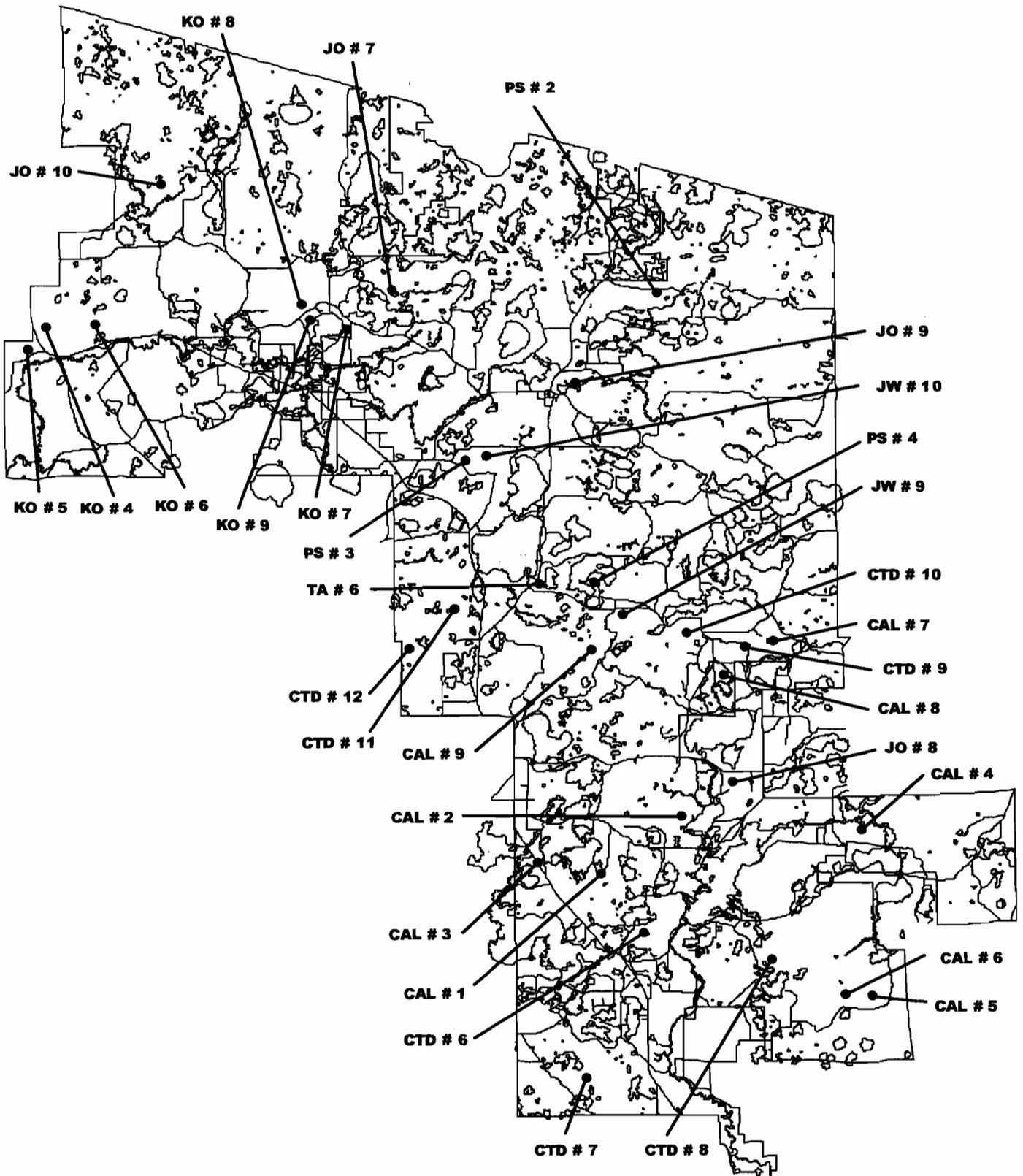


Northern Highland American Legion Pre-Sales 2009/10 Timber Sale Location Map



**NHAL List of Sale Establishment for 2009/2010 Planning
May 2009
NEW PRE-SALE LIST**

Todd Anderson

1. C148H Little John Lake, NCMA#12

Jim Wetterau

1. C101H Plum Vitae Oak FPMA
2. C171H N. Creek Roadside FPMA

Paul Stearns

1. C90/91H CHY B, FPMA and NCMA
2. C180H Edith Lake, FPMA
3. C135H Musky Lake Campground, RMA

Kelly O'Neil

1. C293H Murrays Landing, FPMA
2. C294H Thompson Trail, FPMA
3. C284H Plunkett Lake, NCMA#9, FPMA
4. C228H HWY K Roadside FPMA
5. C236H HWY K Roadside FPMA
6. C235H HWY K Roadside FPMA

Cal Doering

1. C4A, C15A Little Bass Lake
2. C7A Pickerel Lake Zone Aspen
3. C13A Woodruff Road/Bryce
4. C55A HWY O Wi River/Curt
5. C80A Shirley's Strips
6. C81A Sharon's Birch
7. C11, 12, 17, 18, 19, 39H HWY G Strips/John H.
8. C47H Deadman's Gulch Road
9. C113H Plum-Vitae/Witches Lake Road NCMA #13

Craig Dalton

1. C22A/C29A - CTH D, Dorothy Lake FPMA
2. C39A - Windpudding NCA, FPMA
3. C73A - Swanson Lake NCA. FPMA
4. C48H CTH - N Sayner FPMA
5. C72H/C73H - Pine West of Sayner FPMA
6. C184H/C185H - Little Rock/Punch FPMA
7. C214H - SW Devine Lake FPMA

Jeff Olsen

1. C224H GI-WAY-DIN Trail Job BW/NH, FPMA
2. C45H River Road Sale, FPMA
3. C120, 153H North BJ, Fishtrap Pines Sale, FPMA Sue Brisk
4. C264, 265 Turtle River Aspen and NH, FPMA

Region	N	O	GMU	H	F	Property	NH-AL State Forest	Code	6	4	7	6	County	Vilas
15. NARRATIVE: <i>Compartment 148 it</i> <i>Little John Lake Sale</i>													Tract Number	
													Sale Number	

a. General Sale Description (including management goals and objectives):

This proposed timber sale is located in the Town of Boulder Junction between Hwy. M and Little John Lake. The topography is rolling, with well drained sandy soils consisting of Pence sandy loam and Sayner Rubicon complex. It will cover about 130 acres. The forest stands consist of red oak, maple, white birch, quaking and bigtooth aspen, red and white pine.

Goal:

Stand 1 falls in Native Community Mgmt. Area 12, Mixed Forest Allequash Site of the State Forest Master Plan. The long term goal for this area is to maintain old growth oak and mixed hardwood characteristics, provide opportunities for research, education, and ecological interpretation as well as demonstration of old-growth mixed forest management. The remaining stands fall in Forest Production Management Area 4, Vilas Sandy Plains Central. The long term goals for this area involve developing, increasing, and maintaining a mixed forest dominated by older red and white pine with aspen, red oak and white birch as important secondary species.

Short-term goals include:

- Enhance the development of a mixed forest dominated by old trees, large amounts of coarse woody debris, numerous standing dead snags, and an age diversity of trees.
- Maintain mid-tolerant tree species composition while incorporating variable patch sizes, and increase the overall age of the forest.
- Increase the presence and age of red and white pine
- Manage for current levels of red oak, assuring natural regeneration through harvest and site disturbance and increasing the average age of this type in mixed stands.

b. Ecological Considerations: The last management activity took place in this compartment in 1976. Stand 2 in the middle of the compartment was clearcut and the aspen regenerated very well. In the other stands the aspen was selectively removed, leaving numerous older remnants that are overmature. The red and white pines in Stand 3 were not harvested and it has now become an overstocked sawlog stand. The stands surrounding the perimeter consist of overmature red oak, with a component of aspen and maple.

- Stand 1: A select thinning will be conducted to develop old growth red oak characteristics. Large diameter trees will be maintained. Those with severe crown die-back will be retained for future snag and den trees. The balsam fir understory will be removed, to encourage the development of mid-succession and climax species regeneration.
- Stand 4: A shelterwood harvest will be conducted leaving 40% to 50% crown closure. The portion of the stand along Little John Lake will have a higher residual basal area left to meet BMP's for water quality. The goal is to regenerate red oak and white pine.
- Stands 3 and 5: These sawlog pine stands will be selectively thinned. The mature aspen will be removed as well.

The NHI Portal was checked and the only hit was for the Gray wolf. This sale falls within the pack territory and should not have an adverse impact upon the wolf.

c. Water Quality Considerations: This sale will be near Little John Lake and a creek that drains the lake to Allequash Creek. Best Management Practices (BMP's) for Water Quality will be incorporated into this timber sale. The residual basal area in the Riparian Management zone will be maintained at greater than 60 square feet per acre, with an emphasis on maintaining longer lived tree species, i.e. sugar maple, red oak, white pine, and red pine.

d. Aesthetic Considerations: This timber sale is along County Highways M and N, and Big Muskellunge Lake Road. . The lake riparian management zones will be selectively harvested, which will have a minimal aesthetic impact. Along Hwy. M, this stand consists of an overstory of red oak, with maple, aspen and balsam fir in the understory. The red oak will be selectively removed, leaving many trees in the understory, which when the leaves are on the trees, will screen the harvest area.

e. Wildlife Considerations: This area is used by game and non-game, birds, amphibians and mammals. This harvest will result in opening up the understory in the oak and pine stands, diversifying the flora and increasing the vertical structure. This will maintain a diversity of habitat conditions to support harvestable populations of the major forest game species. And, it will increase the habitat used by non-game species. In addition, as trees die they will form denning trees and ultimately course woody debris, benefiting a wide range of animals.

f. Recreation Consideration: Uses of this area include hunting and hiking.

g. Resources of Special Concern Considerations (archeological/historical review required on Department lands): There are no known archeological sites within the proposed sale area.

Compartment No. 148

T 41N R 7E Sec. 20, 29

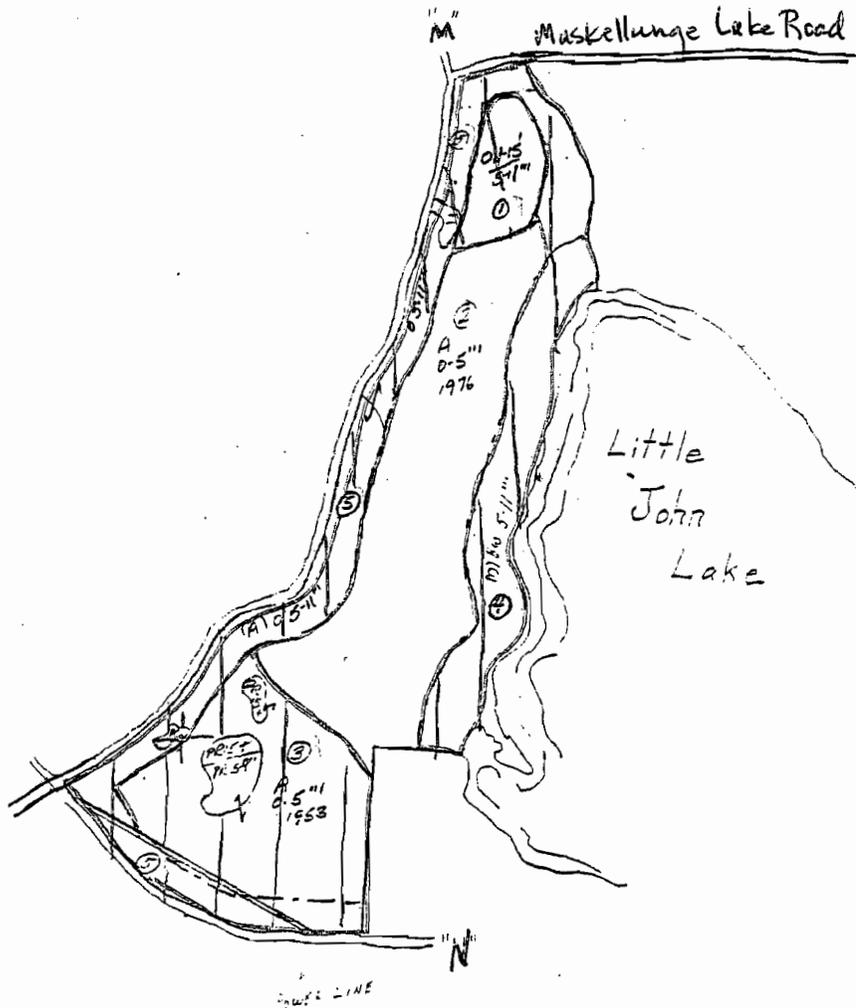
SCALE - 1/16,000

Co. Vilas Fl. No. 16

Photo No. MPE 757, 758, 759

Mapped by R. Hewett Date 5-13-64

water 1177 feet



Northern Highland American Legion State Forest – Plum Vitae Oak
Compartment 101 (T 41N-R7E Sec. 34)
Land Management Area = Vilas Sandy Plains Central - Forest Production Area # 4
Oak thinning and shelterwood harvest ~ 35 acres

STAND DESCRIPTION

The general sale area is located of Plum Lake and south of Hwy N, in the Town of Plum Lake, Vilas County. The general forest cover type in this area of the Northern Highland S.F. is dominated by extensive stands of aspen, oak, and pine. This proposed timber sale includes the maintenance and regeneration of two separate oak stands. Stands 6 and 13 will receive an improvement thinning or shelterwood harvest depending on stand condition. Stand 6, an 81 year old stand of oak, will receive an improvement thinning at this time. Stand 13, a 105 year old stand of oak, will receive the initial stage of shelterwood harvest in an effort to regenerate the stand.

GOALS

The proposed sale area lies within Forest Production Area # 4, Vilas Sandy Plains Central. The Northern Highland – American Legion State Forest Master Plan directs both the short and long term objectives of maintaining aspen and oak as a strong component in mixed stands across the landscape. It further states a long term objective of increasing red and white pine as a greater component within existing stands. Soils are primarily Sayner and Padus-Pence, hilly well-drained pitted outwash sands with habitat types ranging from PARV-AVVb.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Oak will receive an improvement thinning and shelterwood harvest treatment to help maintain and perpetuate the oak stands on the landscape. Where opportunities exist to release white pine seedlings they will be incorporated into sale design. White pine is a long-term objective for this area of the State Forest, as is directed in the master plan

WATER QUALITY

All sale activity will take place on sandy high ground.

AESTHETICS

The timber sale area is located away from well-travelled Town Roads and is small in scale.

WILDLIFE

This area is used by game and non-game, birds and animals. The oak harvest will ensure future habitat for game and non-game species. Den and cavity trees will provide habitat for various birds and mammals.

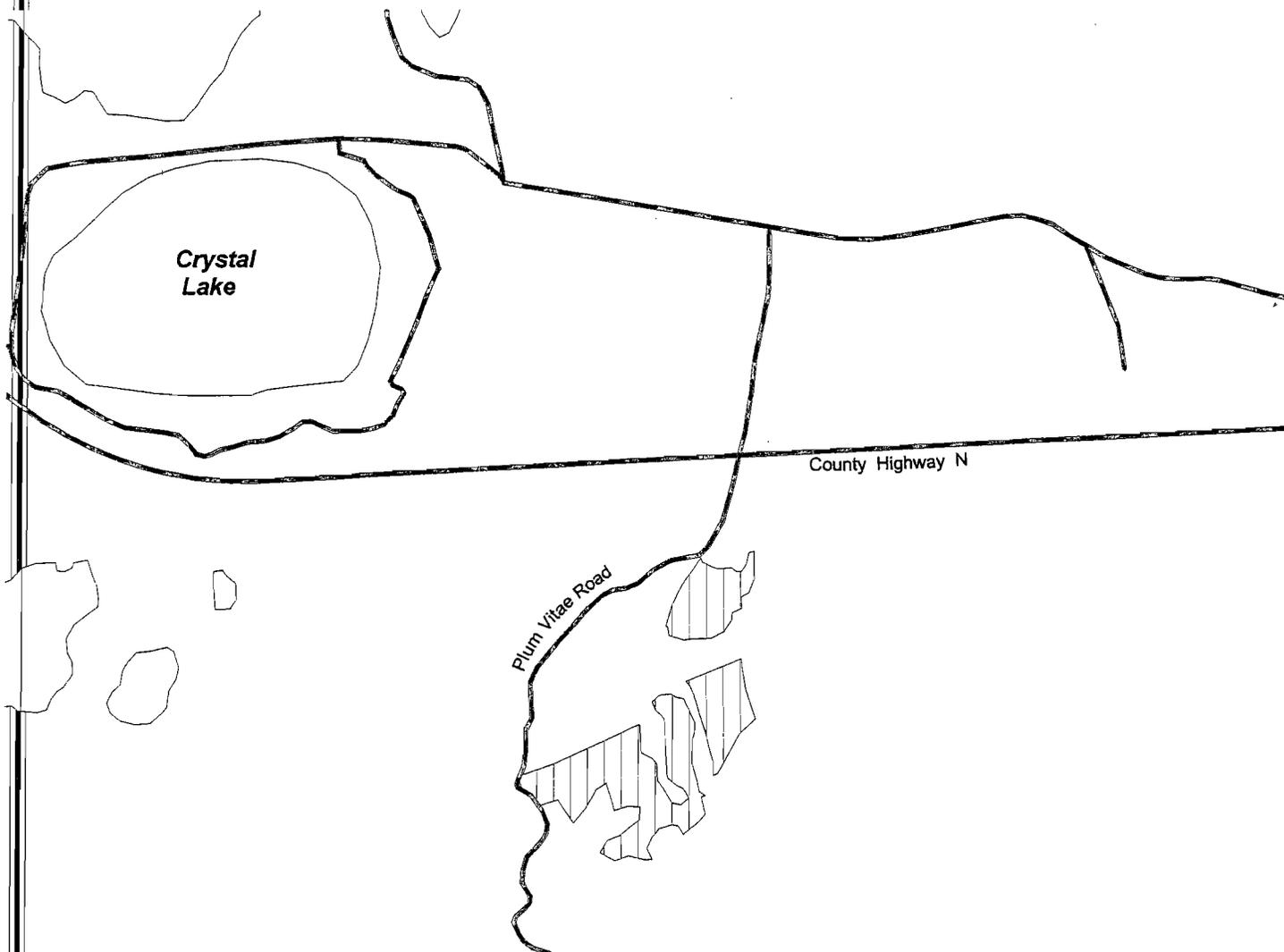
ENDANGERED RESOURCES

A check of the NHI portal site revealed a hit for a gray wolf. The Wildlife Biologist was consulted and there are no know den or rendezvous sites in the area and forest management activities will not impact this resource.

RECREATION

Hunting is the primary recreational activity in this area which should improve as oak is regenerated on the landscape.

WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE
FPA #4 - Vilas Sandy Plains Central
T41N R7E SECTION 34
HARVEST ACRES - 35



Legend

-  Highways and Town Roads
-  Oak Thinning Area
-  Lakes



Oak Thinning Area (35 Acres): Cut all aspen, white birch, soft maple, balsam fir, and orange marked trees.



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



Map produced by
Jim Wetterau, 2009

Note: Do NOT cut trees marked with green paint.

Northern Highland American Legion State Forest – N. Creek Roadside
Compartment 171 (T 42N-R6E Sec. 36)
Land Management Area = Vilas Sandy Plains North - Forest Production Area # 3
Red pine Improvement Thinning ~ 46 acres
Aspen Regeneration Harvest ~ 22 acres

STAND DESCRIPTION

The general sale area is located northwest of North Trout Lake, along North Creek Road, in the Town of Boulder Junction, Vilas County. The general forest cover type in this area of the Northern Highland S.F. is dominated by extensive stands of aspen, jack pine, oak, and red pine plantations. This proposed timber sale includes the improvement thinning of a 60 year old red pine plantation and a regeneration harvest of a roadside stand of over-mature aspen.

GOALS

The proposed sale area lies within Forest Production Area # 3, Vilas Sandy Plains North. The Northern Highland – American Legion State Forest Master Plan directs both the short and long term objectives of maintaining aspen and increasing jack pine in mixed stands across the landscape. It further states a long term objective of increasing red and white pine as a greater component within existing stands. Soils are primarily Sayner-Rubicon complex, hilly well-drained pitted outwash sands with a PArV habitat type.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

A 60-year old red pine plantation will receive an improvement thinning to promote large healthy trees that are adequately spaced for bole and crown development. This improvement thinning will also promote and increase the shrub layer as additional sunlight reaches the forest floor. An over-mature roadside strip will be harvested to regenerate the aspen and associated species.

WATER QUALITY

The proposed timber sale is entirely on upland sandy soils. An adjacent small minor lake will be protected with a 50 foot buffer and residual basal areas will be greater than 60 sq. ft. within 100 feet of the lake.

AESTHETICS

The aspen regeneration harvest at this time will create a dense vegetative screen for future harvests to the south. The residual stocking within the red pine plantation will also provide for aesthetics.

WILDLIFE

This increased amount of sunlight, following the thinning, will provide additional cover and browse for a variety of game and non-game, birds and animals within the red pine plantation. Snag and den trees will be retained within the plantation. The retention of some large diameter oak will provide mast and future den and cavity trees throughout the proposed sale area. Opportunities to increase jack pine within this compartment will be beneficial to certain wildlife.

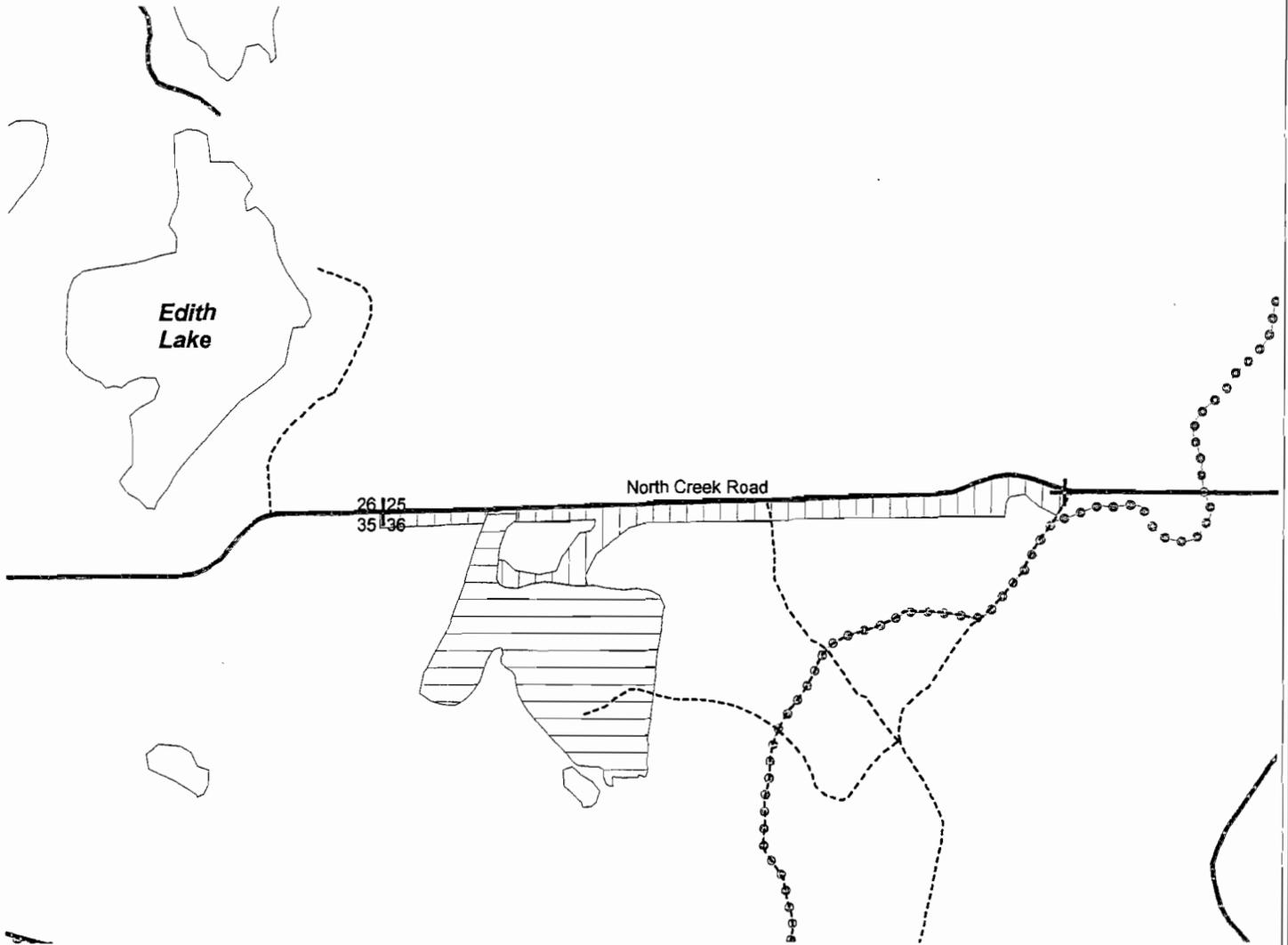
ENDANGERED RESOURCES

A check of the NHI portal site and archeological reviews revealed no conflicts with the proposed forest management treatments prescribed.

RECREATION

Hunting and snowmobiling are the primary recreational activities within the proposed sale area and harvesting activities should not impact either. Hunting opportunities should improve as aspen and scrub oak regenerate.

WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE
FPA #3 - Vilas Sandy Plains North
T42N R6E SECTION 36
HARVEST ACRES - 68



Legend

-  Section Corners
-  Red Pine Thinning Area
-  Aspen Regeneration Area
-  Woods Trails
-  Snowmobile Trail
-  Highways and Town Roads
-  Lakes

 Aspen Regeneration Area (22 Acres): Cut all trees except those marked with green paint.

 Red Pine Thinning Area (46 Acres): Cut all aspen, scrub oak, jack pine, and orange marked red and white pine.


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



Map produced by
Jim Wetterau, 3/09

Tract Number: xx-xx

Sale Name: Compartment 90 & 91

Legal Description: Vilas County – T43N-R7E Sections 35 & 36

Timber Types include: White pine, Aspen, White birch.

Total Acreage = 190 acres more or less

STAND DESCRIPTION: These two compartments are located along County Highway B in the Town of Presque Isle, Vilas County. All stands within both compartments have historically had forest management activities conducted on them with the exception of Stand 12, Compartment 91. This area was originally classified as a Scientific Area and known as the High Lake Spruce-Balsam Forest Scientific Area. It was selected as a research area because it was considered a prime example of a boreal forest type. However this designation was changed with the passage of the recent NHAL Master Plan and forest management activities will now be resumed. Stands currently scheduled for management include Stand 12 (Compartment 91), and stands 1, 16 and 17 (Compartment 90). Stand 12 is a mixture of rapidly declining white birch, aspen, red maple and balsam fir estimated to be 90 years old. Other associates represented include white spruce, red & white pine, hemlock, sugar maple and yellow birch. Stand 1 & 16 (Compartment 90) are a combination of natural and plantation pine stands that are a mixture of both red and white pine along with lesser amounts of aspen, hardwoods and balsam fir. Stand 17 (Compartment 90) consists of declining aspen, white birch and red, red oak, and scattered large pines overtopping a dense understory of white pine seedlings and saplings.

GOALS: These compartments are classified within the NHAL Master Plan as a Forest Production Area and are located within the Vilas Sandy Plains North management zone (Area 3). The primary management goals for this area are to provide timber and other forest products on a sustainable basis. Specifically the objectives for these stands are to maintain the present timber types and promote and enhance the presence of red and white pine across the area. This will be accomplished through commercial thinning of the pine stands and regeneration of the white birch/aspen stand. The commercial thinning in the pines will serve to reduce stand density thus reducing the potential for infestation and infection from forest pests and disease. The regeneration harvest of white birch and aspen will serve to maintain the aspen type within this area.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The stands to be managed are located primarily on PARV and PARVa habitat types which are common to the well-drained, nutrient-poor, Sayner-Rubicon sandy soils. Both habitat types are well suited for management of pine, oak and aspen. The exception to this is a notable ridge located within Stand 12 (compartment 91) that is comprised of a Padus-Pence silt loam cap. Habitat types common to these soils are a combination of ATM-ATD-AVVb habitat types. Padus-Pence soils are considered more nutrient-rich soils and capable of supporting northern hardwoods. Stand 12 will be regenerated at this time removing all aspen, white birch and maple while retaining all pine, oak and white spruce resulting in a mixed forest type. Along the ridge management will follow northern hardwood management guidelines retaining all hemlock, white cedar and yellow birch. Opportunities for the regeneration of mid-tolerant species such as red oak and yellow birch will be promoted through the implementation of gaps of various sizes. Stand 17 will also remove all short-lived species focusing on the release of the existing white pine understory. All overstory red oak and pine shall be retained. The narrow pine stand along HWY B (Stand 16) will remove mostly short-lived species such as aspen and white birch while selectively remove (thin) only the suppressed and or poorly formed trees. All other scattered pines stands (Stand 1) will be thinned according to the guidelines provided within the Silvicultural Handbook.

WATER QUALITY, BMPS: The lakeshore along both High and Bambi Lake will be protected with riparian no-cut buffer strips of a minimum of 50 feet. Between 50 and 100 feet from the lakes high water-mark, a "light thinning" will occur which retains large, long lived species such as oak, pine and maple. If only short-lived species such as aspen and white birch exist, these species shall be

retained in place of the longer-lived species in this zone. Width of the no-cut buffer strip will be altered near the canoe campsites adjacent to High Lake.

AESTHETICS: The riparian management zones established along the lakes will minimize any visual concerns along both High and Bambi Lakes. In addition, small groups or islands of longer-lived species as well as all pine shall be retained further minimizing aesthetic concerns. Where pine densities along County Highway B are low, hardwoods will be selectively retained to minimize visual concerns.

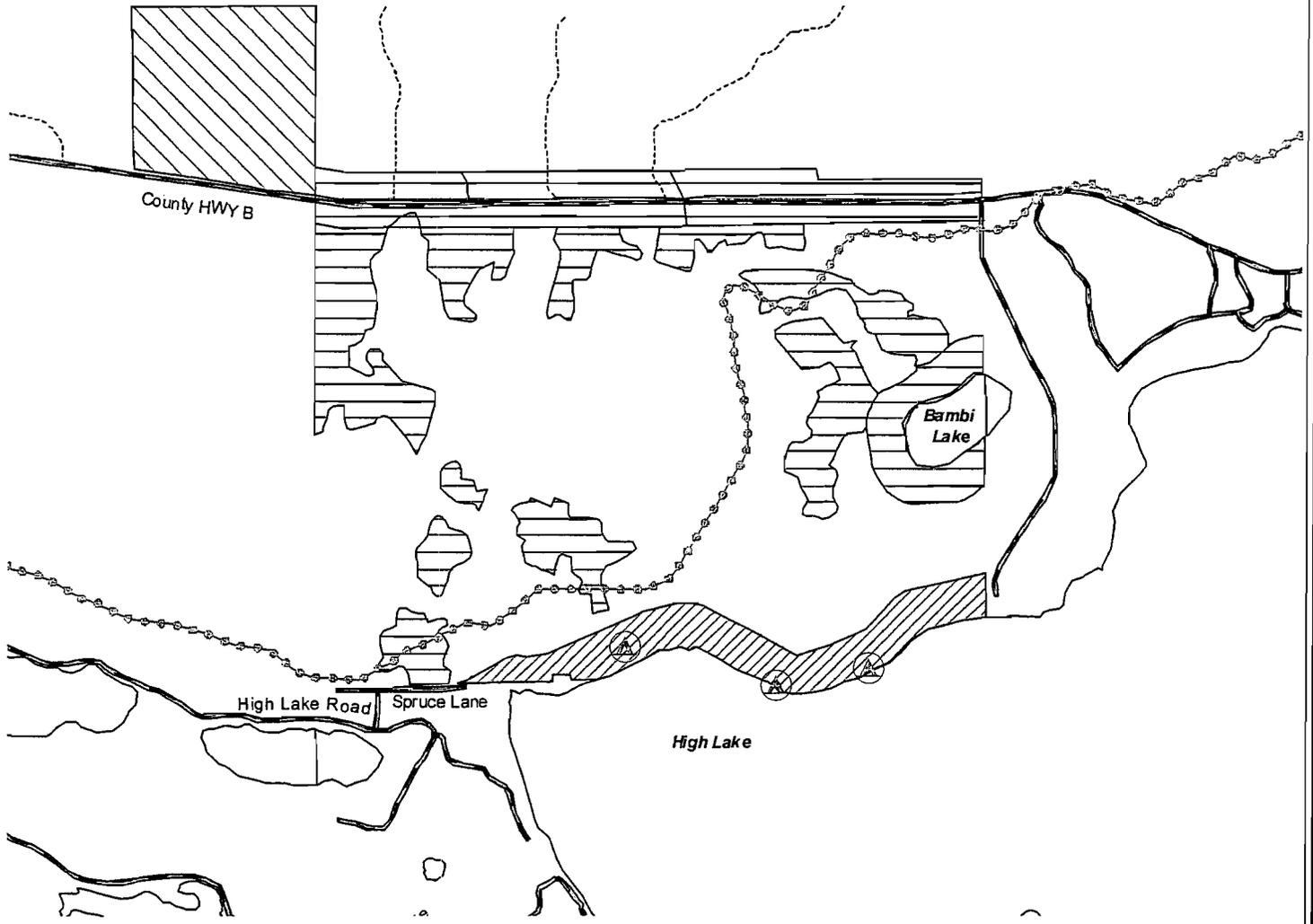
WILDLIFE: The regeneration of aspen and other early successional trees will be good for game species of wildlife and other animals and birds. Additional composition and structure will create a diversity of food and shelter for wildlife. Slash and other woody debris, following the harvest, will benefit certain mammals and amphibians. Den and cavity trees will be identified and retained during marking operations. The abundance of conifers such as pine, hemlock, spruce and balsam fir will continue to provide critical thermal cover for both birds and animals.

ENDANGERED RESOURCES: The NHI (Natural Heritage Inventory) database identified the Northern Black Current (*Ribes hudsonianum*) which is a plant species of special concern that may be located within the planning area. However Black Current is not likely to be present within the proposed management area based upon its' habitat needs. Consultation with the ER staff will be done prior to sale establishment. Archeological records were reviewed for the proposed planning area and no known sites exist in this area.

RECREATION: Three canoe campsites exist along the north shore of High Lake within Stand 17 and are managed by the WDNR. A buffer zone around the sites will be established and a slightly higher stand density will be retained around those sites. Retention of all long-lived species will occur. Timber harvesting will not be permitted during the summer recreation season. In addition, numerous seasonal homes exist around both lakes with the highest concentration of homes occurring on High Lake.



**WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE
FPA #3 - VILAS SANDY PLAINS NORTH
T43N R7E SECTIONS 35 & 36
HARVEST ACRES - 190**



Legend

-  Hardwood Thinning
-  Pine Thinning
-  Aspen Regeneration Harvest
-  Snowmobile Trails
-  Canoe Campsites
-  Woods Roads
-  Lakes & Open Water
-  County, Town & Local Roads

-  Aspen Regeneration Areas (46 Acres): Cut all aspen, white birch, maple, jack pine, balsam fir and orange marked trees.
-  Hardwood Thinning (30 Acres): Cut all aspen, white birch, balsam fir and orange marked trees.
-  Pine Thinning Areas (114 Acres): Cut all aspen, hardwoods, blasam fir, and orange marked trees.

Note: Do NOT cut hemlock, cedar, yellow birch, white spruce, and trees marked with green paint.

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



Map produced by
Paul Stearns, 4/09

Tract Number: xx-xx

Sale Name: Edith Lake – Compartment 180

Legal Description: Vilas County - T42N-R6E Sections 26, 27, 34 & 35

Timber Types include: White pine, aspen and red oak.

Total Acreage = 127

STAND DESCRIPTION: The stands currently scheduled for management include stands 3, 7, 8 & 9, and primarily are located between three lakes; Jag Lake to the west, Rudolph Lake to the north and Edith Lake to the east. The exception is the two small oak stands (Stand #3) that located between North Creek and Day Lake roads. These areas border approximately ¼ mile of frontage along Rudolph Lake and ¾ mile frontage along both Edith and Jag Lakes, and are comprised of mixed stands of aspen, birch, maple, oak and red and white pine.

GOALS: This compartment is classified within the NHAL Master Plan as a Forest Production Area and is located within the Vilas Sandy Plains North management zone (Area 3). The primary management goals for this area are to provide timber and other forest products on a sustainable basis. The forested lands to be managed include aspen, oak and white pine timber types. Specific forest management objectives for these stands will be to maintain the oak, pine and a portion of the aspen timber types while converting aesthetically sensitive areas to longer-lived species such as white pine and red oak. These areas include the area between the three lakes and the roadway corridor along North Creek Road.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION:

The stands to be managed are dominated by PARV and PARVa habitat types which are common to the well-drained, nutrient poor, Sayner-Rubicon (SaB, SaC, SaD), sandy soils. Both habitat types are well suited for management of pine, oak and aspen. Aspen stands will be managed for aspen with scattered pine, white spruce and red oak intermixed throughout. The exception to this will be the area between Jag, Rudolph and Edith Lakes where white pine will be planted under a scattered overstory. Existing oak stands will be regenerated through the application of Shelterwood harvest. The pine stands shall be thinned accordingly to the guidelines provided in the Silvicultural Handbook.

WATER QUALITY, BMPS: The lakeshore along all three lakes will be protected with riparian no-cut buffer strips of a minimum of 50 feet. Between 50 and 100 feet from the lakes high water-mark, a “light thinning” will occur which retains large, long lived species if present. If only short-lived species such as aspen and white birch exist, these species shall be retained in place of the longer-lived species in this zone.

AESTHETICS: The riparian management zones established along the lakes will minimize any visual impacts that may occur. In addition, small groups or islands of longer-lived species as well as all pine shall be retained further minimizing aesthetic concerns.

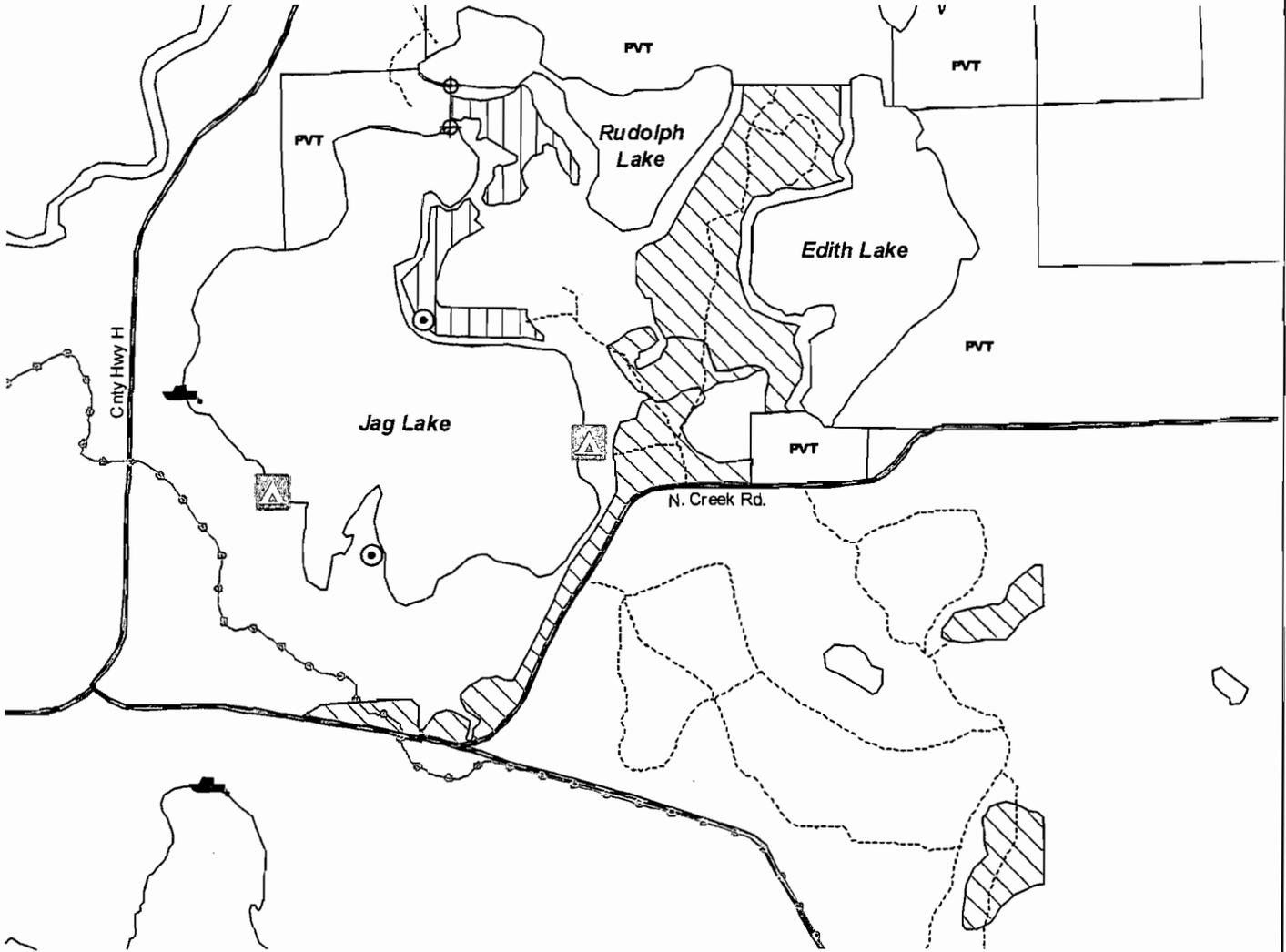
WILDLIFE: The regeneration of aspen and other early successional trees will be good for game species of wildlife and other animals and birds. Conifers will offer thermal protection while retention of oaks will continue to provide mast for wildlife well into the future. The logging debris will provide temporary habitat and cover for small mammals. Den cavity trees will be identified and left during marking operations.

ENDANGERED RESOURCES: The NHI (Natural Heritage Inventory) database identified two plant species of special concern that may be located within the planning area. These include Purple Clematis (*Clematis occidentalis*) and Purple bladderwort (*Utricularia purpurea*). If Purple Clematis is encountered during the timber sale establishment phase, these areas will be identified and equipment will be prohibited from working within them. Purple bladderwort is not likely to be present within the proposed management area based upon its’ habitat needs. Consultation with the ER staff will be done prior to sale establishment. Archeological records indicate that a portion of lakeshore along Jag and Edith is likely to contain unrecorded sites.

RECREATION: Two camping areas are located on Jag Lake, one private one public. Therefore timber management activities within or adjacent to these areas will not be permitted during the summer camping season. In addition, numerous seasonal homes exist along all three lakes with the highest concentration of homes occurring on Edith Lake. As expected water sports such as boating, fishing and swimming are the primary recreational activities in this area. In addition other popular recreational activities include hunting, hiking, and wildlife viewing. Therefore aesthetics in and around these lakes is a critical concern. Standard forest management practices will be altered to accommodate both recreational and aesthetic concerns.



**WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE
FPA #3 - Vilas Sandy Plains North
T42N R6E SECTIONS 26, 27, 34, 35
HARVEST ACRES - 127**



Legend

-  Campgrounds
-  Boat Landings
-  Canoe Campsites
-  Aspen/White Birch Regeneration Area
-  Oak/Pine Regeneration Areas
-  Woods Road
-  Iron Pipes
-  Snowmobile Trails
-  County & Local Roads
-  Lakes & Open Water
-  Private Lands

Scale: 1:15,840

-  Oak/Pine Regeneration Areas (103 Acres): Cut all aspen, white birch, maple, jack pine, balsam fir and orange marked trees.
-  Aspen/White Birch Regeneration Areas (23 Acres): Cut same as above.

Note: Do NOT cut trees marked with green paint.



Map produced by
Paul Stearns, 4109

Tract Number: xx-xx

Muskellunge Campground Sale

Sale Name: Compartment 135

Legal Description: Vilas County – T41N-R7E Sections 21, 22, 27 & 28.

Timber Types include: Red & White pine, Aspen, White birch and Oak.

Total Acreage = 192 acres more or less

STAND DESCRIPTION: This forest compartment is located in the Town of Boulder Junction, Vilas County, north of County Highway and N, and between Crystal and Muskellunge Lake. It is within the popular Crystal Lake Recreation Area that sees over 200,000 visitors each year. A total of seven stands are scheduled for management and they include: 1, 6, 8, 9, 10, 12, and 13. Stands 1, 8, and 13 are a combination of red, white and scotch pine plantations that were originally established during the mid 1920's. Stands 6, 9, 10, and 12 are primarily lake frontage stands that consist of rapidly declining aspen, birch and red oak overtopping a developing understory of white pine seedlings and saplings. The majority of Muskellunge campground, picnic area and boat landing are within proposed project area.

GOALS: This compartment is classified within the NHAL Master Plan as a Recreation Management Area (Area 20). In general the objectives for recreation management areas "are to provide and maintain land and water areas and facilities for outdoor public recreation and education" Specifically within the Crystal Lake area, the objectives include maintaining the area as an attractive and safe environment for a variety of recreational pursuits. Forest management goals are to retain and increase the presence of red and white pine within aspen, red oak, and white birch forest types. In addition on suitable sites, red oak forest types will be maintained and enhanced. Within campsite areas, visual screening between sites, enhancing aesthetics, and hazard tree removal will be emphasized.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The stands to be managed are dominated by PARV, PARVa, and PQE habitat types which are common to the well-drained, nutrient poor, Sayner-Rubicon and Crowell (SaC, SaD, RoB, CsA), sandy soils. These habitat types are well suited for management of pine, oak and aspen. Aspen stands will be managed for aspen with scattered pine, white spruce and red oak intermixed throughout. Existing oak stands will be regenerated through the application of Shelterwood harvest focusing on the removal short lived-species such the aspen, white birch and maple while the selectively thinning the overstory oak. The pine stands that are within the campground and surrounding area will be thinned according to the guidelines provided in the Silvicultural Handbook. Scotch pine, a non-native pine, will be discriminated against during tree marking operations.

WATER QUALITY, BMPS: The lakeshore along both Muskellunge Lake will be protected with riparian no-cut buffer strips of a minimum of 50 feet. Between 50 and 100 feet from the lakes high water-mark, a "light thinning" will occur which retains large, long lived species such as oak, pine and maple. If only short-lived species such as aspen and white birch exist, these species shall be retained in place of the longer-lived species in this zone. Width of the no-cut buffer strip will be altered near the picnic area and boat landing. Project management boundaries have excluded wetland areas and will not be disturbed. Most harvesting will occur during frozen ground conditions which will minimize the potential for any soil disturbance.

AESTHETICS: Due the high recreational value of this area, aesthetic concerns are significant and all management actions will incorporate expressed concerns in tree marking strategy. The red pine thinning within Muskellunge Campground will have a short-term major impact on visual aesthetics. Options will be explored to clean up the immediate areas around the campsites. In addition, future campers will salvage wood for campfires resulting in the removal the majority of the visible slash. All logging debris will be pulled back 10 feet from the north side of the trail. The riparian management zones established along the lakes will minimize any visual impacts that may occur. In addition, small groups or islands of longer-lived species such as healthy white birch, maples and pines will be retained further minimizing aesthetic concerns and providing a variety of fall colors.

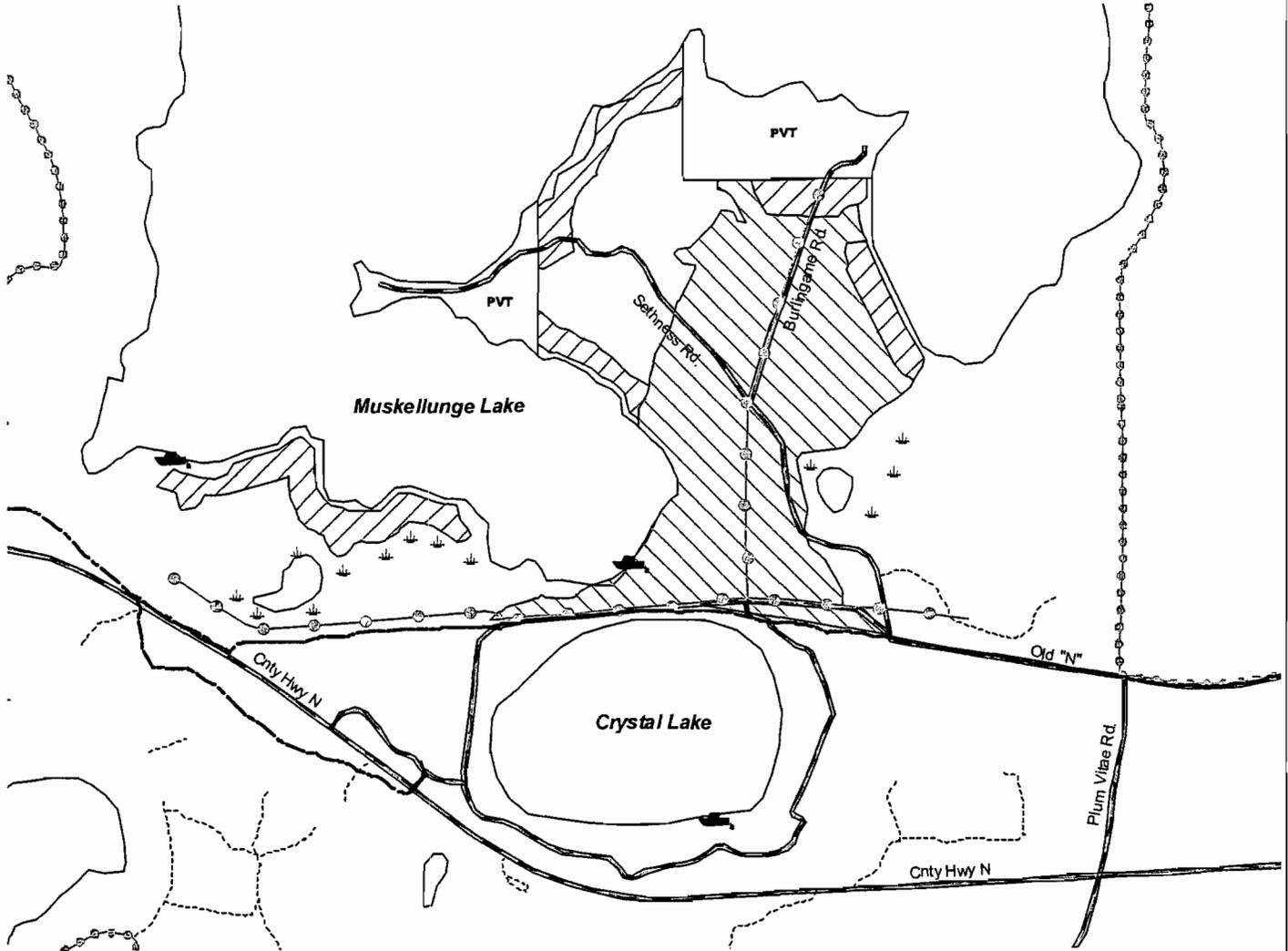
WILDLIFE: The regeneration of oak stands will ensure the continuation of that timber type which provides excellent habitat for a wide variety of wildlife and birds. The pine plantations will provide thermal protection for both deer and birds. Existing snags in both oak and pine stands will be retained and will be used as denning and nesting sites by wildlife. Fallen down snags will provide habitat for a variety of ground dwelling mammals and amphibians. In addition, logging debris will provide temporary habitat and cover for small mammals.

ENDANGERED RESOURCES: The NHI (Natural Heritage Inventory) database identified the Northern Black Current (*Ribes hudsonianum*) which is a plant species of special concern that may be located within the planning area. In addition, Black Tern (*Chlidonias niger*) was also identified however both Current and Black Tern are not likely to be present within the proposed management area based upon its' habitat needs. Consultation with the ER staff will be done prior to sale establishment. Archeological records were reviewed for the proposed planning area and no known sites exist in this area.

RECREATION: Muskellunge campground is one of the most heavily used campgrounds on the State Forest. Therefore timber management activities within or adjacent to the campground area will not be permitted between November 1 and May 1. The bike trail is minimally used during the proposed harvest time and harvesting will only be during frozen, snow covered conditions in order to protect the trail. In addition, water sports such as boating, fishing and swimming are common recreational activities within the area. Therefore aesthetics in and around these lakes is of critical importance. Standard forest management practices will be altered to accommodate both recreational and aesthetic concerns.



**WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
TIMBER SALE
RMA #20 - Crystal Lake
T41N-R7E SECTIONS 21, 22, 27, 28
HARVEST ACRES - 192**



Legend

- Hardwood Thinning Areas
- Pine Thinning Areas
- Recreation/Bike Trail
- Wetlands
- Snowmobile Trails
- Electric Powerline
- Boat Landings
- Woods Roads
- County, Town & Local Roads
- Private Lands
- Lakes & Open Water

1:18,000



Pine Thinning Areas (142 Acres): Cut all trees marked with orange paint.



Hardwood Thinning (50 Acres): Cut all aspen, white birch, maple and orange marked trees. Cutall 1 to 5 inch hardwoods.

Note: Do NOT cut trees marked with green paint.



Map produced by
Paul Stearns, 409

Compartment 293 Stand 2, 3, 5, 10, 12 & 15

Legal Description: Iron County T42N R4E Sec 5, & 8; & T43N R4E Sec 32

Timber types: Aspen, White Birch, Fir/Spruce, Black Spruce & Northern Hardwood

Acres: ~ 100

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 20 acres of black spruce; 20 acres of fir/spruce; 45 acres of white birch and aspen; and 15 acres of northern hardwood. These stands border private land and state forest.

OBJECTIVES

Designated under the Forest Production Management Classifications, in the Manitowish Peatlands, the overall forest management objective maintaining and expanding areas of old growth pine and hemlock/hardwoods. Early successional species including aspen, white birch, and fir would be managed at economic maturity. Also, black spruce and tamarack stands are to be actively managed which may require access across some wetland areas under frozen ground conditions.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Aspen and white birch will be regenerated using even aged silviculture methods; northern hardwood will be thinned to promote health and vigor of the stands; and black spruce will be regenerated using strip clear cuts.

WATER QUALITY, BMPS

WI BMP's will be implemented to protect the valuable wetland and water resources of the surrounding area. A 400 foot no management buffer is designated around Brush Lake, a wilderness lake in the Master Plan.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including, red and white pine along Murray Landing Road and wetlands.

WILDLIFE

Regenerating aspen and white birch establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds. Vertical structure increases in northern hardwood stands by creating multiple age classes also benefiting many song birds.

ENDANGERED RESOURCES

NHI Portal listed one mammal and two plants species within the timber sale area. Based on review of available habitat information, impacts are expected to be avoided or minimized by omitting those areas from the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

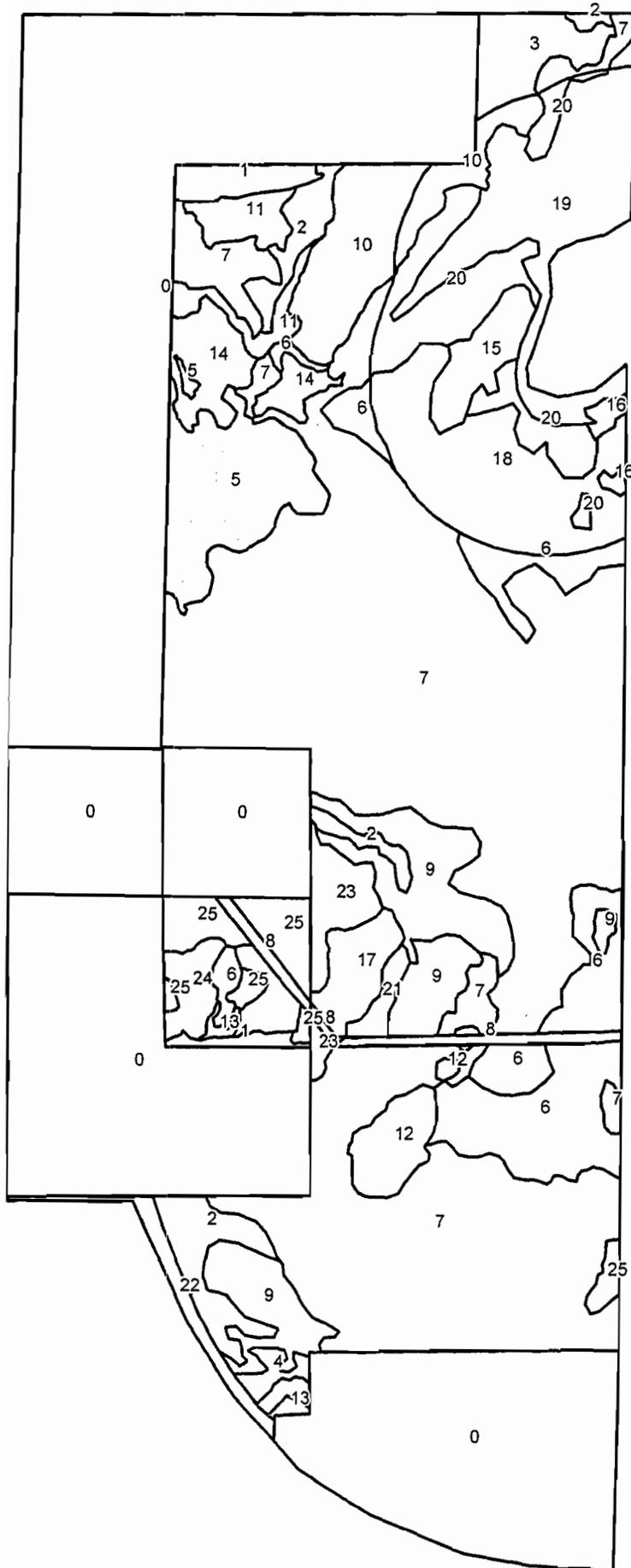
RECREATION

Current uses in the area include hunting and snowmobiling. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

KON 4/30/2009

Compartment 293

Iron County



Compartment 294 Stand 2, 4, & 14

Legal Description: Iron County T42N R4E Sec 7, 8, & 18

Timber types: Aspen, White Birch, & White Pine

Acres: ~ 75

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 35 acres of aspen and white birch left as an aesthetic zone; and 44 acres of white pine. These stands border Murray Landing Road and state forest.

OBJECTIVES

Designated under the Forest Production Management Classifications, in the Manitowish Peatlands, the overall forest management objective maintaining and expanding areas of old growth pine and hemlock/hardwoods. Early successional species including aspen, white birch, and fir would be managed at economic maturity. Also, black spruce and tamarack stands are to be actively managed which may require access across some wetland areas under frozen ground conditions.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

This harvest will clean up a road aesthetic zone from a past timber sale. "Standards" such as red oak, red pine, and white pine will be retained as seed trees, habitat and mast for wildlife, as well as aesthetics. The white pine will be thinned to favor healthy dominant trees.

WATER QUALITY, BMPS

WI BMP's will be implemented to protect the valuable wetland and water resources of the surrounding area.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including, red and white pine along Murray Landing Road and wetlands.

WILDLIFE

Regenerating aspen and white birch establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds.

ENDANGERED RESOURCES

NHI Portal listed several communities, one mammal, two plants, and two avian species within the timber sale area an/or within 1 mile. Based on review of available habitat

information, impacts are expected to be avoided or minimized by omitting those areas from the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

RECREATION

Current uses in the area include hunting and snowmobiling. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

KON 4/30/2009

Compartment 284 Stand 2, 4, & 14 Compartment 285 Stands 5, 6, 7, & 9
Legal Description: Iron County T42N R4E Sec 2, 3, & 10; & T46N R4E Sec 4, 9, & 10
Timber types: Aspen, White Birch, Hemlock, Northern Hardwood, & White Pine
Acres: ~ 55 (c285) & 290 (c284)

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 100 acres of decadent aspen and white birch (90 years old); as well as 44 acres of red oak, 185 acres of northern hardwood/hemlock, and 14 acres of white pine. A few stands border Highway 51 and private land, but the majority of the timber sale area is surrounded by state forest.

OBJECTIVES

Designated under Native Community – Hemlock – Management and the Forest Production Management Classifications, in the Manitowish Peatlands, the overall forest management objectives include maintaining and expanding areas of old growth pine and hemlock/hardwoods. Early successional species including aspen, white birch, and fir would be managed at economic maturity. Also, black spruce and tamarack stands are to be actively managed - this may require access across some wetland areas under frozen ground conditions.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

This harvest will clean up a few road aesthetic zones from past timber sales. “Standards” such as red oak, red pine, and white pine will be retained as seed trees, habitat and mast for wildlife, as well as aesthetics.

The hemlock/hardwood areas will be according to the Master Plan for areas outside of the passively managed ecological reference sites. This includes small-scale shelterwood harvests; identifying white pine and yellow birch seed trees; conducting natural regeneration cuts or under-planting; and enhancing seedling establishment through scarification or removal of advanced sugar maple regeneration.

The white birch and aspen around Plunkett (Sugar) Lake will be managed to promote longer lived hardwood species using even aged silviculture methods such as seed tree and strip clear cuts

WATER QUALITY, BMPS

WI BMP’s will be implemented to protect the valuable wetland and water resources of the surrounding area including Plunkett Lake.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including red oak, hemlock, northern hardwoods, and white pine along Plunkett Lake, wetlands, and Hwy 51.

WILDLIFE

Regenerating aspen and white birch establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds. Vertical structure increases in northern hardwood stands by creating multiple age classes also benefiting many song birds.

ENDANGERED RESOURCES

NHI Portal listed several communities, one mammal, two plants, and one insect within the timber sale area. Based on review of available habitat information, impacts are expected to be avoided or minimized by omitting those areas from the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

RECREATION

Current uses in the area include hunting, fishing, and snowmobiling. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

KON 4/30/2009

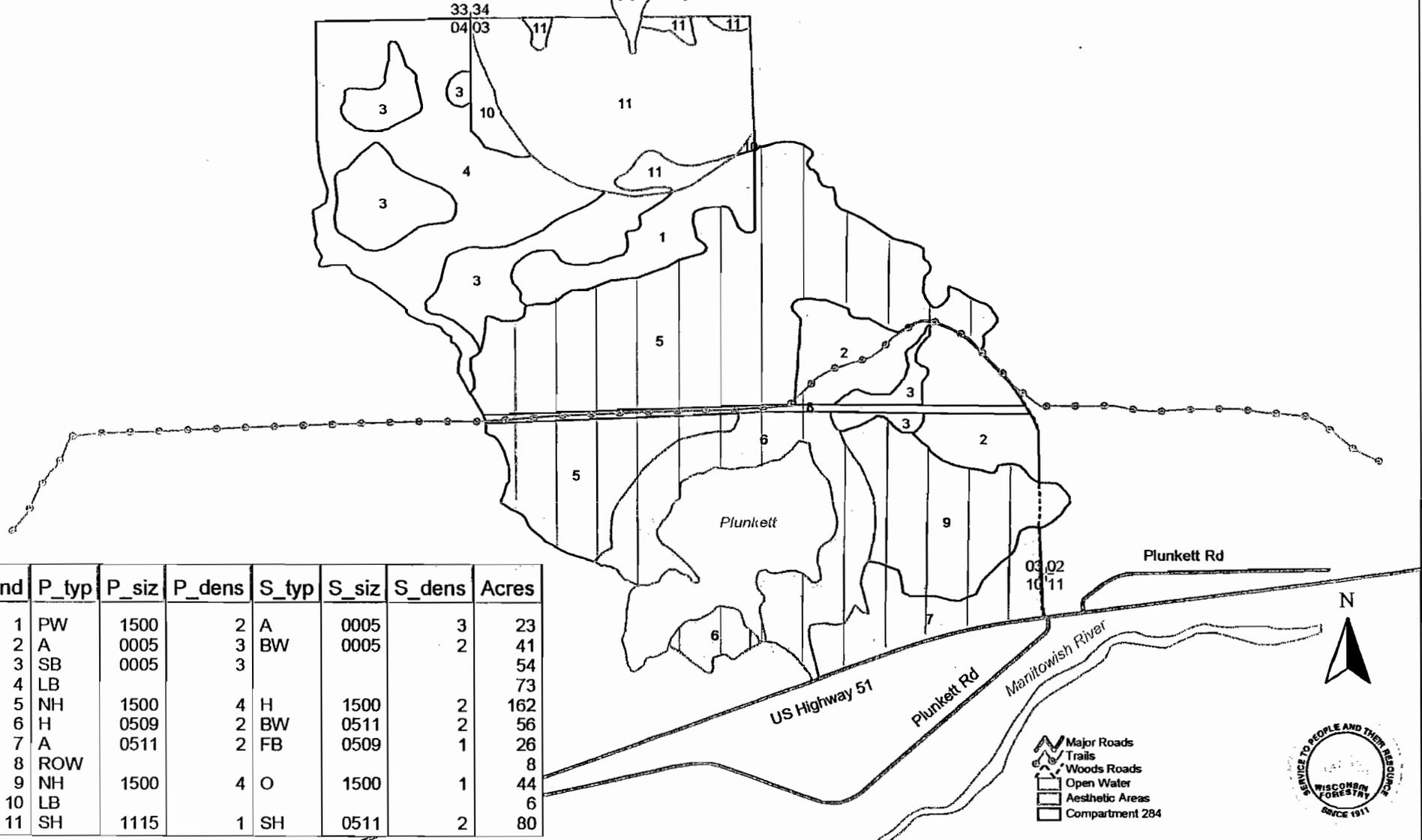
COMPARTMENT 284

T42N R04E Sec. 02, 03, 04, 10

Northern Highland State Forest Compartment Acreage = 573

Iron County Scale 1:15840

Mapped by Paul Schultz 02/23/09



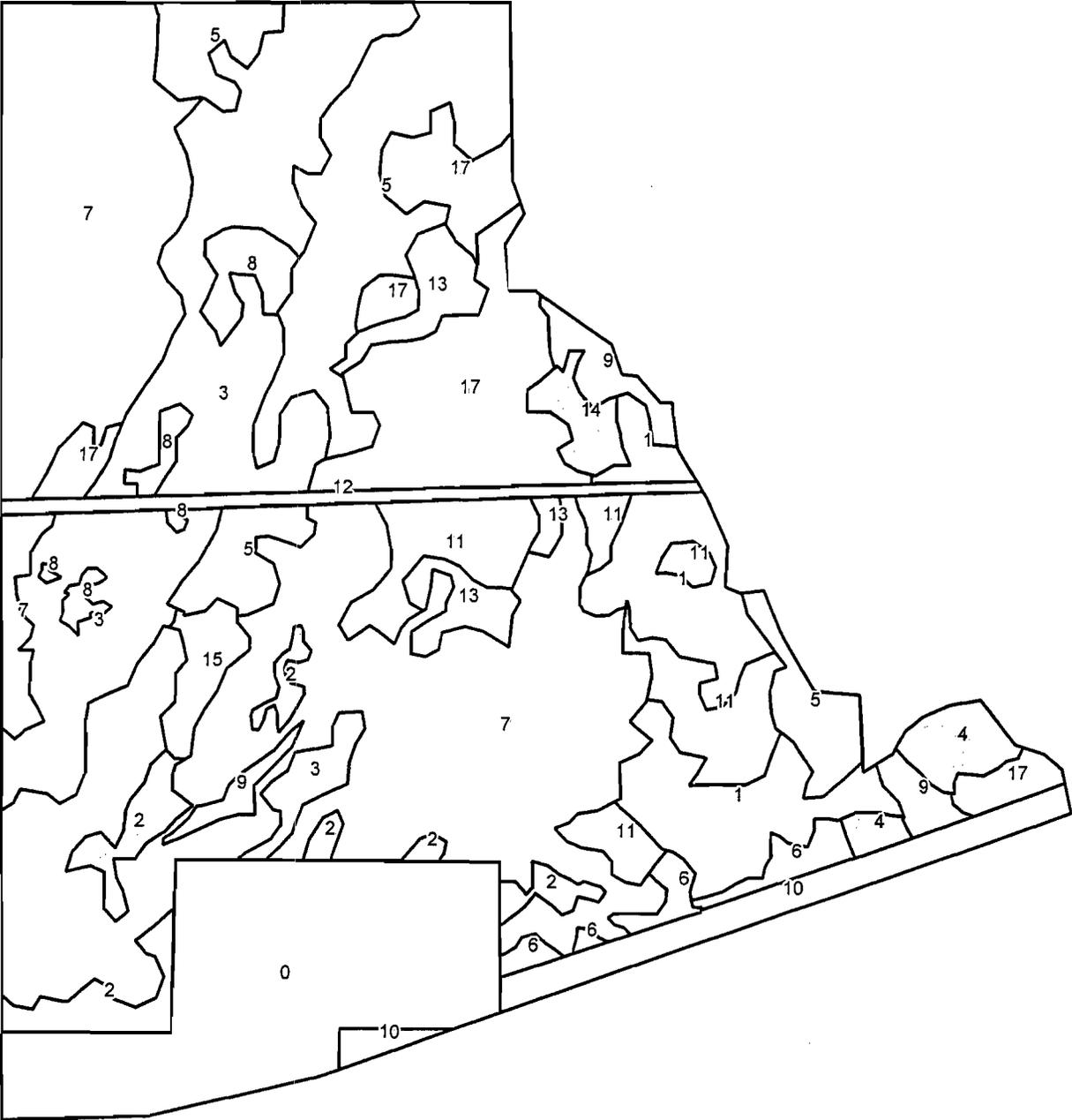
Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PW	1500		2 A	0005	3	23
2	A	0005		3 BW	0005	2	41
3	SB	0005		3			54
4	LB						73
5	NH	1500		4 H	1500	2	162
6	H	0509		2 BW	0511	2	56
7	A	0511		2 FB	0509	1	26
8	ROW						8
9	NH	1500		4 O	1500	1	44
10	LB						6
11	SH	1115		1 SH	0511	2	80



Compartment 285

Iron County

T42N R4E Sec 4, 9, & 10



Compartment 228 Stand 3

Legal Description: Vilas County T42N R6E Sec 6 & T46N R6E Sec 36

Timber types: Aspen, White Birch, Jack Pine, Red Pine, & White Pine

Acres: ~ 20

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 20 acres of decadent aspen, white birch, and jack pine (50 to 85 years old); as well as some scattered red oak, red pine and white pine. Stands border County Road K, Rita Rd., and Fallon Rd. Private land borders about half of the timber sale area.

OBJECTIVES

Designated under the Forest Production Management Classification, in the Vilas Sandy Plains North, the overall forest management objective includes increasing the red and white pine forest community type while maintaining aspen as a strong component in mixed stands.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Basically this harvest will clean up road aesthetic zones from past timber sales. "Standards" such as red oak, red pine, and white pine will be retained as seed trees, habitat and mast for wildlife, as well as aesthetics. The soil types indicate good sites for managing pine species allowing for longer rotation ages.

WATER QUALITY, BMPS

This is not an issue as the proposed sale area is at least ¼ mile from any water bodies.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including red oak, red pine, and white pine along the roads.

WILDLIFE

Regenerating aspen establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds.

ENDANGERED RESOURCES

NHI Portal listed a threatened fish within the 1 mile buffer of the timber sale area, a mussel of special concern, and 1 bird of special concern. Based on review of available habitat information, no impacts are expected as those areas will not be included in the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource

Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

RECREATION

Current uses in the area include hunting. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

KON 4/15/2007

Compartment 235 Stands 4, 5, 7, 10, 12, and 13

Legal Description: Vilas County T42N R5E Sec 1 & 2; & T43N R5E Sec 36

Timber types: Aspen, White Birch, Northern hardwood, Balsam Fir, Jack Pine, Red Pine, & White Pine

Acres: ~ 120

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 120 acres of decadent aspen, white birch, balsam fir, and jack pine (50 to 85 years old); as well as some northern hardwood and scattered red oak, red pine and white pine. Stands border County Road K, Clear Lake Road, Haskins Road, and Divine Road. State forest land borders most of the timber sale area with some private land. Several stands border Clear Lake, including the public boat landing.

OBJECTIVES

Designated under the Forest Production Management Classification, in the Vilas Sandy Plains North, the overall forest management objective includes increasing the red and white pine forest community type while maintaining aspen as a strong component in mixed stands.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

A portion of this harvest will clean up road aesthetic zones from past timber sales. "Standards" such as red oak, red pine, and white pine will be retained as seed trees, habitat and mast for wildlife, as well as aesthetics. Stands 4, 7, 12 and 13 are typed northern hardwood, aspen/balsam fir, white birch/balsam fir, and aspen respectively. Northern hardwood will be thinned using single tree selection. Where as the aspen and white birch will be regenerated using even aged management techniques including clear cut with standards and possibly seed tree method. The soil types indicate good sites for maintaining aspen and birch as components of the stand while moving them towards longer lived species such as red and white pine which have longer rotation ages.

WATER QUALITY, BMPS

To protect water quality, required riparian management zones along Clear Lake will be established. WI BMP's state no operation of equipment within 50 feet of the ordinary high water mark. Between 50-100 feet use selection harvest favoring long-lived tree species, trees > 12 inches in diameter, and a residual basal area > 60. Some buffer areas will include no harvesting and/or minimal harvesting utilizing single tree selection. If stands include wet areas, measures will be taken to minimize potential effects.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including red oak, red pine, and white pine along the roads and riparian management zones.

WILDLIFE

Regenerating aspen establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds.

ENDANGERED RESOURCES

NHI Portal listed a threatened fish within the 1 mile buffer of the timber sale area, a mussel of special concern, and 1 bird of special concern. Based on review of available habitat information, no impacts are expected as those areas will not be included in the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

RECREATION

Current uses in the area include hunting and water recreation such as fishing. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

KON 4/10/2009

Compartment 236 Stands 1, 2, 3, and 8

Legal Description: Vilas County T42N R5E Sec 2 & T43N R5E Sec 36

Timber types: Aspen, White Birch, Jack Pine, Red Pine, & White Pine

Acres: ~ 55

See attached compartment map for stands scheduled for harvesting.

STAND DESCRIPTION

The potential sale area includes approximately 55 acres of decadent aspen, white birch, and jack pine (50 to 85 years old); as well as some scattered red oak, red pine and white pine. Stands border County Road K. Private land borders about half of the timber sale area.

OBJECTIVES

Designated under the Forest Production Management Classification, in the Vilas Sandy Plains North, the overall forest management objective includes increasing the red and white pine forest community type while maintaining aspen as a strong component in mixed stands.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Half of this harvest will clean up road aesthetic zones from past timber sales.

“Standards” such as red oak, red pine, and white pine will be retained as seed trees, habitat and mast for wildlife, as well as aesthetics. Stands 1, 2, and 3 are red pine and will be thinned using single tree selection. The soil types indicate good sites for managing pine species allowing for longer rotation ages.

WATER QUALITY, BMPS

To protect water quality, required riparian management zones along Papoose Creek will be established. WI BMP's state no operation of equipment within 50 feet of the ordinary high water mark. Between 50-100 feet use selection harvest favoring long-lived tree species, trees > 12 inches in diameter, and a residual basal area > 60. Some buffer areas will include no harvesting and/or minimal harvesting utilizing single tree selection. If stands include wet areas, measures will be taken to minimize potential effects.

AESTHETICS

Considerations to minimize visual impacts include reduction of logging slash and retaining longer lived species including red oak, red pine, and white pine along the roads.

WILDLIFE

Regenerating aspen establishes habitat benefiting many species including grouse and song birds. Horizontal structure increases during harvest activity by accumulation of down woody debris (slash). This adds habitat for many ground dwelling small mammals, insects, and birds.

ENDANGERED RESOURCES

NHI Portal listed a threatened fish within the 1 mile buffer of the timber sale area, a mussel of special concern, and 1 bird of special concern. Based on review of available habitat information, no impacts are expected as those areas will not be included in the proposed timber sale areas. The local Wildlife Specialist and/or Endangered Resource Specialist will be contacted regarding locations and protective measures taken if necessary.

Archaeological survey records show no known sites in these stands.

RECREATION

Current uses in the area include hunting. Forest management enhances habitat for many game species. Longer lived species including red oak, red pine, and white pine will remain for aesthetic purposes.

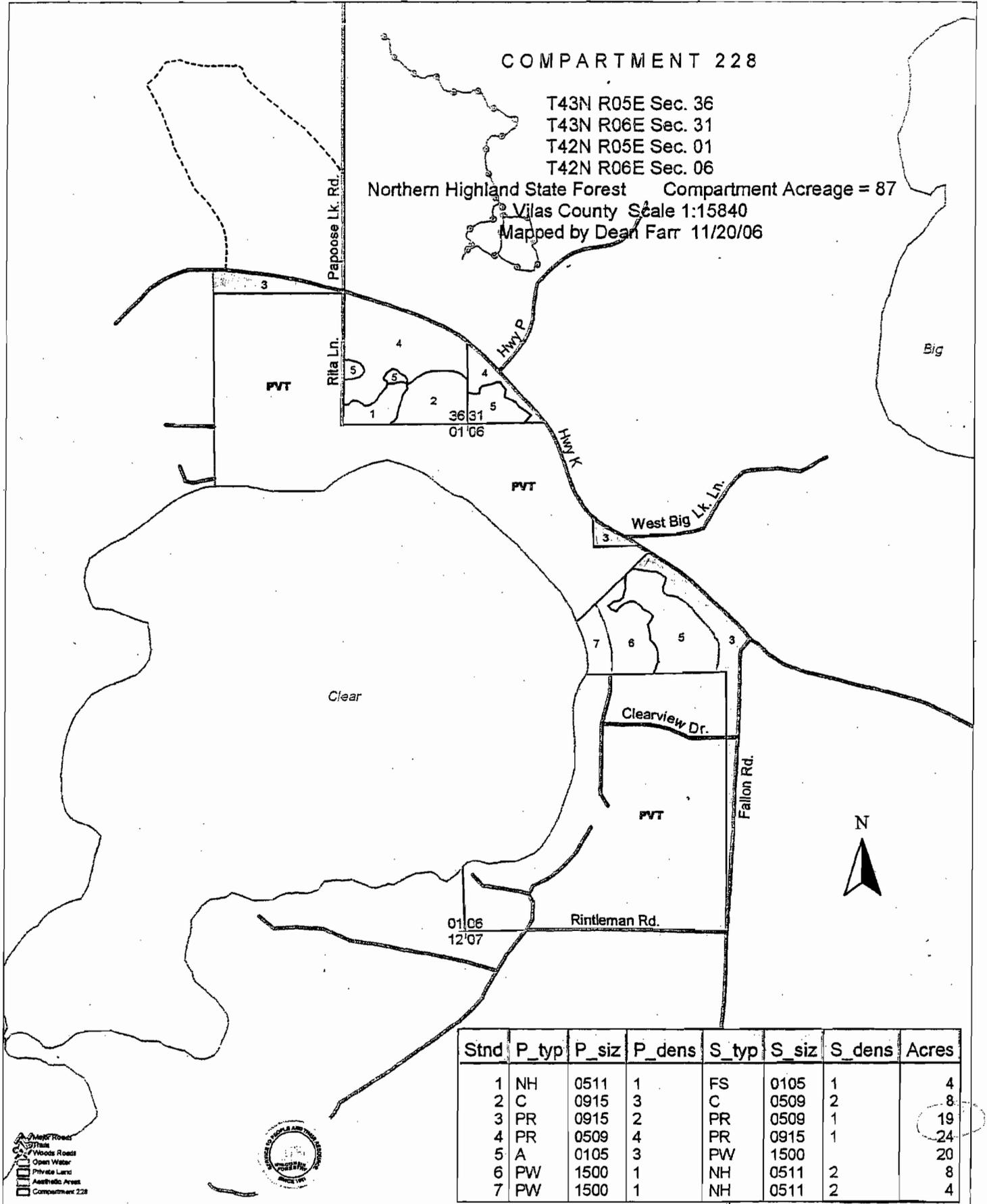
KON 4/10/2009

COMPARTMENT 228

T43N R05E Sec. 36
 T43N R06E Sec. 31
 T42N R05E Sec. 01
 T42N R06E Sec. 06

Northern Highland State Forest Compartment Acreage = 87

Vilas County Scale 1:15840
 Mapped by Dean Farr 11/20/06



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	NH	0511	1	FS	0105	1	4
2	C	0915	3	C	0509	2	8
3	PR	0915	2	PR	0509	1	19
4	PR	0509	4	PR	0915	1	24
5	A	0105	3	PW	1500		20
6	PW	1500	1	NH	0511	2	8
7	PW	1500	1	NH	0511	2	4

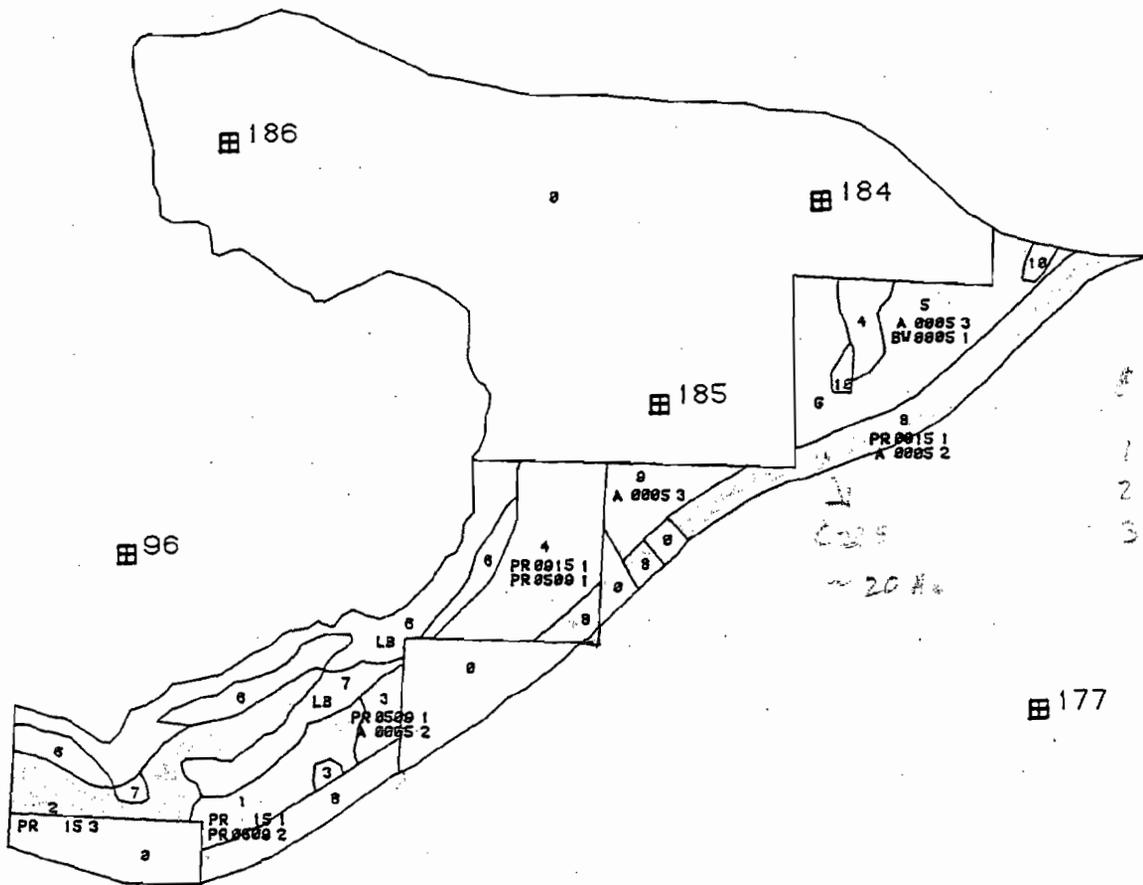
- Asst Roads
- Trails
- Woods Roads
- Open Water
- Private Land
- Aesthetic Areas
- Compartment 228



COMPARTMENT 236

NORTHERN HIGHLAND

SCALE 1:15840 PAUL SCHULTZ 12/94



1	~	9
2	~	14
3	~	4

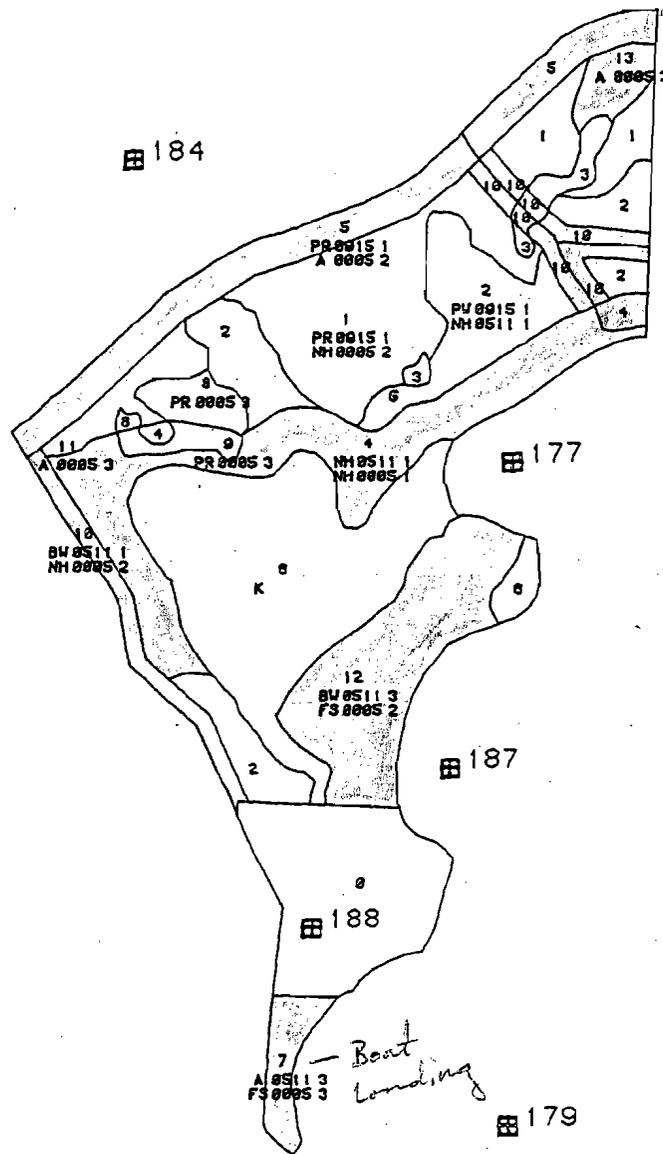
~ 20 H.

~ 35 A.

COMPARTMENT 235

NORTHERN HIGHLAND

SCALE 1:15840 PAUL SCHULTZ 12/94



228 ~ 13 1/2
 5 ~ 41 1/2
 4 ~ 57
 7 ~
 10 ~ 16
 12 ~ 32
 13 ~ 5

121

TRACT Number: Compartments 4A and 15A
Possible Name of Sale: Little Bass Lake
Legal Description: T39N, R7E, Sections 15, 16, 21 & 22
Acres: 130

STAND DESCRIPTION

These compartments are located south and east of clear lake in the northwest corner of the American Legion State Forest. There are four stands being considered for treatment in this sale. Two of the stands make up the Scenic Lake Zone around Little Bass Lake; they are typed as white birch and together they total 73 acres. The other two stands are typed as red pine (12 acres); which is schedule for a thinning and red oak (53 acres); which is scheduled for regeneration.

GOALS

Most of the area within these compartments is located in the Clear Lake Recreation Area; Area 22 in the state forest master plan. The main focus of this area is "to provide for quality recreational experiences through a number of developed facilities and trail systems in an attractive setting". The main long-term objective for forest management is to "develop a complex of mesic hemlock hardwoods, northern hardwoods and dry-mesic white pine-red pine and red oak forest with old growth characteristics. Secondly, maintain limited amounts of aspen and other minor early successional types".

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

The "white birch" stands around Little Bass Lake are really a mixture of white birch, aspen, maple, oak, hemlock and pine. To promote the establishment of the longer lived species, and conform to the goals established for this area and scenic lakes, this harvest will consist only of salvaging the aging white birch and aspen and selective thinning of the other species.

The oak stand is approximately 93 years old and was last thinned in 1993. At this time a shelterwood or seed tree harvest will be implemented to promote the establishment of red oak, white pine, and maple.

The red pine was also thinned in 1993; it is approximately 71 years old and will be selectively thinned again with this sale.

WATER QUALITY, BMPS

There is a major concern to protect the water quality in both Little Bass and Clear Lakes. A second buffer (a riparian management zone) will be established within the Scenic Lake Zone where no wheeled or tracked equipment will be allowed. No cutting will be done on the isthmus between the two lakes.

AESTHETICS

Aesthetics is also a major concern in this recreational area. In the riparian management zone (within the Scenic Lake Zone) only marked trees will be harvested. Slash treatment will also be required within 50 feet of the lakes and town road.

WILDLIFE

As with most of our sales the harvest activity itself will cause little disturbance for the wildlife in this area, but the overall increase in habitat diversity after the sale should create a positive benefit for wildlife in the future. The reestablishment of the oak will also have long range wildlife benefits.

Time of year cutting restrictions will be established for the Osprey nest located on the power pole in the red pine stand.

ENDANGERED RESOURCES

A search of the NHI Portal did reveal an occurrence for an osprey nest on the powerline and cutting requirements will be implemented to protect the nest during the spring and summer.

No harvest will take place in the area between Clear and Little Bass Lakes where archeological sites may exist.

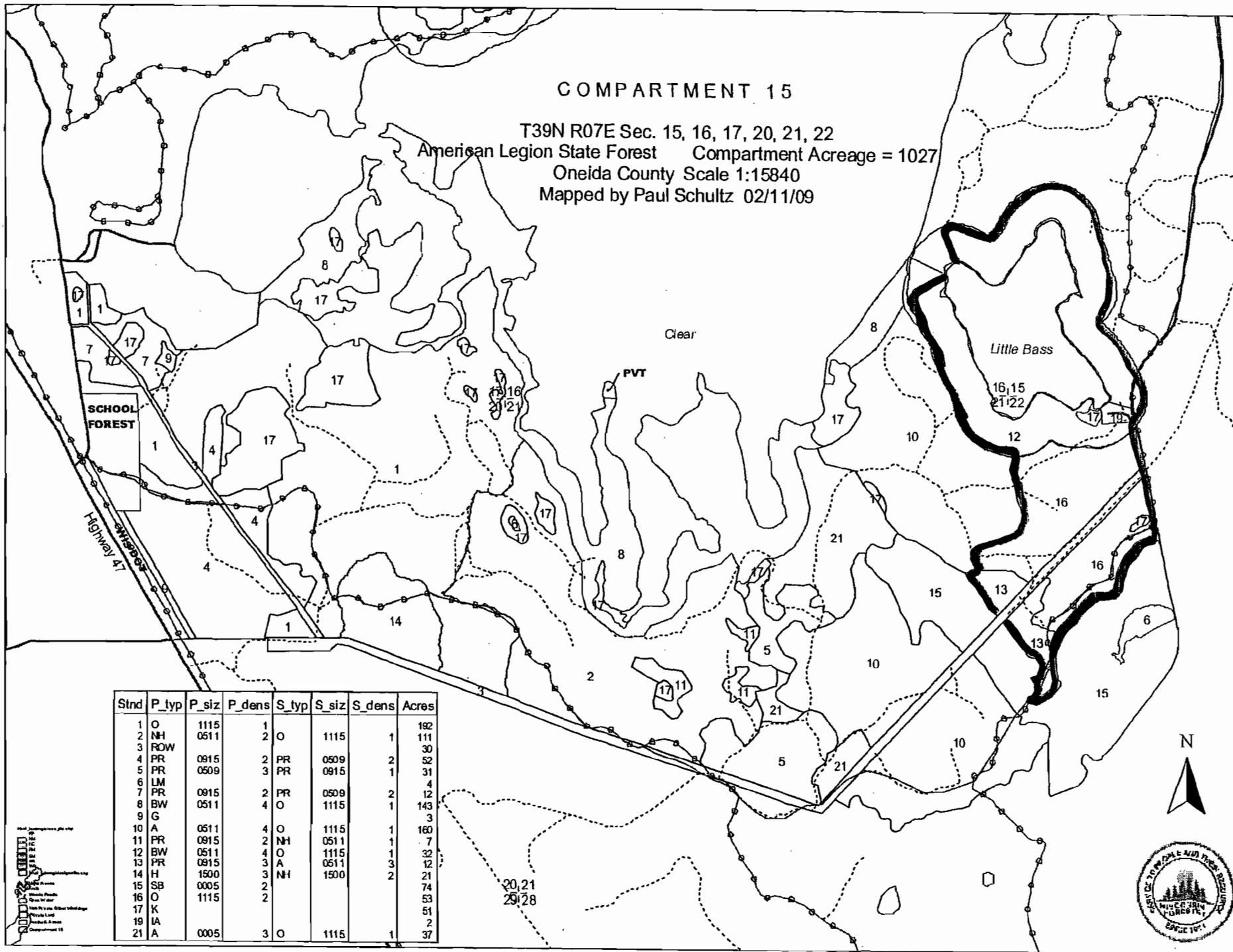
RECREATION

As stated above, this is a designated Recreation Area in the Forest Master Plan and to help decrease the impact of the harvest operation no cutting will be allowed from May 1st to September 15th.

02/02/2009 CHD

COMPARTMENT 15

T39N R07E Sec. 15, 16, 17, 20, 21, 22
 American Legion State Forest Compartment Acreage = 1027
 Oneida County Scale 1:15840
 Mapped by Paul Schultz 02/11/09



TRACT Number: Compartment 7A
Possible Name of Sale: Pickerel Lake Aspen
Legal Description: Oneida County, T39N, R8E, Sections 6 & 7
Acres: 40

STAND DESCRIPTION

Compartment 7 is located just west of Pickerel Lake, in the very northwest corner of the Town of Newbold on the American Legion State Forest. There are two stands being considered for harvest; both are part of the lake aesthetic zone, both are typed as aspen and both are scheduled for a regeneration cut. One stand is the remnants of the tornado of 1984 and the other is a recent acquisition from the Wisconsin Valley Improvement Corporation. Together they total 89 acres but for aesthetic and water quality considerations it is estimated that only about 40 acres will be harvested.

GOALS

Both of these stands are in the Oneida Sandy Plain Forest Production Area; Area 6 in the State Forest Master Plan. One of the objectives for this area is; "to maintain aspen component as a dominant community". Others include; "retain and increase pine components on aspen, red oak, white birch and northern hardwood stands" and "increase red oak component in mixed stands".

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

In this sale all of the aspen, white birch, soft maple and balsam will be cut, and the pine and red oak will be marked for salvage and thinning. This will insure the regeneration of the aspen, release any advanced regeneration of pine, and maintain the older pine and oak as a seed source to encourage some regeneration in any areas that do not regenerate to aspen.

WATER QUALITY, BMPS

One of the primary concerns of this sale is the protection of Border Creek and Pickerel Lake. This will be done by establishing a 100 foot riparian management zone along the shore of both of these water bodies. Within that zone an average basal area of 60 square feet will be retained and no wheeled or tracked equipment will be allowed within 50 feet of the water.

AESTHETICS

Aesthetics is a concern for the people recreating on Pickerel Lake. The riparian management zone that will be established for shoreline protection will also act as an aesthetic zone to lessen the impact of the harvest by retaining an average of 60 square feet of basal within 100 feet of the shoreline.

WILDLIFE

The harvest itself will have a minimal, short term, impact on the wildlife while regeneration of the aspen, retention of the pine and oak and encouragement of pine and oak regeneration will all create long term benefits for wildlife.

ENDANGERED RESOURCES

A search of the NHI Portal did not reveal any occurrences of endangered or threatened species within the sale area.

There are no known archeological sites in the sale area.

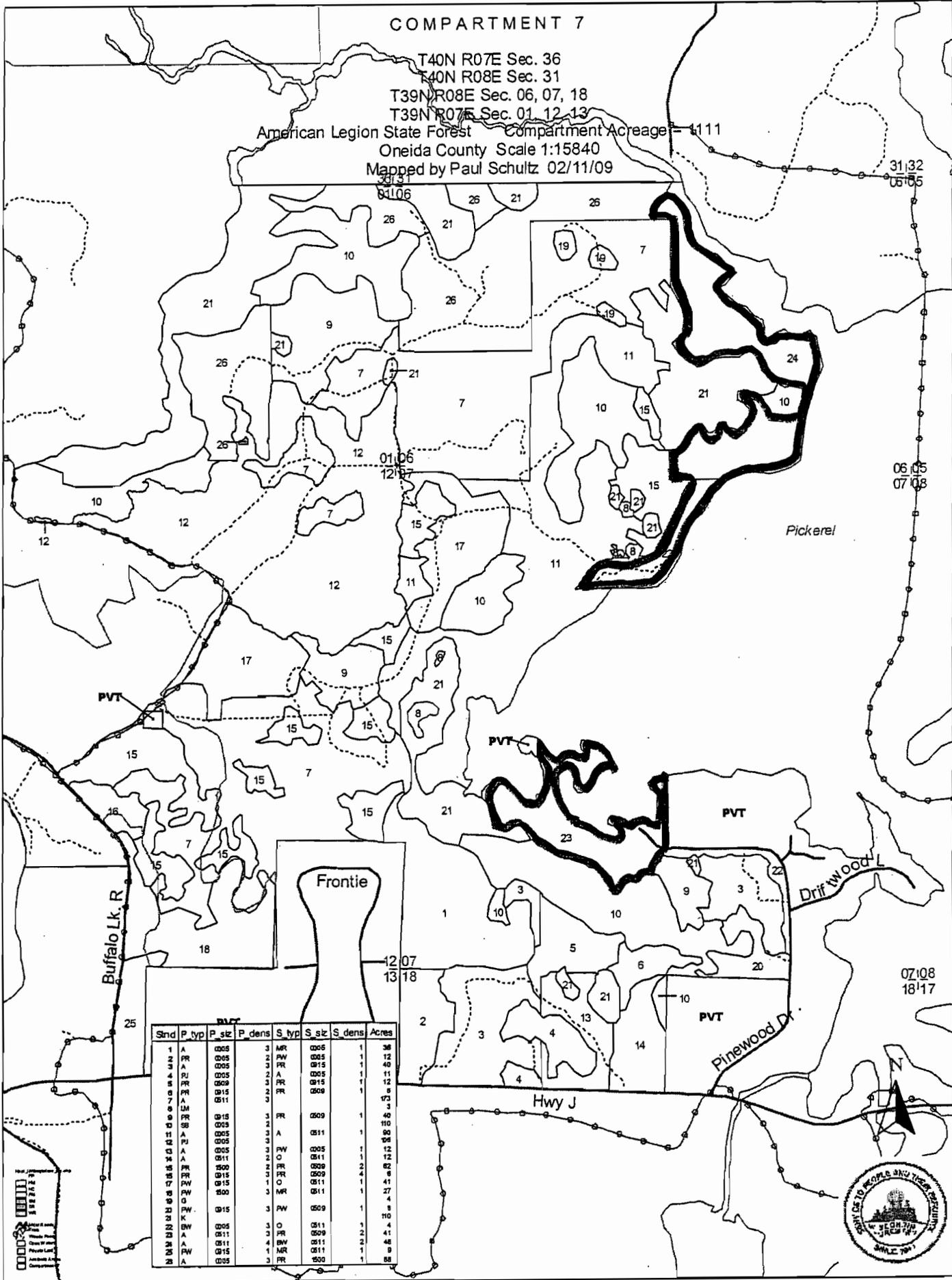
RECREATION

The two major recreational activities in this area are hunting and recreational uses on Pickerel Lake. The creation of the riparian zone will minimize the effects of the harvest for the users of the lake and the hunters will only see an impact for a few years until the regeneration becomes established.

02/05/09 CHD

COMPARTMENT 7

T40N R07E Sec. 36
 T40N R08E Sec. 31
 T39N R08E Sec. 06, 07, 18
 T39N R07E Sec. 01, 12, 13
 American Legion State Forest Compartment Acreage = 1111
 Oneida County Scale 1:15840
 Mapped by Paul Schultz 02/11/09



Stnd	P typ	P siz	P dens	S typ	S siz	S dens	Acres
1	A	005	3	MR	005	1	36
2	PR	005	2	PW	005	1	12
3	A	005	3	PR	015	1	40
4	PJ	005	2	A	005	1	11
5	PR	009	3	PR	015	1	12
6	PR	015	2	PR	009	1	8
7	A	011	3				73
8	LM	015	3	PR	009	1	40
9	SB	005	2	A	011	1	110
10	SB	005	3	A	011	1	90
11	A	005	3	A	011	1	96
12	A	005	3	A	005	1	12
13	A	011	2	O	011	1	12
14	PR	500	2	PR	009	2	82
15	PR	015	3	PR	009	4	6
16	PR	015	1	O	011	1	41
17	PW	500	3	MR	011	1	27
18	G						4
19	PW	015	3	PW	009	1	8
20	K						10
21	SW	005	3	O	011	1	4
22	A	011	3	PR	009	2	41
23	A	011	4	BV	011	2	46
24	PW	015	1	MR	011	1	9
25	A	005	3	PR	500	1	88



TRACT Number: Compartments 13
Possible Name of Sale: 47 Woodruff Wedge
Legal Description: T39N, R7E, Sections 7/17/18
Acres: 161

General Sale Description:

This timber sale is located within the Clear Lake Recreation Management Area of the Northern Highland American Legion State Forest. This compartment is located between Highway 47 and Woodruff Road, near Clear Lake in the northwest corner of the American Legion State Forest. The Clear Lake Recreation Management Area consists of over 3,700 acres of land with multi-faceted recreational opportunities. Clear Lake Campground with modern camping facilities, an active snowmobile trail, the Raven Trail for skiing and hiking, Hemlock/Inkpot Wild Lakes hiking trails and a mountain bike trail all coexist in this beautiful forested area.

At the time of European settlement, this area contained northern hardwood with pockets of hemlock. Historically, fire was significant in replacing these "stands" of trees every 50 to 200 years. Sporadic wind events to a lesser degree have also helped to shape this forest. With major fire all but eliminated from this landscape, passive and active management schemes are required to keep this community thriving and ecologically viable.

The Goal For This Timber Sale Include:

The area within these compartments is located in the Clear Lake Recreation Area; Area 22 in the state forest master plan. The main focus of this area is "to provide for quality recreational experiences through a number of developed facilities and trail systems in an attractive setting". The main long-term objective for forest management is to "develop a complex of mesic hemlock hardwoods, northern hardwoods and dry-mesic white pine-red pine and red oak forest with old growth characteristics. Secondly, maintain limited amounts of aspen and other minor early successional types".

Stand Description and Silvicultural Prescriptions

There are six different timber types being considered for treatment in this sale. They are typed as white birch (29 acres), white pine (62 acres), red pine (37 acres), northern hardwood (16 acres), red oak (12 acres), hemlock hardwood (5 acres), all together comprising a total of 161 acres.

The pine, northern hardwood, red oak, and hemlock hardwood stands will be managed by selectively thinning. A selection thinning will develop old growth characteristics through all aged management. Large diameter trees will be maintained and encouraged up until pathological maturity through periodic light thinnings. Diseased trees will be reduced in this area, but not eliminated. Some dying trees will be left for future foraging and den sites. Dead trees will be encouraged to persist until they fall back to the soil in this area. Canopy gaps will be created and cleaned to favor the longer lived tree species in this area and to reduce their replacement by hazel brush.

Thinning the white birch throughout the area will help reduce the number of pioneer birch trees in this stand, converting the site to longer-lived northern hardwood tree species. This will increase sunlight to the forest floor, allowing for the existing maple trees present in the understory to grow.

Hazard Tree Reduction will eliminate high risk trees near the roads, snowmobile trails and the biking area. The aesthetic reserve areas along the roads and trails will provide added growing space for large diameter trees to remain healthy and vigorous for years to come.

The Aesthetic Area will preserve the aesthetics along Minocqua Lake as well, and maintain water quality through strict enforcement of Best Management Practices (BMPs) for Water Quality. Only marked trees will be cut in this area, maintaining at least 60 square feet of basal area per acre in long-lived trees. Harvest will occur on frozen ground with no mechanized activity allowed within 50 feet of the lake. No roads will be allowed in this area.

Overmature Tree Harvest will remove aspen, white birch and balsam fir along Highway 47 and Woodruff Road maintaining aesthetic considerations by leaving dense hemlock patches and other scattered trees and by controlling slash along the highway.

Ecological Considerations:

This timber sale occurs in the Northern Highland ecological landscape. Topography for this landscape varies from outwash plains to collapsed outwashed plains of sand based soils. Ecological opportunities include pine forest restoration, management emphasis on sensitive water associated animals like loons, osprey and eagles and protecting and maintaining wild lakeshores. Management activities prescribed in this timber sale consider and enhance these opportunities.

The bulk of the proposed timber sale occurs on a Keneenaw sandy loams, stony soils. These areas are dominated by red and white pine timber types. Slopes average between 1-6%. The main concern in managing woodland is the equipment limitation, which is caused by stones. Hand planting or yarding of the logs by cable may be necessary. Logging during the driest parts of the year will help to minimize rutting.

The other part of the timber sale is located on a Padus-Pence sandy loam soil, with slopes averaging 1-6%. There are no major hazards with this soil type or slopes.

Water quality Considerations:

No cutting in the reserve areas along the steep slopes of Minocqua Lake. A sixty-six foot reserve strip has been established to prevent erosion and for aesthetic concerns. No slash or tops of the trees are to be felled or dropped into the swamp/bog or small lowlands found throughout the timber sale. BMP's related to road construction and landings will be enforced.

Wildlife Considerations:

Red oak will be managed for an extended rotation, which will provide mast for wildlife for a longer period. Hemlock saplings present will be protected from damage during the harvest. Additional cavity trees and snags per acre will be left for wildlife. Coarse woody debris will occur as a result of the extended rotation and will be encouraged. Following the Wisconsin BMP's and protecting the buffer zones along the lake will maintain habitat for the eagles and ospreys. Avoid harvesting during any nesting seasons. As with most of our sales the harvest activity itself will cause little disturbance for the wildlife in this area, but the overall increase in habitat diversity after the sale should create a positive benefit for wildlife in the future.

Recreation Consideration:

Recreation is the primary emphasis for this entire compartment and the silviculture has been modified to accommodate it. Stands will be managed on an extended rotation because of the snowmobile trails/biking trail. Large diameter trees will be perpetuated, some to pathological maturity. Trail use by logging will be limited. Ski trails, hiking trails and biking trails will be kept open and free of slash. Trails will be graded (and seeded if necessary) following the harvest.

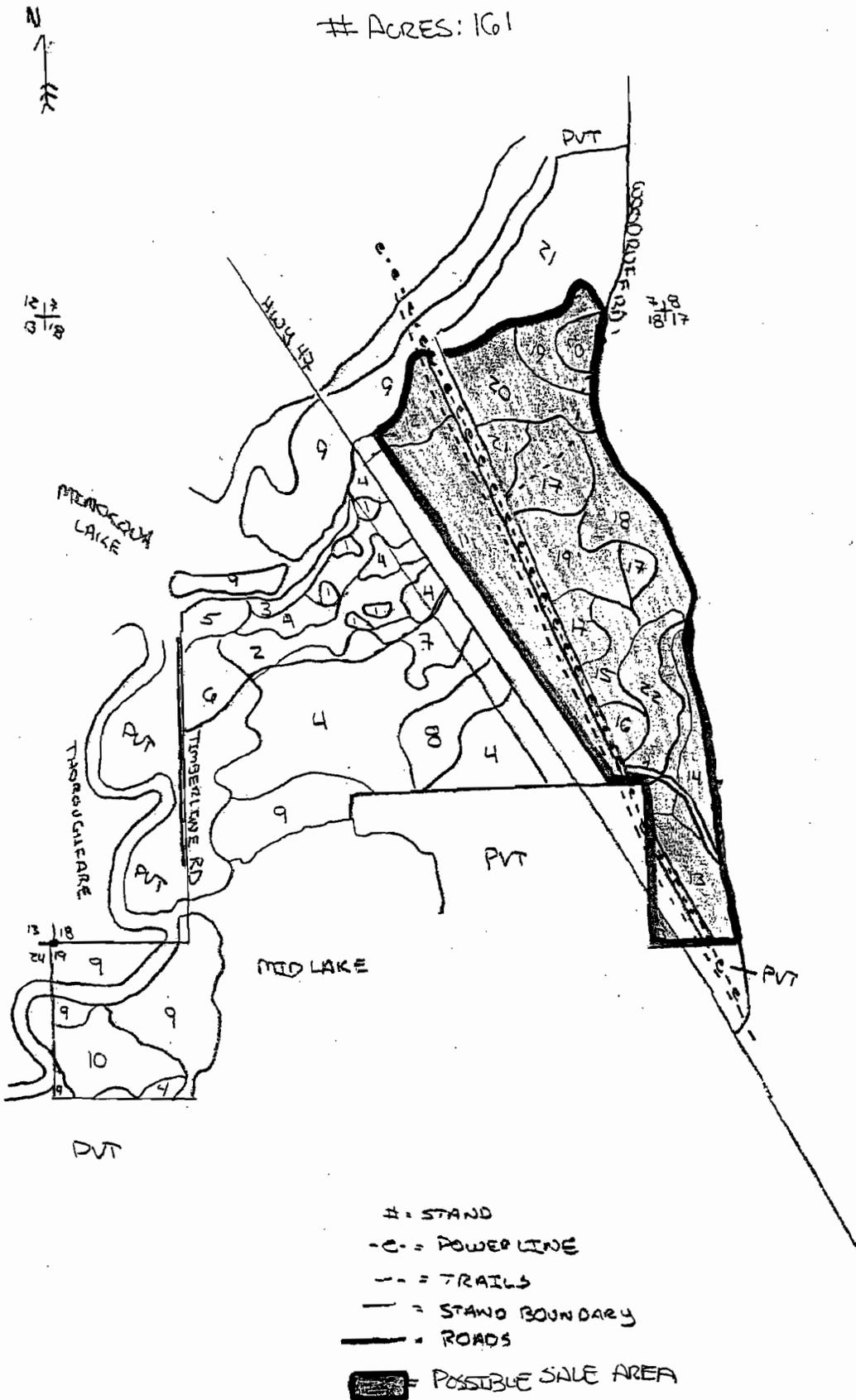
Resources of Special Concern Considerations (archeological/historical review required on Department lands):

There are archeological resources of concern identified and addressed in the lower portions of sections 18.

Endangered Resources: Osprey (THR), eagle (SC) and goshawk (SC) have been listed by Natural Heritage Inventory as species occurring in the project area. Three plant species of special concern also have been listed in the project area. Osprey (THR), eagle (SC) and three animal species of special concern also have been identified within 1 mile of this sale.

Most of the sale will be harvested during the dormant season to mitigate concerns with these species. The remainder of the sale will allowed to be started after the critical breeding season (July 1) and will be monitored for concern with the species present.

TRACT NUMBER: COMPARTMENT 13
 POSSIBLE NAME OF SALE: 47 WOODROFF WEDGE
 LEGAL DISCRPTION: T39N, R7E, SECTIONS 717/18
 # ACRES: 161



Tract Number: Compartment 55
Possible Name of Sale: Sugar Camp Creek Sale
Legal Description: T39N, R9E, Sections 6,7,8
Timber types: Aspen/White Birch, Red Pine, Red Oak
Acres: 310

STAND DESCRIPTION

Compartment 55 is located east of County Hwy O and south of the Wisconsin River in the northwest part of the Town of Sugar Camp. This compartment is in the Oneida Sandy Plains Forest Production Area (area 6) in the NHAL State Forest Master Plan. Most of the proposed timber sale area was formerly owned by the Wisconsin Valley Improvement Company. Stand 3 is well stocked pine sawtimber with pockets of various hardwood species. Stand 8 is young aspen with an overstory of red oak sawtimber. Stand 10 is well stocked oak sawtimber. Stand 11 is a well stocked mix of aspen, white birch, and red maple trees. The total harvest area is approximately 310 acres in size.

GOALS

The short-term objectives are to increase the presence and age of red and white pine. Maintain aspen component as a dominant community as well as maintain aspen as a secondary component in other stands. Maintain and enhance the red oak type.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

A preliminary evaluation of Compartment 55 revealed that not all of the stands scheduled for harvest are ready for harvest. Stand 1 (PR 5-9³) will be re-examined in year 2013. Parts or most of Stands 3,8,10, and 11 are in need of active management. Management prescriptions are to harvest the aspen, white birch, red maple, balsam fir and selectively thin the red & white pine in Stand 3. In Stand 8 conduct an overstory removal of the red oak retaining a few scattered oaks for wildlife trees. Initiate the first cut of a two-cut oak shelterwood harvest in Stand 10. Harvest the aspen, white birch, balsam fir, and red maple in Stand 11.

WATER QUALITY

A riparian management zone (RMZ) of 100 feet as per forestry BMP's will be established along the Wisconsin River and Sugar Camp Creek.

AESTHETICS

The RMZ along the Wisconsin River and Sugar Camp Creek will also be the aesthetic management zones for both streams.

WILDLIFE

This possible sale area provides habitat for both game and non-game species and the proposed harvest should provide a positive benefit for many of them. The selection harvest will help increase the amount of sunlight reaching the understory layers, encouraging additional regeneration as well as improving the growing environment for those seedling and saplings now present. The young aspen suckers resulting from the aspen harvest will benefit many wildlife species like deer, grouse, woodcock, and rabbits.

ENDANGERED RESOURCES

There should be no potential negative impacts to any listed or endangered plant species, animal species, or rare community that may occur as a result of this management activity. Natural Heritage Inventory data has been consulted.

RECREATION

No decking will be allowed on the snowmobile trail during the snowmobile season. Slash will be treated within 50 feet of the trail.

Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PR	0509	1				57
2	A	0005	3	A	0511	1	25
3	PR	1500	3	PW	1500	1	307
4	G						6
5	PR	0509	1	PR	0005	2	115
7	PW	1500	2	PW	0915	1	50
8	A	0005	3	O	1500	1	29
9	LM						16
10	O	1115	2	O	1500	1	82
11	BW	0511	3	MR	0511	1	47
12	A	0511	2	O	0511	1	24
13	K						15
14	ROW						16
15	A	0005	2				20

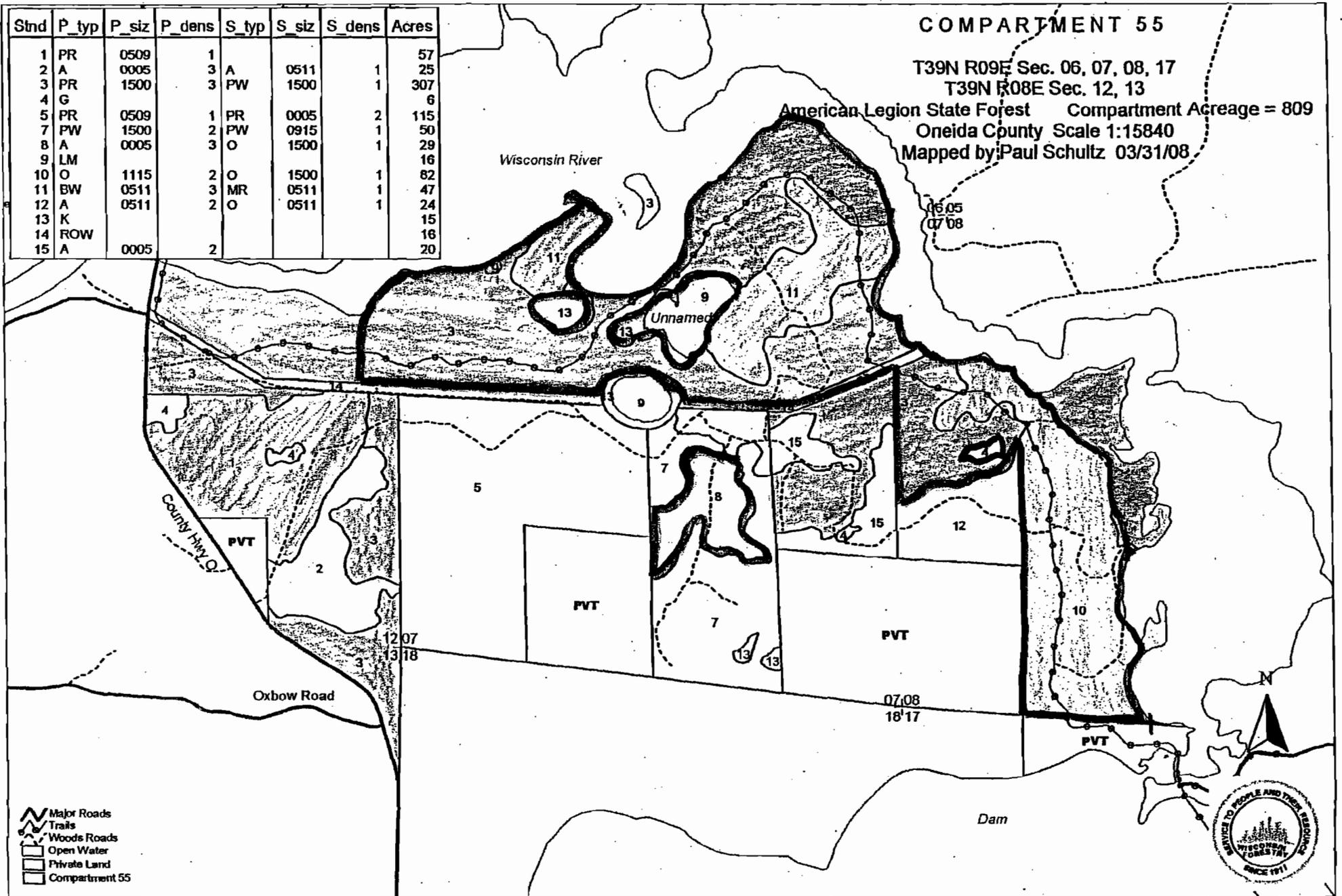
COMPARTMENT 55

T39N R09E Sec. 06, 07, 08, 17
T39N R08E Sec. 12, 13

American Legion State Forest Compartment Acreage = 809

Oneida County Scale 1:15840

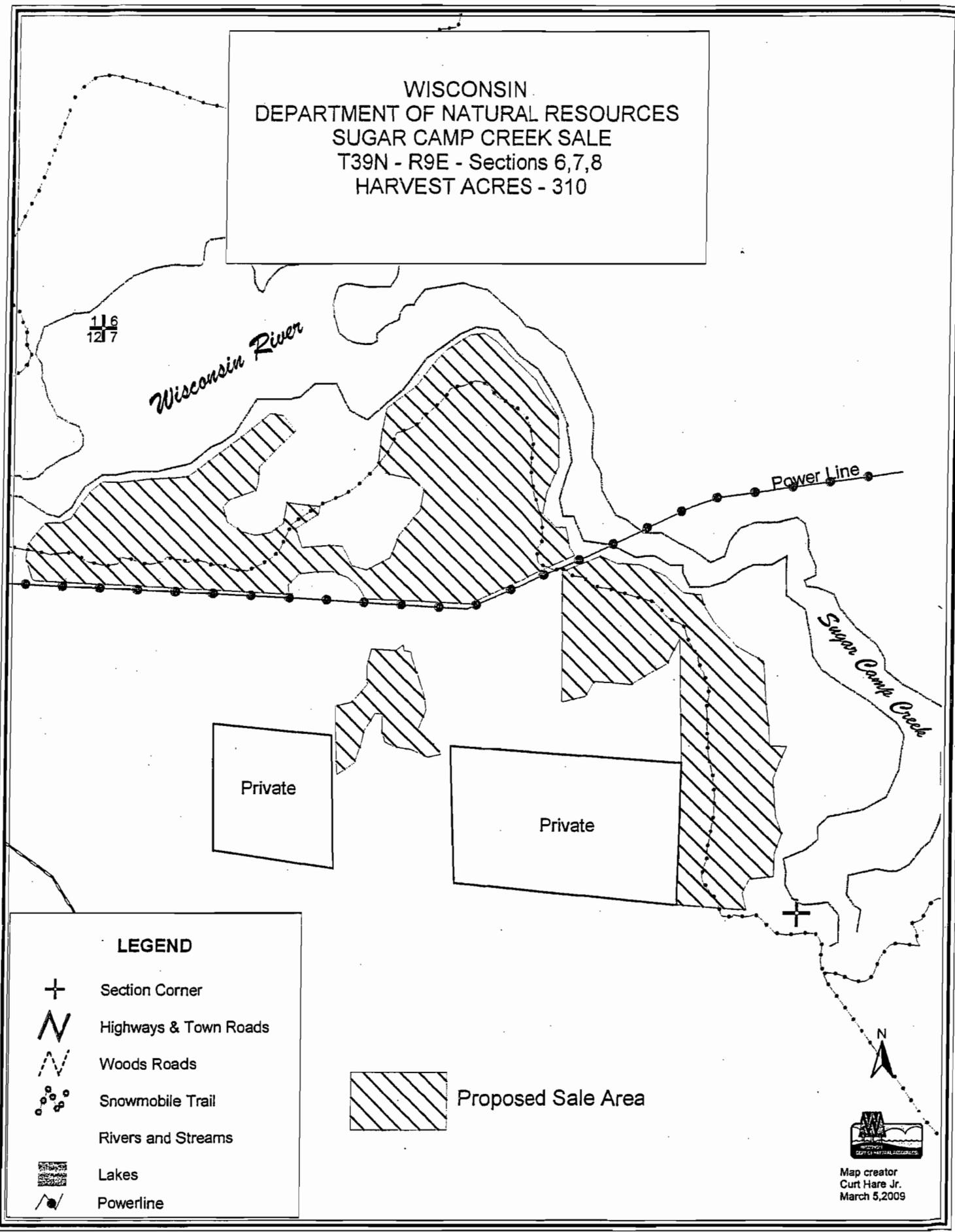
Mapped by: Paul Schultz 03/31/08



- Major Roads
- Trails
- Woods Roads
- Open Water
- Private Land
- Compartment 55



WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
SUGAR CAMP CREEK SALE
T39N - R9E - Sections 6,7,8
HARVEST ACRES - 310



116
127

Wisconsin River

Power Line

Sugar Camp Creek

Private

Private

LEGEND

- + Section Corner
- N Highways & Town Roads
- W Woods Roads
- Snowmobile Trail
- Rivers and Streams
- ▒ Lakes
- Powerline

 Proposed Sale Area



Map creator
Curt Hare Jr.
March 5, 2009

TRACT Number: Compartment 80A
Possible Name of Sale: Shirley's Strips
Legal Description: T38N, R9E, Sections 7, 8, 17 & 18
Acres: 130

STAND DESCRIPTION

This compartment is located in the southeast corner of the American Legion State Forest on the north side of the Stone Lake Road just east of Indian Creek. There are three stands being considered for treatment in this sale. Stand 2 is typed as hemlock\red maple; it is 67 acres and is scheduled for an all-aged regeneration harvest. Stand 9 is 7 acres of natural red pine in 3 small patches and is scheduled for a thinning. Stand 15 is typed as jack pine\black spruce; it is 9 acres and is the last strips of a regeneration cut that was done in 1984.

GOALS

This compartment is in the Stone Lake Site of the Ruffed Grouse Demonstration Area which can be found under the Habitat Management Classification (Area 7) in the State Forest Master Plan. The long-term objectives for this area are: "to maintain it as a ruffed grouse habitat management demonstration area. Aspen would dominate the mixed forest in a variety of age classes and patch sizes. Other associated species would be managed along with the aspen to the extent that they do not interfere with adequate aspen regeneration", and "Patches of existing mature pine, northern hardwoods, hemlock-hardwoods, white birch and red oak would be maintained or managed for wildlife habitat along with the aspen. Representatives of these types would be present".

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Due to the difficulty of getting Hemlock to regenerate and due to the fact that it usually only occurs in small patches within a larger complex with other hardwoods, caution is always taken when any management is done in the hemlock/hardwood type. The hemlock stand being considered here does have a large component of other hardwoods. To regenerate some of these other species, as-well-as possibly getting some hemlock regeneration started, a selective harvest under the all-aged system will be done with a higher basal area being maintained in the hemlock patches.

In the jack pine\black spruce stand the remaining strips will be clear cut to allow for them to regenerate. The strips that were cut before have all regenerate and are fully stocked. The natural red pine stand will be thinned under the guidelines for red pine in the silviculture handbook.

WATER QUALITY, BMPS

Indian creek forms the western border of this compartment and the muskeg that it flows through is in the Big Swamp Site of the Peatland\Wetlands Native Community Management Area (area 10 in the master plan). There are three small areas where this sale will border on this muskeg. One is approximately 2 acres of the jack pine\black spruce stand and the other two areas are 2 acre and 3 acre patches of the red pine stand. In each case the sale boundary will be kept back to protect the water quality of this special community.

AESTHETICS

To help address the aesthetic concerns the slash will be treated along Stone Lake Road.

WILDLIFE

The biggest benefit to wildlife will be the creation of more habitats by adding more structure and age class diversity with the regeneration in the hemlock-hardwood and jack pine stands.

ENDANGERED RESOURCES

A search of the NHI Portal revealed an occurrence for the gray wolf in the sale area. The bureau of endangered resources will be contacted and all the necessary precautions will be taken if there is a den site in this compartment.

No known archeological sites are located in the sale area.

RECREATION

By far the greatest recreational pursuit in this area is hunting. The harvest operation will have almost no affect on the hunters and the regeneration that will follow the sale will have positive affects on the habitat for game species.

02/10/2009 CHD

TRACT Number: Compartment 81A

Possible Name of Sale: Sharon's Birch

Legal Description: T38N, R8E, Sections 12 & 13; T38N, R9E, Sections 7 & 18.

Acres: 133

STAND DESCRIPTION

This compartment is located in the southeast corner of the American Legion State Forest on the north side of the Stone Lake Road just west of Indian Creek. There are two stands being considered for treatment in this sale. The first stand is 127 acres; it is typed as white birch/aspen and is scheduled for a regeneration harvest. The second stand is typed as red pine; it is 6 acres and is scheduled for a thinning.

GOALS

These two stands are in the Oneida Sandy Plains Forest Production Area; area 6 in the state forest master plan. The primary objectives of this area are: to maintain a diverse mixture of the types that are present now and to increase the presence and age of red and white pine on suitable sites across most of the mixed forest as opportunities present themselves.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

The first harvest of the second growth forest occurred in this area in 1962; the prescription at that time was to harvest all the aspen, white birch, jack pine, balsam, and black spruce with two or more pulpwood sticks to a 4 inch top and all of the marked white and red pine. Following the harvest approximately 20 acres was planted to red and white pine but poor survival left only 6 acres of plantation and a scattering of pine among the other species that regenerated and the scattered residuals that were left.

This sale will again include a harvest of all white birch, aspen, jack pine, balsam and black spruce and a selective thinning of the pine. However the utilization specifications will be to one stick and all of the residual hardwoods and aspen in the 1-5 inch category will also be cut to insure that an even-aged stand of all the current species present will regenerate. By leaving the scattered pine, oak and white spruce it will also provide the opportunity for these species to regenerate and increase their component in the new stand.

WATER QUALITY, BMPS

Indian creek forms the eastern border of this compartment and the muskeg that it flows through is in the Big Swamp Site of the Peatland\Wetlands Native Community Management Area (area 10 in the master plan). Another lobe of this native community will border this sale on the west. The sale boundary will be kept back to protect the water quality of this special community.

AESTHETICS

The slash will be lopped and scattered along Stone Lake Road to help reduce the aesthetic impact of the harvest operation.

WILDLIFE

The biggest benefits to game species will first be the browse that becomes available as the site regenerates and later the cover it will provide. It will also become a habitat for those species of song birds that nest in young stands of early successional species.

ENDANGERED RESOURCES

A search of the NHI Portal revealed an occurrence for the gray wolf in the sale area. The bureau of endangered resources will be contacted and all the necessary precautions will be taken if there is a den site in this compartment.

No known archeological sites are located in the sale area.

RECREATION

By far the greatest recreational pursuit in this area is hunting. The harvest operation will disrupt the hunting for a period of time but the regeneration that will follow the sale will have positive affects on the habitat for game species. Local residents also hike in this area and it will cause a disruption for them during the actual harvest. They will be contacted before the sale is established.

02/11/2009 CHD

TRACT Number: Compartments 11, 12, 17, 18, 19, 39

Possible Name of Sale: Three Miles Long

**Legal Description: Vilas County, T40N R8E Sections 1 and 2
T41N R8E Sections 34 and 35**

Timber Types: White Birch, Aspen, Balsam Fir, Red Pine

Acres: 333

STAND DESCRIPTIONS

Approximately 300 acres of this proposed sale involve road, lake, and/or streamside reserve strips created during management activity in adjacent stands at various times over the last 30 years. Most lie along approximately three miles (both sides) of County Highway G. Smaller areas border town roads, Stella Lake, Deadman Lake, and Stella Creek. "Interior" stands of aspen and natural red pine are also included.

White birch is the most dominant forest type growing in conjunction with aspen and balsam fir along with some areas containing red oak and northern hardwoods as the secondary type. The white birch and aspen are overmature and are exhibiting a good deal of mortality and crown dieback. Mature balsam fir also exists as both a primary and secondary type across much of the sale area. Portions of these reserve strips have had the aspen removed in previous years so there are a few areas containing some large aspen saplings and small poles.

GOALS

The primary objectives of this Forest Production Area are to maintain a diverse mixture of the types that are present now and to increase the presence and age of red and white pine on suitable sites across most of the mixed forest as opportunities present themselves.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTIONS

In all roadway and surface water strips management will focus on maintenance and retention of longer lived species such as oak, red maple, sugar maple, white spruce, red pine, and white pine wherever possible. This will be accomplished by limiting the harvest to the white birch, aspen, and balsam fir. As occurred in portions of the sale area in the past, aspen will regenerate where it is most dominant and the longer lived species are less common. The 49 year old red pine stand shall be thinned according to stocking guidelines.

WATER QUALITY & BMP'S

This sale includes areas adjacent to Stella Creek and Stella and Deadman Lakes. BMP's for water quality will be applied as necessary.

AESTHETICS

Though this sale lies along a county highway, town roads, and surface water features, the nature of the sale and the management prescription/objective will minimize adverse visual impacts. This includes the maintenance and retention of all long lived species and the fact the cutting will be limited to relatively narrow strips. Stella and Deadman Lakes have the Scenic Lake classification. Where longer lived species are less numerous some aspen/birch/balsam fir will be retained to protect the aesthetic quality of the lakeshores.

WILDLIFE

This proposed harvest will help maintain species diversity within an area largely dominated by aspen. Snags will be left standing unless they pose a hazard to logging operations. All existing maple and oak cavity trees will also be retained.

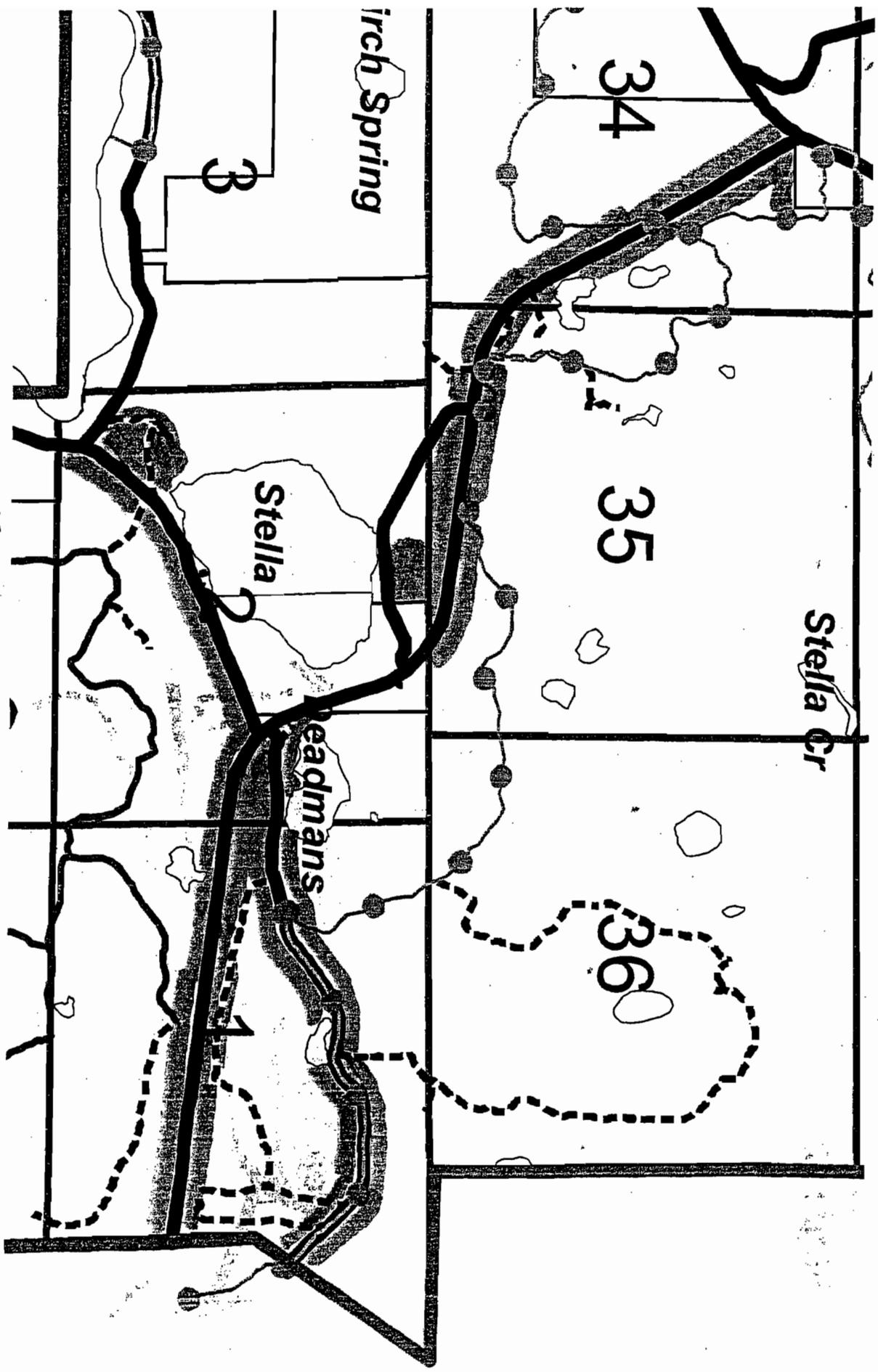
ENDANGERED RESOURCES

A search of the NHI Portal showed several eagle nests within the one mile buffer zone but none within the search area. One, possibly two, osprey nests lie within the search area on opposite sides of Stella Lake. Seasonal harvest restrictions and setbacks will be in place as recommended by wildlife staff. No other threatened or endangered species are known to exist in the proposed sale area.

RECREATION

A snowmobile trail crosses and runs through part of the sale area. Restrictions will be made to keep the trail open and safe during the snowmobile season. The sale will not have an effect on recreational use of Stella or Deadman Lakes.

Three Miles long timber sale
Anticipated cutting areas
are hi-lited.



Sections 1+2 THON RBE
Sections 34+35 THIN RBE

TRACT Number: Compartment 47H
Possible Name of Sale: Deadmans Gulch Road
Legal Description: Vilas County, T40N, R8E, Sections 8&17
Acres: 118

STAND DESCRIPTION

This compartment is located between highway 155 and Lost Creek in the Town of St. Germain. There are three stands being considered for treatment in this timber sale. One is typed as red oak that is 87 years old (48 acres), another is red pine that is 89 years old (43 acres) and the last one is aspen (27 acres) that is 80 years old.

GOALS

This compartment is in the Vilas Sandy Plains Central, Forest Production Management Classification (Area 4) in the State Forest Master Plan. The primary goals of this area are: to maintain a diverse mixture of the types that are present now and to increase the presence and age of red and white pine on suitable sites across most of the mixed forest as opportunities present themselves.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

The oak stand was thinned in 2001 by removal of all the aspen, white birch, maple, jack pine and balsam. This thinning actually had the same effect as the first step in a shelterwood harvest and the stand has begun to regenerate. This sale will be a seed tree harvest to remove enough of the remaining overstory to allow the stand to fully regenerate and yet leave enough trees for seed and mast production.

The red pine stand is small sawlog in size and has a component of large sawlog white pine. This stand will be selectively thinned to promote larger diameter growth with a final rotation estimated for 2050.

The aspen stand will be clearcut (except for the pine and some oak) to promote the regeneration of all the species that are now on the site.

WATER QUALITY, BMPS

The concern here is the protection of lost creek. Proper BMPS, to include a 100 foot riparian management zone, will be established to make sure it is protected.

AESTHETICS

The two areas of concern are the road and the creek. Again, the creek riparian zone will also serve as an aesthetic barrier. Most of the area along the town road will only receive a thinning and the cutting will not have much of an impact. There will also be slash control measures along the entire road to help lessen the visual impact.

WILDLIFE

The harvest itself will have very little impact on the wildlife in this area. Long range benefits will come from regeneration of the oak and aspen stands which will provide more forage, cover and vertical structure.

ENDANGERED RESOURCES

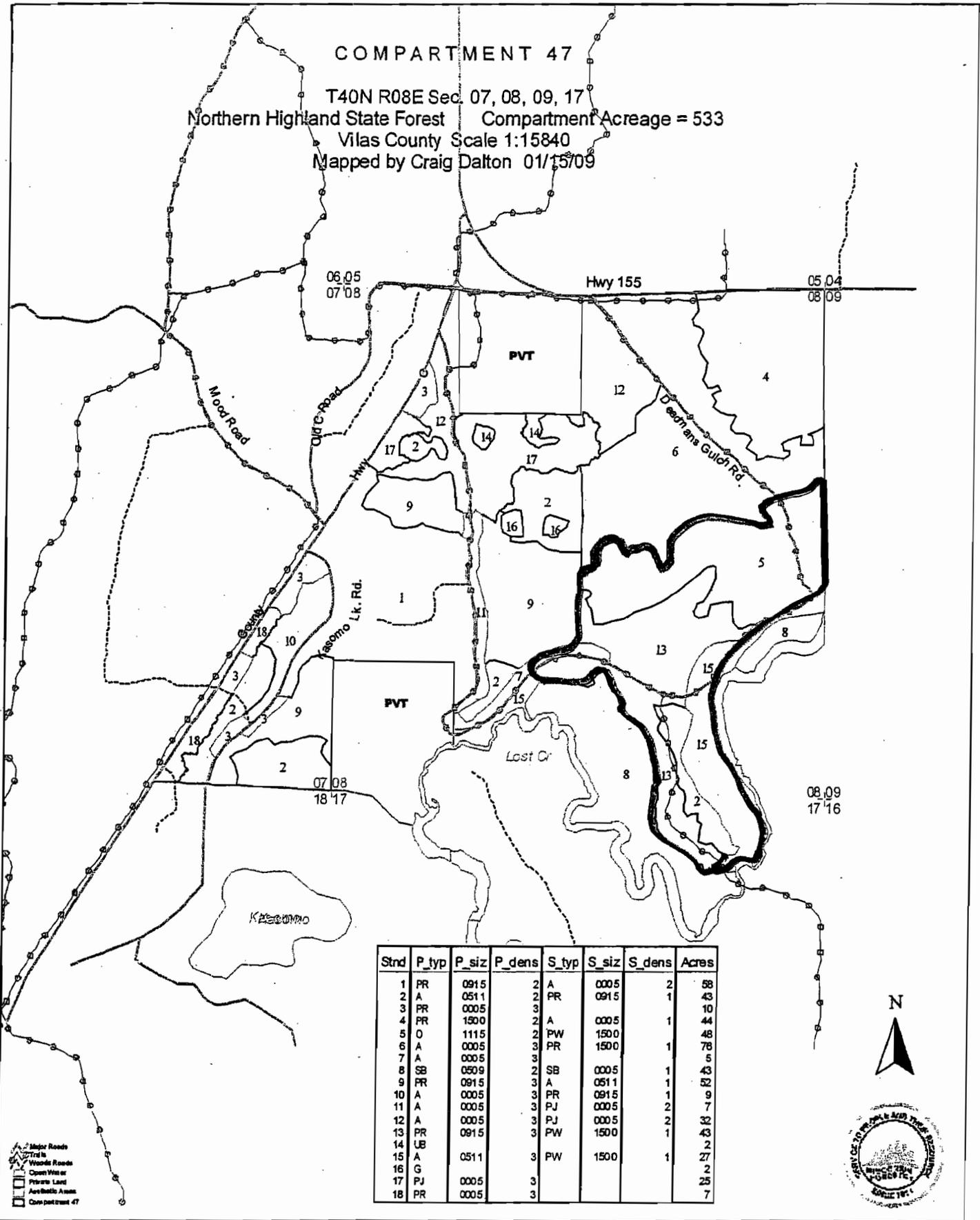
A NHI check for the sale area did not show any threatened or endangered species. There are no known archeological sites within the sale area.

RECREATION

The major recreation concern is the snowmobile trail that runs all along Deadmans Gulch Road and south across Lost Creek. No decking will be allowed along the trail during the snowmobile season and it will be maintained in good condition during and after the sale.

COMPARTMENT 47

T40N R08E Sec. 07, 08, 09, 17
 Northern Highland State Forest Compartment Acreage = 533
 Vilas County Scale 1:15840
 Mapped by Craig Dalton 01/15/09



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PR	0915	2	A	0005	2	58
2	A	0511	2	PR	0915	1	43
3	PR	0005	3				10
4	PR	1500	2	A	0005	1	44
5	O	1115	2	PW	1500		48
6	A	0005	3	PR	1500	1	78
7	A	0005	3				5
8	SB	0509	2	SB	0005	1	43
9	PR	0915	3	A	0511	1	52
10	A	0005	3	PR	0915	1	9
11	A	0005	3	PJ	0005	2	7
12	A	0005	3	PJ	0005	2	32
13	PR	0915	3	PW	1500	1	43
14	UB						2
15	A	0511	3	PW	1500	1	27
16	G						2
17	PJ	0005	3				25
18	PR	0005	3				7

- Major Roads
- Trails
- Wooded Roads
- Open Water
- Private Land
- Aesthetic Areas
- Compartment 47



TRACT Number: Compartment 113H

Possible Name of Sale: Klondike Lake Sale

Legal Description: Vilas County, T40N, R7E, Sections 3, 4 & 9

Acres: 512

STAND DESCRIPTION

This compartment is located just west of Witches Lake and Plum Vitae Roads. There are seven stands scheduled for treatment and they include: oak - 266 acres, northern hardwood – 227 acres, aspen – 11 acres, white pine – 6 acres, and black spruce – 2 acres. Klondike Lake, a small lake of only 17 acres, lies within one of the northern hardwood stands in the southwest corner of the compartment. The terrain varies from flat on the south to very rolling on the north with some relatively steep slopes.

GOALS

Most of this scheduled area is in the mixed forest native community management classification (area 12) in the state forest master plan. The objectives for this classification include: (1) maintain sites with old-growth characteristics and variable patch sizes; (2) enhance the development of a mixed forest dominated by old trees, large amounts of coarse woody debris, numerous standing dead snags, and an age diversity of trees; and (3) to maintain mid-tolerant tree species composition while incorporating variable patch size, and increase the overall age of the forest.

The aspen, white pine and approximately 60 acres of the oak lie in the Vilas Sandy Plains Central, Forest Production Area (area #4). The long range objective for this area is to “develop, increase and maintain a mixed forest dominated by older red and white pine with aspen, red oak, white birch, and jack pine as important secondary species. Areas with slightly richer soil would be managed for red oak with red and white pine”.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

In the native community area (NCA) the northern hardwood stands will be selectively harvested with an emphasis on developing the characteristics listed in goals 1 and 2 above; old growth characteristics, old trees, coarse woody debris, standing dead snags and age diversity. The oak stands, and the small black spruce stand, will either be thinned or regenerate to maintain these mid-tolerant species as stated in goal #3.

In the forest production area (FPA) the white pine area will be thinned, the aspen will be regenerated and the oak will be managed either for natural regeneration or natural conversion to pine. Small areas of aspen within the oak type may also be regenerated.

WATER QUALITY, BMPS

There are two areas of concern for water quality. The first is Klondike Lake and the second is a smaller, unnamed, lake that lies just outside of the proposed sale area. For both of these water bodies a fifty foot buffer will be established where no harvesting equipment will be allowed.

AESTHETICS

The aesthetic concerns will be along Witches Lake and Plum-Vitae Roads. A slash treatment requirement will be included in the contract to help mitigate these concerns.

WILDLIFE

This compartment lies within a matrix of compartments with similar cover types and year of origin (around 1900) which is the result of the early logging era of the late 1800's. This sale will help create more age class diversity and vertical structure which will result in more diverse wildlife habitat; this in turn will result in a wider diversity of species.

ENDANGERED RESOURCES

A search of the NHI revealed two elements within the search area, a northern mesic forest and a gray wolf. If a den site is found within the project boundary the Bureau of Endangered Resources will be notified and proper precautions will be taken to protect it. There are no know archeological sites within the project boundary.

RECREATION

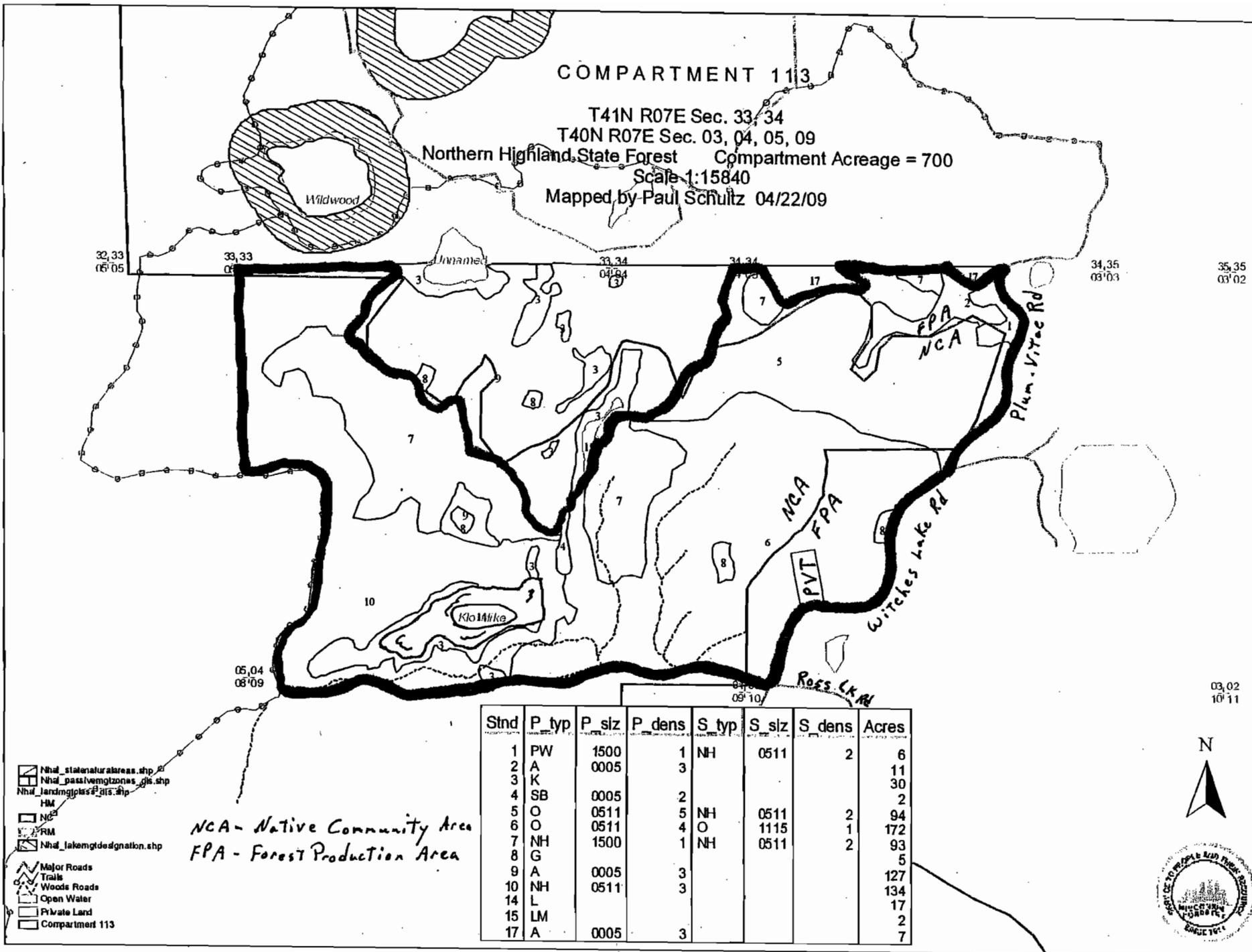
There is a snowmobile trail that borders the compartment for a short distance along with western side. Provisions will be written into the contract to protect the trail during the snowmobiling season. The only other major recreational use is deer hunting. Although the sale will have a short term impact while the sale is being cut, the long term affects will be positive by creating more whitetail habitat.

COMPARTMENT 113

T41N R07E Sec. 33, 34
T40N R07E Sec. 03, 04, 05, 09

Northern Highland State Forest Compartment Acreage = 700

Scale 1:15840
Mapped by Paul Schultz 04/22/09



NCA - Native Community Area
FPA - Forest Production Area

Std	P typ	P siz	P dens	S typ	S siz	S dens	Acres
1	PW	1500	1	NH	0511	2	6
2	A	0005	3				11
3	K						30
4	SB	0005	2				2
5	O	0511	5	NH	0511	2	94
6	O	0511	4	O	1115	1	172
7	NH	1500	1	NH	0511	2	93
8	G						5
9	A	0005	3				127
10	NH	0511	3				134
14	L						17
15	LM						2
17	A	0005	3				7



Possible Name of Sale: Dorothy Lake

Legal Description: T38N-R7E, Section 1 & 2; T38N-R8E, Section 6.

Timber type(s): Red Oak, White Pine, White Birch

Acres: 114

Compartment 22A, 29A

STAND DESCRIPTION: Stand 1 of compartment 22 and Stand 21 of compartment 29 are a mixed oak stands. Oak is the predominant species present with associates of white birch, aspen, balsam fir and white pine well represented. Stand 2 of compartment 22 and Stand 7 of compartment 29 are overstocked white pine plantations. There is a component of short-lived aspen and white birch found in portions of the white pine areas.

GOALS: All of the proposed sale area is located within the Oneida Sandy Plains Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The white pine stands will undergo a thinning removing short-lived species and high risk, low vigor pine thinning the stand to appropriate stocking levels. The oak stand will undergo a thinning. This initial cut will remove many of the short-lived species and remove the high risk, low vigor oak. Oak crop trees will be released. The objective of the harvest in the oak stand is to prep the stand for a future shelterwood harvest. Master plan objectives for the area will be met through the maintenance of the pine and oak types.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed along Dorothy Lake including uncut riparian buffers.

AESTHETICS: Aesthetics along county highway D, the town roads, and the waterbodies in the area are a significant concern. Riparian buffers along Dorothy Lake will act as a visual screen for the planned harvest. A significant residual overstory will remain intact following the thinning in the oak and pine areas where the short-lived aspen and birch will be removed along with roughly one-third of the pine and oak. The oak and pine left uncut following the harvest along CTH D will help to lessen aesthetic impacts of harvest along the roadway.

WILDLIFE: Wildlife related to older pine stands will be favored as only a thinning will be taking place. Oak will be maintained throughout the sale area benefiting mast production and the wildlife that use this resource.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: The NHI lists gray wolf for the search area. No known den sites are within the proposed sale area.

RECREATION: No designated trails run through the proposed sale area. The main recreational use for the area is hunting.

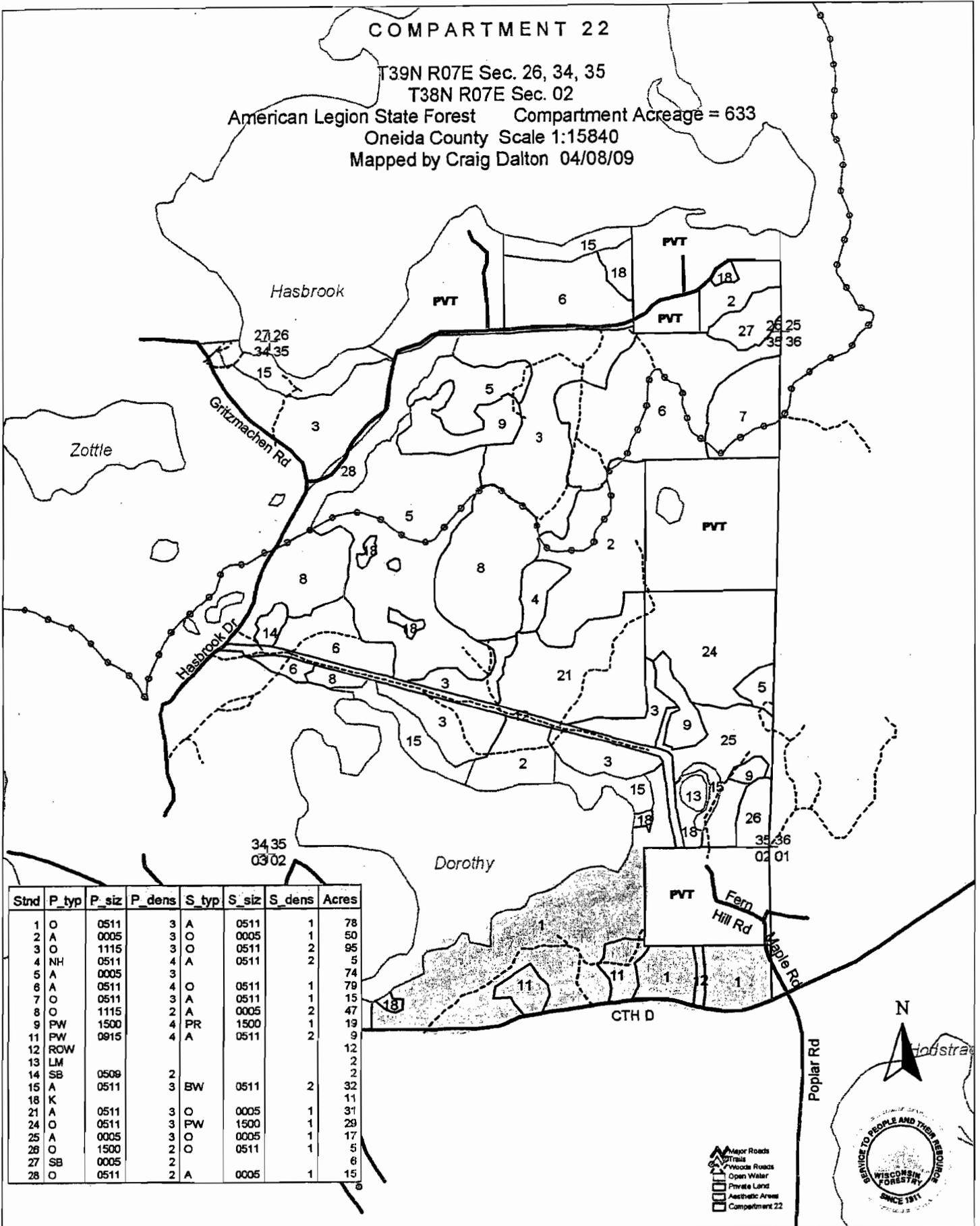
04/20/2009

C. Dalton

COMPARTMENT 22

T39N R07E Sec. 26, 34, 35
T38N R07E Sec. 02

American Legion State Forest Compartment Acreage = 633
Oneida County Scale 1:15840
Mapped by Craig Dalton 04/08/09



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	O	0511	3	A	0511	1	78
2	A	0005	3	O	0005	1	50
3	O	1115	3	O	0511	2	95
4	NH	0511	4	A	0511	2	5
5	A	0005	3				74
6	A	0511	4	O	0511	1	79
7	O	0511	3	A	0511	1	15
8	O	1115	2	A	0005	2	47
9	PW	1500	4	PR	1500	1	19
11	PW	0915	4	A	0511	2	9
12	ROW						12
13	LM						2
14	SB	0509	2				2
15	A	0511	3	BW	0511	2	32
18	K						11
21	A	0511	3	O	0005	1	31
24	O	0511	3	PW	1500	1	29
25	A	0005	3	O	0005	1	17
26	O	1500	2	O	0511	1	5
27	SB	0005	2				6
28	O	0511	2	A	0005	1	15

Major Roads
Trails
Woods Roads
Open Water
Private Land
Aesthetic Areas
Compartment 22



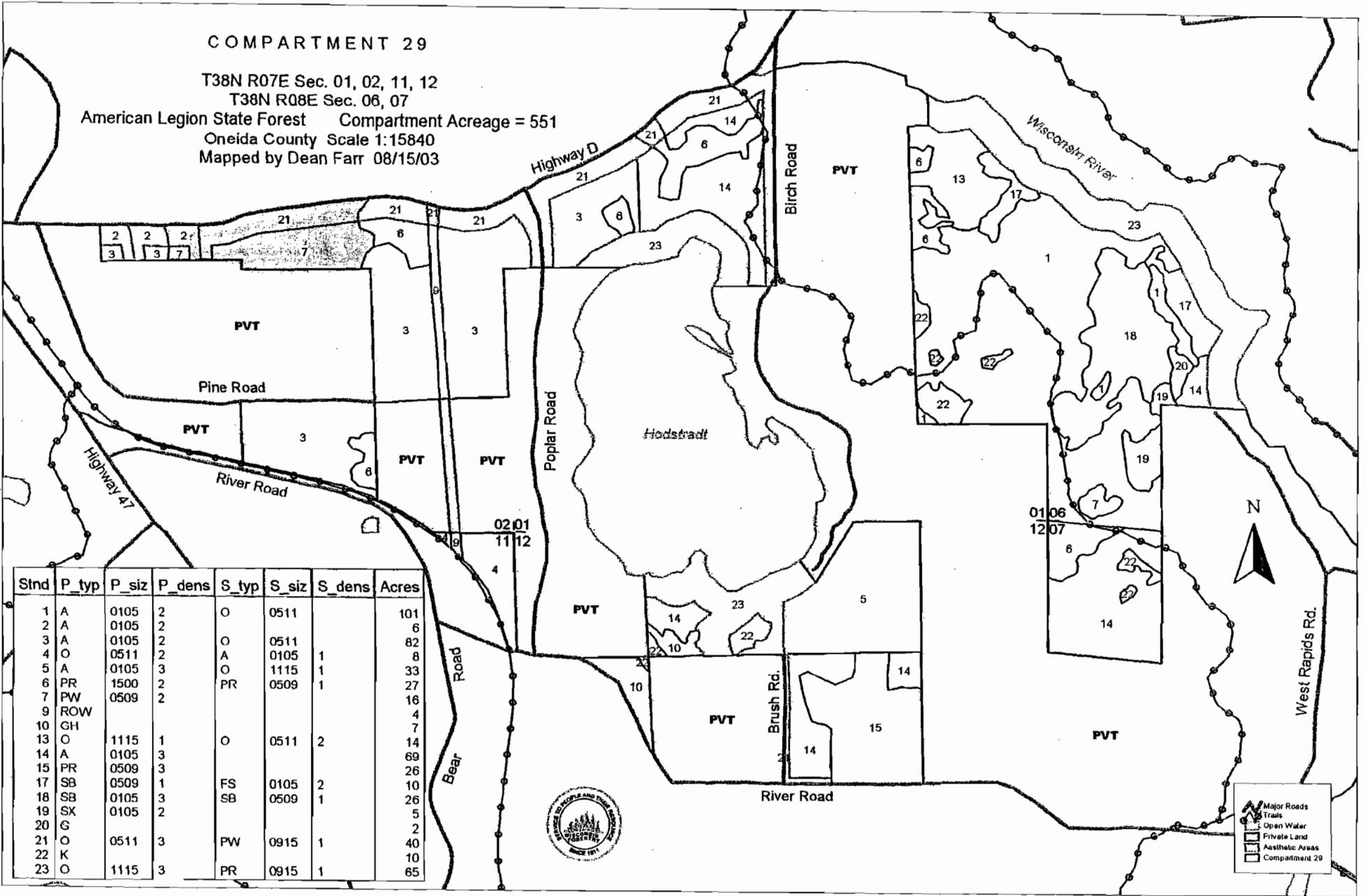
COMPARTMENT 29

T38N R07E Sec. 01, 02, 11, 12
T38N R08E Sec. 06, 07

American Legion State Forest Compartment Acreage = 551

Oneida County Scale 1:15840

Mapped by Dean Farr 08/15/03



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	A	0105	2	O	0511		101
2	A	0105	2				6
3	A	0105	2	O	0511		82
4	O	0511	2	A	0105	1	8
5	A	0105	3	O	1115	1	33
6	PR	1500	2	PR	0509	1	27
7	PW	0509	2				16
9	ROW						4
10	GH						7
13	O	1115	1	O	0511	2	14
14	A	0105	3				69
15	PR	0509	3				26
17	SB	0509	1	FS	0105	2	10
18	SB	0105	3	SB	0509	1	26
19	SX	0105	2				5
20	G						2
21	O	0511	3	PW	0915	1	40
22	K						10
23	O	1115	3	PR	0915	1	65



Major Roads
 Trails
 Open Water
 Private Land
 Aesthetic Areas
 Compartment 29

Possible Name of Sale: Wind Pudding Lake

Legal Description: T38N-R7E, Sections 20, 21, 28, & 29.

Timber type(s): Red Oak, Red Pine, Northern Hardwood

Acres: 224

Compartment 39A

STAND DESCRIPTION: The red pine stand proposed for management is an older natural pine stand with variable stocking. Short-lived species have been removed in past harvests. Portions of this stand are overstocked and in need of a thin. The proposed oak stands have seen various levels of past management. The lake aesthetic strip of stand 18 is an oak/aspens/pine mix which has not had any past management. These oak stands are all roughly about 90 years-old. Stand 6 is an oak/northern hardwood mix which had a salvage cut implemented in 2000 after a wind-event. This stand is mostly oak with the quality of the hard maple present satisfactory.

GOALS: A portion of the proposed sale area is located within the Oneida Sandy Plains Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community. The remaining proposed acreage lies within a Special Aquatic Native Community Area. Portions of this Native Community Area are designated as the Wind Pudding State Natural Area. Specific management goals for this Natural Area are to use active management techniques to convert early successional forest types to long-lived pine and oak.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The red pine stand will undergo a thinning removing high risk, low vigor trees thinning the stand to appropriate stocking levels. The oak stands will undergo various levels of harvest ranging from marked thins to overstory removals. The objectives of the harvests in the oak stands are to prep the stand for a future shelterwood harvest or to remove the overstory and release the established regeneration. Master plan objectives for the Forest Production areas will be met through the maintenance of the pine and oak types. Stand 18 will have the short-lived species removed and the remaining oak and pine lightly thinned. The objective of the harvest in stand 18 is to move the stand away from aspen and more to oak and pine. Group selection harvest techniques will be used in stand 6 which is the oak/northern hardwood mixed stand. Group selection will favor the oak component while maintaining the integrity of the northern hardwood type.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed along Wind Pudding Lake and the adjacent small wetlands including uncut riparian buffers.

AESTHETICS: Aesthetics along the shores of Wind Pudding Lake are a significant concern. Riparian buffers will be established along the lakeshore and will act as a visual screen for the planned harvest. A significant residual overstory of pine and oak will remain intact beyond the riparian buffer for areas adjacent to the lake. Aesthetic impacts along Bluebird road will be lessened by the advanced regeneration and the selected mature oak and pine left following harvest.

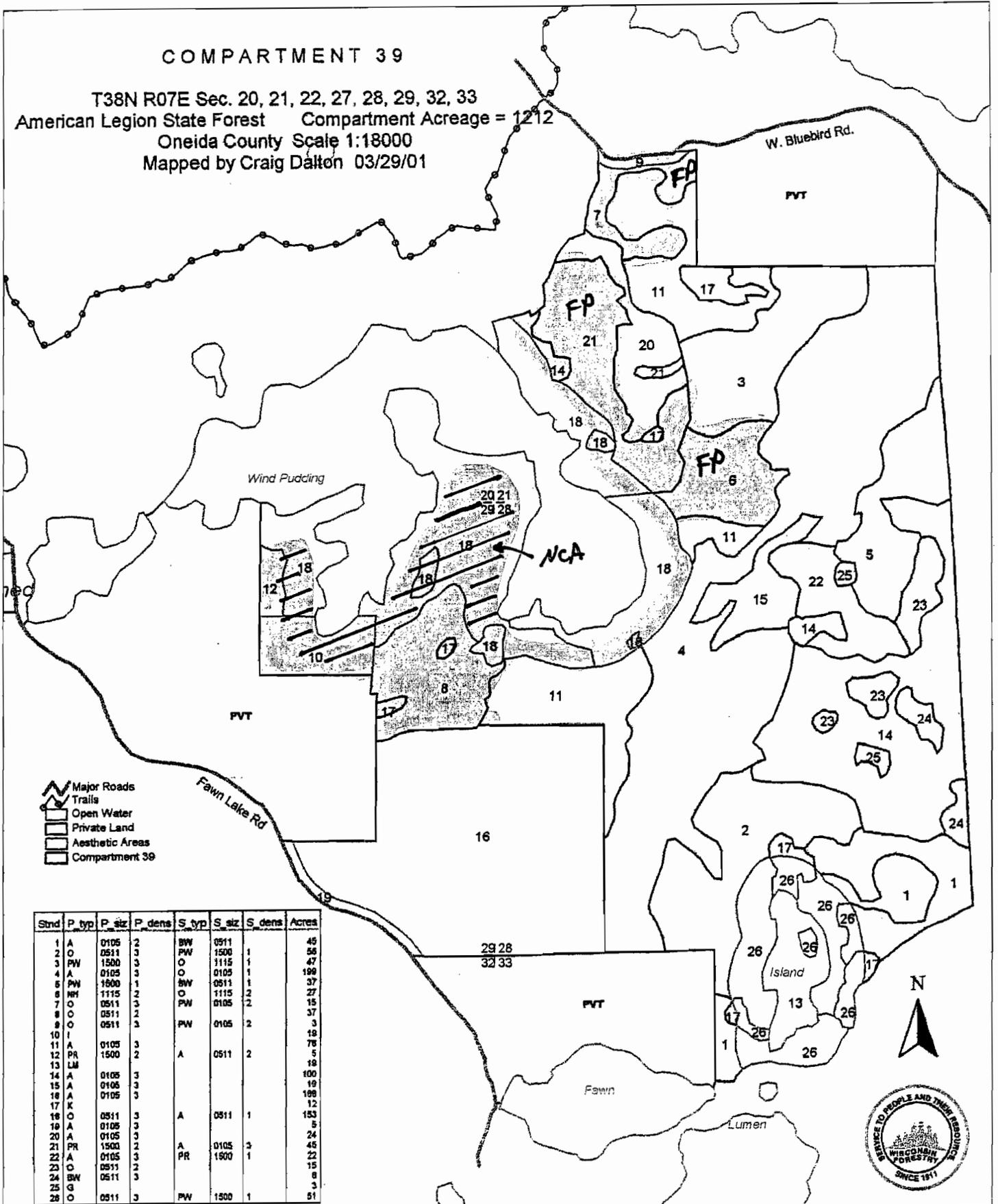
WILDLIFE: Wildlife related to older pine stands will be favored as only a thinning will be taking place. Oak will be maintained throughout the sale area benefiting mast production and the wildlife that use this resource.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: The NHI lists a bald eagle nest which is present on the island in the western basin of Wind Pudding. The NHI also lists a number of aquatic plants and one dragonfly all related to Wind Pudding Lake. BMP's and riparian buffers should minimize the effects to the aquatic resources. .

RECREATION: No designated trails run through the proposed sale area. The main recreational use for the area is hunting.

COMPARTMENT 39

T38N R07E Sec. 20, 21, 22, 27, 28, 29, 32, 33
 American Legion State Forest Compartment Acreage = 1212
 Oneida County Scale 1:18000
 Mapped by Craig Dalton 03/29/01



Stnd	P typ	P siz	P dens	S typ	S siz	S dens	Acrea
1	A	0105	2	BW	0511		45
2	O	1511	3	PW	1500	1	56
3	PW	1500	3	O	1115	1	47
4	A	0105	3	O	0105	1	190
5	PW	1500	1	BW	0511	1	37
6	NH	1115	2	O	1115	2	27
7	O	0511	3	PW	0105	2	15
8	O	0511	2				37
9	O	0511	3	PW	0105	2	3
10	I						18
11	A	0105	3	A	0511	2	78
12	PR	1500	2				5
13	LM						18
14	A	0105	3				100
15	A	0105	3				19
18	A	0105	3				198
17	K						12
18	O	0511	3	A	0511	1	153
19	A	0105	3				5
20	A	0105	3				24
21	PR	1500	2	A	0105	3	45
22	A	0105	3	PR	1500	1	22
23	O	0511	2				15
24	BW	0511	3				8
25	G						3
26	O	0511	3	PW	1500	1	51

Possible Name of Sale: Swanson Lake
Legal Description: T38N-R8E, Sections 3 & 4.
Timber type(s): Red Oak, Aspen, Red Pine
Acres: 139
Compartment 73A

STAND DESCRIPTION: Various timber types are found within the proposed sale area. The portion along the town roads is primarily a stand dominated by red oak with lesser amounts of white birch, red maple, and pine. A small well stocked red pine plantation is present along the town road also. An aspen stand of roughly 25 acres is within the proposed sale area. This aspen stand has a strong pine component present. The remaining proposed acreage is composed of mixed natural red and white pine stands.

GOALS: A small portion of the proposed sale area is located within the Oneida Sandy Plains Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community.

The majority of the sale area is within the Red and White Pine Native Community Classification. Most of this area is also listed as an actively managed Natural Area. Goals are to develop and maintain red and white pine stands with "old-growth" characteristics.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The natural pine stands of the native community designation will undergo a thinning from below removing short-lived species and high risk, low vigor pine thinning the stand to appropriate stocking levels. The pine plantation will undergo a standard marked thinning reducing the stocking to appropriate stocking levels. The oak stand will undergo a thinning. This initial cut will remove many of the short-lived species and remove the high risk, low vigor oak. Oak crop trees will be released. The objective of the harvest in the oak stand is to prep the stand for a future shelterwood harvest. The aspen stand will undergo a regeneration harvest while maintaining most of the natural pine. The stocking of the pine throughout portions of the aspen stand will aid in the conversion to this type. Master plan objectives for the area will be met through the maintenance of the pine and oak types and the conversion of aspen to pine.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed where appropriate. The 400' passive management zone of the wild lake designation around Swanson Lake far exceeds BMP requirements.

AESTHETICS: Aesthetics along the Town roads are a significant concern. A significant residual overstory will remain intact following the thinning in the oak and pine areas where the short-lived aspen and birch will be removed along with roughly one-third of the pine and oak. The oak and pine left uncut following the harvest along the Town roads will help to lessen aesthetic impacts of harvest along the roadways.

WILDLIFE: Wildlife related to older pine stands will be favored as only a thinning will be taking place. Oak will be maintained throughout the sale area benefiting mast production and the wildlife that use this resource.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: The NHI lists gray wolf for the search area. No known den sites are within the proposed sale area. An eagle nest is listed on Muskellunge Lake. No harvesting will be taking place in the spruce swamp on the north end of the lake near the nest.

RECREATION: No designated trails run through the proposed sale area. The main recreational use for the area is hunting.

COMPARTMENT 73

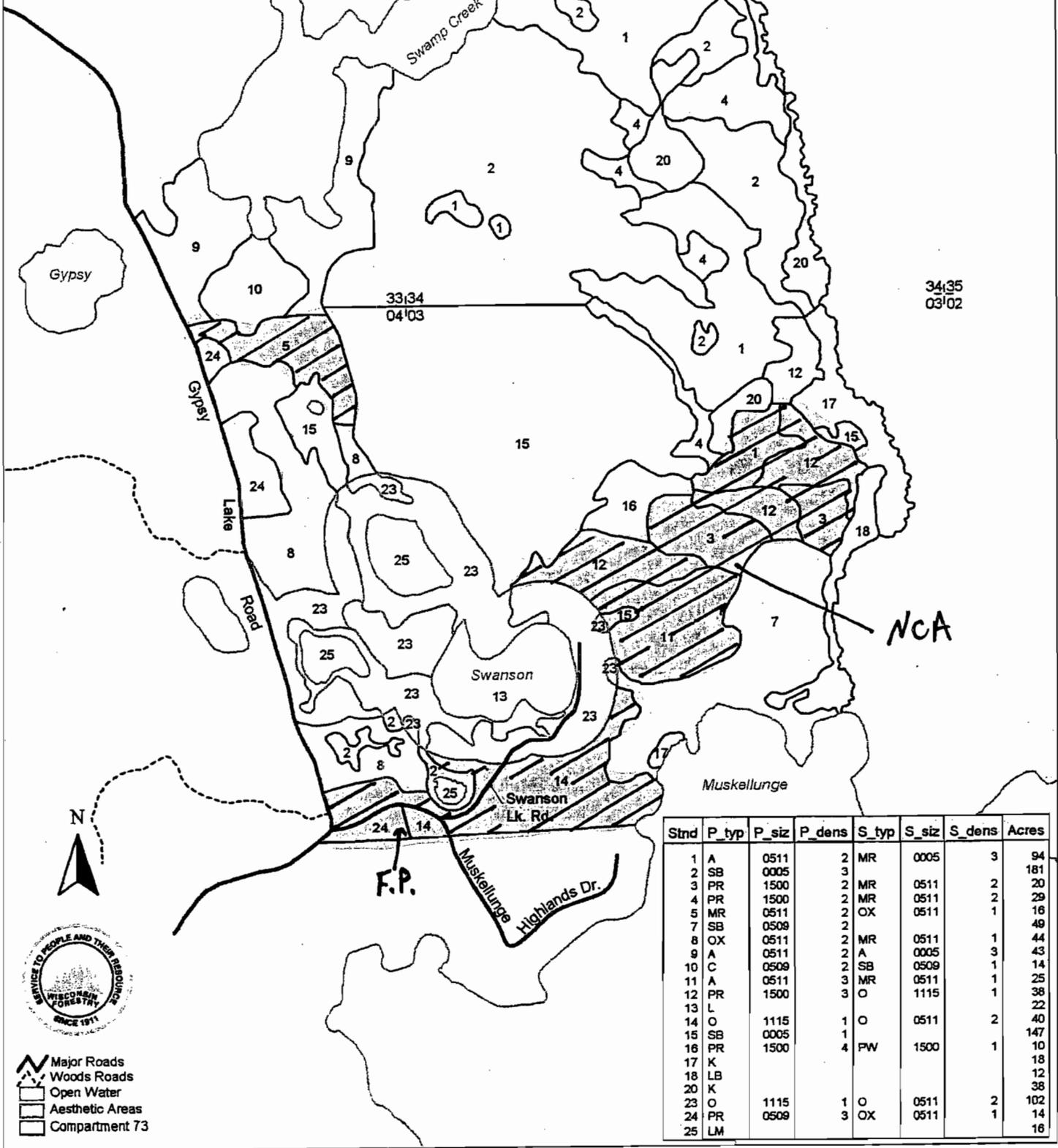
T39N R08E Sec. 33, 34

T38N R08E Sec. 03, 04

American Legion State Forest Compartment Acreage = 972

Oneida County Scale 1:15840

Mapped by Paul Schultz 06/24/08



34:35
03:02

33:34
04:03

NCA

F.P.

Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	A	0511	2	MR	0005	3	94
2	SB	0005	3				181
3	PR	1500	2	MR	0511	2	20
4	PR	1500	2	MR	0511	2	29
5	MR	0511	2	OX	0511	1	16
7	SB	0509	2				49
8	OX	0511	2	MR	0511	1	44
9	A	0511	2	A	0005	3	43
10	C	0509	2	SB	0509	1	14
11	A	0511	3	MR	0511	1	25
12	PR	1500	3	O	1115	1	38
13	L						22
14	O	1115	1	O	0511	2	40
15	SB	0005	1				147
16	PR	1500	4	FW	1500	1	10
17	K						18
18	LB						12
20	K						38
23	O	1115	1	O	0511	2	102
24	PR	0509	3	OX	0511	1	14
25	LM						16



- Major Roads
- Woods Roads
- Open Water
- Aesthetic Areas
- Compartment 73

Possible Name of Sale: Highway N Pine
Legal Description: T41N-R8E, Section 32
Timber type(s): Aspen, Red Pine
Acres: 70
Compartment 48H

STAND DESCRIPTION: The primary stands to be managed are 5 and 14 of compartment 48. Stand 5 is a roughly 45 year-old mixed aspen and white birch stand. Portions of this original timber type have been regenerated under three different timber sales within the last 10 years. Stand 14 is a mixed natural pine stand of red and white pine.

GOALS: All of the proposed sale area is located within the Vilas Sandy Plains Central Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The natural pine stand will undergo a thinning removing short-lived species and high risk, low vigor trees thinning the stand to appropriate stocking levels. A portion of stand 5 will be harvested to increase the age-class diversity even more in this compartment. The mixed aspen and birch areas selected from stand 5 will undergo a regeneration harvest relying primarily on root sprouts and established seedlings to restock the site.

WATER QUALITY, BMPS: No waterways or wetlands are within or near the proposed sale area. General Best Management Practices for Water Quality will be followed where applicable.

AESTHETICS: Aesthetics along county highway N and Birch Springs road are a significant concern. A significant residual overstory will remain intact following the thinning in the pine areas where the short-lived aspen and birch will be removed and roughly one-third of the pine. Longer-lived pine and oak scattered throughout the aspen harvest areas will remain uncut for aesthetics.

WILDLIFE: Wildlife related to older pine stands will be favored as only a thinning will be taking place. Wildlife dependent on early successional types will benefit with the maintenance of the aspen type.

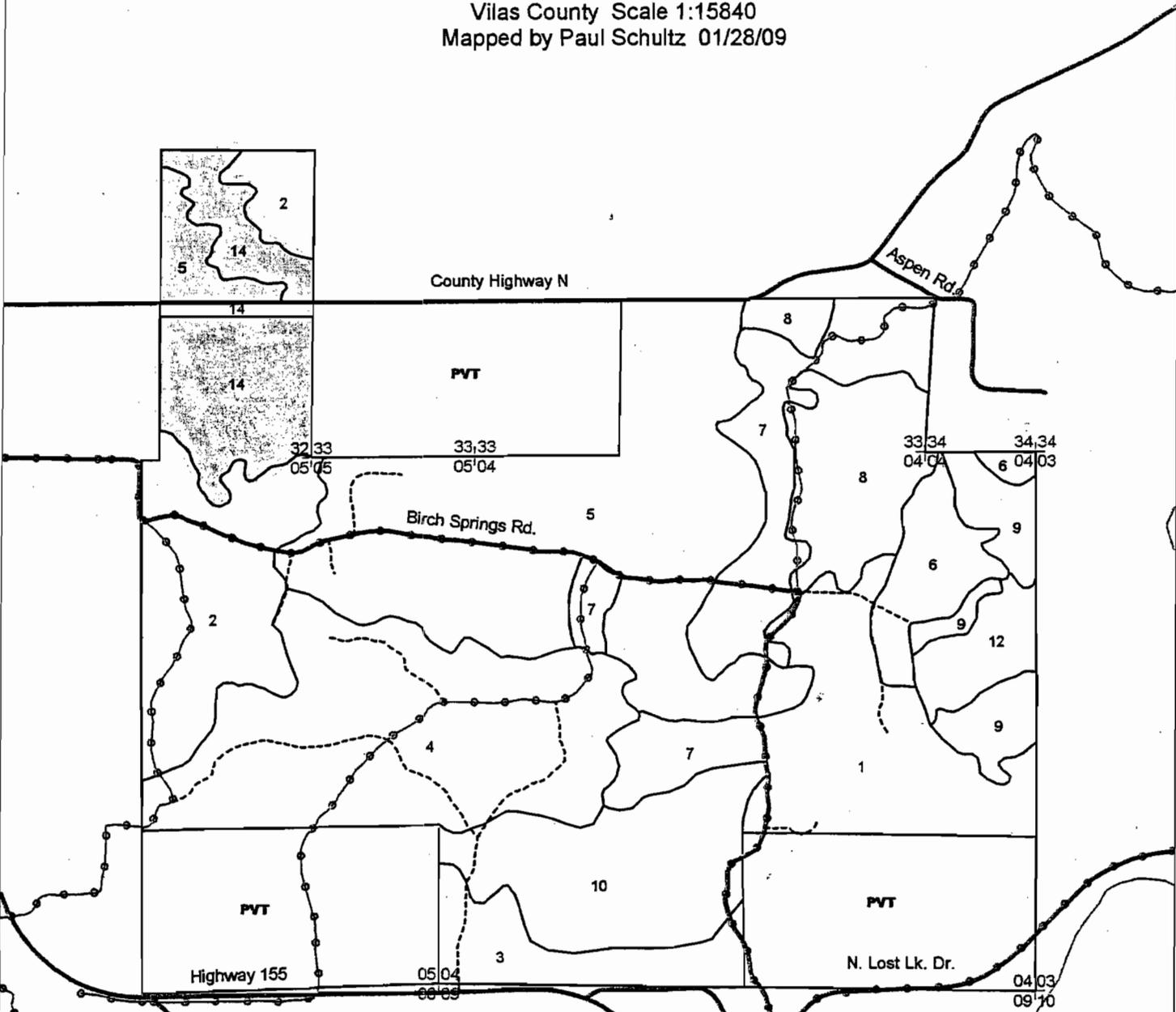
ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: The NHI lists gray wolf and a Large Roundleaf Orchid for the search area. The orchid is related to the Plum Lake Hemlocks which is not part of the sale area and was last observed in 1909.

RECREATION: The designated snowmobile trail along Birch Springs Road will require seasonal decking restrictions.

02/10/2009
C. Dalton

COMPARTMENT 48

T41N R08E Sec. 32, 33
 T40N R08E Sec. 04, 05
 Northern Highland State Forest Compartment Acreage = 796
 Vilas County Scale 1:15840
 Mapped by Paul Schultz 01/28/09



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	NH	1115	2	NH	0511	1	70
2	A	0511	2	A	0005	2	78
3	PW	1500	2	O	1115	1	29
4	A	0005	3	A	0005	1	130
5	A	0511	3	BW	0511	1	188
6	A	0511	2	FB	0005	1	25
7	A	0005	3	A	0005	1	68
8	O	1115	3	NH	0511	1	46
9	SB	0509	2	FB	0005	2	26
10	A	0005	3	PW	1500	1	63
12	K						16
14	PR	0915	3	PW	0509	3	57

- Major Roads
- Trails
- Woods Roads
- Open Water
- Private Land
- Compartment 48



Possible Name of Sale: West Sayner Pine
Legal Description: T40N-R8E, Section 6, T41N-R8E, Section 31
Timber type(s): Red Pine, White Birch
Acres: 243
Compartment 72H, 73H

STAND DESCRIPTION: The stands of compartment 72 consist of un-thinned red pine plantations, mature jack pine, and a mixed stand of white birch. The stands proposed for harvest in compartment 73 are all natural sawlog red pine stands. Some of which have been thinned in 1992 and 1999.

GOALS: All of the proposed sale area is located within the Vilas Sandy Plains Central Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The natural pine stands will undergo a thinning removing short-lived species and high risk, low vigor trees thinning the stand to appropriate stocking levels. The first thinning proposed for the red pine plantation will be a mechanical row thin. The small jack pine stands will be regenerated relying on planting to restock the site. The harvest in the birch stand will keep the majority of the pine and oak as residuals. The objective of the harvest here will be to move the stand more to a mixture of pine and oak. Master plan objectives for the area will be met through the maintenance of the pine types.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed along Plum Creek including uncut riparian buffers.

AESTHETICS: Aesthetics along county highway N and the town roads are a significant concern. A significant residual overstory will remain intact following the thinning in the pine areas where the short-lived aspen and birch will be removed and roughly one-third of the pine. Longer-lived pine and oak scattered throughout the birch harvest areas will remain uncut for aesthetics.

WILDLIFE: Wildlife related to older pine stands will be favored as only a thinning will be taking place.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: The NHI lists gray wolf for the search area. No den sites are known to exist in the area.

RECREATION: A designated snowmobile trail runs along the old railroad grade accessing the site through private lands. Seasonal decking restrictions will be implemented to minimize user conflicts.

05/1/2009
C. Dalton

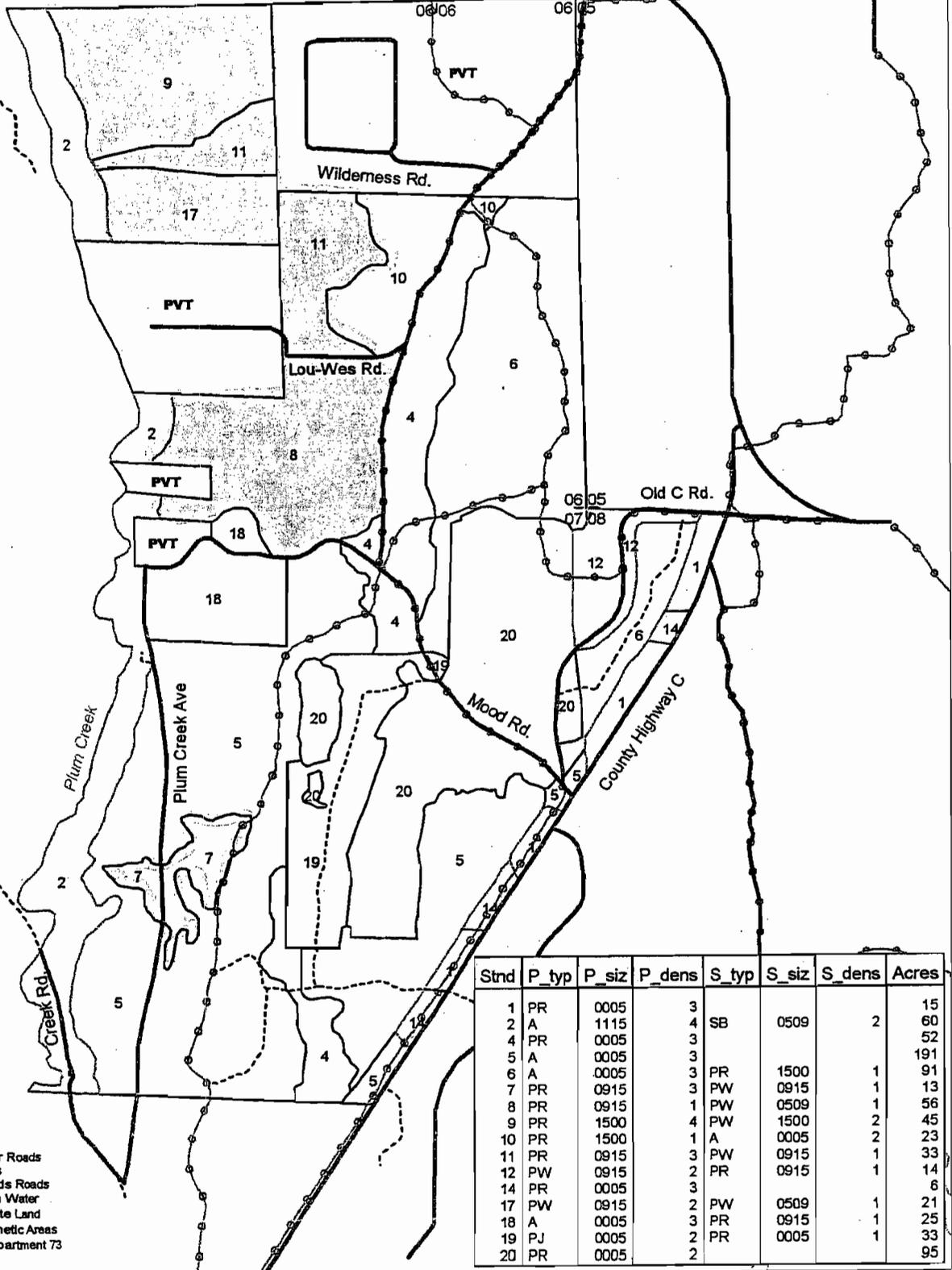
COMPARTMENT 73

T40N R08E Sec. 06, 07, 08
 Northern Highland State Forest Compartment Acreage = 773
 Scale 1:15840
 Mapped by Paul Schultz, 06/14/07

31.31
01.06

31.32
06.06

32.31
06.05



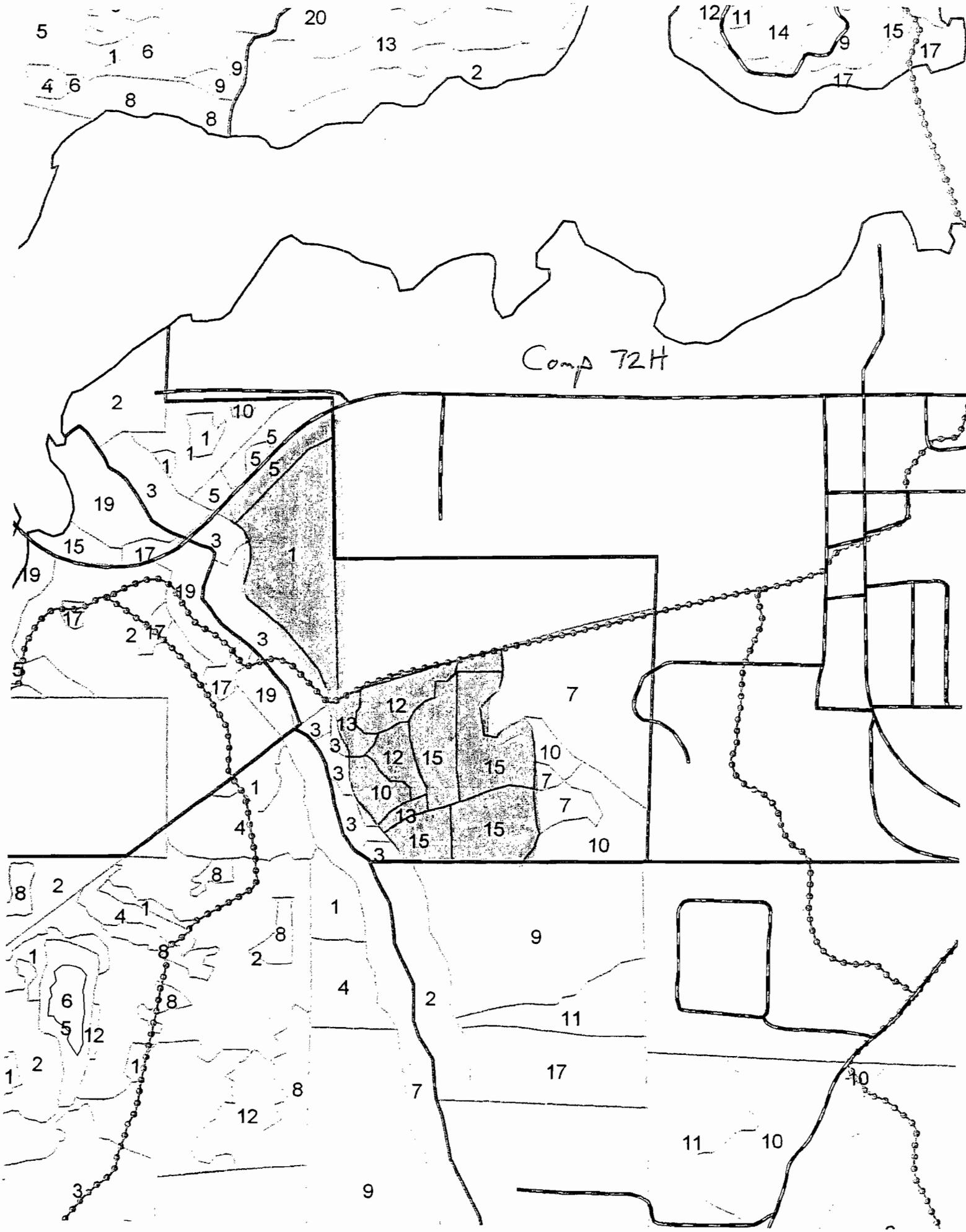
N

12.07
13.18



- Major Roads
- Trails
- Woods Roads
- Open Water
- Private Land
- Aesthetic Areas
- Compartment 73

Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PR	0005	3				15
2	A	1115	4	SB	0509	2	60
4	PR	0005	3				52
5	A	0005	3				191
6	A	0005	3	PR	1500	1	91
7	PR	0915	3	PW	0915	1	13
8	PR	0915	1	PW	0509	1	56
9	PR	1500	4	PW	1500	2	45
10	PR	1500	1	A	0005	2	23
11	PR	0915	3	PW	0915	1	33
12	PW	0915	2	PR	0915	1	14
14	PR	0005	3				6
17	PW	0915	2	PW	0509	1	21
18	A	0005	3	PR	0915	1	25
19	PJ	0005	2	PR	0005	1	33
20	PR	0005	2				95



Possible Name of Sale: Little Rock/Punch Lakes
Legal Description: T41N-R6E, Section 35
Timber type(s): Red Oak, White Birch, Aspen
Acres: 300
Compartment 184H, 185H

STAND DESCRIPTION: The stands proposed for management consist of various stands of oak and mature aspen. Some of these oak stands were thinned in 1998. Two oak stands have not seen any recent management. Another oak stand was harvested in 2005 to shelterwood densities.

GOALS: All of the proposed sale area is located within the Vilas Sandy Plains North Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspen component as a dominant community.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The oak stands which have not been thinned in the past will receive an intermediate harvest. The objective of the harvest will be to thin the stand, putting more growth on selected crop trees, salvage the deteriorating short-lived species and set the stage for future shelterwood regeneration efforts. Stand 18 in compartment 185 was a goshawk nest stand documented in 2004. The birds have not used this area for nesting since that year. This stand will also receive an intermediate thin.

The oak stands which have been thinned will either undergo an initial shelterwood cut or overstory removal. The area targeted for overstory removal is the area south of Little Rock Lake. This shelterwood was established in the spring of 2005 and portions anchor chain scarified in the summer of 2005. Advanced regeneration of a number of desirable species is established and in need of release. The mature aspen stands will be regenerated through a coppice with standards technique with the goal of maintaining the aspen type in various age-classes throughout the compartment.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed along Punch Lake and Little Rock Lake including uncut riparian buffers.

AESTHETICS: The majority of the sale area is not visible from any roadway. Aesthetics impacts near the lakes and along the snowmobile trail are an important concern. A significant residual overstory will remain intact following harvest in the oak stand surrounding Punch Lake. The un-cut riparian buffers along the lakes will also act as an effective visual screen. Longer-lived pine and oak scattered throughout the aspen harvest areas will remain uncut partially for aesthetic reasons.

WILDLIFE: Overall the variable stocking levels and diversity of timber types will be beneficial to a number of wildlife species. Potential den and existing cavity trees will be identified and maintained throughout the marking operation. Five trees/acre of oak will be maintained in the overstory removal oak areas.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: Most of the EO's within the proposed sale area are related to lowland timber types, sedge meadows or the nearby lakes. Since these types will not receive management no specific action is needed. The NHI also lists gray wolf for the search area. No den sites are known to exist in the area. A goshawk nest stand was delimited in 2004 with the Forest Raptor specialist under the agreement that management of this stand would only be undertaken if the goshawks did not use the area for three years in a row. The three year inactivity window has been exceeded and therefore management will proceed.

RECREATION: A designated snowmobile trail runs along the west end of the proposed sale area. Seasonal decking restrictions will be implemented to minimize user conflicts.

2/27/2009 C. Dalton

28,27
33,34

27,26
34,35

33,34
04,04

34,34
04,03

34,35
03,03

35,35
03,02

Wihega Road

36,36
02,02

Stnd	P typ	P siz	P dens	S typ	S siz	S dens	Acres
1	O	1115	3	A	0511	3	67
2	A	0511	4	BW	0511	2	56
3	O	1115	2	O	0511	1	61
4	A	0511	3	A	0105	2	21
5	LB			K			7
6	SX	0105	1				31
7	LM						4
8	NH	1115	2	O	1115	1	11
9	O	1115	2	O	0511	2	50
10	A	0105	3				70
11	O	1115	1	O	0105	1	20
12	A	0105	3	O	0105	1	17
13	A	0105	3				14
14	A	0105	3	PW	1500	1	107
15	A	0105	3	MR	0511	1	13
16	A	0105	3	O	1115	1	40
17	O	1115	2	A	0105	2	152
18	O	1115	3	PW	0915	1	36
19	SX	0105	1				12
20	A	0105	3				3
21	LB			K			6

Camp

Punch

WI DOT

Highway 51

WI DOT

CTH "M"



COMPARTMENT 185

T41N R06E Sec. 27, 34, 35, 36

Northern Highland State Forest Compartment Acreage = 801

Vilas County Scale 1:15840

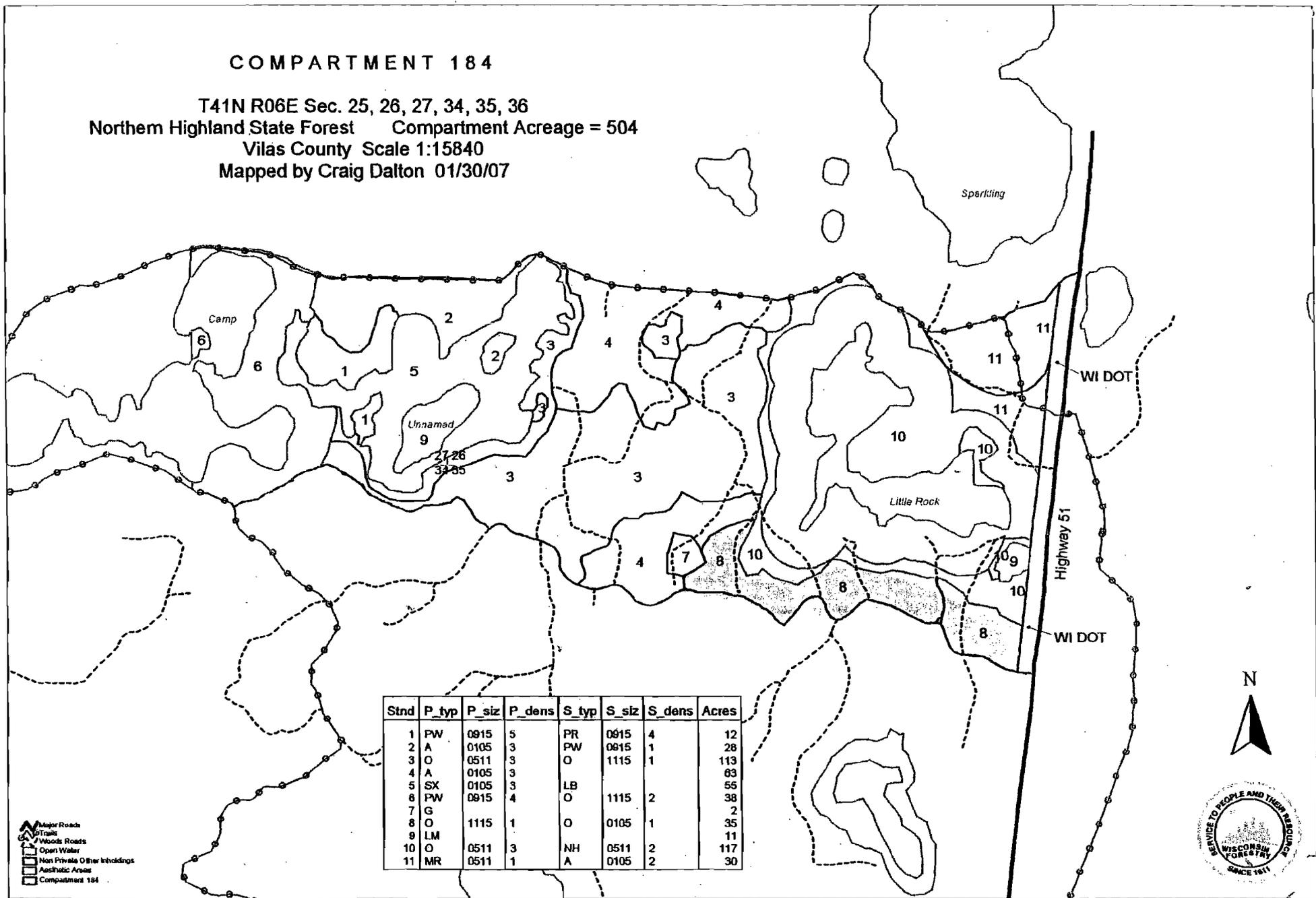
Mapped by Craig Dalton 01/30/07

- Major Roads
- Trails
- Woods Roads
- Open Water
- Non Private Other Inholdings
- Aesthetic Areas
- Compartment 185



COMPARTMENT 184

T41N R06E Sec. 25, 26, 27, 34, 35, 36
 Northern Highland State Forest Compartment Acreage = 504
 Vilas County Scale 1:15840
 Mapped by Craig Dalton 01/30/07



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PW	0915	5	PR	0915	4	12
2	A	0105	3	PW	0915	1	28
3	O	0511	3	O	1115	1	113
4	A	0105	3				63
5	SX	0105	3	LB			55
6	PW	0915	4	O	1115	2	38
7	G						2
8	O	1115	1	O	0105	1	35
9	LM						11
10	O	0511	3	NH	0511	2	117
11	MR	0511	1	A	0105	2	30

- Major Roads
- Trails
- Woods Roads
- Open Water
- Non Private Owner Interlocks
- Asphaltic Areas
- Compartment 184



Possible Name of Sale: Devine Lake
Legal Description: T40N-R6E, Section 4
Timber type(s): Red Oak, White Birch, White Pine
Acres: 87
Compartment 214H

STAND DESCRIPTION: The stands proposed for management consist of various stands of oak, white birch, and a white pine/aspens mix. Under the previous master plan all of these stands were part of the Wilderness Lake buffer of Devine Lake. Portions of this buffer did receive management in the late 1970's. The areas which did not receive management consist of mature birch and aspens and overstocked oak and pine.

GOALS: Currently all of the proposed sale area is located within the Vilas Sandy Plains North Forest Production Management Classification. Goals are to maintain for current levels of oak, increase presence of older pine where possible, and to maintain the aspens component as a dominant community.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION: The birch/oak stands which have not received past management will undergo a regeneration harvest. Goals of the harvest will be to regenerate the stand back to a birch oak mix. Conversion to oak is possible in some portions of this stand. The oak stands which have not been thinned in the past will receive an intermediate harvest. The objective of the harvest will be to thin the stand, putting more growth on selected crop trees, salvage the deteriorating short-lived species and set the stage for future shelterwood regeneration efforts. The white pine stand will undergo an intermediate thin. Goals of the thinning are to reduce stocking to appropriate levels and to enhance growth and vigor of the remaining trees.

WATER QUALITY, BMPS: Best Management Practices for Water Quality will be followed along Devine Lake. Devine lake is currently designated a Wild Lake with a 400' passive management zone which far exceeds the standard BMP riparian zone width.

AESTHETICS: The sale area should not be visible from any roadway or from Devine Lake. The uncut riparian buffers along the lake will act as an effective visual screen. Longer-lived pine and oak scattered throughout the sale area will remain uncut partially for aesthetic reasons.

WILDLIFE: Overall the variable stocking levels and diversity of timber types will be beneficial to a number of wildlife species. Potential den and existing cavity trees will be identified and maintained throughout the marking operation. An oak component will be maintained throughout all stands where present.

ENDANGERED, ARCHEOLOGICAL, HISTORICAL RESOURCES: Most of the EO's within the proposed sale area are related to the marsh community of Devine Lake. Since this type will not receive management no specific action is needed. The NHI also lists gray wolf for the search area. No den sites are known to exist in the area.

RECREATION: No designated recreational trails run through the sale area. The main recreational use of the sale area is hunting. Native wild rice harvesting efforts on Devine Lake should not be impacted.

5/04/2009

C. Dalton

**Name of Sale, GI-WAY-DIN Trail Compartment 224
Legal Description, Vilas County T43N-R6E Sections 32, 33**

**Timber types are Northern Hardwoods and White Birch
Acres = approximately 76**

STAND DESCRIPTION

This compartment is a mosaic of two white birch stands and a northern hardwood stand. There are white birch and sugar maples mixed throughout. Forested stands border the Big lake and an unnamed lake north side of Rice Creek. Accesses are off old logging roads and are restricted to walk in for many years. There are private property owners along the west side of DI-WAY – DIN Trail that will be adjacent to management of the hardwood select cut to consider in sale setup.

GOALS

The compartment is a Forest Production Management Classification, Vilas Sandy Plains North, #3. Overall forest management goals are to maintain a white birch and aspen mix with a regeneration management cut, maintain northern hardwoods in mixed stand leaving healthy mix of diverse hardwood species and red oak as individuals in forest stands with new regeneration and some old tree components. This will be a first selective harvest for this hardwood stand.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

The white birch stands will be clear cut to regenerate aspen, white birch and red oak. Pines and healthy red oaks will be left standing to seed in and provide wildlife benefits. Long lived species of red oak, red and white pines and northern hardwoods will be scattered residual in these stands. Northern hardwood stands will be thinned to promote health and vigor. Oak will also be favored to remain in this stand. Most all balsam fir will be cut. The conifer component in the hardwood stands will be encouraged. Management will consider the protection of the open water in all activities. The swamp conifer stand adjacent to the northern hardwood stand will be evaluated for regeneration potential harvest.

WATER QUALITY, BMPS

There will be set backs established on lakeshores. Any vernal ponds will be protected with buffers. All activities will take place on frozen or dry soils.

AESTHETICS

Roadside visual impact buffers will be implemented to mitigate logging slash and activity. Establishment foresters will mark out effective visual buffers on select cut northern hardwoods.

WILDLIFE

The regeneration of aspen and other early successional trees will be good for game species of wildlife and other animals and birds. Additional composition and structure will create a diversity of food and shelter for wildlife. Den and cavity trees will be retained in managed areas. Large, old trees will be left, 3 per acre were found.

ENDANGERED RESOURCES

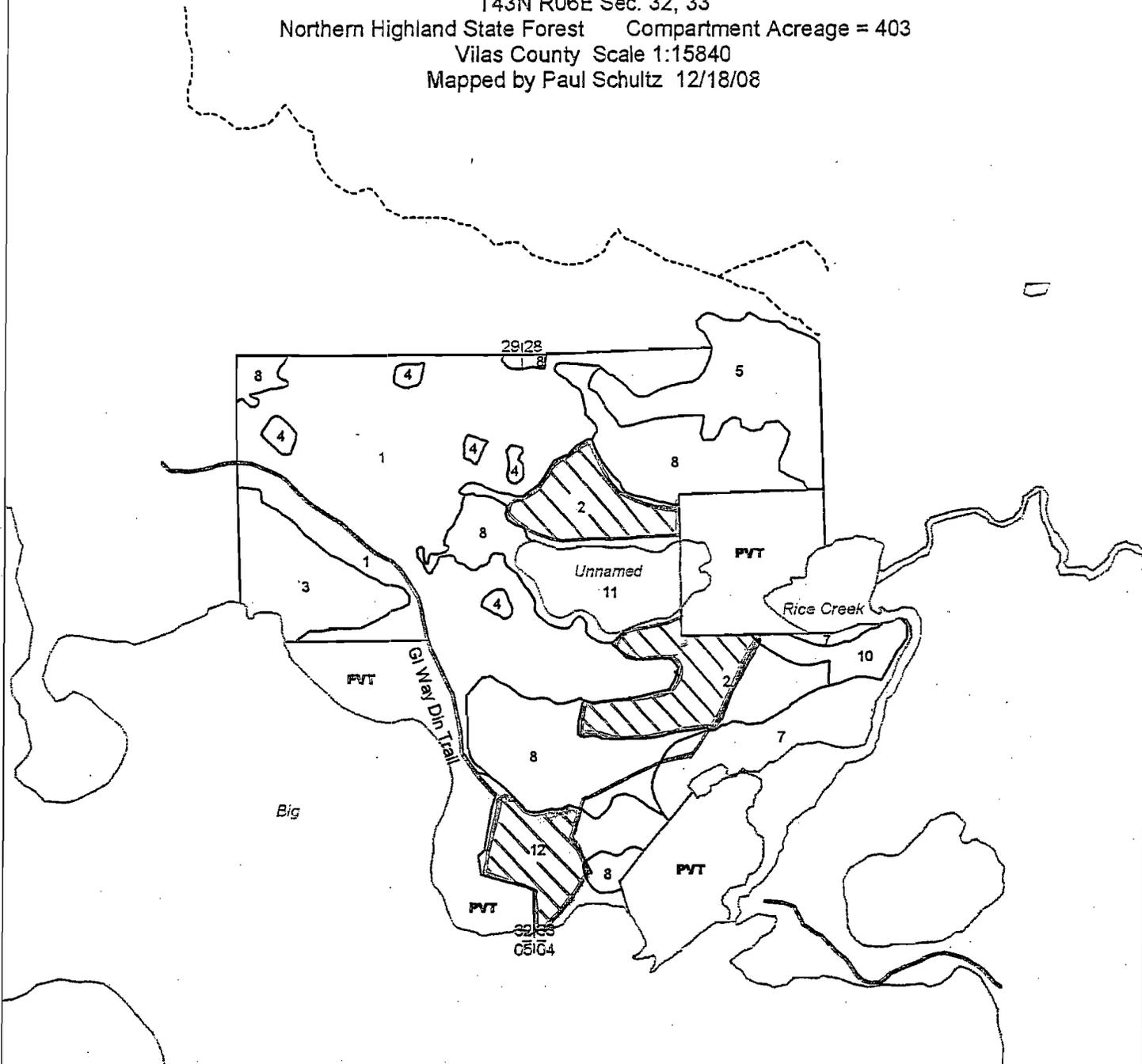
NHI Portal only listed several species of concern birds, a mammal and several wetland communities and plants. The wetland areas will be protected and not disturbed. A check with Endangered Resources ecologist will be made to verify nests and protection measures. Archaeological survey records show no known sites in this compartment.

RECREATION

This area is currently used for hunting and casual hiking trail recreation. Hunting opportunities will increase after management and non-motorized recreation will not be impacted by this sale.

COMPARTMENT 224

T43N R06E Sec. 32, 33
 Northern Highland State Forest Compartment Acreage = 403
 Vilas County Scale 1:15840
 Mapped by Paul Schultz 12/18/08



Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	A	0511	2				142
2	BW	0511	4	NH	0511	1	51
3	C	0915	1	C	0509	2	24
4	G						5
5	C	0915	1	C	0509	2	31
7	K						23
8	SB	0005	2				74
10	BW	0511	4	NH	0511	1	8
11	LM						20
12	NH	0511	5	NH	1115	2	25

- Major Roads
- Woods Roads
- Open Water
- Private Land
- Compartment 224



Name of Sale, River Road, Compartment 45H
Legal Description, Vilas County T40N-R8E S 32
Timber types are Aspen primary and White Birch secondary
Acres = 76

STAND DESCRIPTION

This compartment is a mosaic of aspen stands, white birch stands and Pine stands. Forested stands are scattered across this landscape and this stand is level and forested Wisconsin River edge. This is a remote part of the forest with two private landowners adjacent sale area. Town road access is good to the stand scheduled. Soils are sandy and the habitat type is PARV. This sale will be combined with a sale in Compartment 8A on the American Legion.

GOALS

This compartment is Forest Production Management Classification, Oneida Sandy Plains. Forest Production management goals are to increase red and white pine as a forest community type, maintain aspen in mixed stands leaving healthy pine within and red oak trees as mixed forest maintaining current acreage with regeneration and some old tree components. In areas where pine is a strong secondary component, pines may be the dominate cover type after harvest of aspen. The stand will be managed to maintain the aspen and white birch with a regeneration harvest.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Aspen/ white birch stand will be clear cut to regenerate aspen, white birch and red oak. Pines and healthy red oaks will be left standing to seed in and provide wildlife benefits. Long lived species of red oak, red and white pines and a few northern hardwoods will be residual in these stands. River frontage will be protected from harvest with a water quality and aesthetic buffer.

WATER QUALITY, BMPS

There will be set backs established on the Wisconsin River. A 50' no-cut zone will be implemented on river shore along with a 50-100' zone of selective thinning. Selective harvest zone will favor retention of long lived species and large diameters of pines and oaks.

AESTHETICS

River shore visual impact buffers will be implemented to mitigate logging slash and activity. Establishment foresters will mark out effective visual buffers along Town Road. Adjacent landowners have also managed for aspen and pines.

WILDLIFE

The regeneration of aspen and other early successional trees will be good for game species of wildlife and other animals and birds. Most red oak will remain in sale areas. Additional composition and structure will create a diversity of food and shelter for wildlife. Den and cavity trees will be retained in managed areas. Structure and age diversification in wetland harvests will improve this habitat.

ENDANGERED RESOURCES

NHI Portal listed as species of concern within a mile of the section. We will look for these species as well as plant species as the sale progresses and consult Wildlife mappings. If any found, we will consult with ER for management adaptations needed. Archaeological survey records show no known sites in this compartment.

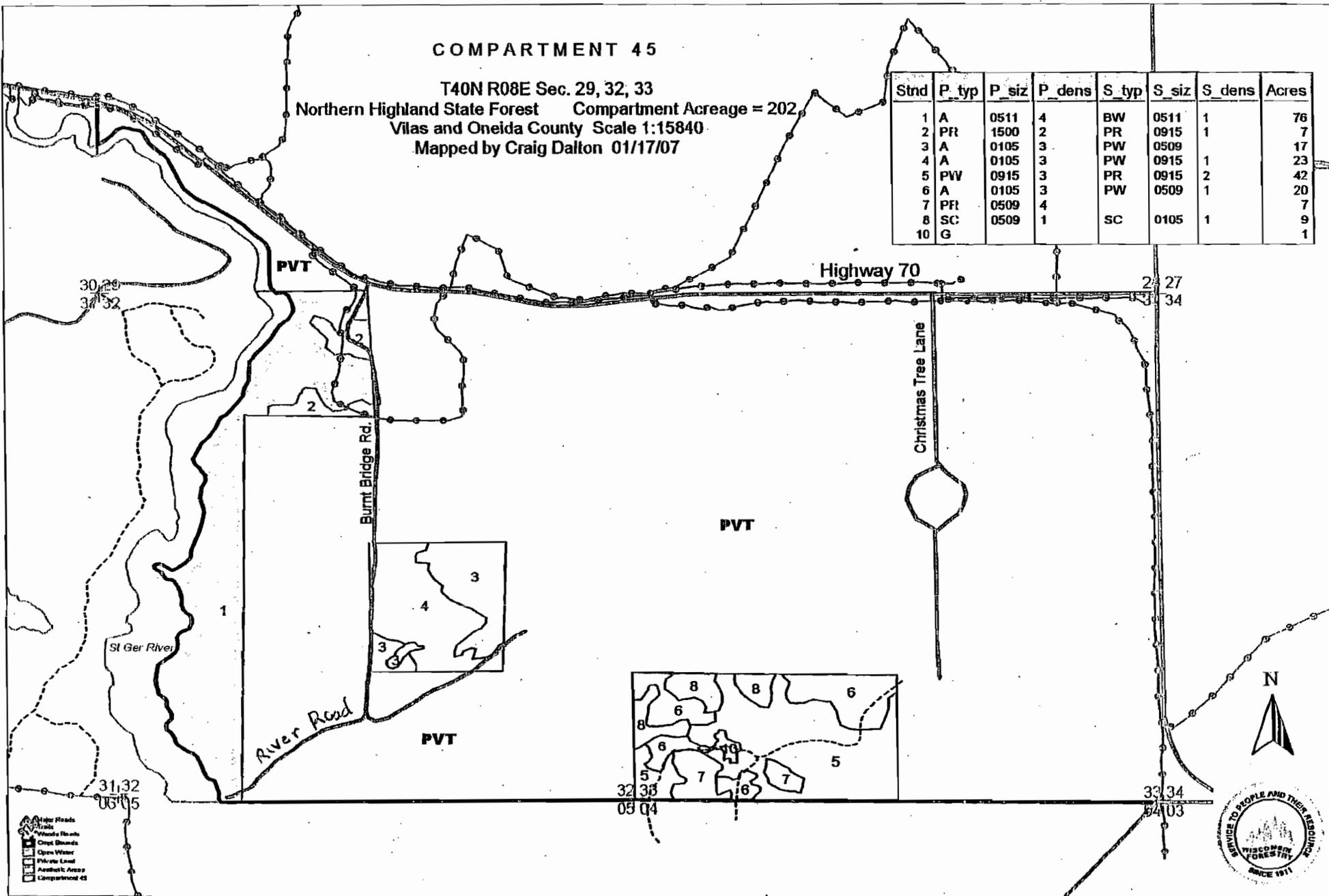
RECREATION

This area is currently used for hunting and river access recreation. Hunting opportunities will increase after management and access to the river recreation will not be impacted by this sale.

COMPARTMENT 45

T40N R08E Sec. 29, 32, 33
 Northern Highland State Forest Compartment Acreage = 202
 Vilas and Oneida County Scale 1:15840
 Mapped by Craig Dalton 01/17/07

Stnd	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	A	0511	4	BW	0511	1	76
2	PR	1500	2	PR	0915	1	7
3	A	0105	3	PW	0509	1	17
4	A	0105	3	PW	0915	1	23
5	PW	0915	3	PR	0915	2	42
6	A	0105	3	PW	0509	1	20
7	PR	0509	4				7
8	SC	0509	1	SC	0105	1	9
10	G						1



Name of Sale; Fishtrap Pines Compartments 120/153H
Legal Description; Vilas County T42N-R7E Sections 15, 16
Timber types are Aspen, White & Red Pine, Jack Pine, Mixed Hardwoods and White Birch
Acres = approximately 140

STAND DESCRIPTION

Compartment 120 (scattered State Lands) has about 23 acres of mature aspen/birch, 11 acres of mature Black Spruce, and 5 acres of red pine ready for management. Compartment 153 has approximately 83 acres of red pine, 3 acres of jack pine in need of a management and approximately 9 acres of birch/aspen scheduled. Access is directly off of Fishtrap Lake Road, just east of the Town of Boulder Junction on a snowmobile trail. Other existing small woods trails exist from prior management in the area. From our management records, it appears that most of this area had management done in 1977.

GOALS

These compartments are in the Forest Production Management Classification, Vilas Sandy Plains North. Overall forest management goals are to maintain aspen with active management to provide benefits for major forest game species. The Masterplan also mentions management to increase red and white pine as a dominant community type, and maintain the existing oak and grasslands. Conservation of forested and unforested wetlands and protecting water quality is important.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

The red and white pine stands being managed exist on good sites for growing older pine. The long lived red and white pine thinning will focus on increasing the vigor of residual pine trees. It is also important to maintain jack pine in the jack pine silvicultural range, the three acres will be clear cut. These sandy sites have grown quality jack pine, and it is a valuable, native asset to maintain in the mix. Aspen stands will be managed coppice with pine standards, and will also allow the existing young white pine regeneration to continue to thrive. The scattered oak are not particularly well-suited to the site. Efforts will be made to leave some healthy oak standing to provide mast and maintain some vertical structure. Large diameter red and white pine will be residual in these stands. Management will avoid the non-productive acreage adjacent to the Manitowish River, which will protect the peatland/wetland complex and maintain water quality.

WATER QUALITY, BMPS

There will be set backs established on the river bank and the lake shoreline where productive stands are adjacent to these waterbodies. All harvest areas are on upland soils. Any vernal ponds will be protected with buffers.

AESTHETICS

Fishtrap Road leads to access on the Manitowish River, as well as a number of permanent and part-time residential homes. The visual impact will be considered as the sale is established. Generally speaking, a thinning of pine enhances the character, spacing and size of residual timber. New viewsheds may pique interest in the casual observer. Stand 8 in both Compartments, which occur near Elizabeth Lake (north side) and the Manitowish River (south side) have a small component of white birch mixed with overmature aspen, and in both stands, large diameter white and red pine exist as clumpy and scattered individuals. White pine seedlings exist in the understory with some regularity. A setback from the waters to protect water quality and aesthetics will be established. The Manitowish River is part of a canoe route that is used by a number of youth camps. Several canoe campsites will have aesthetic protection from the timber sale.

WILDLIFE

The regeneration of aspen and other early successional trees will be good for game species of wildlife and other animals and birds. Management of these stands will attempt to maintain or increase structure, which will create a diversity of food and shelter for wildlife. Den and cavity trees will be retained in managed areas.

ENDANGERED RESOURCES

NHI Portal listed the Gray Wolf, and the Hidden-fruited Bladderwort as elements within the search area. The wolves have become more common on the NHAL, and timber management only increases the habitat for their prey. Archaeological survey records show no known sites in this compartment.

RECREATION

This area is currently used for hunting, canoeing and snowmobile trail recreation. Hunting opportunities will increase after management and motorized recreation should not be impacted by this sale.

April 2009 sjb

COMPARTMENT 120

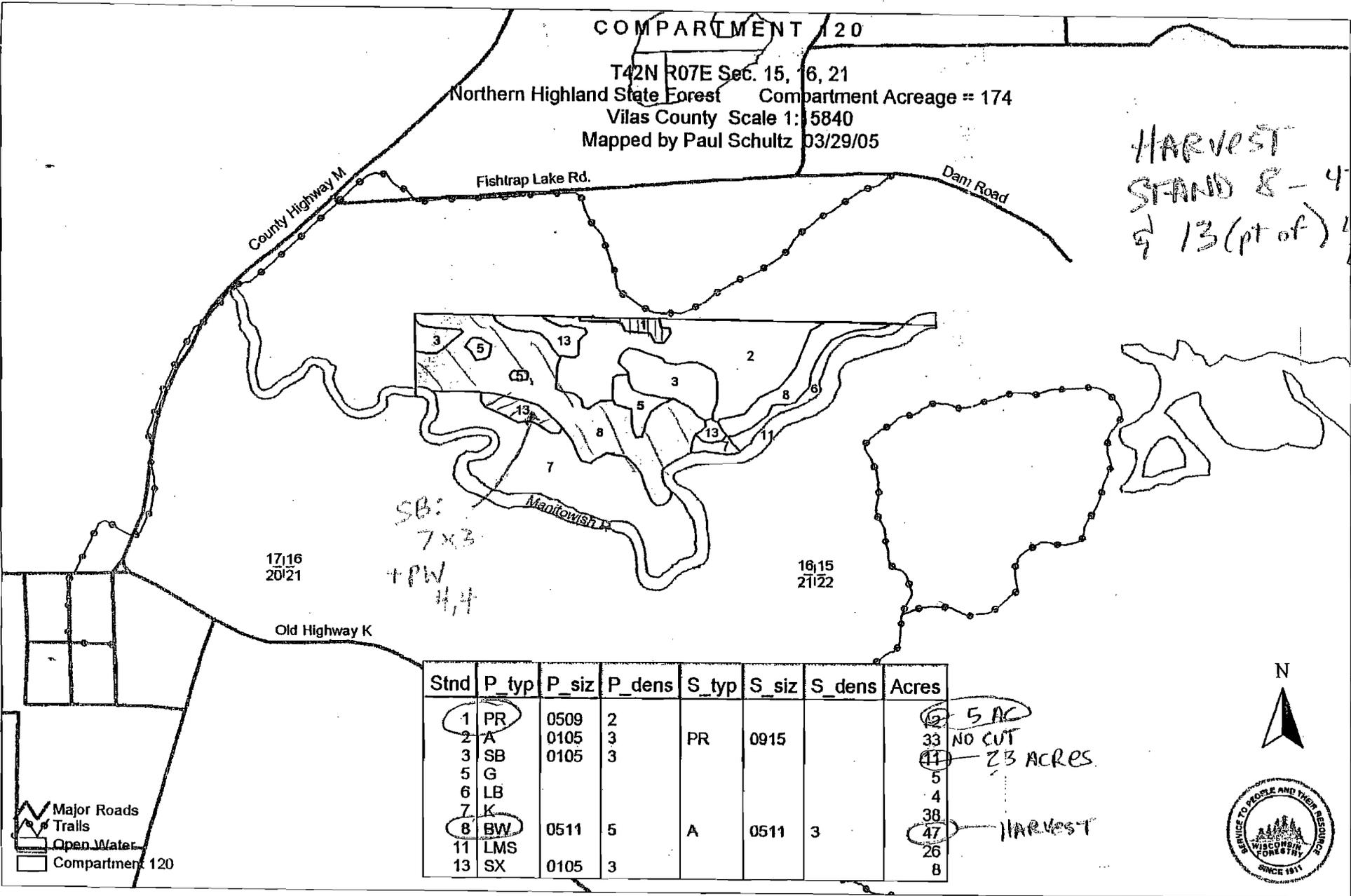
T42N R07E Sec. 15, 16, 21

Northern Highland State Forest Compartment Acreage = 174

Vilas County Scale 1:5840

Mapped by Paul Schultz 03/29/05

HARVEST
STAND 8 - 47 AC
of 13 (pt of) 5 AC



17:16
20:21

16:15
21:22

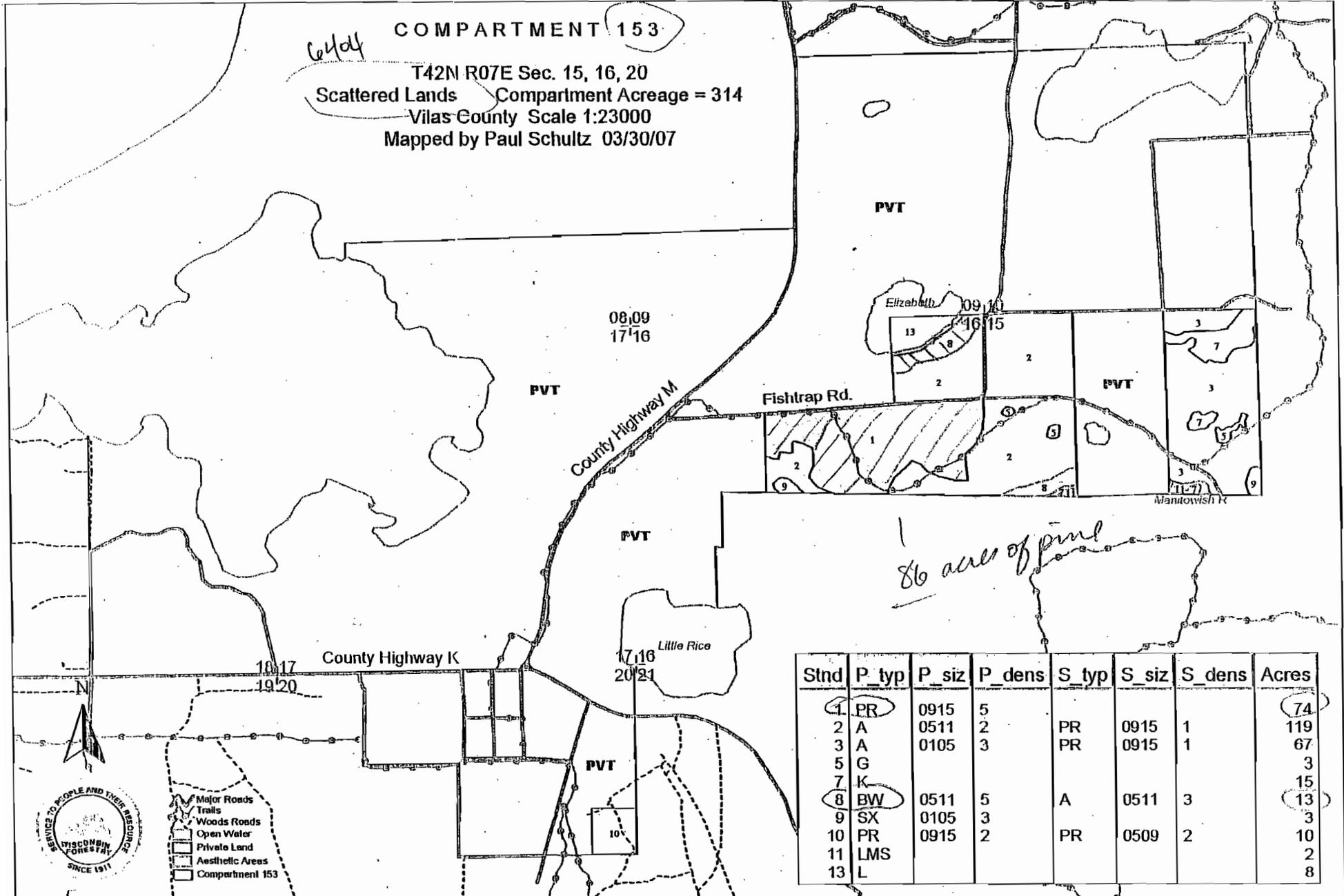
SB:
7x3
+PW
4/4

Stand	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PR	0509	2				5 AC
2	A	0105	3	PR	0915		33 NO CUT
3	SB	0105	3				41 23 ACRES
5	G						5
6	LB						4
7	K						38
8	BW	0511	5	A	0511	3	47 HARVEST
11	LMS						26
13	SX	0105	3				8

- Major Roads
- Trails
- Open Water
- Compartment 120



6404
COMPARTMENT 153
 T42N R07E Sec. 15, 16, 20
 Scattered Lands **Compartment Acreage = 314**
 Vilas County Scale 1:23000
 Mapped by Paul Schultz 03/30/07



86 acres of pine

Stand	P_typ	P_siz	P_dens	S_typ	S_siz	S_dens	Acres
1	PR	0915	5				74
2	A	0511	2	PR	0915	1	119
3	A	0105	3	PR	0915	1	67
5	G						3
7	K						15
8	BW	0511	5	A	0511	3	13
9	SX	0105	3				3
10	PR	0915	2	PR	0509	2	10
11	LMS						2
13	L						8

74 AC of STAND 1 
 13 AC of STAND 8 



-  Major Roads
-  Trails
-  Woods Roads
-  Open Water
-  Private Land
-  Aesthetic Areas
-  Compartment 153

Name of Sale, Turtle River Compartments 264, 265
Legal Description, Vilas County T43N-R5E Section 6, 7 and Iron Co T43N-R4E Sec 1, 12
Timber types are Aspen, Northern Hardwoods and Balsam Fir
Acres = 165

STAND DESCRIPTION

This compartment is a mosaic of aspen stands, northern hardwoods, balsam fir stands and wetland stands. Most of this area was new acquisition from Plum Creek Corp. and lands in Iron Co were inaccessible. The timber is accessed off Bruette Road to the north and the Turtle River runs on the south. These stands have not seen management in over 80m years. Access has been restricted to roads that are gated.

GOALS

This compartment is Forest Production Management Classification, Winegar Moraines. Overall forest management goals are to diversify aspen ages and retain groups and individuals of northern hardwoods. Northern hardwood stands will be managed to retain diversity of species, sizes and encourage regeneration with gaps, small group selection and retain as much conifer component as possible. All hemlock will be retained and opportunities for old forest components will be pursued.

ECOLOGICAL CONSIDERATIONS AND SILVICULTURAL PRESCRIPTION

Aspen stands will be clear cut to regenerate aspen, white birch and balsam. Northern hardwoods, hemlock, spruce and other species diversity will remain as part of the regeneration. Northern hardwood stands will be thinned to increase age diversity and promote health and vigor. Yellow birch and hemlock individuals in the stands will have shelterwood harvest regeneration treatment around them to promote their regeneration in the stand.

WATER QUALITY, BMPS

There will be set backs established on river banks. All harvest areas are upland soils.

AESTHETICS

Establishment foresters will mark out effective visual buffers, including a Turtle River no-cut zone. Other than the river, the sale area is very remote from the public.

WILDLIFE

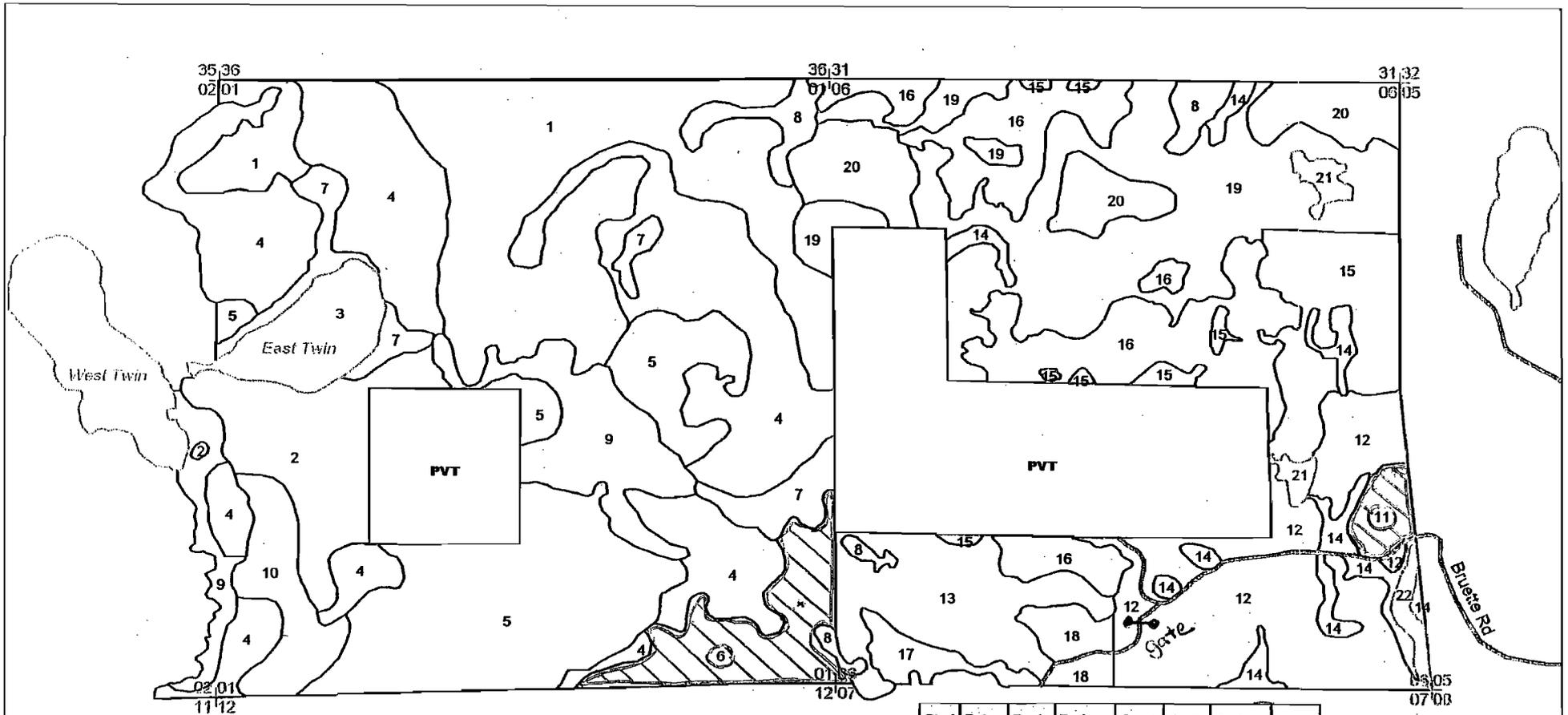
The regeneration of aspen and other early successional trees will be good for game species habitat for wildlife and other animals and birds. Additional composition and structure will create a diversity of food and shelter for wildlife. Den and cavity trees will be retained in managed areas as will large old trees.

ENDANGERED RESOURCES

NHI Portal listed several birds and plants in the project area, we will consult with ER for management adaptations needed. Archaeological survey records show no known sites in this compartment.

RECREATION

This area is currently used for hunting and canoeing recreation. Hunting opportunities will increase after management and water based recreation will not be impacted by this sale. There are no developed or maintained trails in this compartment.



COMPARTMENT 265

T43N R05E Sec. 06
T43N R04E Sec. 01, 02

Northern Highland State Forest Compartment Acreage = 1085
Iron and Vilas County Scale 1:15840
Mapped by Paul Schultz 02/29/08

- Major Roads
- Open Water
- Private Land
- Compartment 265

Stnd	P typ	P siz	P dens	S typ	S siz	S dens	Acres
1	NH	1115	2	NH	0511	3	137
2	H	1500	2	NH	0511	3	42
3	L						22
4	C	0915	2	SB	0509	2	178
5	NH	1500	2	NH	0511	1	108
6	A	0511	3	FB	0005	3	33
7	LBA						25
8	SB	0005	3				16
9	K						46
10	NH	0511	3				22
11	SW	0005	2	G			8
12	A	0511	3				80
13	PR	0005	2				42
14	LBA						22
15	A	0511	4	NH	0511	2	42
16	K						79
17	C	0509	3	T	0509	1	8
18	A	0511	3	MR	0511	1	10
19	A	0005	3				114
20	NH	1115	1	NH	0511	2	41
21	LM						6
22	LMS						4

