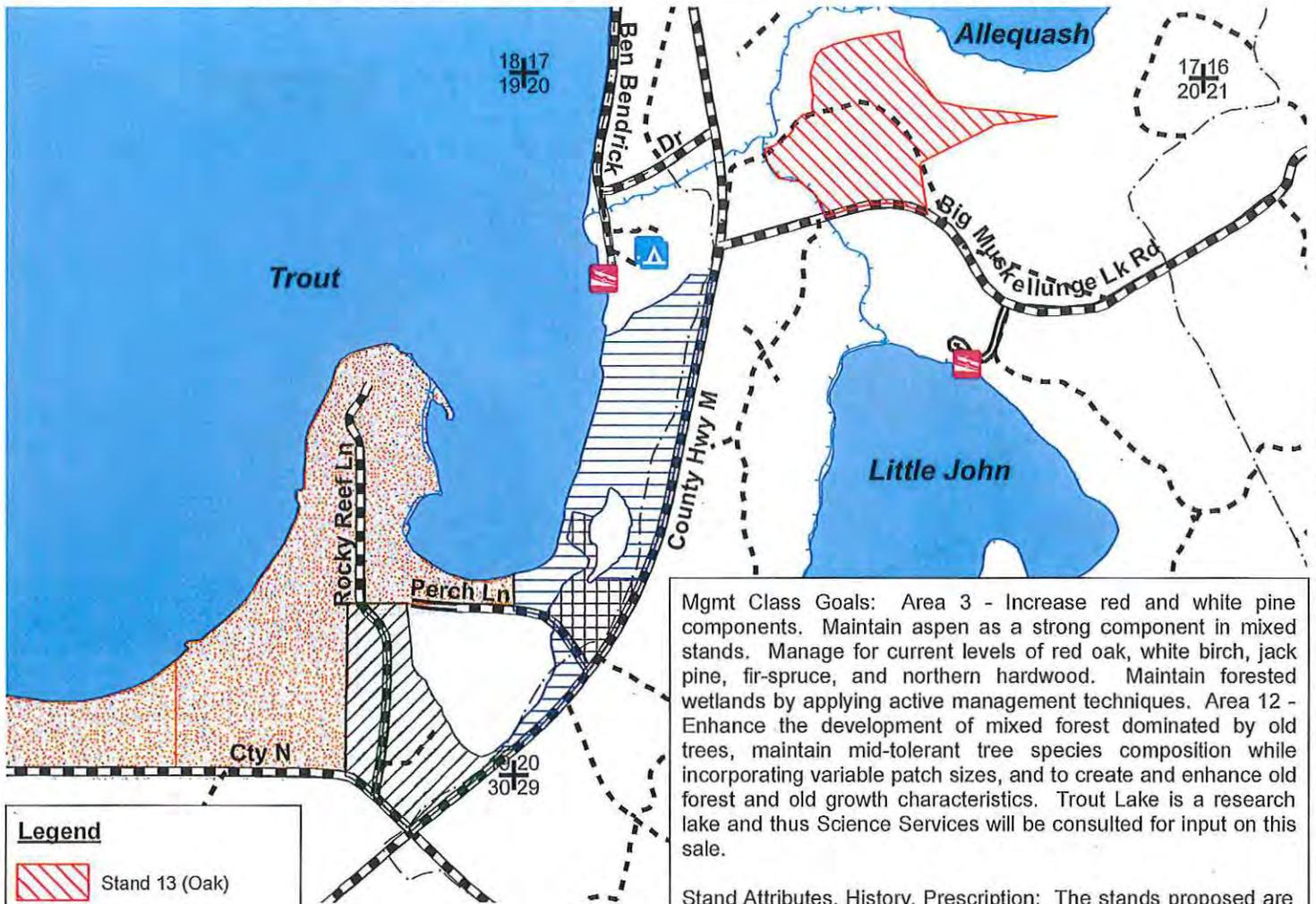
C133H Stand 13; C149H Stands 3, 12, & 16

Trout & Allequash Oak - 101 acres

Town of Boulder Junction, Vilas County, T41N R7E Sections 17, 19, & 20

NHAL Master Plan: Area 3 - Vilas Sandy Plains North Forest Production Area

NHAL Master Plan: Area 12 - Mixed Forest Native Community Area



Mgmt Class Goals: Area 3 - Increase red and white pine components. Maintain aspen as a strong component in mixed stands. Manage for current levels of red oak, white birch, jack pine, fir-spruce, and northern hardwood. Maintain forested wetlands by applying active management techniques. Area 12 - Enhance the development of mixed forest dominated by old trees, maintain mid-tolerant tree species composition while incorporating variable patch sizes, and to create and enhance old forest and old growth characteristics. Trout Lake is a research lake and thus Science Services will be consulted for input on this sale.

Stand Attributes, History, Prescription: The stands proposed are mature oak or have oak components of 103 years of age that will have an overstory removal. Oak crowns are significantly declining in all stands. Cutting last occurred in most areas in either 1995, 2000, or 2009 and left most of the oak. There are also some areas within these stands that contain mature aspen, white birch, maple, and fir that will be cut and regenerated. Varying densities of healthy oak trees will be left uncut to maintain recommended green tree guidelines. Stand 13 is within the Mixed Forest Native Community and will have additional trees left uncut to provide more diversity within this area.

Biomass Suitability: No, the stand contains a few small areas of restricted soils, and as much coarse woody debris must be left as possible in Mgmt Class 12.

Recreation/Aesthetic Concerns: Riparian management zone buffers along the lakes and creek will minimize aesthetic impacts from the water. Most healthy-crowned oak, pine, and hemlock will be left for aesthetics along the bike trail and roads.

Season Restrictions, Access Concerns: Oak wilt restrictions will be in effect. The sale area adjoining the bike trail will be avoided from May 1 to Nov 1 to minimize trail use impacts.

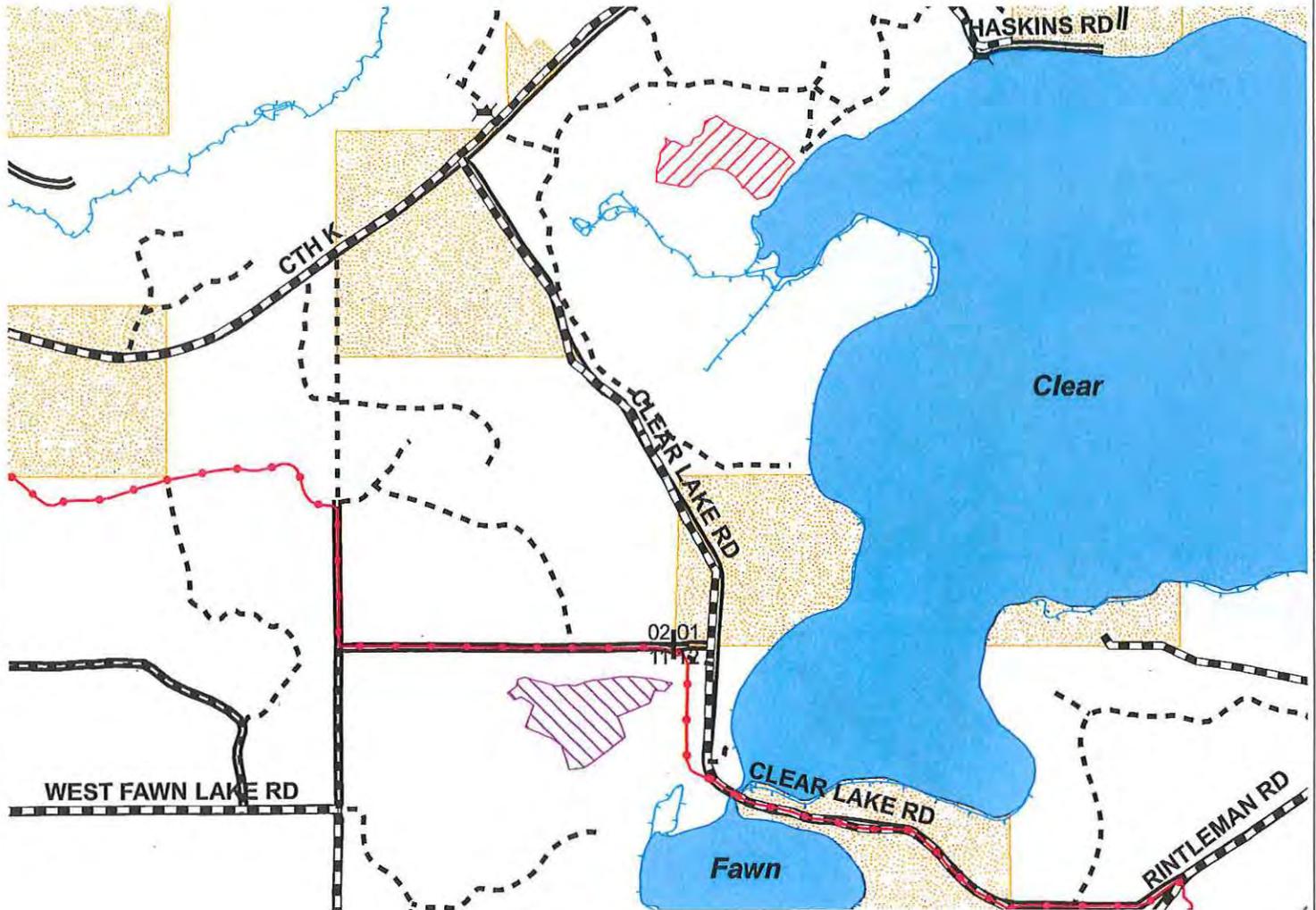
- Legend**
- Stand 13 (Oak)
 - Stand 3 (Oak)
 - Stand 12 (Oak)
 - Stand 16 (Aspen/Oak)
 - Section Corners
 - Bike Trail
 - Campground
 - Boat Landings
 - Woods Roads
 - Public Roads
 - Lakes
 - Rivers/Creeks
 - Private Lands

N

4" = 1 mile

Map produced by
Adam Wallace, 3/14

Northern Highland - American Legion State Forest
C235H Stand 12; C241H Stand 4
Clear Lake Rd - 19 acres
Town of Manitowish Waters, Vilas County, T42N R5E Sections 1 & 11
NHAL Master Plan: Area 3 - Vilas Sandy Plains North Forest Production Area



Legend	
	Stand 4 (Spruce)
	Stand 12 (White Birch)
	Section Corners
	Snowmobile Trails
	Woods Roads
	Public Roads
	Lakes
	Rivers/Creeks
	Private Lands

Mgmt Class Goals: Area 3 - Increase red and white pine components. Maintain aspen as a strong component in mixed stands. Manage for current levels of red oak, white birch, jack pine, fir-spruce, and northern hardwood. Maintain forested wetlands by applying active management techniques.

Stand Attributes, History, Prescription: Stand 4 is an 82 year old norway spruce plantation with a mix of other species. The south half of the stand was thinned in 1994 but there was no cutting on the north end. The spruce will be thinned and all short-lived species will be cut. Stand 12 is a 64 year old white birch stand mixed with scattered northern hardwood and pines. There is no previous management history. The white birch will be regenerated, pine thinned, and better quality northern hardwood will be kept for diversity.

Biomass Suitability: No, most of the sale area contains restricted soils.

Recreation/Aesthetic Concerns: The snowmobile trail will be posted during winter. A riparian mgmt. zone buffer along Clear Lake should minimize aesthetic impacts from the lake.

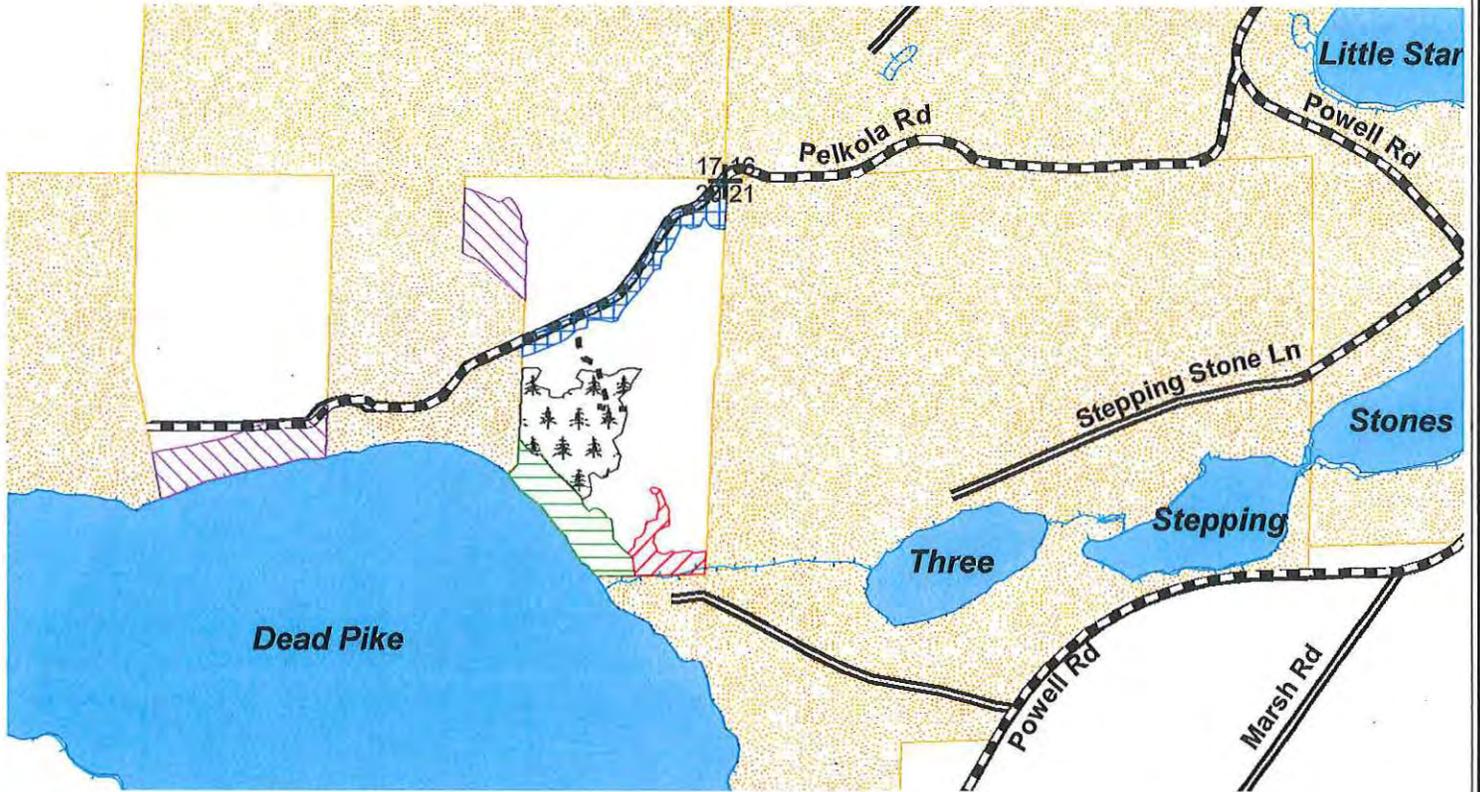
Season Restrictions, Access Concerns: None

N

 4" = 1 mile

 Map produced by
 Adam Wallace, 2/14

Northern Highland - American Legion State Forest
C246H Stands 1, 4, 5, 6; C255H Stand 8
Dead Pike Lake - 32 acres
Town of Manitowish Waters, Vilas County, T42N R5E Section 20
NHAL Master Plan: Area 3 - Vilas Sandy Plains North Forest Production Area



Legend

-  Stand 1 (Aspen)
-  Stand 4 (Red Maple)
-  Stand 5 (Oak)
-  Stand 6 (Oak)
-  Stand 8 (White Pine)
-  Section Corners
-  Woods Roads
-  Public Roads
-  Lakes
-  Rivers/Creeks
-  Private Lands

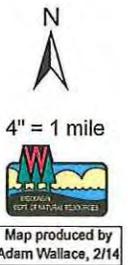
Mgmt Class Goals: Area 3 - Increase red and white pine components. Maintain aspen as a strong component in mixed stands. Manage for current levels of red oak, white birch, jack pine, fir-spruce, and northern hardwood. Maintain forested wetlands by applying active management techniques.

Stand Attributes, History, Prescription: Stand 1 is a 90 year old aspen stand and old aesthetic strip that will be regenerated. Stand 4 is a 66 year old red maple stand that will be regenerated. Stand 5 is an 81 year old mixed oak stand and old riparian buffer. Short lived species will be cut and the oak will be selectively marked. Stand 6 is typed aspen 0-5", but has a strong secondary of oak that was left from the previous cut in 2005. The oak will be selectively marked to release oak saplings and to further regenerate this stand. Stand 8 is a highly mixed stand of white pine, aspen, birch, and red maple of varying age. The short-lived species are overmature and will be cut, while the pine will be thinned.

Biomass Suitability: Stand 5 contains restricted soils, other areas are approved.

Recreation/Aesthetic Concerns: A riparian mgmt. zone buffer along Dead Pike Lake should minimize aesthetic impacts from the lake. Some maples will be left along the town road in addition to most of the pine for aesthetics.

Season Restrictions, Access Concerns: Oak wilt restrictions will be in effect.



NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST

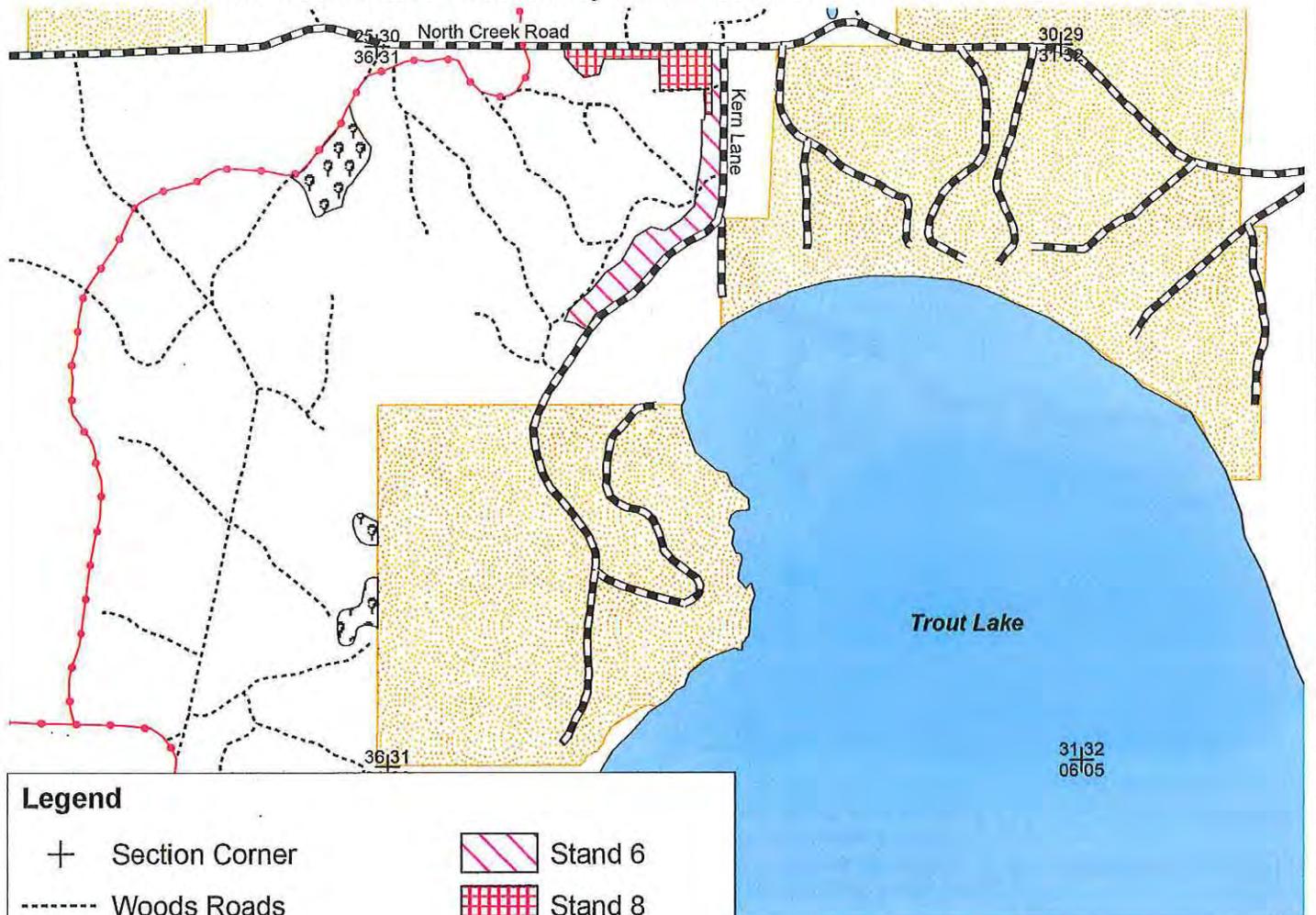
C159H Stands 2, 6, 8

Kern Lane 2 - 23 Acres

Town of Boulder Junction, Vilas County, T42N R7E Sec 31

and T42N R6E Sec 36

Master Plan Area 3 Vilas Sandy Plains North Forest Production Area



Legend

- | | | | |
|---|-------------------------|---|---------------|
| + | Section Corner |  | Stand 6 |
| ----- | Woods Roads |  | Stand 8 |
| —●—●—●— | Snowmobile Trails |  | Lakes |
| —+—+—+—+— | Highways and Town Roads |  | Private Lands |
|  | Stand 2 | | |

N

 Scale: 4" = 1 Mile
 1:15,840


 Christopherson
 03/2014

Objectives for Area 3 include managing to increase the presence and age of red pine and white pine, maintaining aspen as a strong component in mixed stands, and managing for current levels of red oak.

Stand 2 is a 98 year old red oak stand that will have an overstory removal to release existing oak and white pine regeneration. The goal is to maintain red oak and white pine.

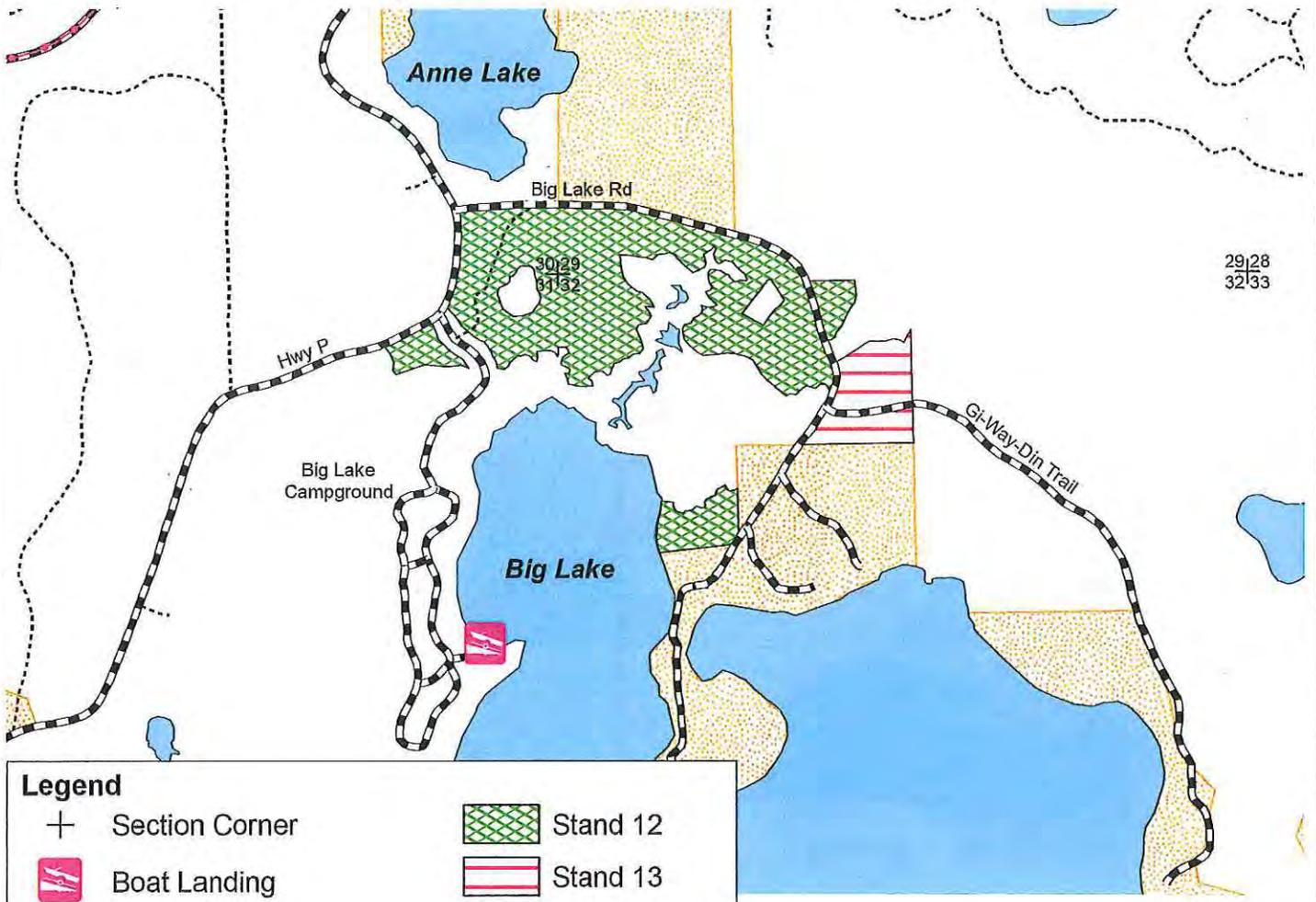
Stand 6 is an existing aesthetic strip consisting of white birch and a mix of other species. The stand will have the white birch and red maple harvested while leaving longer lived tree species such as red oak and white pine. The goal is to maintain oak and pine.

Stand 8 is a 70 year old red pine plantation that will receive a thinning. The goal is to increase the size and age of red pine in the stand. Stands 6 and 8 were last harvested in 2001.

Aesthetics are a concern along Kern Lane and North Creek Road. The young white pine and oak will provide a visual screen along the road.

Biomass harvest is not allowed due to dry, nutrient poor soils.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C223H Stands 12, 13
Hwy P & Big Lake Rd - 77 Acres
Town of Boulder Junction, Vilas County, T43N R6E Sec 29, 30, 31, 32
Master Plan Area 3 Vilas Sandy Plains North Forest Production Area



Legend

- | | |
|-------------------------|---------------|
| Section Corner | Stand 12 |
| Boat Landing | Stand 13 |
| Woods Roads | Lakes |
| Snowmobile Trails | Private Lands |
| Highways and Town Roads | |

N

 Scale: 4" = 1 Mile
 1:15,840



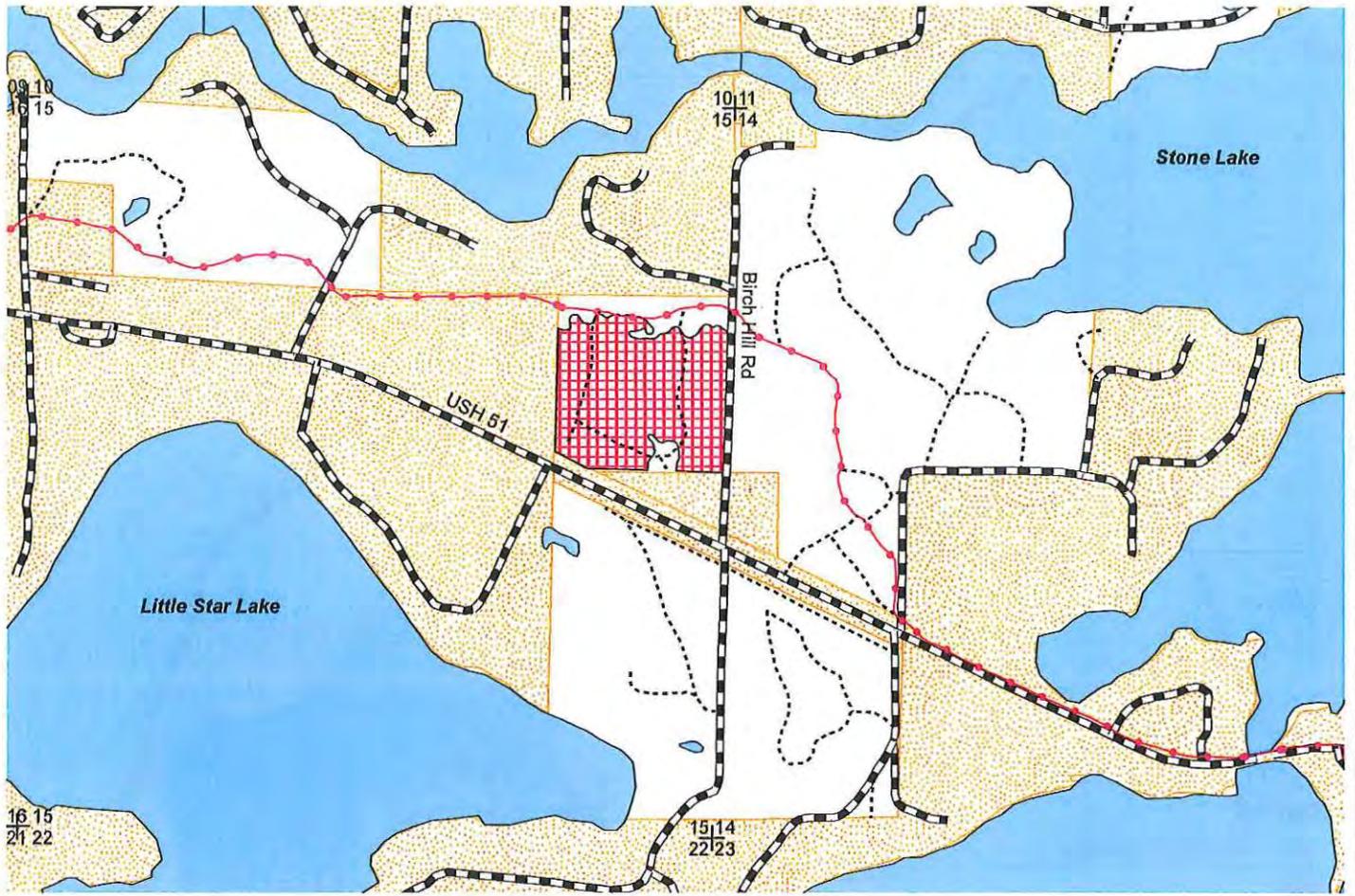
Objectives for Area 3 include maintaining aspen as a strong component in mixed stands across the landscape but reduce the number of aspen dominated stands as red/white pine increases. Increase the presence and age of red and white pine on suitable sites across the area. Manage for current levels of red oak, assuring natural regeneration through harvest and site disturbance and increasing the average age of this type. Manage for current levels of northern hardwoods.

Stand 12 is northern hardwood that will have the aspen, balsam fir, and white birch removed while leaving longer lived tree species such as sugar maple and red oak. The goal is to promote the growth of northern hardwoods and increase the age of red oak in the stand. Part of this stand, at the intersection of Hwy P and Big Lake Rd, was harvested in 1968. Stand 13 is an aspen and red pine stand. The aspen will be harvested and the pine thinned. The goal is to increase the presence and age of red pine while maintaining aspen as a strong component of the stand.

Aesthetics are a concern along Hwy P, Big Lake Road and Big Lake Campground. More trees will be left along the roads and the slash will be lopped and pulled back from the roadsides.

Biomass harvest is allowed. The soils do not restrict biomass harvesting.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C247H Stand 2
Birch Hill Road Pine - 30 Acres
Town of Boulder Junction, Vilas County, T42N R5E Sec 15
Master Plan Area 3 Vilas Sandy Plains North Forest Production Area



Legend

+	Section Corner		Stand 2
-----	Woods Roads		Lakes
—●—●—●—	Snowmobile Trails		Private Lands
==	Highways and Town Roads		

N

 Scale: 4" = 1 Mile
 1:15,840

Christopherson
 03/2014

Objectives for Area 3 include increasing the presence and age of red and white pine on suitable sites across the area and develop a primarily mixed forest with areas dominated by older red and white pine.

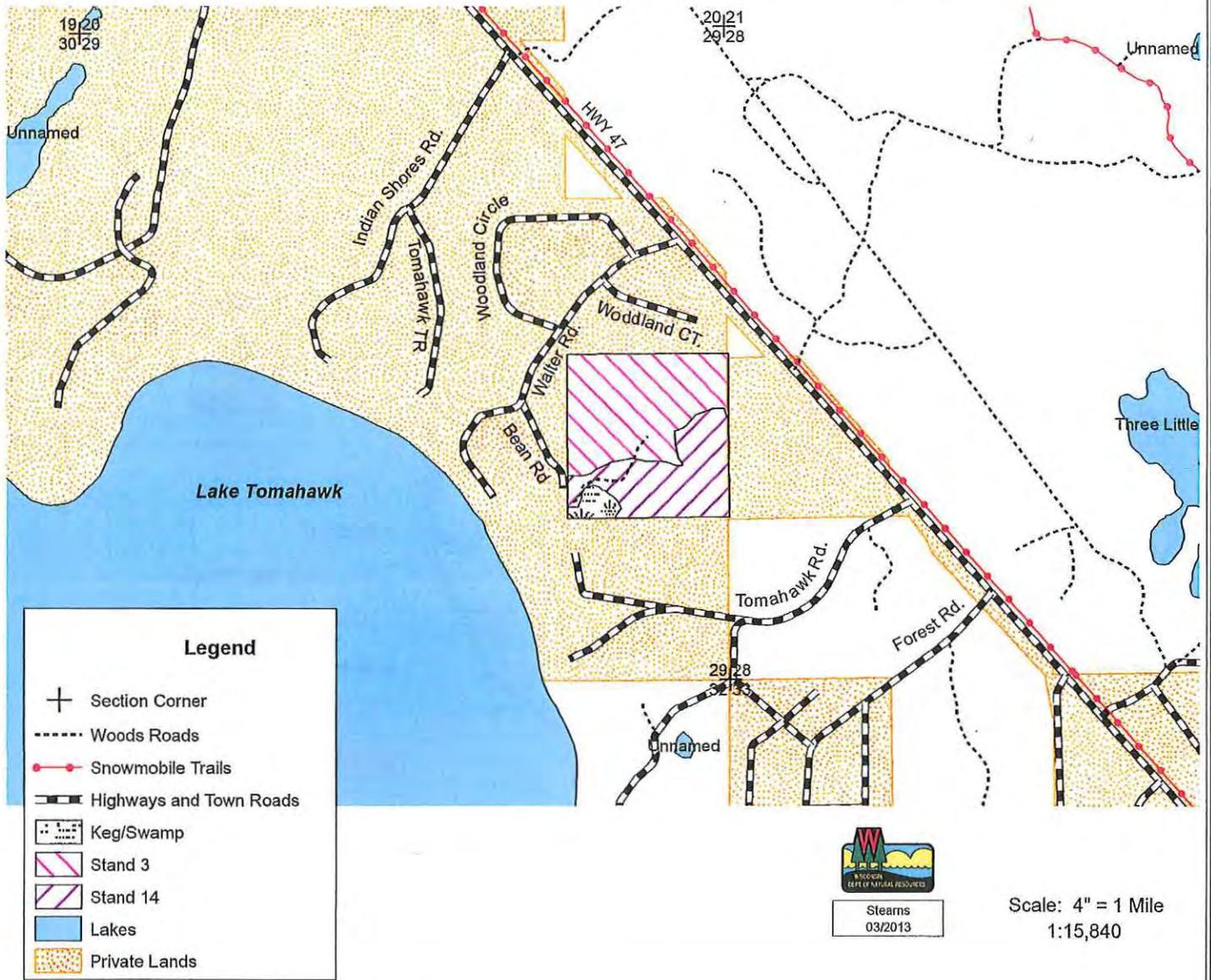
Stand 2 is a 77 year old red pine plantation will be thinned to promote growth of the residual pines. There are also young red oak throughout the stand that will benefit from the increased sunlight after thinning. This stand was last thinned in 1997. The stand goal is to manage this plantation to an older more natural red pine structure.

Aesthetics are a concern along Birch Hill Road. Modifications will be made to maintain a higher density of pine along town road edges.

Biomass harvest is not allowed due to dry, nutrient poor soils.



NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C25A Stands 3 and 14
Woodland Acres Subdivision - 40 Acres
Town of Woodruff, Oneida County, T39N R7E Sec 29
Master Plan Area 6 Oneida Sandy Plains Forest Production Area



Objectives for Area 6 include: increase the presence and age of red and white pine, and expand levels of red oak on suitable soils.

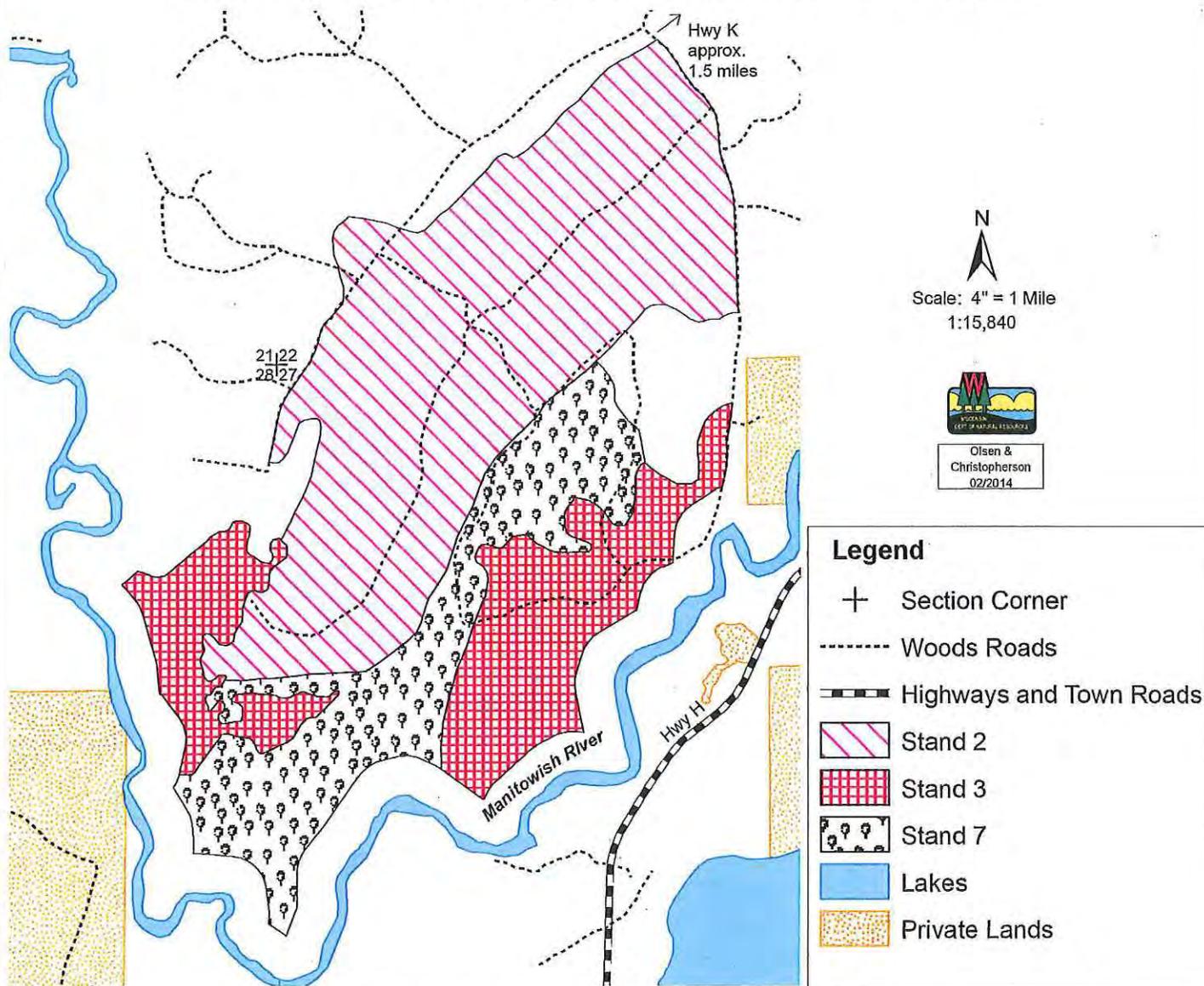
Stand 3: Overstory Removal - Removal of the remaining scattered trees from a 2009 shelterwood harvest. The purpose of this harvest is to release the developing regeneration that resulted from that shelterwood harvest. Regeneration present consists of red oak, red and white pine, white birch, maple and aspen. Approximately 5 trees per acre will be retained and will consist of a mix of species that includes: pine, oak, white birch, aspen and maple.

Stand 14: Regeneration/Overstory Removal - Harvest all short-lived species including aspen, white birch, and merchantable balsam fir. Stand includes a 5-acre area which WDNR will be purchasing in 2015. Advanced regeneration present includes white and red pine, red oak, white birch and aspen.

Aesthetics are a concern along the property boundary of Woodland Acres subdivision.

Biomass harvest is not allowed due to dry, nutrient poor soils.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C193H Stands 2, 3, 7, 12
Manitowish River Sale - 160 Acres
Town of Boulder Junction, Vilas County, T42N R6E Sec 22, 27, 28
Master Plan Area 3 Vilas Sandy Plains North Forest Production Area



Objectives for this Management Class are to increase red and white pines as a dominant community type, maintain sites with early successional forest types and maintain current levels of red oak in Area 3. It is also an objective to maintain aspen, balsam fir and white birch while maintaining the red and white pine components. No wetland harvest is planned.

Stand 2 is 100 year old red oak with scattered aspen, red maple, balsam fir, red pine and white pine. Harvest prescriptions are cut selected red oak to release established natural regeneration. White pine, red pine and a few red oak sawlogs will not be cut. The harvest will only be in areas of high density red oak and pines. The last cut was in 1990.

Stand 3 is 125 year old red pine, white pine and white spruce. These stands will be selectively thinned to create spacing and structure of a healthy old forest conifer stand.

Stand 7 is red maple, balsam fir and white birch forest type that is 82 years old. It was cut through in 1972 and will now be regeneration harvested. Only a portion of the whole stand needs management at this time. The areas of aspen dominance will be scheduled for 2027.

Stand 12 is a Master Plan designated no cut 400 feet zone from the Manistowish River and will be not be modified.

Biomass harvest is approved for stand 7 as soils are appropriate. Shortwood harvest is required in the thinning areas. Access will be a challenge to management of this remote area. The former road access came off CTH K. The roads will need to be improved for harvest activity.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C199H Stand 5
Big Hurst Lakeshore Sale - 9 Acres
Town of Presque Isle, Vilas County, T43N R6E Sec 28
Master Plan Area 1 Winegar Moraine Forest Production Area



Legend

+ Section Corner	 Stand 5
----- Woods Roads	 Lakes
 Snowmobile Trails	 Private Lands
 Highways and Town Roads	

N

 Scale: 4" = 1 Mile
 1:15,840

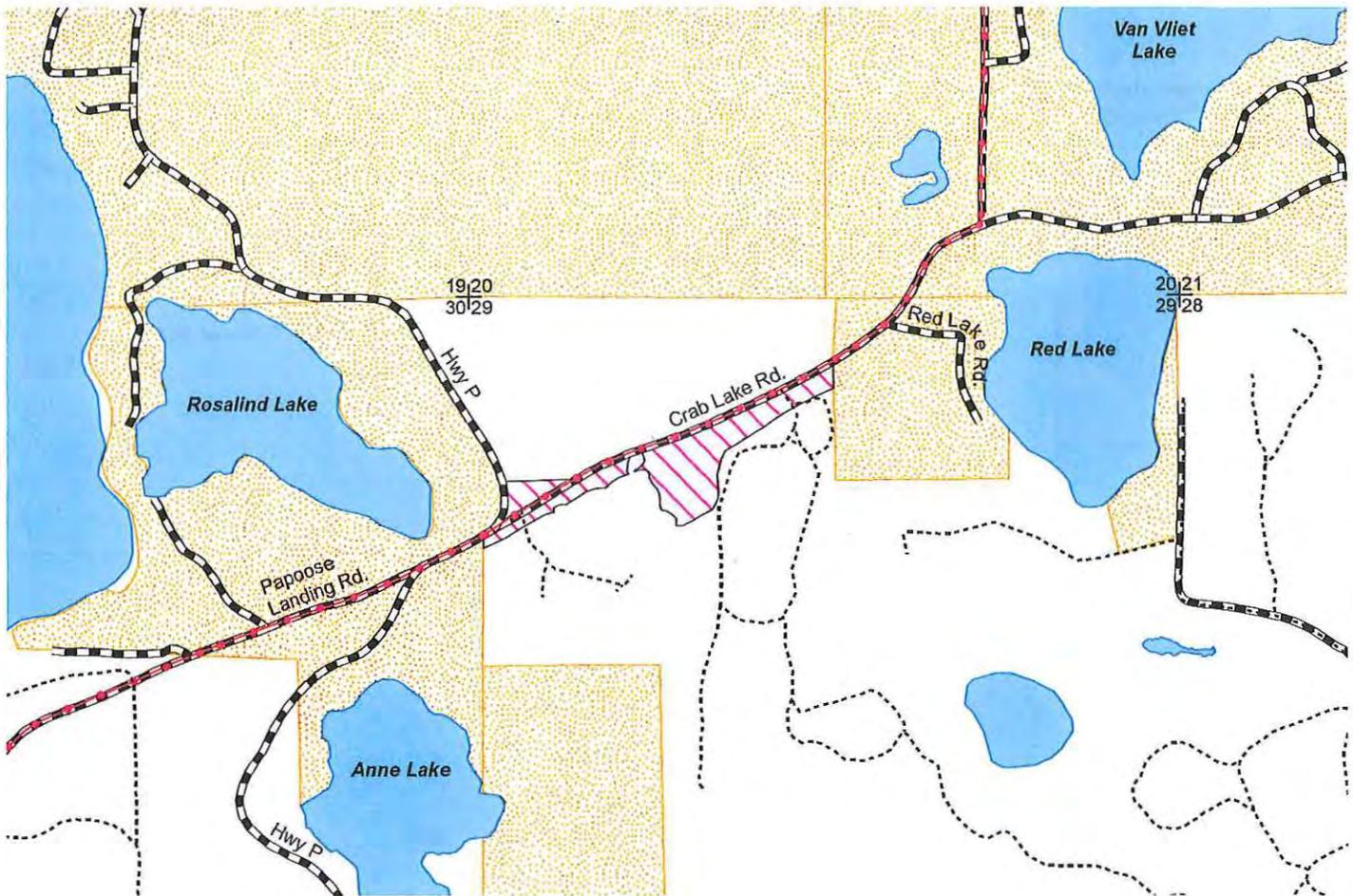


Olsen &
 Christopherson
 02/2014

Objectives for this Management Area are to develop a diversity of ages and stand sizes for aspen, white birch and northern hardwoods. Objectives are also to increase the northern hardwood component and presence of conifers in mixed forest stands. No wetland harvest is planned.

Stand 5 is 65 year old northern hardwood and aspen mixed stand. The northern hardwood will be selectively thinned. Aspen will be regenerated with small patch clearcuts and individual trees of hardwoods and conifers will remain throughout for diversity. Because this stand borders South Crab Lake Road modifications will be made to address the aesthetics of the harvest. There is a slope and lakeshore behind this narrow harvest area which will also be modified for Lake boaters aesthetic considerations. The small size and shape of this area will not have a big visual impact. Biomass harvest is approved as soils are appropriate. Access is off Town Roads to this area. The roads will need to be improved for harvest activity.

**NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C225H Stand 17
P and Crab Lake Road Sale - 18 Acres
Town of Presque Isle, Vilas County, T43N R6E Sec 29
Master Plan Area 1 Winegar Moraine Forest Production Area**



Legend

- | | |
|-----------------------------|---|
| + Section Corner |  Stand 17 |
| ----- Woods Roads |  Lakes |
| - - - - - Snowmobile Trails |  Private Lands |
| == Highway and Town Roads | |

N

 Scale: 4" = 1 Mile
 1:15,840



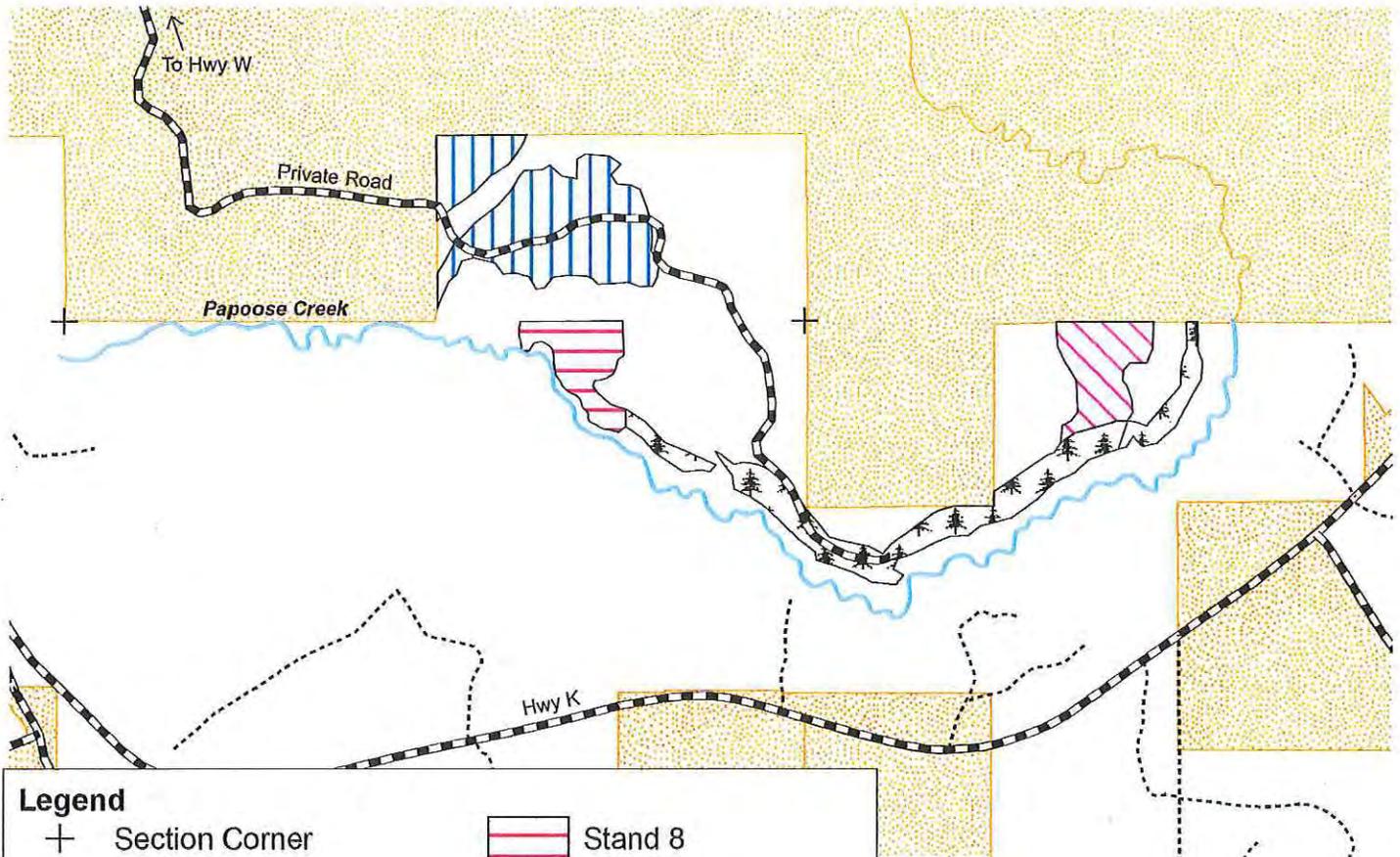
Objectives for this Management Area are to develop a diversity of ages and stand sizes for aspen, white birch and northern hardwoods. Objectives are also to increase the northern hardwood component and presence of conifers in mixed forest stands. No wetland harvest is planned.

Stand 17 is a 63 year old aspen stand. It will be regenerated with groups and individual trees of hardwoods and conifers marked to remain for diversity. Because this stand borders a Town Road modifications will be made to address the aesthetics of the harvest. There are stands of dense 8 year old and 26 year old aspen regeneration behind this narrow harvest area.

Biomass harvest is approved as soils are appropriate.

Access is off Town Roads to this area. The roads will need to be improved for harvest activity.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C240H Stands 3, 5, 8, 12
Papoose Creek North Sale - 65 Acres
Town of Manitowish Waters, Vilas County, T43N R5E Sec 33, 34
and T42N R5E Sec2, 3, 4
Master Plan Area 3 Vilas Sandy Plains North Forest Production Area
Area 11 Red and White Pines Native Community Area



Legend

- | | | | |
|--|-------------------------|---|---------------|
| + | Section Corner |  | Stand 8 |
| ----- | Woods Roads |  | Stand 12 |
| == | Highways and Town Roads |  | Private Lands |
|  | Stand 3 | | |
|  | Stand 5 | | |

N
 Scale: 4" = 1 Mile
 1:15,840



Objectives for these Management Classes are to increase red and white pine as a dominant community type and maintain sites with early successional forest types. Area 11 is a SNA and is specific as to the use active management to achieve old-growth red and white pine forest. Area 3 objectives are also to increase the age and presence of pines in mixed forest stands. No wetland harvest is planned.

Stand 3 is 74 year old jack pine and white pine stand. It will be evaluated to determine if the white pine will remain to take over the forest type. The old jack pine will be cut to thin out the stands.

Stand 5 is 94 year old white pine and spruce stand. These stands will be selectively thinned to create spacing and structure of a healthy old forest conifer stand. These stands are in Forest Production Area 3 and will be thinned.

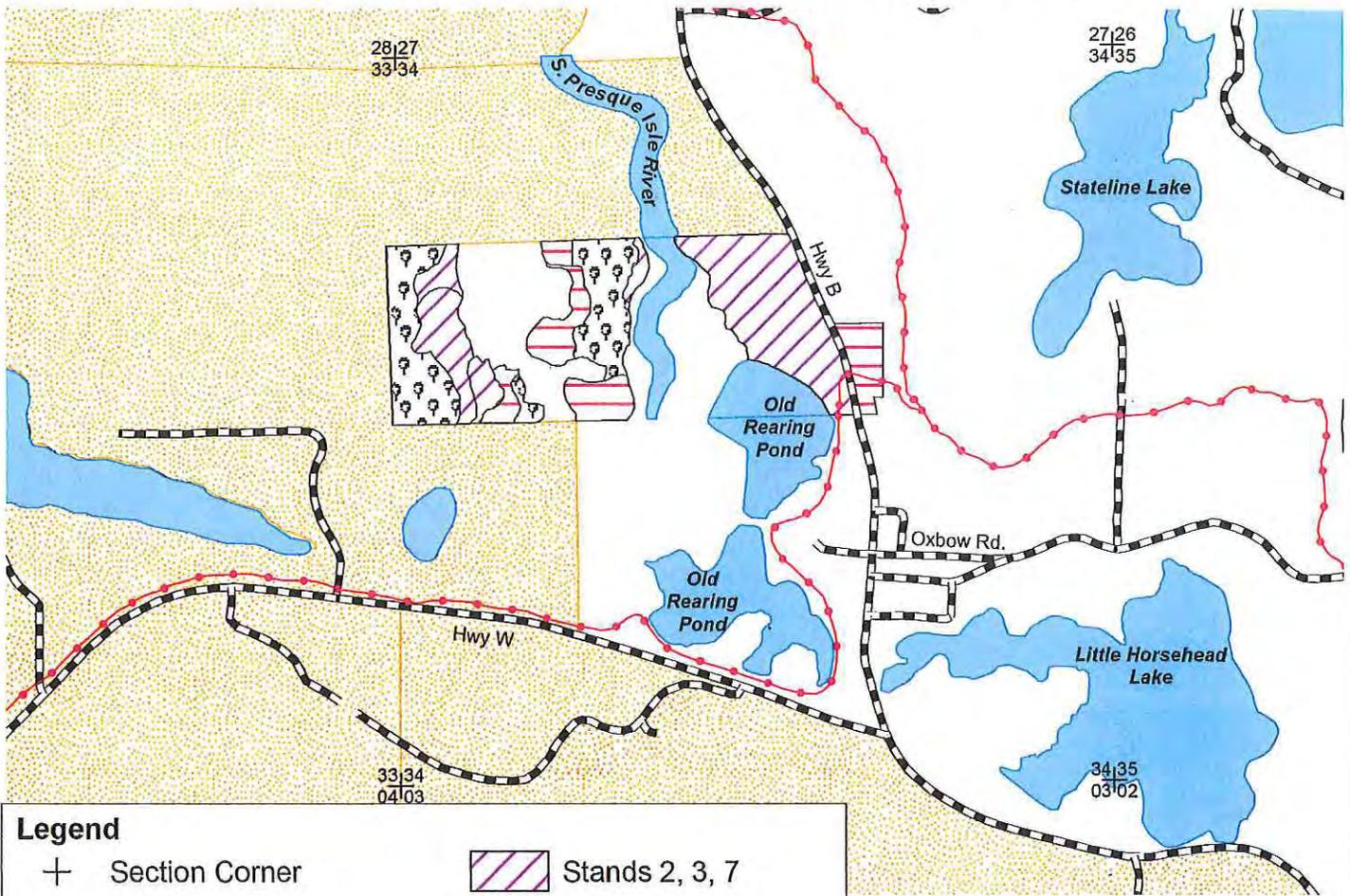
Stand 8 is typed fir and spruce, 84 years old, was not managed previously. It is a small creek side stand and minimal harvest will be done.

Stand 12 is a Master Plan designated old-growth stand, was thinned in 1985 and will be thinned again to promote old-growth characteristics.

Biomass harvest is approved for all stands as soils are appropriate. Shortwood harvest is required in the thinning areas.

Access will be a challenge to management of this remote area. The former road access came off CTH W through private ownership. The roads will need to be improved for harvest activity when permission is granted.

NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST
C337H Stands 1, 2, 3, 4 and 7
Presque Isle Ponds Sale - 57 Acres
Town of Presque Isle, Vilas County, T44N R6E Sec 34
Master Plan Area 1 Winegar Moraine Forest Production Area



Legend

+ Section Corner	Stands 2, 3, 7
----- Woods Roads	Stand 4
Snowmobile Trails	Lakes
Highways and Town Roads	Private Lands
Stand 1	

N

 Scale: 4" = 1 Mile
 1:15,840

Olsen & Christopherson
 02/2014

Objectives for this Management Area are to develop a diversity of ages and stand sizes for aspen, white birch and northern hardwoods. Objectives are also to increase the northern hardwood component and presence of conifers in mixed forest stands. Stands of swamp hardwoods will be evaluated for sale potential.

Stand 1 is a mature northern hardwood stand. The northern hardwood will be selectively thinned. Yellow birch will be promoted for release and other hardwoods and conifers will remain throughout for diversity. Because this stand borders the Presque Isle River and future recreational trails, modifications will be made to address the aesthetics of the harvest.

Stands 2, 3 and 7 are 68 year old swamp hardwood stands, consisting of black ash, aspen and fir. These will be managed to regenerate the aspen, fir and spruce, and promote small swamp hardwoods. Most large ash will be harvested to remove prior to EAB potential mortality.

Stand 4 is a 68 year old aspen stand with associated fir, red maple and sugar maple. This stand will be harvested to regenerate the existing species mix. Harvest will be clear cut with reserves. Aesthetics concerns will modify all sale activity adjacent Town Park trail system. Harvest will also require frozen ground conditions because of heavy soils and a high water table and swamp areas.

Biomass harvest is approved as soils are appropriate.

Access is off Town Roads to portions of this area. Private land access is also required for portions of this sale. The roads will need to be improved for harvest activity.

Northern Highland American Legion State Forest

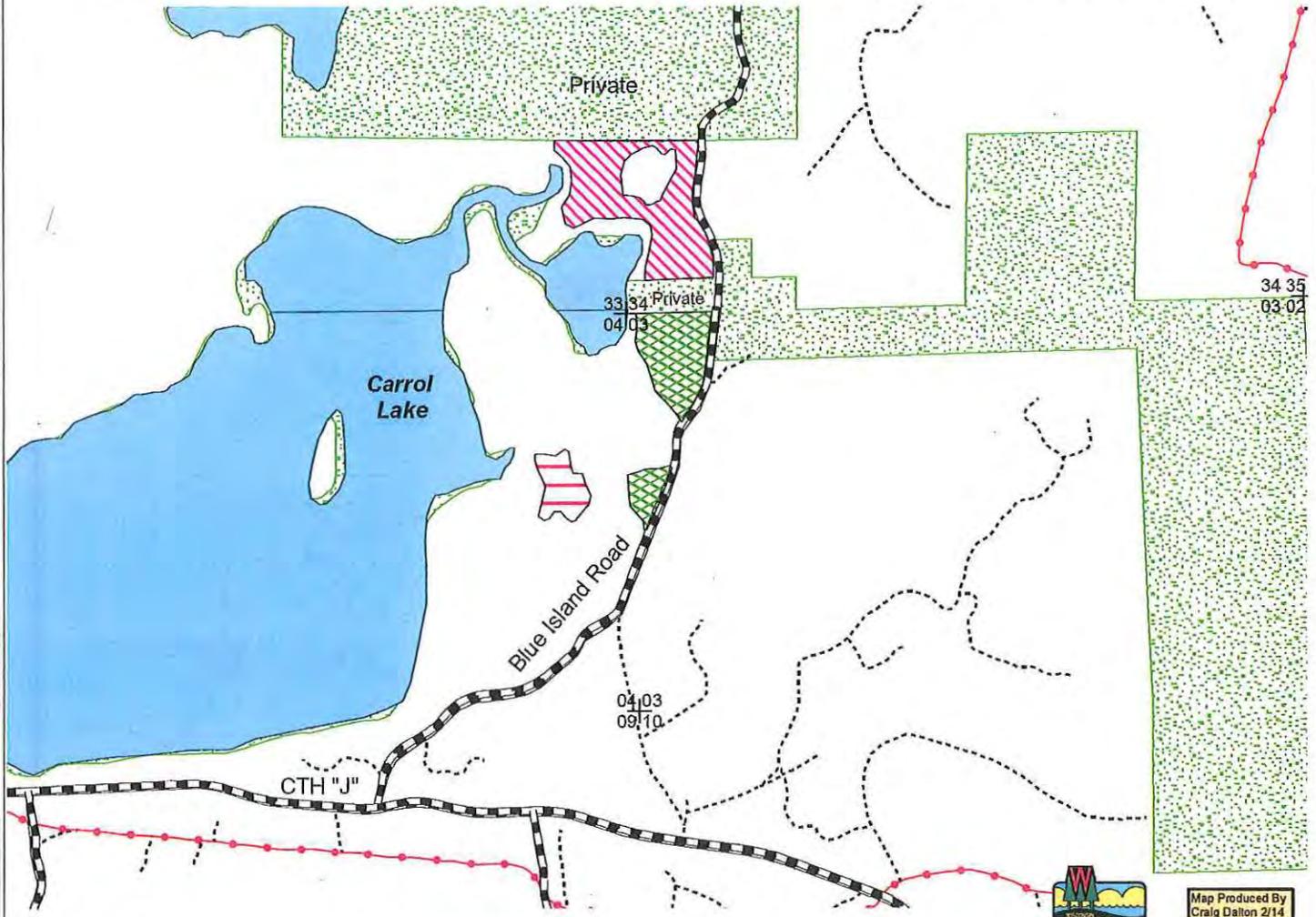
BLUE ISLAND BAY -- 28 Acres

Compartment 141H and 2A

Town of Arbor Vitae, Vilas County, T40N-R7E, Sections 33 & 34

Town of Woodruff, Oneida County, T39N-R7E, Sections 3 & 4

Master Plan: Management Area 5 -- Big Arbor Vitae Loamy Hills -- Forest Production



Map Produced By
Craig Dalton 2/14



Scale: 4" = 1 Mile
1:15,840

Legend

- Oak Pine Mix C141H
- White Pine Red Pine C2A
- Swamp Conifer C2A
- Section Corner
- Highways and Town Roads
- Highways and Town Roads
- Snowmobile Trails
- Woods Roads
- Lakes
- Private Lands

The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Secondary objectives are to increase the red oak component of his area.

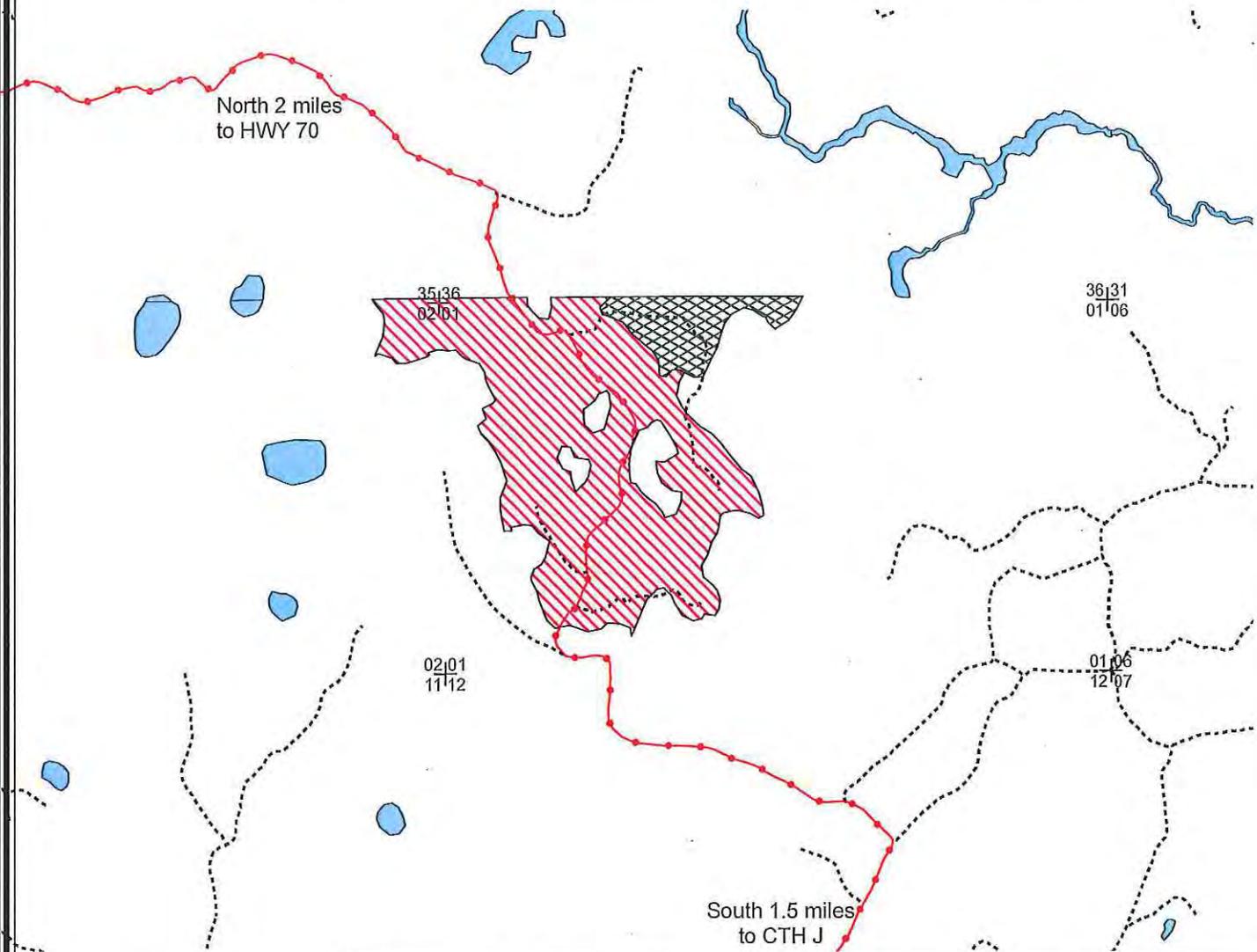
The OAK PINE MIX will undergo an intermediate thinning where roughly one-third of the trees will be harvested. Most stems of shorter-lived species will be harvested and the remaining longer-lived species thinned. This thinning will maintain the growth and vigor of the remaining trees.

The WHITE PINE/RED PINE type will undergo an intermediate thin where roughly one-third of the trees will be harvested. The growth and vigor of the remaining trees will be maintained.

The small SWAMP CONIFER stand will undergo a regeneration harvest relying on natural reproduction to restock the site.

Seasonal oak wilt restrictions and frozen ground restrictions for the swamp type will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.

Northern Highland American Legion State Forest
COUNTY LINE ASPEN -- 102 Acres
Compartment 6A
Town of Woodruff, Oneida County, T39N-R7E, Section 1
Master Plan: Management Area 5 -- Big Arbor Vitae Loamy Hills -- Forest Production



Scale: 4" = 1 Mile
 1:15,840

Legend

- Natural Pine Mix C6A
- Aspen Mix C6A
- Section Corner
- Highways and Town Roads
- Snowmobile Trails
- Woods Roads
- Lakes
- Private Lands

The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Additionally, the aspen component is to be maintained as a dominant community on the landscape.

The NATURAL PINE MIX will undergo an intermediate thinning where roughly one-third of the trees will be harvested. This thinning will maintain the growth and vigor of the remaining trees.

The ASPEN MIX will be regenerated through harvesting most of the trees. This cut will mimic a natural disturbance and allow the early successional aspen type to be maintained on the landscape. A small portion of this area will be retyped as a natural red pine stand following harvest.

No seasonal restrictions will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.

Map Produced By
 Craig Dalton 2/14



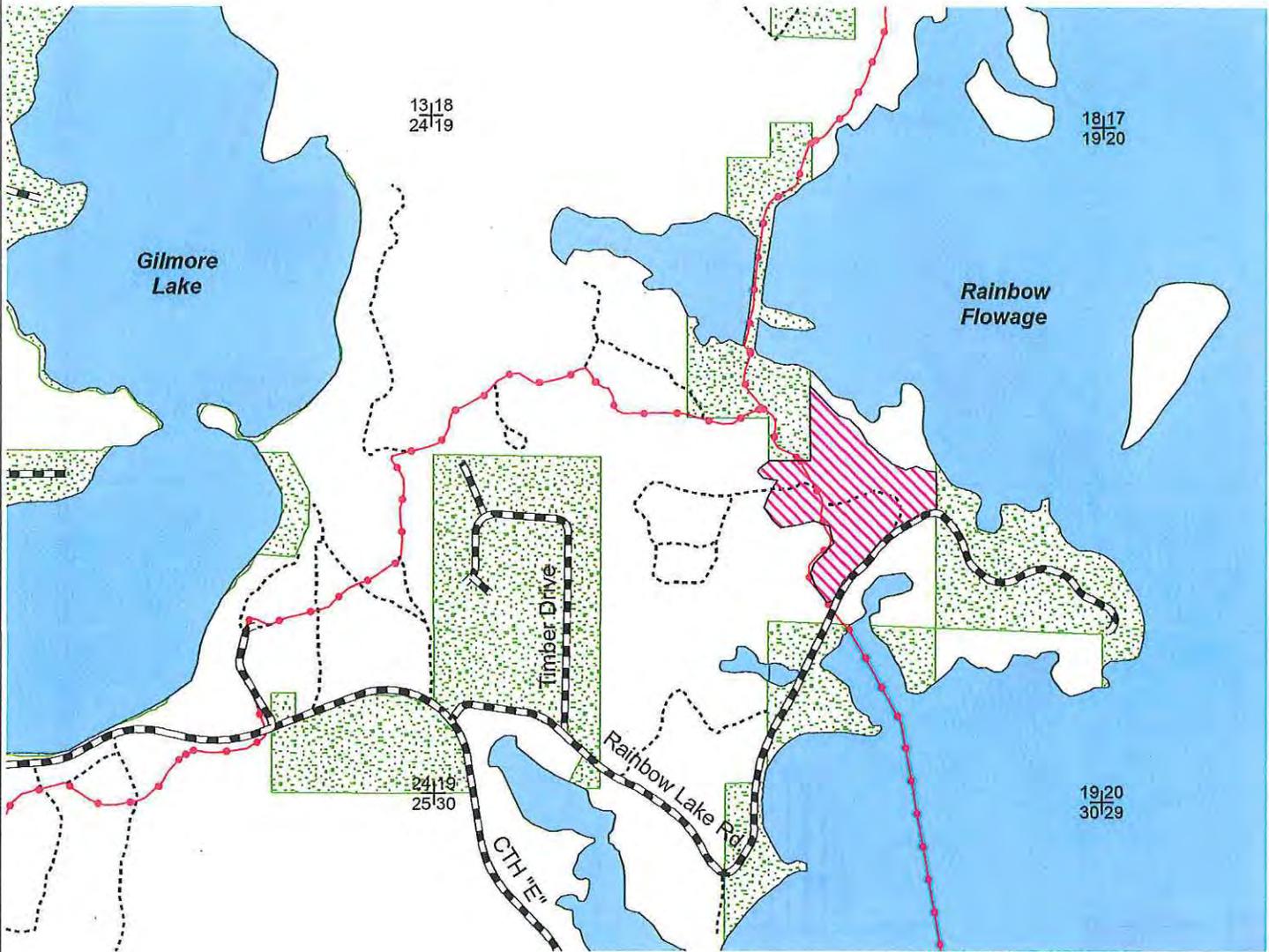
Northern Highland American Legion State Forest

RAINBOW LAKE ROAD ASPEN -- 23 Acres

Compartment 20A

Town of Newbold, Oneida County, T39N-R8E, Section 18

Master Plan: Management Area 6 -- Oneida Sandy Plains -- Forest Production



Scale: 4" = 1 Mile
1:15,840

Legend

-  Aspen C20A
-  Section Corner
-  Highways and Town Roads
-  Snowmobile Trails
-  Woods Roads
-  Lakes
-  Private Lands

The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Additionally, the aspen component is to be maintained as a dominant community on the landscape.

The Aspen type will be regenerated through harvesting most of the trees. This cut will mimic a natural disturbance and allow the early successional aspen type to be maintained on the landscape. Aesthetic/riparian buffers will be established and maintained along the flowage.

No seasonal restrictions will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.

Map Produced By
Craig Dalton 2/14



Northern Highland American Legion State Forest

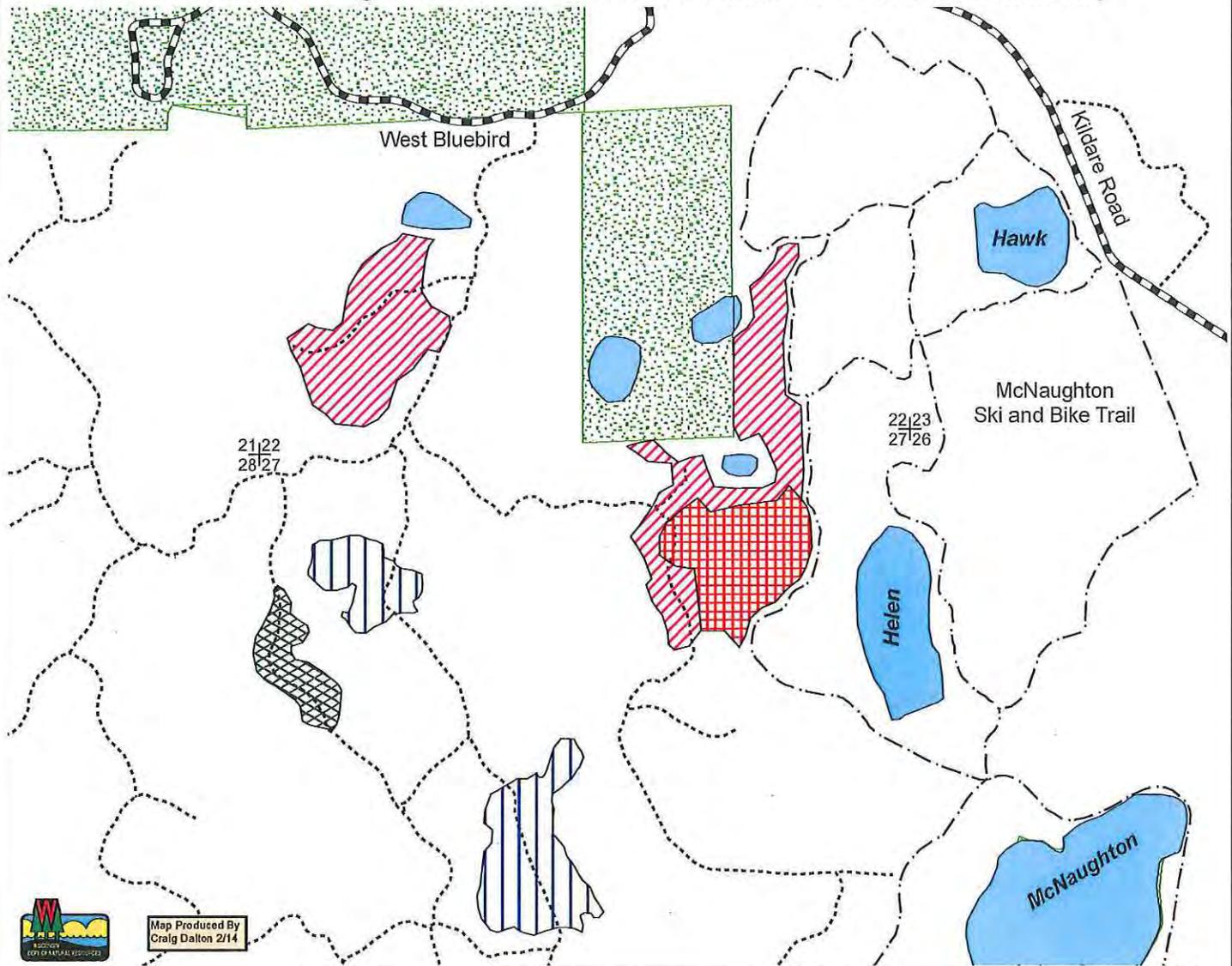
McNAUGHTON TRAIL WEST -- 115 Acres

Compartment 42A

Town of Lake Tomahawk, Oneida County, T38N-R7E, Sections 22 & 27

Master Plan: Management Area 6 -- Oneida Sandy Plains -- Forest Production

Master Plan: Management Area 11 -- Red and White Pine -- Native Community



Map Produced By
Craig Dalton 2/14



Scale: 4" = 1 Mile
1:15,840

Legend

	OakNH Mix 42A
	Oak Overstory 42A
	Natural Pine Thin 42A
	Red Pine Thin 42A
	Section Corner
	Highways and Town Roads
	Woods Roads
	Snowmobile Trails
	McNaughton Ski Trail
	Lakes
	Private Lands

The objectives for the Forest Production parts of the proposed area are to increase the presence and age of red pine and white pine in all timber types. Additionally, current levels of oak are to be maintained or expanded as opportunities arise. In the Native Community Area mixed pine forests are to be developed which have a greater abundance of pine and older trees. Also, a 400' passive management zone will be maintained around Hawk and Helen Lakes.

The NATURAL PINE areas will undergo an intermediate thinning where roughly one-third of the trees will be removed. This thinning operation will maintain the growth and vigor of the remaining stems and allow for the development of old-growth characteristics.

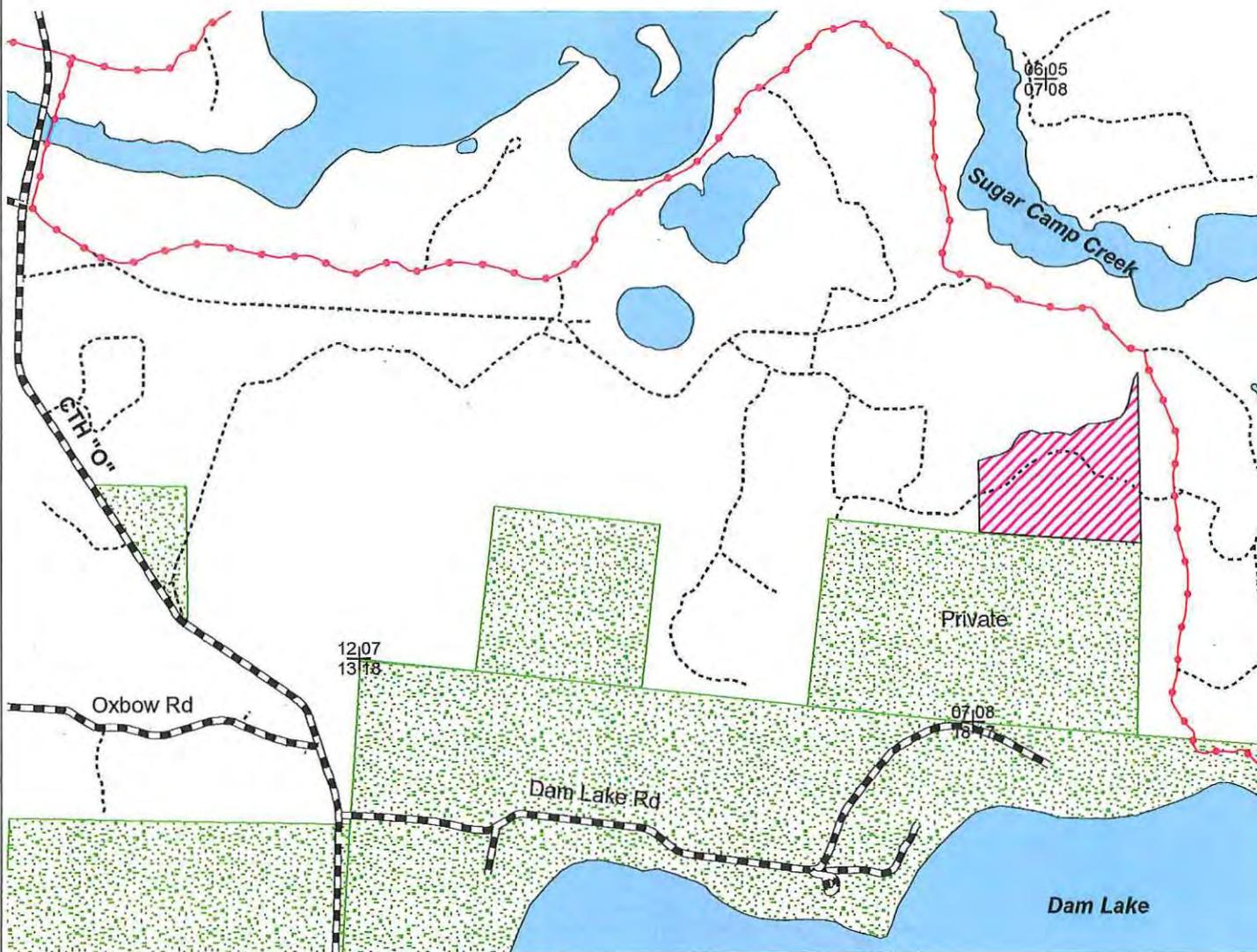
The RED PINE area will undergo an intermediate thin where roughly one-third of the trees will be harvested. This thinning operation will maintain the growth and vigor of the remaining stems within the plantation.

The OAK/NORTHERN HARDWOOD MIX will undergo a variable density thinning. This thinning will remove roughly one-third of the trees while allowing for the release of desirable advanced regeneration of white pine.

The OAK OVERSTORY areas will undergo an overstory removal to release the varied advanced regeneration of oak, white pine, and white birch in the understory. Five to ten oak trees per acre will be maintained for wildlife purposes.

Seasonal oak wilt restrictions will be imposed where no cutting will be allowed between April 15 and July 15 for stands with a significant oak component. Biomass harvesting will not be allowed.

Northern Highland American Legion State Forest
SUGAR CAMP CREEK ASPEN -- 24 Acres
Compartment 55A
Town of Sugar Camp, Oneida County, T39N-R9E, Section 8
Master Plan: Management Area 6 -- Oneida Sandy Plains -- Forest Production



Scale: 4" = 1 Mile
1:15,840

Legend

- Aspen C55A
- Section Corner
- Highways and Town Roads
- Snowmobile Trails
- Woods Roads
- Lakes
- Private Lands

The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Additionally, the aspen component is to be maintained as a dominant community on the landscape.

The Aspen type will be regenerated through harvesting most of the trees. This cut will mimic a natural disturbance and allow the early successional aspen type to be maintained on the landscape.

No seasonal restrictions will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.

Map Produced By
Craig Dalton 2/14



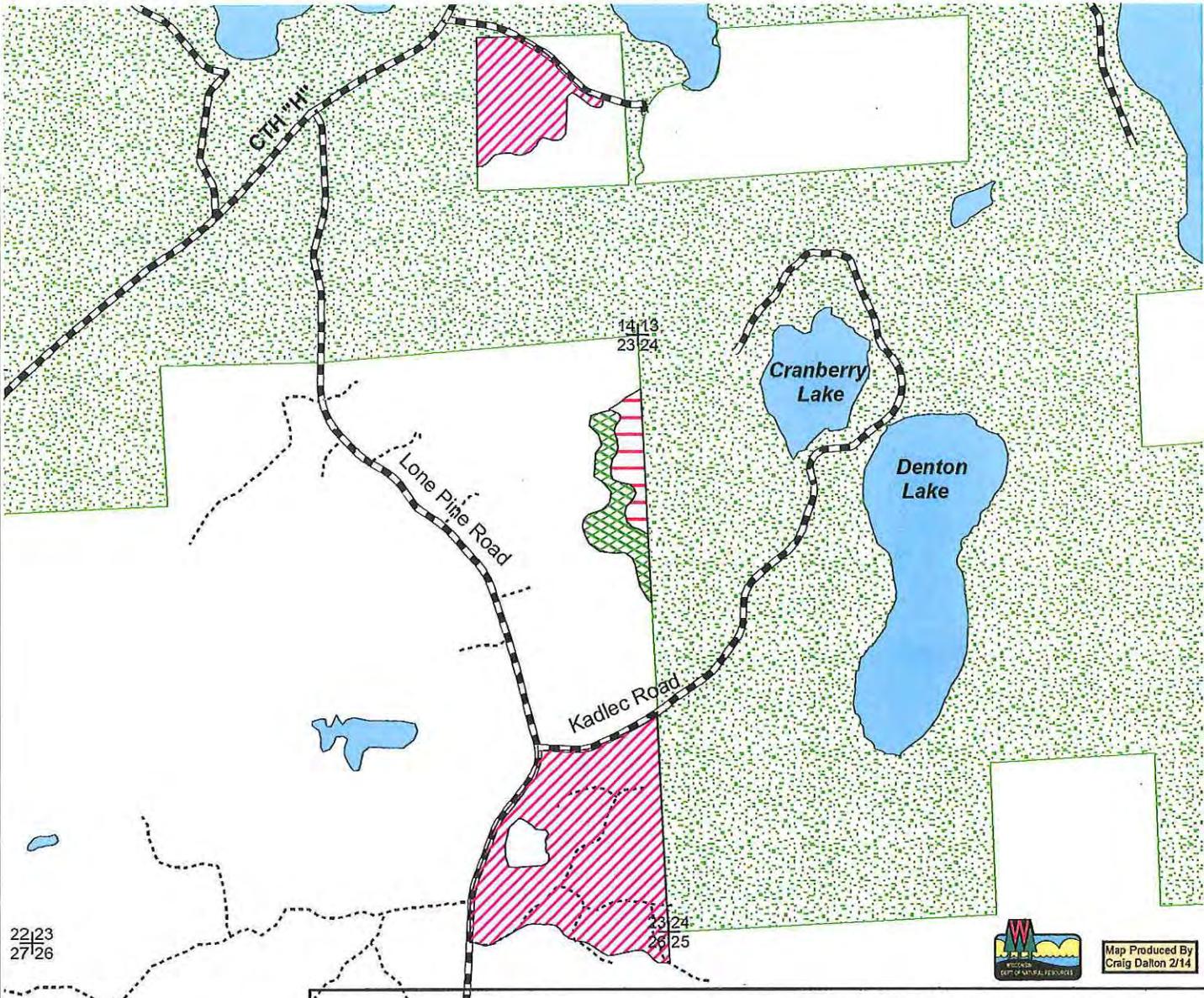
Northern Highland American Legion State Forest

KADLEC ROAD HARDWOOD -- 76 Acres

Compartment 63A & 64A

Town of Sugar Camp, Oneida County; T39N-R9E, Sections 14, 23, & 26

Master Plan: Management Area 6 -- Oneida Sandy Plains -- Forest Production



Scale: 4" = 1 Mile
1:15,840



Legend

- Natural Pine C63A
- Oak C63A
- Northern Hardwood C63A 64A
- Section Corner
- Highways and Town Roads
- Snowmobile Trails
- Woods Roads
- Lakes
- Private Lands

The objectives for this part of the Forest are to increase the pine component in areas not dominated by pine. Additionally, the white birch and red oak types are to be maintained and expanded. A secondary objective is the maintenance of mixed forests including northern hardwoods.

The OAK areas will undergo a shelterwood harvest to set the stage for regeneration efforts and to release some areas with advanced regeneration. Pre or post-sale soil scarification to aid in seedling establishment may be employed.

The NORTHERN HARDWOOD blocks will undergo an all-aged selective harvest. Roughly one-third of the trees will be harvested overall. Canopy gaps will be used to some degree to help move the stand to a more all-aged composition and structure.

The NATURAL PINE type will undergo an intermediate thin where roughly one-third of the trees will be harvested. Growth and vigor will be enhanced and maintained on the remaining trees.

Seasonal oak wilt restrictions will be implemented and biomass harvesting will not be allowed throughout most of the sale areas due to nutrient poor soils.

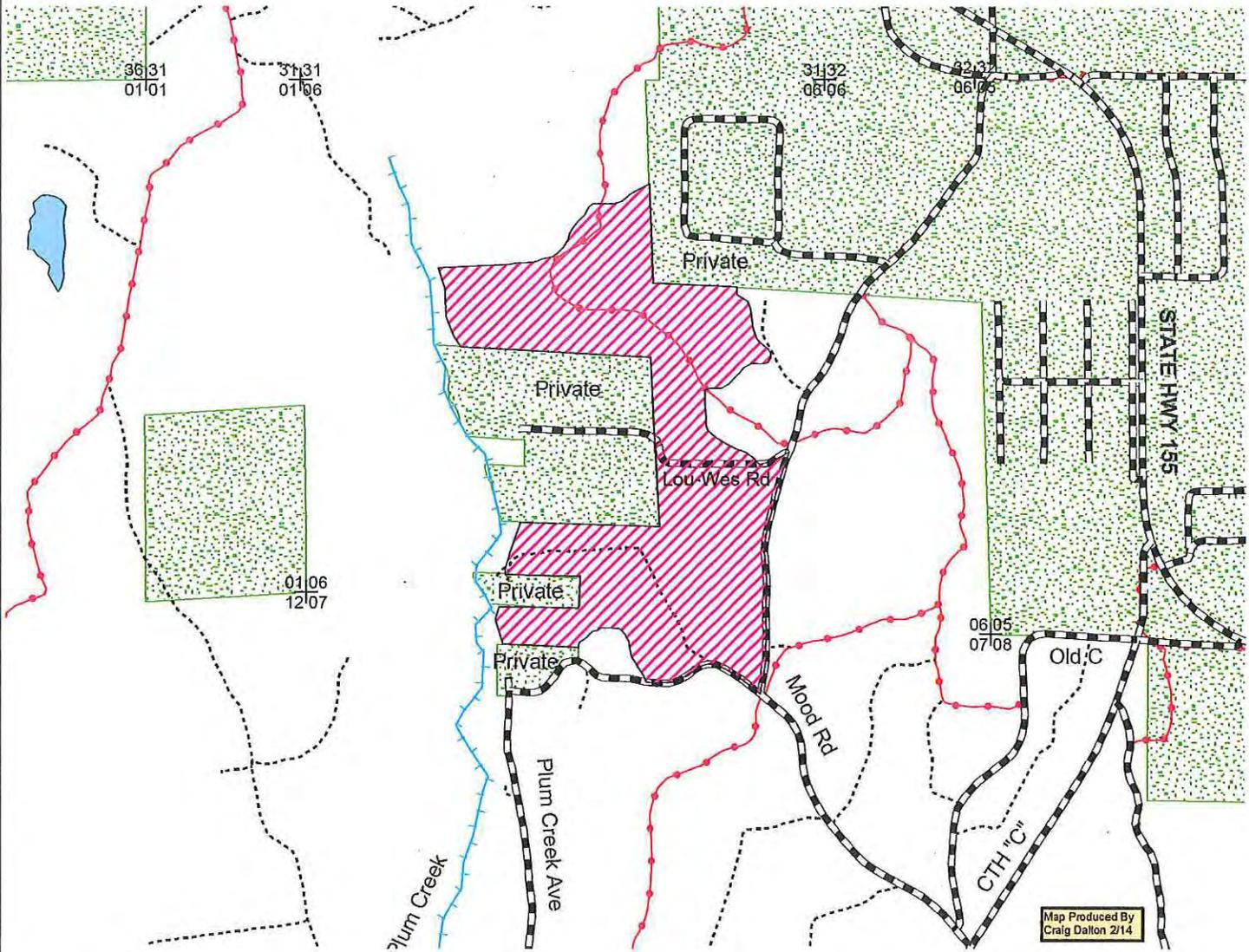
Northern Highland American Legion State Forest

LOU-WES ROAD PINE -- 114 Acres

Compartment 73H

Town of St. Germain, Vilas County, T40N-R8E, Sections 6 & 7

Master Plan: Management Area 4 -- Vilas Sandy Plains Central -- Forest Production



Map Produced By
Craig Dalton 2/14



Scale: 4" = 1 Mile
1:15,840

Legend

-  Natural Pine C73H
-  Section Corner
-  Highways and Town Roads
-  Snowmobile Trails
-  Woods Roads
-  Rivers and Streams
-  Lakes
-  Private Lands

The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Additionally, early successional forest types are to be maintained.

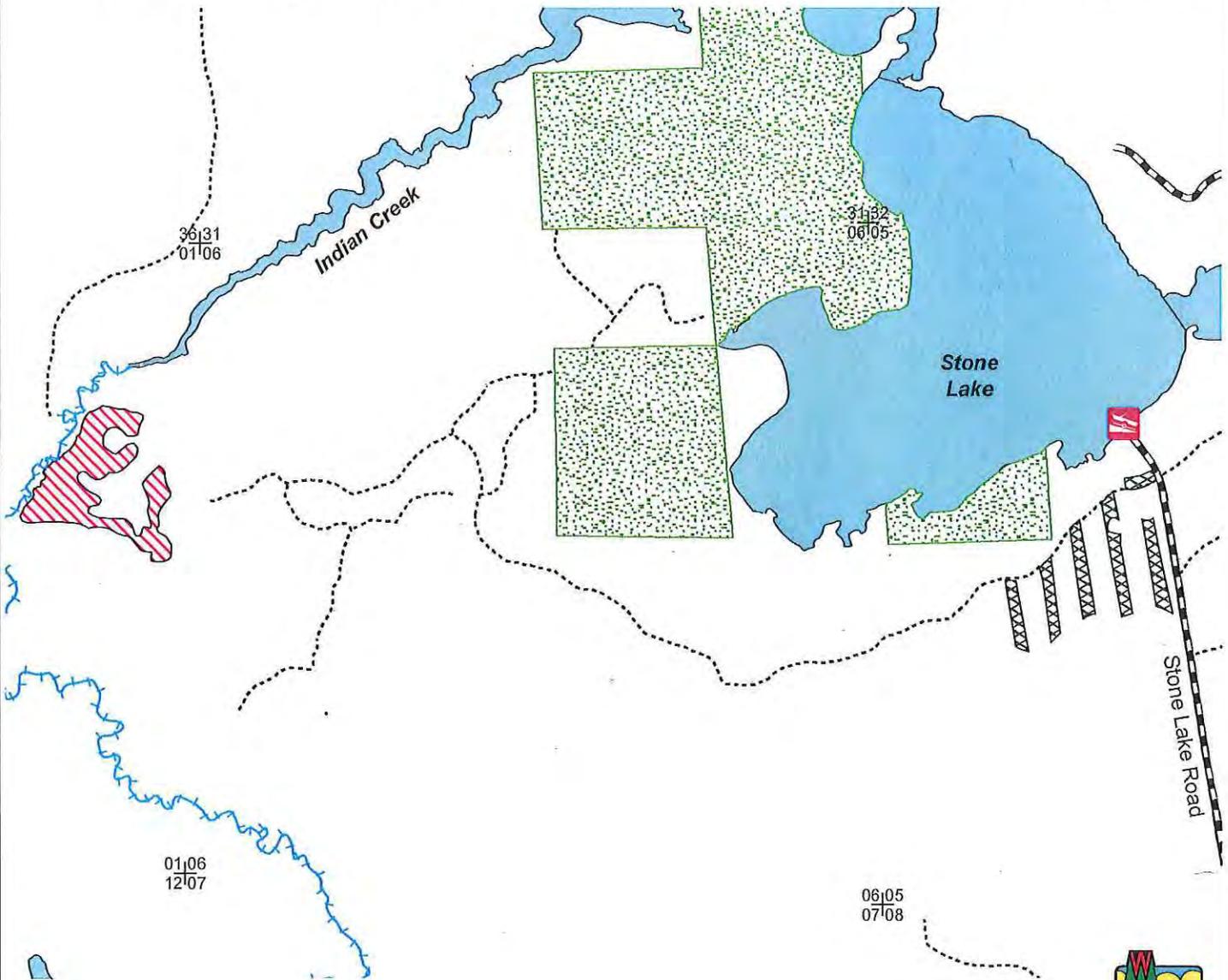
The natural pine stands will be thinned removing roughly one-third of the trees. This thinning operation will maintain the growth and vigor of the pine stands.

No seasonal restrictions will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.



Northern Highland American Legion State Forest
STONE LAKE BIRCH STRIPS II -- 22 Acres
 Compartment 79A

Town of Sugar Camp, Oneida County, T38N-R9E, Sec. 5; T38N-R8E, Sec. 1
Master Plan: Management Area 7 -- Ruffed Grouse Demonstration -- Habitat Management



Scale: 4" = 1 Mile
 1:15,840



Legend

-  Section Corner
-  Birch Strips
-  Red Pine Plantation C79A
-  Private Lands Stone Lake
-  Highways and Town Roads
-  Woods Roads
-  Snowmobile Trails
-  Lakes

The objectives for this part of the Forest are to maintain aspen dominance and increase age-class diversity for ruffed grouse habitat. Forest covertypes other than aspen found in this area will be managed to retain the current acreage of the type.

The white birch area will undergo a strip clearcut harvest to promote the regeneration and establishment of a new stand of birch. This will be the second entry of this type into the stand.

The red pine plantation will be thinned removing roughly one-third of the trees. This thinning operation will maintain growth and vigor of the overall pine stand.

No seasonal restrictions will be applied and biomass harvesting will be allowed in the birch strips.

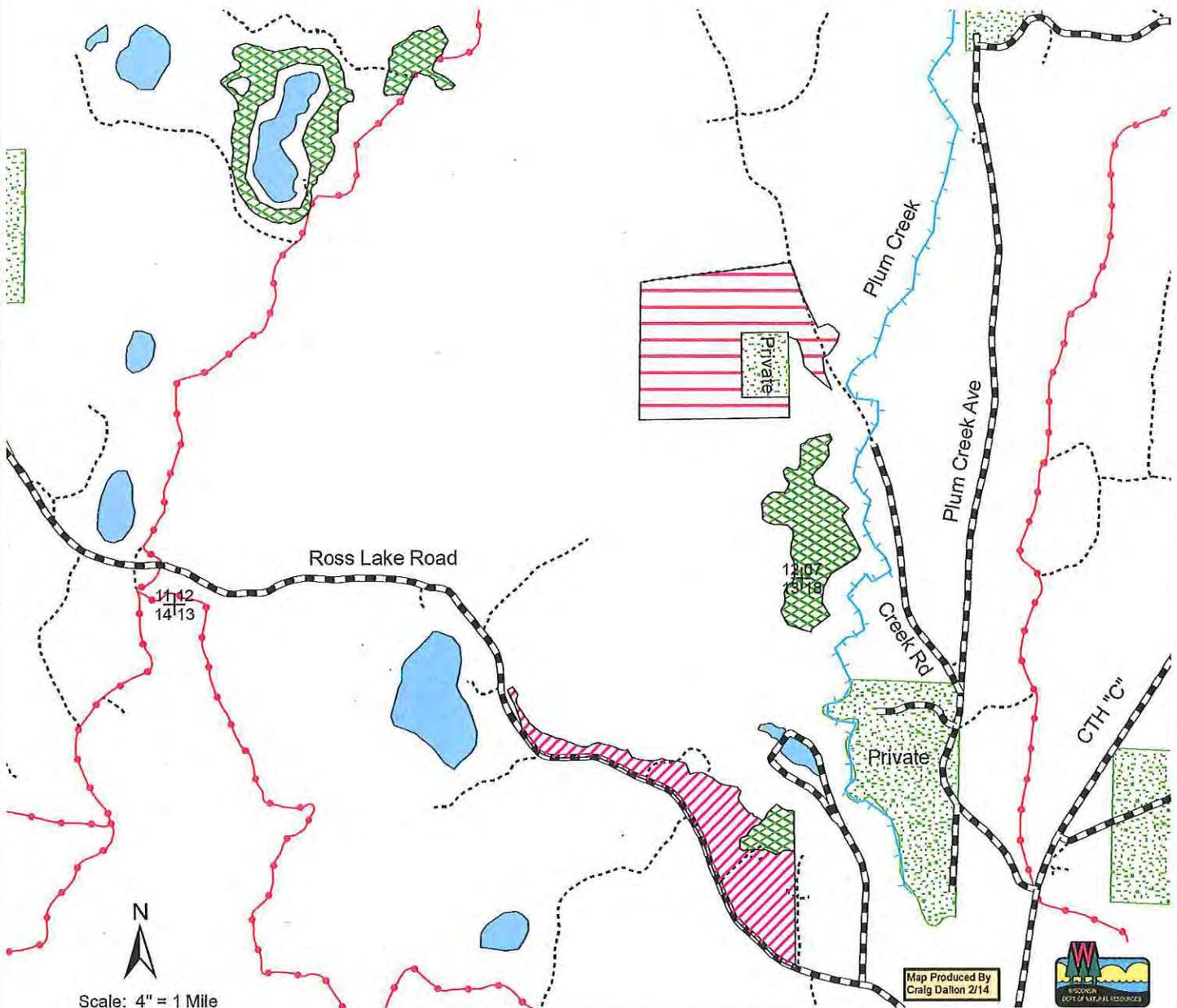
Northern Highland American Legion State Forest

ROSS LAKE ROAD -- 95 Acres

Compartment 79H

Town of St. Germain, Vilas County, T40N-R7E, Sec. 12 & 13; T40N-R8E Sec. 7 & 18

Master Plan: Management Area 4 -- Vilas Sandy Plains Central -- Forest Production



Map Produced By
Craig Dalton 2/14



LEGEND

- Aspen Pine Mix C79H
- Natural Pine Mix C79H
- Ross Lake Roadside
- Section Corner
- Highways and Town Roads
- Snowmobile Trails
- Woods Roads
- Rivers and Streams
- Lakes
- Private Lands

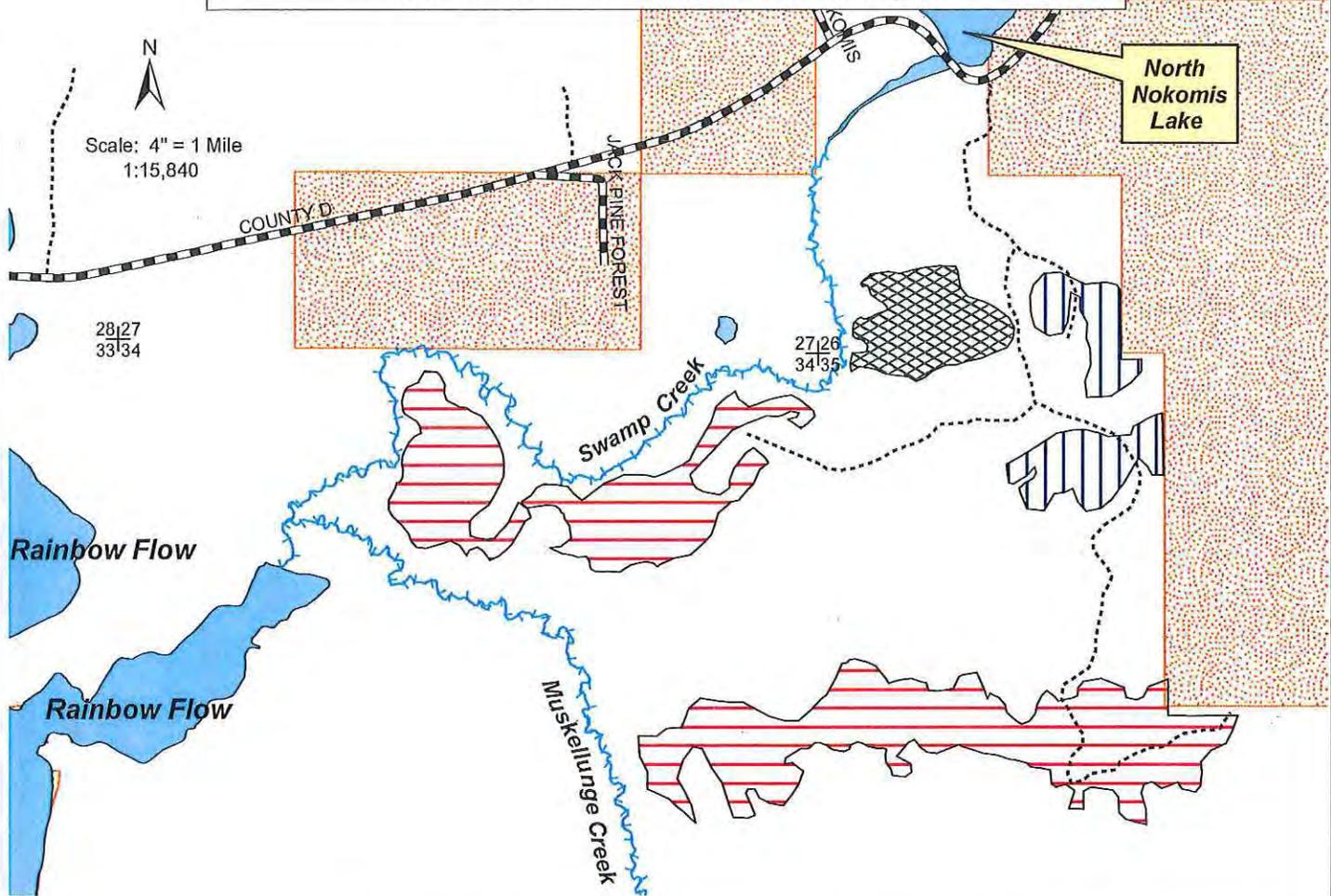
The objectives for this part of the Forest are to increase the presence and age of red pine and white pine in all timber types. Additionally, early successional forest types such as aspen are to be maintained.

The NATURAL PINE MIX AREAS and the ROSS LAKE ROADSIDE areas will be thinned removing roughly one-third of the trees. The majority of mature short-lived species will be harvested and the remaining pine thinned. This technique will maintain the growth and vigor of the pine stands.

The ASPEN PINE MIX will undergo a regeneration harvest where most of the trees will be harvested. A significant pine component will be maintained. This cut will mimic a natural disturbance and allow the early successional aspen type to be maintained on the landscape.

No seasonal restrictions will be imposed and biomass harvesting will not be allowed due to nutrient poor soils.

**Northern Highland - American Legion State Forest
 Compartment 74A - North Nokomis Lake South - 132 Acres
 Town of Newbold, Oneida County, T39N-R8E Sec.26, 34 & 35
 Master Plan: Management Area 6 - Oneida Sandy Plains
 - Forest Production Area & Management Area 10 -
 Peatland Wetlands - Native Community Area**



Legend

- ⊕ Section Corner
- Woods Roads
- ▬ Oneida Co. Hwy and Roads
- ▨ Swamp Conifer Area
- ▧ Jack Pine/Black Spruce Area
- ▩ Pine Thinning Area
- Rivers and Streams
- Lakes
- ▤ Private Lands

The objectives for Management Area 6 are to maintain a mixed forest dominated by older red and white pine with aspen, red oak, white birch, and jack pine as important secondary species. Maintain forested wetlands with a representation of multiple age classes of black spruce and tamarack. The objectives for Management Area 10 are to passively manage all open unforested wetland communities and to manage all upland sites for a variety of species types and age classes.

In the swamp conifer area, groups of tamarack and black spruce will be cut to prepare a seed bed and the marked reserve seed trees will naturally seed in that area after the harvest. In the jack pine and black spruce area all the trees will be cut except for some residual seed trees to help naturally seed in those areas following the harvest. Lowground areas to be harvested will require frozen ground conditions.

In the pine thinning areas the shorter-lived species such as aspen, maple, white birch, and jack pine will be cut while the red and white pine will be thinned to promote larger diameter red and white pines as the best formed and largest trees remaining.

The aesthetic integrity along the two creeks will be maintained with a fairly uniform residual basal area of 60 square feet per acre, within the riparian management area.

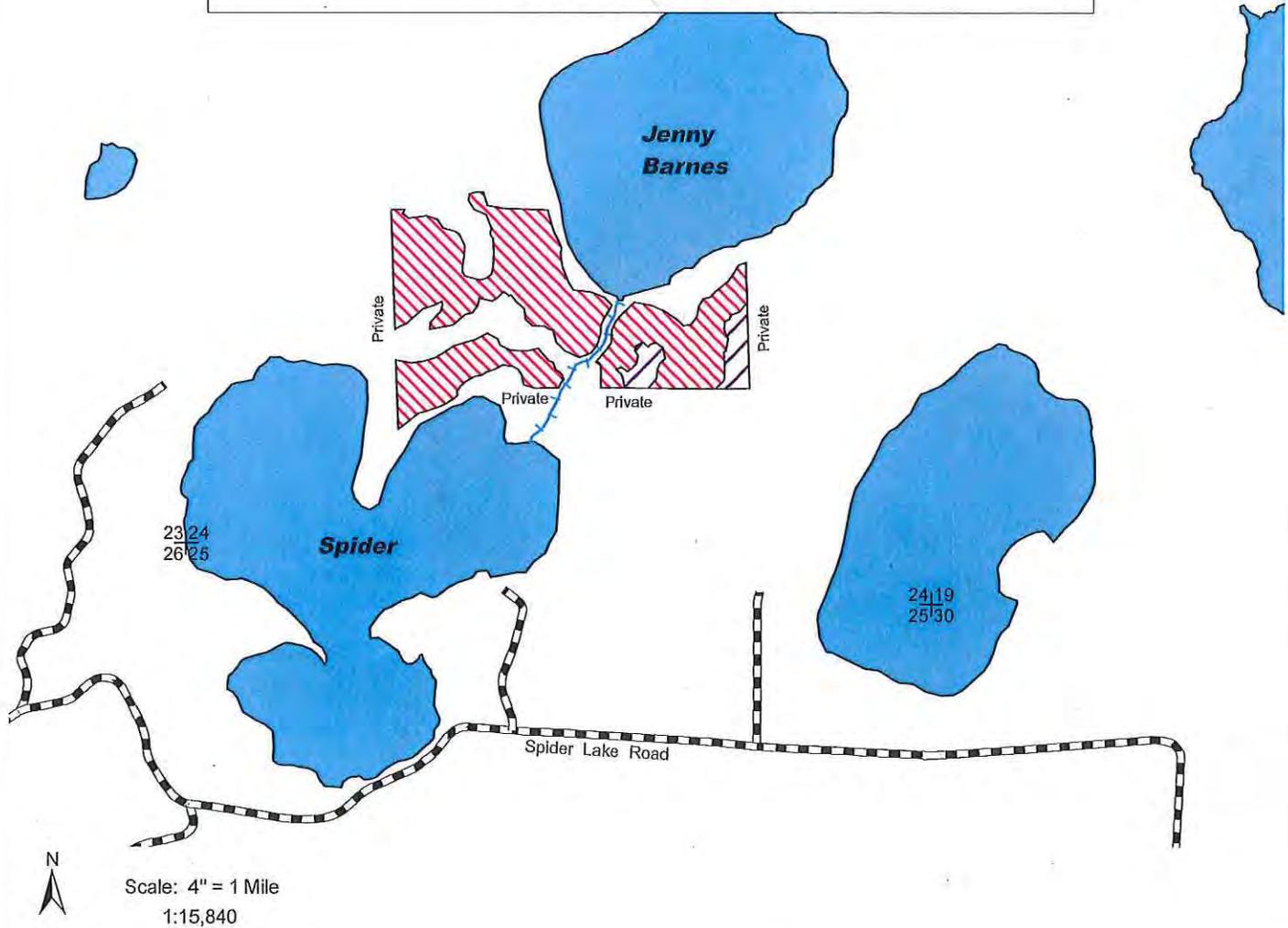
This proposed sale area is south of North Nokomis Lake and access is located directly south, off Hwy D. The State Forest has an easment across private ownership allowing ingress and egress into this block of the forest. Communication with this landowner will be maintained throughout the timber sale process. Biomass Harvesting is not allowed on this sale area.



Map produced by
 Jim Welterau, 3/14

59

**Northern Highland - American Legion State Forest
 Compartment 86A - Jenny Barnes Lake South - 48 Acres
 Town of Newbold, Oneida County, T38N-R8E Sec. 24
 Master Plan: Management Area 6 - Oneida Sandy Plains -
 Forest Production Area**



Legend

- Section Corner
- Woods Roads
- Highways and Town Roads
- Tamarack/Black Spruce Area
- White Birch/Aspen Area
- Lakes

The objectives for the Oneida Sandy Plains Area are to maintain aspen and white birch, increase the presence and age of red and white pine, and maintain forested wetlands with a representation of multiple age classes of black spruce and tamarack.

The aspen and white birch area is dominated by these mature species which will be harvested to naturally regenerate them by stump and root sprouting. The associated oak and pine will be maintained for diversity and wildlife values.

The tamarack and black spruce area is mature and these stands will be strip cut or entirely cut except for groups of residual seed trees which will be retained to seed in the harvested areas.

Stands near Jenny Barnes Lake will be maintained with vegetative screens and higher stocking levels of trees for aesthetic and water quality considerations.

Access to this area of the State Forest will be secured, through private ownership, prior to sale establishment. The adjoining landowner to the east has been contacted for access and seems willing to provide it. Low ground areas will require frozen ground conditions, including an ice bridge across a creek, for logging operations. Biomass harvesting is not allowed on this sale area.



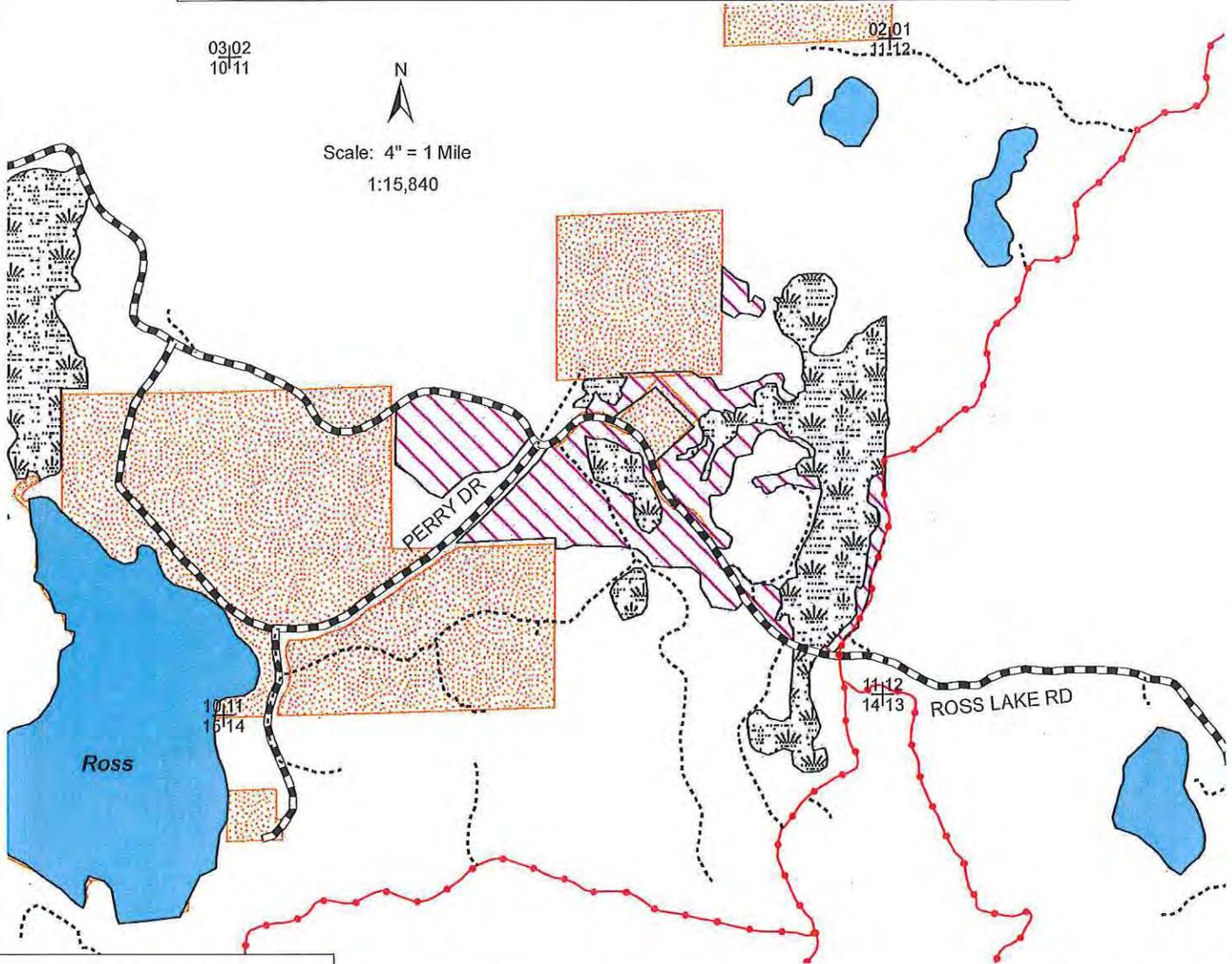
Map produced by
 Jim Wetterau, 3/14

**Northern Highland - American Legion State Forest
 Compartment 103H & 104H - Ross Lake Road Pine - 60 Acres
 Town of Arbor Vitae, Vilas County, T40N-R7E Sec. 11
 Master Plan: Management Area 4 - Vilas Sandy Plains Central**

03/02
10/11



Scale: 4" = 1 Mile
1:15,840



Legend

- Section Corner
- Woods Roads
- Snowmobile Trails
- Lowground Area
- White Pine Area
- Lakes
- Private Lands

The objectives for the Vilas Sandy Plains Central Forest Production Area are to increase red and white pine as a dominant community type and maintain sites with oak, aspen and white birch.

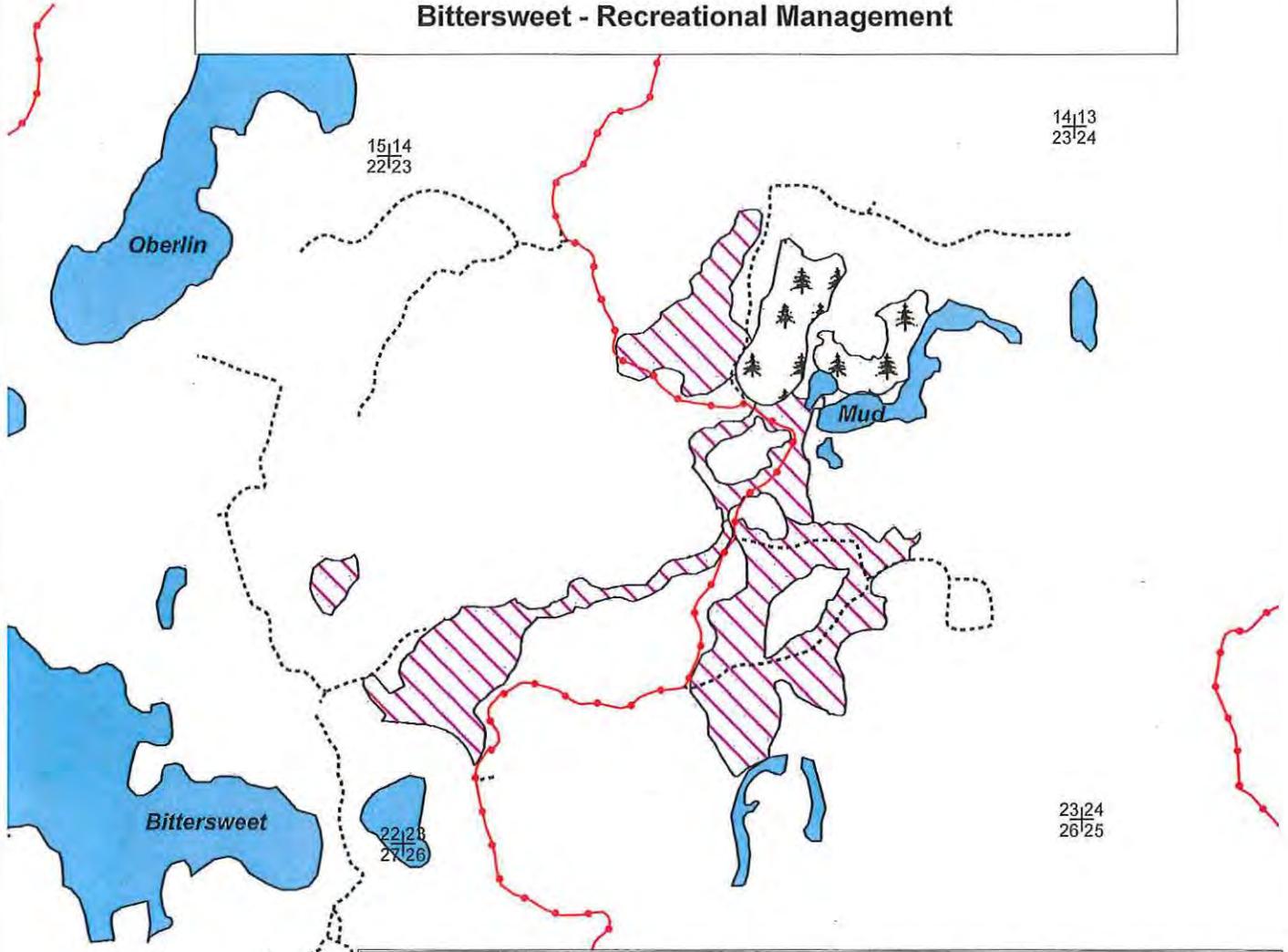
The white pine area is currently overstocked and would benefit from a thinning to promote better stand health and vigor with additional light, space, and growing conditions. The shorter lived mature aspen and white birch would also be harvested to perpetuate these species through root and stump sprouting.

Access is directly off Ross Lake Road and Perry Drive. A snowmobile trail is located on the east side of the proposed timber sale. The snowmobile trail will be maintained in a rideable fashion and signed for user safety, if harvesting takes place in the winter. Aesthetics will be maintained with an adequate residual stocking of white pine along the town roads to minimize visual impacts. Biomass Harvesting is not allowed on this sale area.



Map produced by
Jim Wetterau, 3/14

**Northern Highland - American Legion State Forest
 Compartment 105H - Mud Creek Pine - 105 Acres
 Town of Arbor Vitae, Vilas County, T40N-R7E Sec. 22 & 23
 Master Plan: Management Area 5 - Big Arbor Vitae Loamy Hills -
 Forest Production Area, Management Area 11 - Red and White Pines
 - Native Community Area, Management Area 21 -
 Bittersweet - Recreational Management**



N
 Scale: 4" = 1 Mile
 1:15,840

- Legend**
- + Section Corner
 - Woods Roads
 - Snowmobile Trails
 - 🌲 Spruce Area
 - ▨ Red Pine Area
 - 🟦 Lakes

The objectives for Area 5 are to increase the presence and age of red and white pine on suitable sites. In order to increase the average pine component stands will be thinned to maintain the health and stand structure while looking for opportunities to restore and develop white pine stands by releasing natural white pine seedlings in the understory. In the white spruce stands shorter-lived balsam fir and aspen will be harvested while thinning the white spruce to appropriate stocking levels.

In Area 11, adapt forest mgt. prescriptions to enhance and maintain old growth red and white pine characteristics including a diversity of tree ages and stand sizes. Manage patch sizes using techniques such as smaller shelterwood harvests to naturally initiate the regeneration of pine stands. Thin pine stands to increase the diameters of the remaining crop trees while still retaining large amounts of den and snag trees.

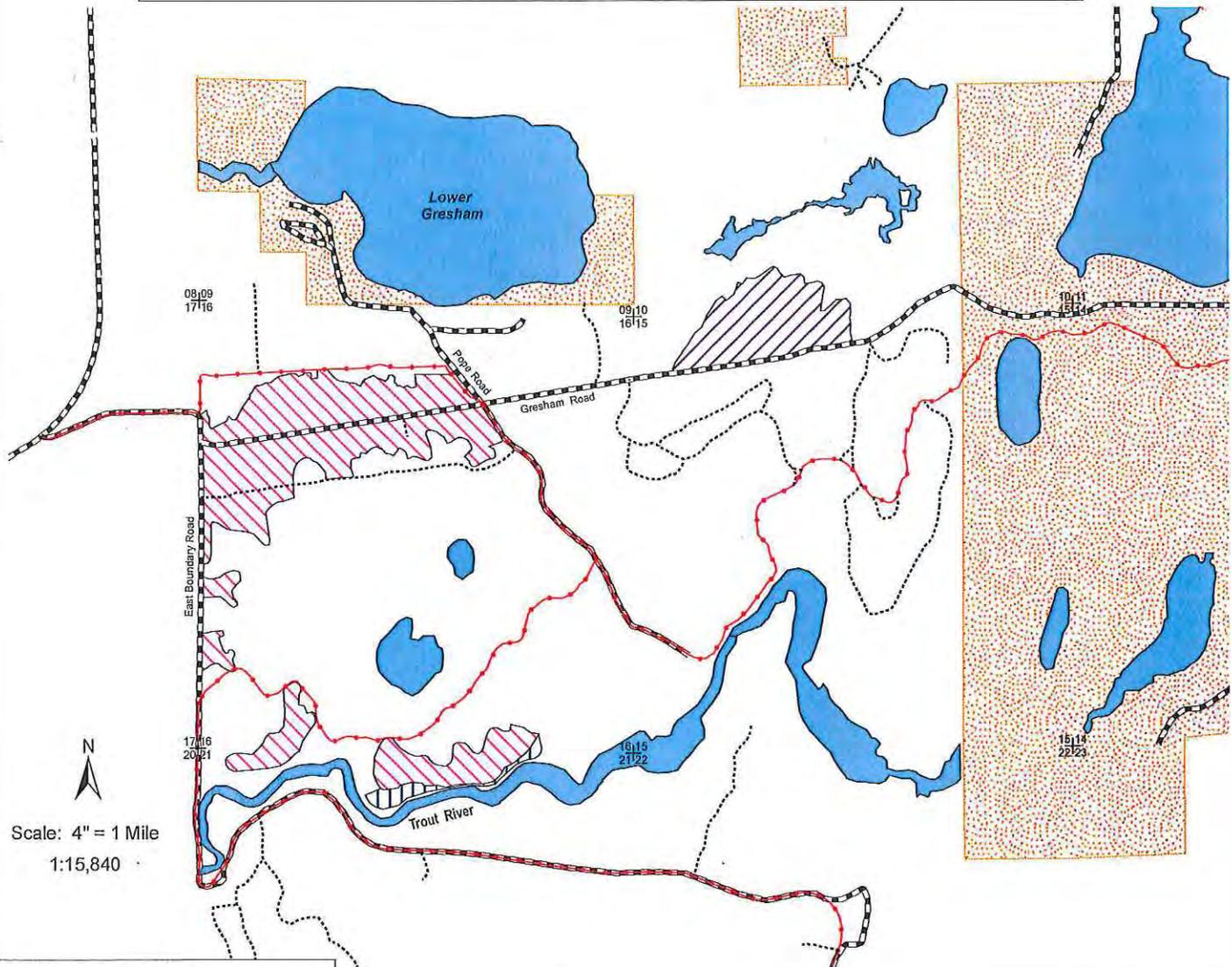
In Area 21, outside the passive mgt. zone, increase the proportion and age of red and white pine through active mgt techniques. This can be accomplished by thinning the pine stands to keep the stands healthy and vigorously growing while natural releasing any white pine regeneration.

Access is directly off Hwy 70. A snowmobile trail is located within the sale area. The snowmobile trail will be maintained in a rideable fashion, if logged in the winter, and signed appropriately for user safety. Aesthetics will be maintained with a residual stocking of red pine. Biomass Harvesting is not allowed on this sale area.



Map produced by
 Jim Wetterau, 3/14

**Northern Highland - American Legion State Forest
 Compartment 210H & 211H - Gresham Road - 160 Acres
 Town of Arbor Vitae, Vilas County, T41N-R6E Sec. 10,15,16,21
 Master Plan: Management Area 3 - Vilas Sandy Plains North -
 Forest Production Area & Management Area 13 - Special Aquatic**



Legend

- + Section Corner
- Woods Roads
- Snowmobile Trails
- [Pink Diagonal Lines] Red Pine Area
- [White Diagonal Lines] Aesthetic River Zone
- [Blue Diagonal Lines] Oak Area
- [Blue] Lakes
- [Orange Dotted] Private Lands

The objectives for the Vilas Sandy Plains North Forest Production Area are to increase red and white pine as a dominant community type and manage for current levels of oak, assuring natural regeneration through harvest and site disturbance. In the Special Aquatic Area manage the uplands as forest production area while maintaining the aesthetic integrity of Trout River.

The 120 acres of red pine plantation have never been thinned before and will be row thinned at this time to promote better stand health and vigor with additional light, space, and growing conditions. The 5 acre Aesthetic River Zone will be marked to remove shorter lived species and lightly thin the pine.

The 35 acre oak stand was thinned within the past ten years and is now ready to be regenerated through a shelterwood harvest. This area will be harvested leaving approximately 50% crown canopy of the best quality oak to serve as a seed source. This process produces the best conditions for natural oak regeneration by acorn production.

Access is directly off Gresham and East Boundary Roads. A snowmobile trail is located within the sale area. The snowmobile trail will be maintained in a rideable fashion, if logged in the winter, and signed appropriately for user safety. Aesthetics will be maintained with a residual stocking of red pine. Biomass Harvesting is not allowed on this sale area.



Map produced by
 Jim Wetterau, 3/14

65