
NORTHERN HIGHLAND - AMERICAN LEGION STATE FOREST MASTER PLAN AMENDMENT ASSESSMENT



MAY 2013
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY

ACKNOWLEDGEMENTS

Many individuals from the Department of Natural Resources have developed this analysis through an integrated planning process. Through their hard work and expertise, these people have developed an analysis that will guide the master plan amendment for the NHAL State Forest.

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INTRODUCTION

Five sizeable properties have been acquired within the approved Project Boundary for the Northern Highland-American Legion State Forest (NHAL) since the approval of the master plan in 2005 (See Map 1). In addition, there are two existing State Natural Areas (Dunn Lake and Mary Lake) within the northern Project Boundary of NHAL. The purpose of this Amendment Assessment is to provide baseline information on properties that will be undergoing a planning process for a master plan amendment. The Assessment is prepared during the first phase of the planning process as a stand-alone companion to the amendment.

Table 1. Parcels within the Property Assessment.	
Parcel Name	Acres
Northern Parcel of Ontonagon River Block	58
Southern Parcel of Ontonagon River Block I	1,103
Harris Lake Parcel	554
Van Vliet Parcel	433
Presque Isle Parcel	101
Dunn Lake SNA	954
Mary Lake SNA	44
Total Acres	3,247

ONTONAGON RIVER BLOCK

PROPERTY DESCRIPTION

The Ontonagon River Block consists of 1160 acres of forested lands on both sides of Vilas County Highway B in the Township of Land O' Lakes (See Map 2). The property is bordered by NHAL State Forest on the south, large private ownerships on the east, west and south and Board of Commissioners of Public Lands lands on the north. The Ontonagon River runs along the west and south edges. The northeast fronts Dalzell Lake for about 1/4 mile. The property is well roaded with access off County Highway B and town Road, Palmer Lake road. Most of the parcel was formerly managed in the Managed Forest Law Tax Program for forest products in a sustainable plan. The property is located adjacent to State Forest property Master Plan Classification, Winegar Moraines Forest Production Management Classification.

Landscape Classification

The properties are primarily within the North Central Forest Ecological Landscape, with a minor amount within the Northern Highland Ecological Landscape. The North Central Forest is approximately 9,543 square miles (6,107,516 acres) in size, representing 17.1% of the total land area of the state. Forests cover approximately 75% of this Ecological Landscape. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), non-forested acid peatlands (bogs, fens, and muskegs), alder thicket, sedge meadow, and marshes (including wild rice marshes) are widespread in the North Central Forest.

Geology, Soils and Topography

Landforms in the North Central Forest are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions and steep ridges are found in the northern portion of the Ecological Landscape. Drumlins are important landforms in some parts of the North Central Forest. Soils consist of sandy loams, sands, and silts. Organic soils, peats and mucks, are common in poorly drained lowlands.

The upland soils of this parcel are primarily loamy sands and sandy loams. There are small scattered pockets of sandy soils and peats and mucks in the lowlands. Topography is characteristic of the Winegar terminal moraine landscape, level to rolling with some hilly areas.

Lakes, Streams, and Wetlands

There are several localized but significant concentrations of glacial kettle lakes associated with end and recessional moraines, including the Winegar Moraine, which these properties are associated with. Major lakes in the area include Palmer, High, Big and West, along with dozens of small lakes and ponds. The property contains frontage along Dalzell Lake. Forested and unforested wetlands are also widespread, with peatland types being common. The majority of these properties are part of the Presque Isle River Watershed.

Current Cover Types and Natural Communities

Land cover is 76% upland forest, 19% lowland forest and 5% open lowlands (See Map 3). Natural communities include hemlock hardwoods, mesic northern hardwood forest and lowland conifer swamp communities. Opportunities exist for large ecological landscape of forest cover. Important forested wetland communities such as white cedar swamps and conifer swamps dominated by black spruce or tamarack are common. Other natural communities of this landscape to note are cool water streams, ephemeral ponds, and northern hardwood swamps.

Table 2. Acres of Cover Type on the Ontonagon River Block.		
Cover Type	Acres	%
Forested Types		
Northern Hardwood	581	48
Black Spruce/Tamarack/Cedar	188	16
Aspen	125	10
Hemlock Hardwoods	75	6
Other	53	5
White Spruce	58	5
White Pine	59	5
Total	1139	95
Non-forested Types	60	5
Property Total	1199	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

Comprehensive surveys to document the presence of rare species have not taken place on these properties. These are scheduled to take place during the spring and summer of 2013.

The Natural Heritage Inventory Database currently contains one Element Occurrence for a Northern Goshawk and two Element Occurrences for Ephemeral Ponds.

Table 3. NHI Working List animals documented within the Ontonagon River Block.						
Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status	Federal Status
Bird						
<i>Accipiter gentilis</i>	Northern Goshawk	2011	S2B, S2N	G5	SC/M	None

Source: WDNR Natural Heritage Inventory Database

Key for Tables 2, 4, 6, 7, 9, 10, 12, 14 and 15.			
State Ranks		Global Ranks	
S1	Critically imperiled in Wisconsin because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extirpation from the	G1	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to

	state.		extinction.
S2	Imperiled in Wisconsin because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state.	G2	Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
S3	Rare or uncommon in Wisconsin (21 to 100 occurrences).	G3	Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single state or physiographic region) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
S4	Apparently secure in Wisconsin, with many occurrences.	G4	Apparently globally secure, though it may be quite rare in parts of its range, especially at the periphery.
SU	Possibly in peril in the state, but their status is uncertain. More information is needed.	G5	Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
B	Breeding status of the taxon in question	GNR	Not ranked.
N	Non-breeding status of the taxon in question	?	Elements for which NHI is less certain about the rank given. Ranks shown are based on best available information and will be finalized when additional data become available.
		Q	Species with a questionable taxonomic assignment are given a "Q" after the global rank.
		T	Subspecies and varieties are given subranks composed of the letter "T" plus a number or letter. The definition of the second character of the subrank parallels that of the full global rank.
State Status		Federal Status	
SC	Special Concern	LE	Listed endangered
THR	Threatened	C	Candidate for future listing
END	Endangered		
SC/P	Fully protected		
SC/N	No laws regulating use, possession, or harvesting		
SC/H	Take regulated by establishment of open closed seasons		
SC/FL	Federally protected as endangered or threatened, but not so designated by WDNR		
SC/M	Fully protected by federal and state laws under the Migratory Bird Act.		

Recreation Facilities

The southern parcel of the Ontonagon River Block has a long history of enrollment in Managed Forest Law and was used by the public for those authorized activities, primarily hunting but also hiking and possibly trapping. It has a network of woods roads already in place and has fair access from the county highway. The northern parcel of the Ontonagon River Block was private property and there is little evidence of public use. The prior owners made very little use of the property. There are no recreation facilities developed on either parcel. There is no trail onto the property and users that arrive with a vehicle would need to park on

the side of Palmer Lake Road. Both parcels are contiguous to large blocks of BCPL ownership.

In general, the property is open to the public with a network of forest roads. These roads are unimproved and are not maintained in any way at this point. There are no developed facilities or signage. Use is from hunters, hikers and road walkers. The lake frontage is also undeveloped. Canoeers have access to the Ontonagon River from County Highway B. This is an access to Palmer Lake from High Lake portage.

Historical/Archeological

There are no known cultural or archeological features located within the parcels.

Administrative and Other Facilities

There are no administrative or other facilities present on the parcels.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES**Relationship with Current Master Plan Land Classifications**

Based on the property location on the landscape adjacent to the Winegar Moraines Forest Production Classification, management would be consistent with the long and short term objectives of this Area.

Ecological

Based on the position on the landscape of this property and the character of the vegetation and soils, the parcel fits well into the Winegar Moraines management classification of the 2005 NHAL Master Plan. The North Central Ecological Landscape includes the Winegar Moraine subsection 212Jc. This landscape offers opportunities in the State for large scale forest management, including the maintenance of connectivity across multiple ownerships. The predominately loamy soils and rolling topography of this area are supportive of hardwood and hemlock-hardwood forests on habitat types ATM and TMC. The wetland soils are mucks that support white cedar swamps and ash-dominated hardwood swamps. Acid conifer wetland communities dominated by black spruce and tamarack are common of the forested peatland communities. Conservation opportunity areas include large blocks of old deciduous-coniferous forest with continental significance.

There is a small portion of this parcel that lays in the Northern Highland Ecological Landscape. The southeast corner approximately 25 acres possesses sandy soils and supports a white pine community on a PArVAa habitat type. This stand could be included in the Vilas Sandy Plains North management classification.

Recreational

The two parcels have the greatest capacity for remote recreation including hiking, hunting, fishing, and trapping. The location of the southern parcel adjacent to the county highway may make it useful for routing a bicycle trail between Land o' Lakes and Presque Isle. The northern parcel may provide an opportunity for development of a carry-in boat access to Dalzell Lake.

Research

The southern parcel has been identified as a potential site, in whole or in part, for a deer research project that is linked with the June 2012 Kroll Deer Management Report (Kroll et. al., 2012).

HARRIS LAKE PARCEL

PROPERTY DESCRIPTION

This property consists of two parcels that fall within the boundary of the NHAL State Forest totaling approximately 554 acres (See Map 4). It is located in northwest Vilas County, approximately two miles northeast of the Town of Winchester. The property includes almost all of Nell Lake frontage as well as frontage on Harris Lake and Harris Creek. The property is 43% upland forested, 30% lowland forest and 27% open lowland areas. Public road access is limited to Town Road, West Harris Lake Road which ends at the east border of the Nell Lake block and an easement access of unimproved woods road coming off CHY O. This access road runs through private landholdings for a mile or so and enters the northwest corner of the Harris Creek parcel. Harris Creek cuts through the northern block of ownership and does not have a crossing.

Nell Lake is surrounded by forested wetlands that are predominately black spruce swamp and semi-open muskeg. In the uplands there are stands of old growth hemlock hardwoods. The remainder of the uplands on the property are forested with previously managed stands of northern hardwoods with inclusions of remnant super-canopy white pine. Some of these stands also contain old forest characteristics. This site protects an ecologically significant stretch of undeveloped lake frontage on a large developing lake and several small undeveloped bog lakes. In addition, the old growth successional stages found here are now uncommon over most of northern Wisconsin.

Landscape Classification

The Harris Lake property is located primarily within the North Central Forest Ecological Landscape, with the southern 120 acres found within the Northern Highland Ecological Landscape. The North Central Forest is approximately 9,543 square miles (6,107,516 acres) in size, representing 17.1% of the total land area of the state. Forests cover approximately 75% of this Ecological Landscape. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), non-forested acid peatlands (bogs, fens, and muskegs), alder thicket, sedge meadow, and marshes (including wild rice marshes) are widespread in the North Central Forest.

Geology, Soils and Topography

Landforms in the North Central Forest are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions and steep ridges are found in the northern portion of the Ecological Landscape. Drumlins are important landforms in some parts of the North Central Forest. Soils consist of sandy loams, sands, and silts. Organic soils, peats and mucks, are common in poorly drained lowlands.

Lakes, Streams, and Wetlands

There are several localized but significant concentrations of glacial kettle lakes associated with end and recessional moraines, including the Winegar Moraine, which these properties are associated with. Major lakes in the area include No Mans, Rock, North Turtle and Rainbow, along with dozens of additional small lakes and ponds. The Harris Lake property contains frontage along both Nell and Harris Lakes. Forested and unforested wetlands are also widespread, with peatland types being common. Most of the property is within the Presque Isle River Watershed, with the southern reaches of the property located in the Flambeau Flowage watershed.

Current Cover Types and Natural Communities

Based on data from the previous owner's 2006 inventory, the forest and non-forest cover types, were mapped and confirmed. Natural communities include hemlock hardwoods, mesic northern hardwood forest, aspen, a small white pine stand and lowland conifer swamp communities (See Map 5). Opportunities exist for large ecological landscape of forest cover. Important forested wetland communities such as white cedar swamps and conifer swamps dominated by black spruce or tamarack are common. Other natural communities of this landscape to note are cool water streams, ephemeral ponds, and northern hardwood swamps.

Table 4. Acres of Cover Type on the Harris Lake Parcel.		
Cover Type	Acres	%
Forested Types		
Black spruce	167	29

Northern hardwood	143	25
Aspen	52	9
Hemlock	47	8
Other	11	2
Total	420	73
Non-forested Types	157	27
Property Total	577	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

The Natural Heritage Inventory Database (NHI) currently contains two Element Occurrences for bald eagles on this property. Only the Nell Lake territory is still active. NHI also identifies a bird rookery near Nell Lake, but this historic heron rookery is no longer present.

Table 5. NHI Working List animals documented within the Harris Lake Parcel.

Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status	Federal Status
Bird						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	2012	S4B, S4N	G5	SC/P	None

Source: WDNR Natural Heritage Inventory Database

Recreation Facilities

The two units of this acquisition have access challenges. The current recreation use is most likely by adjoining landowners. The north unit, adjacent to Harris Lake, is surrounded by private land, MFL enrolled private land, and Harris Lake. There is legal access but it is undeveloped and remains gated. The Nell Lake unit is located at the end of a town road and access from that road without crossing private land is not clear. Both properties offer opportunities for hunting, fishing, hiking, and trapping.

Historical/Archeological

There are no known cultural or archeological features located within the parcel.

Administrative and Other Facilities

There are no administrative or other facilities present on the parcel.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES

Relationship with Current Master Plan Land Classifications

Based on the Harris Lake parcel portion of this property, location on the landscape is in the Winegar Moraines Forest Production Classification, management would be consistent with the long and short term objectives of this Area. The Nell Lake portion falls in the Vilas Oneida Sandy Plains Classification, which is also a Forest Production Management Area. Considerations for the amount of lake area, bog, quaking bog and sedge meadow features require further study to access management into a special land management designation.

Ecological

Based on the position on the landscape of the Harris Lake block area and the character of the vegetation and soils, the parcel fits well into the Winegar Moraines management classification of the 2005 NHAL Master Plan. The North Central Ecological Landscape includes the Winegar Moraine subsection 212Jc. This landscape offers opportunities in the State for large scale forest management, including the maintenance of connectivity across multiple ownerships. The predominately loamy soils and rolling topography of this area are supportive of hardwood and hemlock-hardwood forests on habitat types ATM and TMC. Aspen stands were managed in 2007 on these rich sites and expect to see an abundance of northern hardwood mixed in the regeneration. The wetland soils are mucks that support white cedar swamps and ash-dominated hardwood swamps. Acid conifer wetland communities dominated by black spruce and tamarack are common of the forested peatland communities. Conservation opportunity areas include large blocks of old deciduous-coniferous forest with continental significance.

There is a portion of this parcel, the Nell Lake block that lays wholly in the Northern Highland Ecological Landscape which includes the subsection, 212Jm Northern Highland Pitted Outwash. The upland soils here are silt loam and sandy loams and still support northern hardwood and hemlock-hardwood forest types on ATM habitat type. The other pockets of loamy fine sand and sandy loam soils support hemlock and white pine on TMC habitat type sites. The lowland soils are muck that support keg and alder lowland brush. These stands could be included in the Vilas Sandy Plains North management classification and are transitional

sites between the two management areas.

Recreational

Public access to Nell Lake needs evaluation. Access to the north unit should be clarified and identified to the public if legal.

VAN VLIET PARCEL

PROPERTY DESCRIPTION

The Van Vliet area is approximately 433 acres in size located in the township of Presque Isle in Vilas County (See Map 6). The property includes 9,435 feet of lake frontage on Van Vliet and Averill Lakes, as well as an additional 6,135 feet of frontage on four other small lakes and ponds. The property is configured as two parcels separated by interconnected Van Vliet and Averill lakes. The parcel on the west side is about 78 acres in size with upland northern hardwoods and scenic views of the lakes. The remaining acreage is on the eastern side of the lakes and includes large stands of old-growth hemlock and northern hardwood, as well as pockets of forested wetlands and bogs. Both parcels have access by town roads, East Van Vliet Road and West Van Vliet Road in the Township of Presque Isle. There are currently parking areas and trail maps located off these roads, provided by a local Friends group.

The Van Vliet property contains a significant block of previously managed hemlock-hardwoods, with some stands displaying old-growth characteristics. This is one of the largest known stands of old-growth hemlock hardwoods in this land type in Wisconsin. Also present are undisturbed black ash-white cedar swamps in kettle depressions, several small undeveloped bog lakes and 1.5 miles of frontage on Averil and Van Vliet Lakes. This site protects an ecologically significant stretch of undeveloped lake frontage on a large developing lake and several small undeveloped bog lakes.

Landscape Classification

The Van Vliet property is primarily within the North Central Forest Ecological Landscape, with a portion of Van Vliet within the Northern Highland Ecological Landscape. The North Central Forest is approximately 9,543 square miles (6,107,516 acres) in size, representing 17.1% of the total land area of the state. Forests cover approximately 75% of this Ecological Landscape. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), non-forested acid peatlands (bogs, fens, and muskegs), alder thicket, sedge meadow, and marshes (including wild rice marshes) are widespread in the North Central Forest.

Geology, Soils and Topography

Landforms in the North Central Forest are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions and steep ridges are found in the northern portion of the Ecological Landscape. Drumlins are important landforms in some parts of the North Central Forest. Soils consist of sandy loams, sands, and silts. Organic soils, peats and mucks, are common in poorly drained lowlands.

Lakes, Streams, and Wetlands

There are several localized but significant concentrations of glacial kettle lakes associated with end and recessional moraines, including the Winegar Moraine, which these properties are associated with. Major lakes in the area include Presque Isle, Crab, Amour and Horsehead, along with dozens of additional small lakes and ponds. The Van Vliet property contains frontage along Van Vliet and Averill Lakes. Forested and unforested wetlands are also widespread, with peatland types being common. These properties are within the Presque Isle watershed.

Current Cover Types and Natural Communities

Based on data from the previous owner's 2006 inventory, the forest and non-forest cover types, were mapped and confirmed (See Map 7). Forest cover is divided up as 82% upland forest, 8% lowland forest and 10% non-forest lowlands and lakes. Natural communities include hemlock hardwoods, mesic northern hardwood forest, a small white pine stand and lowland conifer swamp communities. Opportunities exist for large ecological landscape of forest cover. Important forested wetland communities such as white cedar swamps and conifer swamps dominated by black spruce or tamarack are common.

Table 6. Acres of Cover Type on the Van Vliet Parcel.		
Cover Type	Acres	%
Forested Types		
Hemlock hardwood	184	43
Northern Hardwood	149	36

White Birch	11	3
White Cedar	30	7
Black Spruce	6	1
Total	380	90
Non-forested Types	45	10
Property Total	425	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

The Natural Heritage Inventory Database (NHI) currently contains Element Occurrences for one plant, one aquatic invertebrate, one bird and 5 natural communities on the Van Vliet property.

Table 7. NHI Working List animals and plants documented within the Van Vliet Parcel.						
Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status	Federal Status
Beetle						
<i>Agabus wasastjerna</i>	A Predaceous Diving Beetle	2011	S2?	GNR	SC/N	None
Bird						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	2012	S4B, S4N	G5	SC/P	None
Plant						
<i>Calypso bulbosa</i>	Fairy Slipper	2004	S2	G5	THR	None

Source: WDNR Natural Heritage Inventory Database

Recreation Facilities

Both the east and west units of this parcel have moderately developed trail systems that are mapped and marked. Interpretive signs are in place. The trails are managed by the non-profit group Friends of the Van Vliet Hemlocks and they funded the development of trail signs, maps, and other interpretive publications. Access to the west unit is adjacent to a town road. Currently there is a gap between that road easement and the state property. This was identified by survey after the purchase. The town is working on trading land with a private landowner to provide legal access for the town road, the landowner, the state, and additional landowners to the east. Trails lead from the state owned land on to private lands to the west.

On the east side the trail system is accessed from the end of East Van Vliet Road. This road passes near a number of homes and the parking lot is at the end of a private driveway. The increased use of the trail system has intensified the conflict between trail users and the adjoining landowners

Both parcels are likely used for other passive recreation including hunting, fishing, hiking, trapping and skiing. The east unit provides walk-in access to a very small un-named lake.

Historical/Archeological

There are no known cultural or archeological features located within the parcel.

Administrative and Other Facilities

There are no administrative or other facilities present on the parcel.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES

Relationship with Current Master Plan Land Classifications

Based on the property location on the landscape in the Winegar Moraines Forest Production Classification, management would be consistent with the long and short term objectives of this Area. Future study of this area could place it in a special management designation or State Natural Area status.

Ecological

Based on the position on the landscape of the Van Vliet Lake block area and the character of the vegetation and soils, the parcel fits well into the Winegar Moraines management classification of the 2005 NHAL Master Plan. The North Central Ecological Landscape includes the Winegar Moraine subsection 212Jc. This landscape offers opportunities in the State for large scale forest management, including the maintenance of connectivity across multiple ownerships. The predominately loamy soils and rolling topography of this area are supportive of hardwood and hemlock-hardwood forests on habitat types ACal and TMC. The wetland soils are mucks that support white cedar swamps. Acid conifer wetland communities dominated by black spruce and tamarack are

common of the forested peatland communities. Conservation opportunity areas include large blocks of old deciduous-coniferous forest with continental significance.

There is a portion of this parcel, the west of Van Vliet Lake block that lays wholly in the Northern Highland Ecological Landscape which includes the subsection, 212Jm Northern Highland Pitted Outwash. The upland soils here are silt loam and sandy loams and still support northern hardwood and hemlock-hardwood forest types on ACal habitat type. The other pockets of loamy fine sand and sandy loam soils support hemlock and white pine on TMC habitat type sites. The lowland soils are muck that support white cedar and black spruce forest types. These stands could be included in the Vilas Sandy Plains North management classification, are transitional sites between the two management areas and are very similar in forest type.

Recreational

The current development is well suited to the parcels' capabilities. The access Issue on the west side is nearly resolved. On the west side the private lands may provide more trail opportunities.

PRESQUE ISLE PARCEL

PROPERTY DESCRIPTION

Presque Isle Parcel is approximately 101 acres located on the edge of the Town of Presque Isle village (See Map 8). This parcel was formerly owned by the NHAL, was transferred to Fisheries for trout rearing ponds and then came back on a reversionary clause. Vilas County HWY B cuts across the eastern edge. This is the only public road access onto the property. To the south, the Town of Presque Isle has developed a Town Park and is in the process of adding trails to the State Forest property. The remaining boundary is adjacent private property owners on mostly undeveloped forest land. The South Branch of the Presque Isle River bisects the middle of the property, flowing north. 31% of this parcel is upland forest, 29% is lowland swamp hardwoods and 40% is open lowland keg and water.

Landscape Classification

The Presque Isle property is within the North Central Forest Ecological Landscape. The North Central Forest is approximately 9,543 square miles (6,107,516 acres) in size, representing 17.1% of the total land area of the state. Forests cover approximately 75% of this Ecological Landscape. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), non-forested acid peatlands (bogs, fens, and muskegs), alder thicket, sedge meadow, and marshes (including wild rice marshes) are widespread in the North Central Forest.

Geology, Soils and Topography

Landforms in the North Central Forest are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions and steep ridges are found in the northern portion of the Ecological Landscape. Drumlins are important landforms in some parts of the North Central Forest. Soils consist of sandy loams, sands, and silts. Organic soils, peats and mucks, are common in poorly drained lowlands.

Lakes, Streams, and Wetlands

There are several localized but significant concentrations of glacial kettle lakes associated with end and recessional moraines, including the Winegar Moraine, which these properties are associated with. Major lakes in the area include Presque Isle, Crab, Amour and Horsehead, along with dozens of additional small lakes and ponds. Presque Isle Parcel contains frontage along a small unnamed lake and with approximately 1,400 feet of frontage on the South Branch of the Presque Isle River. Forested and unforested wetlands are also widespread, with peatland types being common. These properties are within the Presque Isle watershed.

Current Cover Types and Natural Communities

Based on data from NHAL forest inventory, the upland areas are scattered and the lowland areas predominate the property (See Map 9). Native communities are mesic northern hardwoods and scattered aspen stands in the uplands. The swamp hardwood stands have a variety of species and occupy the areas adjacent the river and the creek and open wetland edges. Half of one of the former rearing ponds is on the property.

Table 8. Acres of Cover Type on the Presque Isle Parcel.		
Cover Type	Acres	%
Forested Types		
Swamp Hardwood	30	29
Northern Hardwood	19	18
Aspen	13	13
Total	62	60
Non-forested Types		
	41	40
Property Total	103	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

The Natural Heritage Inventory Database (NHI) currently contains Element Occurrences for one plant on the Presque Isle property.

Table 9. NHI Working List plants documented within the Presque Isle Parcel.					
Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status
<i>Petasites sagittatus</i>	Arrow-leaved Sweet-coltsfoot	2006	S3	G5	THR

Source: WDNR Natural Heritage Inventory Database

Source: WDNR Natural Heritage Inventory Database

Recreation Facilities

The west portion of this property adjoins Town of Presque Isle land near the village that has recently been developed into a park providing a picnic shelter, beach, fitness trail and ice-skating. The north pond, on the property, has been drained. A snowmobile trail crosses the property and a road around the south pond is used for biking and hiking. The town has requested a land use agreement with the forest to develop hiking/skiing trails on the state land north of the town park. A small parcel to the east lies adjacent to Statehouse Lake and is accessible from Town property but there is no developed access there.

Historical/Archeological

There are no known cultural or archeological features located within the Presque Isle parcel.

Administrative and Other Facilities

There are no administrative or other facilities present on the Presque Isle parcel.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES

Relationship with Current Master Plan Land Classifications

Based on the property location on the landscape in the Winegar Moraines Forest Production Classification, management would be consistent with the long and short term objectives of this Area.

Ecological

Based on the position on the landscape of this property and the character of the vegetation and soils, the parcel fits well into the Winegar Moraines management classification of the 2005 NHAL Master Plan. The North Central Ecological Landscape includes the Winegar Moraine subsection 212Jc. This landscape offers opportunities in the State for large scale forest management, including the maintenance of connectivity across multiple ownerships. The predominately loamy soils and rolling topography of this area are supportive of northern hardwood and aspen-hardwood forests on habitat type ATM. The wetland soils are mucks that support ash-dominated hardwood swamps and large keg areas. Conservation opportunity areas include large blocks of old deciduous-coniferous forest with continental significance.

Recreational

This property offers opportunities to complement the development of the town park as well as limited access to Statehouse Lake. Hunting would be allowed per local ordinance and department policy related to the proximity to trails and development.

MARY LAKE SNA

PROPERTY DESCRIPTION

Mary Lake State Natural Area is a 44-acre property located in the township of Winchester in Vilas County (See Map 10). The landownership directly adjacent is primarily small private parcels. Past management includes the passive management of native species, which allows nature to determine the ecological characteristics of the site. Exceptions include control of invasive plants and animals, maintenance of existing facilities, and access to suppress fires. Salvage of trees after a major wind event is not considered compatible with management objectives.

- Roadside easement area and utility corridor may be managed sporadically by township and utility.
- Ditches may be plugged with woody materials during dry ditch periods to restrict flow of different water into Mary Lake.

Adjacent land uses include timber production, forestland recreation and lake recreation. The primary management is occasional inspection to search for invasive species.

Landscape Classification

The Mary Lake SNA falls into the North Central Forest Ecological Landscape. This ecological landscape encompasses 9,543 square miles (6,107,516 acres) in size, representing 17.1% of the total land area of the state. Forests cover approximately 75% of this Ecological Landscape. The mesic northern hardwood forest is dominant, made up of sugar maple, basswood, and red maple, with some stands containing scattered hemlock, yellow birch, and/or white pine pockets. The aspen-birch forest type group is also abundant, followed by spruce-fir. Forested and non-forested wetland communities are common and widespread. These include Northern Wet-mesic Forest (dominated by either northern white cedar or black ash), Northern Wet Forest (acid conifer swamps dominated by black spruce and/or tamarack), non-forested acid peatlands (bogs, fens, and muskegs), alder thicket, sedge meadow, and marshes (including wild rice marshes) are widespread in the North Central Forest.

Geology, Soils and Topography

Landforms in the North Central Forest are characterized by end and ground moraines with some pitted outwash and bedrock-controlled areas. Kettle depressions and steep ridges are found in the northern portion of the Ecological Landscape. Drumlins are important landforms in some parts of the North Central Forest. Soils consist of sandy loams, sands, and silts. Organic soils, peats and mucks, are common in poorly drained lowlands.

Lakes, Streams, and Wetlands

The 3-acre Mary Lake is one of very few known meromictic lakes in Wisconsin. Meromixis, the permanent thermal stratification of the water, results from the lake having an extremely small surface area in comparison to its depth. Mary Lake has a small 3-acre surface area but is disproportionately very deep - 67 feet. Due to the extreme relative depth in relation to surface area, watershed soils, and its protection from surrounding uplands, Mary Lake never "turns over" and circulates as the water temperature changes in the spring and fall as is typical of most other Wisconsin lakes. Instead, the lake stays stratified creating unusual chemical and biological layers. Internationally known to limnologists, extensive research has been conducted on the physical, biological, and chemical properties of the lake since the 1920's. Mary Lake is second in a chain of five interconnected lakes and is primarily fed by land runoff and inflow from a small stream that connects Mary Lake to nearby Lake Rose.

Current Cover Types and Natural Communities

Mary Lake is nestled in a small basin and surrounded by dense forest, which helps shelter the lake from wind action. The surrounding forest is primarily second-growth northern hardwood forest, swamp hardwoods, and swamp conifers (See Map 11). Dominant species include sugar maple, hemlock, and a mix of northern hardwoods. There are two rare natural communities or habitats present at the site: Northern Mesic Forest – old-growth and Lake - Meromictic. The current cover types for this parcel are 72% upland forest, 9% lowland forest and 19%open wetlands.

Table 10. Acres of Cover Type on the Mary Lake SNA.		
Cover Type	Acres	%
Forested Types		
Hemlock	23	41
Northern Hardwood	16	29
Balsam Fir	1	2

Swamp Hardwood	3	5
White Cedar	2	4
Total	44	81
Non-forested Types	11	19
Property Total	56	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

Comprehensive surveys to document the presence of rare species have not taken place on these properties. Surveys are scheduled to take place during the spring and summer of 2013. The Natural Heritage Inventory Database (NHI) currently contains one Element Occurrence for a rare plant on the Mary Lake SNA.

Table 11. NHI Working List plants documented on the Mary Lake SNA.					
Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status
<i>Cypripedium arietinum</i>	Ram's Head Lady's Slipper	1986	S2	G3	THR

Source: WDNR Natural Heritage Inventory Database

Recreation Facilities

Primary public uses on this very small parcel include recreation such as hiking, nature appreciation, education, hunting, fishing and trapping. The former residence and outbuildings are scheduled to be razed during the spring/summer of 2013. There is an existing gated road that leads to the homesite.

Historical/Archeological

There are no known cultural or archeological features located within Mary Lake SNA.

Administrative and Other Facilities

There are two public, town-owned roads of 1/4 mile each located within the property.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES

Ecological Capabilities

Based on the position on the landscape of the Rose and Mary Lake SNA area and the character of the vegetation and soils, the parcel fits well into the Winegar Moraines management classification of the 2005 NHAL Master Plan. The North Central Ecological Landscape includes the Winegar Moraine subsection 212Jc. The predominately loamy soils and rolling topography of this area are supportive of hardwood and hemlock-hardwood forests on habitat types ATM and TMC. The wetland soils are mucks that support white cedar swamps and ash-dominated hardwood swamps. Conservation opportunity areas include large blocks of old deciduous-coniferous forest with continental significance.

Recreational Resources, Use and Trends

This parcel offers opportunities for passive recreation and nature appreciation. Due to its size and isolation it is not well suited for recreational development beyond a carry-in style boat landing.

DUNN LAKE SNA

PROPERTY DESCRIPTION

Dunn Lake State Natural Area is a 954-acre property located in Vilas County (See Map 12). Dunn Lake features a mosaic of communities surrounding the lake, giving the area a wilderness aspect. The site contains an outstanding example of northern mesic forest, with super-canopy white pine above large hemlock, yellow birch, sugar maple, and basswood. This undisturbed stand lies on the northeast side of Dunn Lake and extends eastward across the Presque Isle River. Another old-growth stand lies on an upland peninsula west of Sanborn Lake. The Presque Isle River is a meandering, soft, warm water stream that supports a high diversity of native aquatic plants. Bordering the stream are excellent examples of northern sedge meadow, alder thicket, and northern wet forest communities. Recent beaver activity has altered the composition of these communities. The uplands in the southern portion have had a history of timber management. Bald eagles have nested in the large white pines.

Landscape Classification

The Dunn Lake SNA is primarily within the Northern Highland Ecological Landscape, with a minor amount within the North Central Forest Ecological Landscape. The Northern Highland is approximately 2,081 square miles (1,331,970 acres), representing 3.7% of the total land area of the State of Wisconsin.

Geology, Soils and Topography

Most of the Northern Highland is an undulating, gently rolling glacial outwash plain with many kettle lakes, wetlands, and bogs. Remnant moraines and drumlins occur often, with their lower slopes covered with outwash sands. Most soils are sands and gravels, some with a loamy mantle. Soil productivity is low compared to glacial till but relatively high for outwash sands. Wetlands are numerous; most have organic soils of peat or muck.

Lakes, Streams, and Wetlands

Dunn Lake features a mosaic of communities surrounding the lake, giving the area a wilderness aspect. The site contains an outstanding example of northern mesic forest, with super-canopy white pine above large hemlock, yellow birch, sugar maple, and basswood. This undisturbed stand lies on the northeast side of Dunn Lake and extends eastward across the Presque Isle River. Another old-growth stand lies on an upland peninsula west of Sanborn Lake. The Presque Isle River is a meandering, soft, warm water stream that supports a high diversity of native aquatic plants. Bordering the stream are excellent examples of northern sedge meadow, alder thicket, and northern wet forest communities. Recent beaver activity has altered the composition of these communities. The uplands in the southern portion have had a history of timber management. Bald eagles have nested in the large white pines.

Current Cover Types and Natural Communities

Current land cover is characterized as 48% upland forest, 34% wetlands (both forested and non-forested), 13% open water, 5% grassland and open land, and 1% urban (See Map 13).

Table 12. Acres of Cover Type on the Dunn Lake SNA.		
Cover Type	Acres	%
Forested Types		
Hemlock Hardwood	178	19
Aspen	158	17
Northern Hardwood	142	15
White Birch	121	13
Black Spruce	95	10
White Pine	24	2
Total	718	76
Non-forested Types		
	233	24
Property Total	951	100

Source: WDNR Forest Recon Database

Threatened, Endangered and Special Concern Species

The Natural Heritage Inventory Database (NHI) currently contains one Element Occurrence for a rare bird on the Dunn Lake SNA.

Table 13. NHI Working List animals documented within the Dunn Lake SNA.

Scientific Name	Common Name	Last Observed	State Rank	Global Rank	State Status	Federal Status
Bird						
<i>Haliaeetus leucocephalus</i>	Bald Eagle	2013	S4B, S4N	G5	SC/P	None

Source: WDNR Natural Heritage Inventory Database

Recreation Facilities

This remote property has very limited access via private roads. There are no recreational developments. Most recreation is probably by adjoining landowners and their guests. The property has frontage on Dunn, McCullough, and Morton Lakes.

Historical/Archeological

There are no known cultural or archeological features located within Dunn Lake SNA.

Administrative and Other Facilities

There are no administrative or other facilities present on the Dunn Lake SNA.

PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES

Ecological

Based on the position on the landscape of this property and the character of the vegetation and soils, the parcel fits well into the Northern Highland Ecological Landscape. This landscape includes the Northern Highland Pitted Outwash subsection 212Jm. This landscape includes high densities of kettle lakes, headwaters for many major streams, large open acid peatlands and sedge meadows and extensive dry forests types. The predominately sandy soils and rolling topography of this area are supportive of mixed hardwood and white pine forests on habitat type of PArVAa. The wetland soils are mucks that support acid conifer wetland communities dominated by black spruce and tamarack as well as open keg and alder areas which are common of the forested peatland communities. Conservation opportunity areas include northern highland kettle lakes and pine forest with global significance.

There is a small portion of this parcel that lays in the North Central Forest Ecological Landscape, subsection 121Jc Winegar Moraines. The southeast corner approximately 100 acres possesses loamy soil complexes and supports a northern hardwood and hemlock-hardwood communities on an ATD habitat type.

REFERENCES

Kroll, J, Guynn, D., and G. Alt. 2012. 21st Century Model for Deer Management in Wisconsin: Final Report and Recommendations by Wisconsin White-Tailed Deer Trustee and Review Committee. Retrieved May 10, 2013 from <http://doa.wi.gov/secy/documents/cover.pdf>.

