

FOREST, PARKS, AND RECREATION COMMITTEE MEETING
Douglas County Board of Supervisors
Monday, February 29, 2016, 9:30 a.m., Forestry Headquarters
Solon Springs, Wisconsin

Please call the Chairperson or the Forestry Department (715-378-2219) if you will not be able to attend.

MEMBERS: Mark Liebaert, Chair John Robinson, Vice Chair Terry White
 Robert Mock Mary Lou Bergman

AGENDA

(Committee to maintain a two-hour meeting limit or take action to continue meeting beyond that time.)

1. Roll call.
2. Approval of minutes from the December 28, 2015, meeting (attached).
3. Department reports:
 - (a) Budget (attached);
 - (b) Forest management operations (attached); and
 - (c) Parks and recreation.
4. Action items/referrals:
 - (a) Car show event at Lucius Woods County Park (AAD Shriners AAONMS, Duluth) (attached);
 - (b) Bird Sanctuary Clubhouse rental fee waiver request (Wisconsin Woodland Owners Association) (attached);
 - (c) New winter trail establishment request (Brule River Riders Snowmobile Club) (attached);
 - (d) Electric transmission line utility easement request - Dahlberg Light & Power Company (attached);
 - (e) Electric transmission line utility easement request - Solon Springs Airport Commission (attached);
 - (f) 2016 Annual WDNR Recreational Trail Grant Program participation (attached);
 - (g) Tree stand use regulation on WDNR owned or managed lands (Fish & Game League of Douglas County) (attached);
 - (h) Comprehensive Land-Use Plan 2006-2020 Amendments:
 - (1) Special Management Areas (Chapter 500) (attached);
 - (2) State Natural Areas and Exception Resource Areas (High Conservation Value Forests) (Chapter 900) (attached);
 - (3) Designation of Wisconsin State Natural Areas Memorandum of Understanding (WDNR Bureau of Natural Heritage Conservation State Natural Areas Program) (Chapter 900) (attached);
 - (4) Five Mile Barrens Forest Management Plan (Chapter 900) (attached);
 - (5) Five Mile Barrens Forest Management Plan Extended Zone (Chapter 900) (attached);
 - (i) Gift of property (attached):
 - (1) Property acceptance;
 - (2) Release of capital reserve funding (Land Acquisition);
 - (3) Application for County Forest Law Entry;
 - (j) Upper St. Croix Forest Land Conservation Project (The Conservation Fund) (attached):
 - (1) Property acquisition;
 - (2) Contract for Sale of Real Estate Purchase Agreement or Option Agreement;
 - (3) USDA Forest Service Community Forest and Open Space Program Grant Application;
 - (4) WDNR Knowles-Nelson Stewardship Land Acquisition Grant Application;
 - (5) Release of capital reserve funding (Land Acquisition);
 - (6) Application for County Forest Law Entry;
 - (k) Open 2016 tree hand planting bids (attached);
 - (l) 2015 Budget:
 - (1) Carryovers/reserves;

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CHAPTER 500 AMENDMENT
DOUGLAS COUNTY FOREST COMPREHENSIVE LAND-USE PLAN 2006-2020
LAND MANAGEMENT AND USE

530 SPECIAL MANAGEMENT AREAS

High Conservation Value (HCV) forests are local, regional, or national areas with unique qualities. Douglas County's focus in managing these areas will be to maintain or enhance the qualities that make these areas special. In some instances, this may require altering management practices to mitigate impacts; in others, it may entail no active management. HCV lands on County Forest include many exceptional resources: wild rivers and lakes, significant geological features, natural areas, ruffed grouse management areas, and historical and archeological sites. HCV forests contain communities such as habitat for endangered or threatened species, oak and pine barrens, natural-origin pine stand and rare natural communities such as forested seeps, red clay flats, mesic floodplain forest, bedrock glades, large muskegs, shorelines of wild rivers and lakes, and animal concentration spots. It is the policy of the County to manage these types of resources in ways that protect their exceptional features.

To achieve this, a balance must be struck between the art and science of forest-management and other resource management on the Douglas County Forest. What is good management for one natural resource may have more significant implications for another. Accommodations in active management of forest resources may have short-term benefits but may cause long-term adverse effects. The intent of the DCFD in partnership with the WDNR and other natural resource agencies and groups is to assess all natural resources on a broad scale. The goal is to balance the needs of the Forest and its users while maintaining its statutory obligations and a strong commitment to active, science-based silviculture.

Above all, the Douglas County Forest is a working forest under active management rather than a preservation forest. Other needs, resource disciplines, and users will be accommodated and considered when possible to allow for protection and management of non-timber resource, e.g., forest aesthetics, cultural sites, recreational opportunities, wildlife habitat, and ecological processes. Within the County Forest, including the State Natural Areas and Exceptional Resources Areas sound forest-management practices will be emphasized in maintaining, protecting, and enhancing the health of the many resources that make up the County Forest.

530.1 Wisconsin State Natural Areas

Douglas County manages a variety of areas high in significant biological diversity including, Wisconsin State Natural Areas (SNA), which reflect the wealth and variety of the State's native landscape. They contain outstanding examples of native biotic communities and often are the last refuges in the State for rare and endangered plant and animal species. The SNA program works with counties to further recognize outstanding native biotic communities that the counties currently are managing as exceptional areas. SNA are unique in that they can be stand-alone properties or be designated within the boundaries of another property type. Douglas County maintains its land ownership, management, and decision-making authority, but with cooperative recognition of these sites, the County can enhance its ability to provide a broader range of opportunities on the County Forest. [See the Appendixes for the memorandum of understanding \(MOU\) for the designation of Wisconsin State Natural Areas on the Douglas County](#)

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Forest. This MOU was in effect at the time this Plan was approved and is included as an unofficial reference. Contact the DCFD for a current version of the agreement between Douglas County and the WDNR.

The WDNR's SNA staff will work cooperatively with the DCFD coordinating educational, monitoring, and research activities. Assistance on management projects can provide the County help in carrying out necessary management activities that protect the unique character of the area. The importance of SNA program has been recognized on the Douglas County Forest, which contains ~~10~~ 12 SNA sites that comprise ~~9,990~~ 13,067 total acres (see map in Appendix D-IV).

530.1.1 Black Lake Bog

~~This 2,200 acre site is an exceptional resource and has an HCV forest of stunted spruce. Identified natural communities are soft bog lake, northern wet forest, northern sedge meadow, open bog, and shrub carr. Several species of concern at Black Lake Bog including LeConte's sparrow, northern harrier, timber wolf, lake darter, and green striped darter. The Minnesota portion of the site is a dedicated Minnesota Natural Area (see map in Appendix E-IV).~~

Located on end moraine, Black Lake Bog contains a vast, inaccessible, undisturbed wetland complex of bog lake, open bog, and northern wet forest, a community poorly represented in the younger drift-west zone. The open bog is dominated by leather-leaf with patches of bog-rosemary. Black spruce are scattered in the bog and are usually stunted but occasionally grow into a dense stand of full-sized trees. The bog and Black Lake form the headwaters of the Black River. Black Lake is entirely muck-bottomed and has a maximum depth of 4 feet, methyl purple alkalinity of 28 ppm, and a Secchi disk reading of 3 feet. Black River has a gradient of 22 feet/mile and methyl purple alkalinity of 41 ppm. The river below the outlet averages 2.5 cu. ft./sec. Wildlife found on the tract include waterfowl, great blue heron, beaver, and short-eared owl which may nest in the bog. Timber wolves also use the area (see map in Appendix E-IV).

T45N-R15W, Sec 8, 17, 18, 19, 20, 29, and 30 (in part).
Containing 2,008 acres more or less.

530.1.2 Belden Swamp

~~This 1,862 acre wetland complex is an exceptional and unique resource. The large size and muskeg-like vegetation of this bog is not duplicated elsewhere in northwestern Wisconsin. Portions are thinly vegetated with stunted black spruce and tamarack over ericaceous shrubs. Other parts are open with wire leaved sedges and bog birch dominating. The bog is home to healthy populations of jutta arctic butterfly, LeConte's sparrow, yellow bellied flycatcher, and northern harrier. This site has been selected as a long term peatlands study site with funding by the Focus on Energy program of the Wisconsin Department of Administrations. The SNA program will develop baseline data and work with the County and other interested stakeholders to study and promote the site's ecological values (see map in Appendix F-IV).~~

Belden Swamp is a huge wetland straddling the divide between two major watersheds. It forms the

headwaters of the Spruce River, which flows south into the Mississippi River watershed; and the Black River, which flows north into the Lake Superior drainage basin. The wetland complex contains the largest remaining undisturbed open bog in Wisconsin, along with an extensive muskeg, northern wet forest and a zone of shrubby, emergent aquatic vegetation surrounding the wetland. The thinly timbered muskeg contains stunted black spruce and tamarack with ericaceous shrubs, and sedges over a carpet of Sphagnum moss. Other parts of the site are quite open with abundant wireleaved sedges and a low growth of bog birch and ericads, including bog laurel and bog rosemary. A dense conifer swamp of black spruce and tamarack, recovering from longago logging, is found in the northeast corner of the site. The large size, isolated location, and roadless aspect provide excellent habitat for the resident pack of timber wolves. Also present are four rare species: LeConte's sparrow (*Ammodramus leconteii*), yellowbellied flycatcher (*Empidonax flaviventris*), northern harrier (*Circus cyaneus*) and the Jutta Arctic butterfly (*Oeneis jutta*). Other resident birds include palm, Nashville, and yellow warblers, savanna and Lincoln's sparrows, hermit thrush, veery, and sedge wren (see map in Appendix F-IV).

T45N-R14W, Sec 18, 19, and 30 (in part).
T45N-R15W, Sec 13, 23, 24, 25, and 26 (in part).
Containing 1,795 acres more or less.

530.1.3 Ericson Creek Forest and Wetlands

~~This 2,089-acre area is an HCV forest that includes a diverse assemblage of community types. The remoteness of the communities along with relative absence of recent disturbance elevates this area to a significant natural feature. The completeness of species assemblages in each community and their juxtaposition makes this area unique in all of Wisconsin. Communities represented are open bog, northern wet forest, northern wet mesic forest, northern hardwood swamp, northern sedge meadow, northern dry mesic forest, boreal forest, and northern mesic forest. With an exceptional assemblage of natural communities within close proximity, diverse assemblages of species including rare species are possible. Populations of several rare species are found at this site. The bog and sedge meadow harbor populations of 15 species of special concern: three-toed woodpecker, great gray owl, boreal chickadee, Connecticut warbler, LeConte's sparrow, bobolink, northern harrier, sedge wren, dragon's mouth orchid, freija fritillary, frigga fritillary, bog fritillary, and the only location in Wisconsin for the titania fritillary. The denser conifers harbor Cape May warbler and Swainson's thrush. The mesic forest has two nesting pairs of the threatened red-shouldered hawk and the most westerly known population of black-throated blue warbler. The site is established to protect habitat for the rare birds and to use experimental and innovative harvest techniques that enhance bird and boreal forest habitat (see map in Appendix G-IV).~~

Ericson Creek Forest and Wetlands harbors a rich combination of natural communities with a diverse composition of species. Ericson Creek forms a portion of the western boundary of the natural area before joining the Annicon River on its journey to Lake Superior. An extensive northern sedge meadow parallels the creek and small pockets of cedar swamp (northern wet-mesic forest) are located along the eastern boundary. The principal feature is the 500-acre open Sphagnum bog and associated muskeg of tamarack and black spruce. Imbedded in the wetland are upland islands containing boreal forest of white spruce and balsam fir and northern dry-mesic forest dominated by red and white pines. The southern portion of the area contains northern mesic forest of sugar maple, basswood and red oak.

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The natural area has had varying degrees of past disturbance, which has increased the amount of site heterogeneity and species diversity. The boreal forest was logged at the turn of the 20th century and has evidence of past fire while the second-growth mesic forest has a history of maple sugaring. The wetlands appear essentially undisturbed. Eighteen rare species have been identified in the natural area, including several birds, butterflies and plants. The threatened red-shouldered hawk has nested here as have several other bird species of special concern, including three-toed woodpecker, boreal chickadee, Swainson's thrush, LeConte's sparrow, great gray owl, northern harrier, and Connecticut, Cape May, and black-throated blue warblers. Four rare fritillary butterflies live here: bog fritillary (*Boloria eunomia*), freija fritillary (*Boloria freija*), frigga fritillary (*Boloria frigga*), and titania fritillary (*Boloria titania*). This is the only known location in the state for the titania fritillary. Rare plants growing here include the endangered small shin-leaf (*Pyrola minor*) and dragon's-mouth orchid (*Arethusa bulbosa*) (see map in Appendix G-IV).

T45N-R13W, Sec 5 and 6 (in part).
T46N-R13W, Sec 19, 20, 21, 28, 29, 30, 31, and 32 (in part).
Containing 2,505 acres more or less.

530.1.4 Nemadji River Floodplain Forest

~~This 341-acre HCV mesic floodplain forest along the banks of the Nemadji River contains diverse flora, including many canopy tree species: large-diameter silver maple, swamp white oak, basswood, northern white cedar, white spruce, and three species of ash. The spring flora is rich and mesic and includes many species usually found in southern Wisconsin. Four threatened wood turtles were recorded during a survey (see map in Appendix H-IV).~~

Nemadji River Floodplain Forest, along the banks of the Nemadji River, supports a type of forest unusual in composition and perhaps unique in the state. Floodplain forests are very rare along rivers flowing north into Lake Superior. The natural area lies in a steep-sided valley cut through the Lake Superior clay plain, on terraces about fifteen feet above normal water levels. The forest canopy is composed of black ash, green ash, basswood, red maple, silver maple, balsam poplar, American elm, and bur oak. Scattered conifers - white spruce, white cedar, white pine, and balsam fir - are also present in the canopy, making for an unusual mix of tree species. The deep, red clay alluvial soils support an herb layer that is exceptionally rich, with a species composition reminiscent of maple-basswood forests far to the south. Spring ephemerals and their associates are especially well-represented, and include sessile-leaved bellwort, downy yellow violet, tall meadow-rue, spring-beauty, bloodroot, yellow trout-lily, wild ginger, Dutchman's-breeches, cut-leaved toothwort, blue cohosh, wild leek, and American starflower. Resident birds include the common raven, Nashville warbler, northern waterthrush, red-eyed vireo, hermit and wood thrush, and rose-breasted grosbeak (see map in Appendix H-IV).

T48N-R14W, Sec 22, 23, 26, and 27 (in part).
Containing 320 acres more or less.

~~**530.1.5 Buckley Creek and Barrens**~~

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~~This 899 acre site contains a creek, which is a slow, soft, cold water stream flowing from a spring pond 4.5 miles to the St. Croix River. Most of the stream flows through swamp conifers composed of black spruce, tamarack, balsam fir, white cedar, and alder. The uplands to the east are HCV pine barrens that were burned in 1977. Dominant trees are slow growing jack pine and Hills oak. The barrens are nearly free of invasive exotic species. The composition of plant and animal species indicates a diverse barrens community. Butterflies of special concern, on this site included the dusted skipper, cobweb skipper, Henry's elfin, hoary elfin, coral hairstreak, striped hairstreak, and gorgone checkerspot (see map in Appendix I-IV).~~

530.1.5 Five Mile Barrens

The Five Mile Barrens natural area is within the footprint of the so-called "Five Mile Tower Fire", a wild fire that burned in the summer of 1977. This catastrophic blaze burned over 13,000 acres in total. Five Mile Barrens lies near the midpoint of the fire's path. The site is dominated by jack pine with small inclusions of scrub oak that originated from the fire. The topographic relief is rolling outwash plain with extensive flat areas. Characteristic barrens plant species present include downy phlox, hoary puccoon, New Jersey tea, rough blazing star and the state-threatened dwarf milkweed (see map in Appendix I-IV). Management goals and strategies can be found in the Five Mile Barrens Forest Management Plan (see the Appendixes).

T43N-R13W, Sec 28, 33, 34, and 35 (in part).
Containing 1,699 acres more-or-less.

An additional 4,087 acre site adjacent to the SNA that fits a very similar land type description has been identified as the Five Mile Barrens Extended Zone. Management of this area is intended to enhance the critical barrens habitat provided by the SNA while also maximizing the production of forest products (see map in Appendix I-IV). Management goals and strategies can be found in the Five Mile Barrens Extended Zone Forest Management Plan (see the Appendixes) and are only offered as voluntary considerations complementing the SNA Forest Management Plan.

T43N-R13W, Sec 21, 22, 28, 29, 30, 31, 32, and 33 (in part).
Containing 4,087 acres more-or-less.

530.1.6 Empire Swamp

~~This 1,410 acre area features a HCV peatland that serves as the headwaters for the Tamarack River and is a combination of several natural communities, including northern sedge meadow, northern wet forest, tamarack swamp, black ash swamp, alder thicket, open bog, and muskeg. The swamp harbors 11 rare bird species (osprey, northern harrier, olive-sided flycatcher, yellow bellied flycatcher, gray jay, merlin, Connecticut warbler, Swainson's thrush, palm warbler, Cape May warbler, and black-backed woodpecker). Bird diversity is exceptional with 19 species of warbler including the highest known density of golden-winged warbler in the State (an estimated 250 males). In June, this site contained three territorial Philadelphia vireo males and was home to five rare butterfly species (four fritillaries and jutta aretic) and nine plants (calypso, dragon's mouth, Canadian black currant, Hooker's orchid, mountain cranberry, sheathed sedge, sparse flowered sedge, white bog orchid and small~~

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~~pyrola). Timber harvesting can occur on stands with adequate growths so long as the habitat needs of the rare birds are met. Other forest management is limited to upland edges and access across the bog. During frozen conditions, physical or mechanical manipulation of the swamp's hydrology is restricted (see map in Appendix J-IV).~~

Empire Swamp is a large, undisturbed peatland that serves as the headwaters of the Tamarack River. The wetland is a combination of several natural communities of outstanding quality, including northern sedge meadow, northern wet forest, tamarack swamp, black ash swamp, alder thicket, open bog, and muskeg. The swamp harbors 11 rare bird species, including Osprey, Gray Jay, Merlin, and Black-backed Woodpecker. Bird diversity is exceptional, with 19 species of warbler present, including the highest known density of Golden-winged Warblers in the state. Five rare butterfly species are known from the site, including the Jutta Arctic, as well as nine rare plant species, among them Calypso, Dragon's Mouth, Hooker's Orchid, Sheathed Sedge, and Small Pyrola (see map in Appendix J-IV).

T44N-R13W, Sec 6 (in part).
T44N-R14W, Sec 1, 2, 3, 11, 12 (in part).
T45N-R13W, Sec 31 (in part).
T45N-R14W, Sec 26, 34, 35, 36 (in part).
Containing 1,570 acres more-or-less.

530.1.7 Blueberry Swamp

~~This 370-acre portion of Blueberry Swamp occupies a drainage divide with the eastern part flowing to the Bois Brule River and the western part flowing to the Poplar River. The core of the swamp holds more mineral-rich waters and harbors a forest of black ash and white cedar. The swamp provides habitat for numerous rare plant and animal species, including a diverse array of orchids. Birds recorded on the site include yellow-bellied flycatcher, blue-headed vireo, golden-winged warbler, Canada warbler, and evening grosbeak. The relatively undisturbed core is an outstanding ecological reference area. Rated one of the top hardwood swamps in northern Wisconsin, this site is source water for Namekagon River and Blueberry Creek, which provides exceptional water to the Bois Brule River. Timber harvests in white cedar swamps are deterred until adequate cedar regeneration can be assured (see map in Appendix K-IV).~~

The core of Blueberry Swamp holds mineral-rich waters, harbors a high quality forest of black ash and white cedar, and provides habitat for numerous rare plant and animal species, including a diverse array of orchids. Birds known to inhabit the area include Yellow-bellied Flycatcher, Blue-headed Vireo, Golden-winged Warbler, Canada Warbler, and Evening Grosbeak. The relatively undisturbed core functions as an excellent ecological reference area, because this site has been rated one of the top hardwood swamps in all of northern Wisconsin (see map in Appendix K-IV).

T47N-R10W, Sec 7, 18 (in part).
T47N-R11W, Sec 12, 13 (in part).
Containing 864 acres more-or-less.

530.1.8 ~~Pokegama Red Clay Flats~~ Pokegama Carnegie Wetlands

~~This 640-acre site is an excessively poorly drained red clay flats area in the headwaters of the Pokegama and Little Pokegama Rivers. This forested area supports a wetland mosaic of shrub swamp, sedge meadow, emergent marsh, small ponds and tiny upland islets of white spruce, white pine, balsam fir, and trembling aspen. Of special significance are the many populations of rare plants occurring in the site's wetlands. It is important to recognize that these plants are not widespread in the Lake Superior region but are concentrated near Superior with the highest concentration at this site. The WDNR has created an acquisition boundary to purchase private rare plant habitat (clustered bur reed, floating marsh marigold, neat spike-rush, seaside crowfoot, small yellow water crowfoot, sweet coltsfoot, and water starwort) to complement the County owned protection efforts. The County recognizes this site as a rare plant management area and establishes it as an ecological reference area. There will be some timber management, on this reference area but because of poor drainage, activities would promote white pine and white spruce more than regenerating off-site aspen. The reference area would be used to better manage the surrounding clay plain for rare plants (see map in Appendix L-IV).~~

Pokegama Carnegie Wetlands is an excessively poorly-drained area of red clay flats in the headwaters of the Pokegama and Little Pokegama Rivers. It supports a wetland mosaic of shrub swamp, sedge meadow, emergent marsh, small ponds and tiny upland islets of white spruce, white pine, balsam fir, and trembling aspen. Of special significance are the many populations of rare plants occurring here in their highest concentration in the state. Among the rare species are Clustered Bur Reed, Floating Marsh Marigold, Neat Spike-Rush, Seaside Crowfoot, Small Yellow Water Crowfoot, Sweet Coltsfoot, and Water Starwort (see map in Appendix L-IV).

T48N-R14W, Sec 16-21 (in part).
Containing 1,205 acres more-or-less.

530.1.9 Flat Lake

~~This 105-acre site has a shallow, soft water, seepage lake with a fluctuating shoreline. The bottom is composed of muck and sand and sedges and rushes dominate the emergent vegetation. The submerged vegetation is lush and diverse. A pair of trumpeter swans nests on Flat Lake. In south-central Douglas County there are many lakes and wetlands with greatly fluctuating water levels. These shallow lakes are excellent sites for the study of diverse aquatic insect and plant populations. Timber management will continue on the uplands using BMP for water quality (see map in Appendix M-IV).~~

Flat Lake features a shallow, soft water, seepage lake that has a fluctuating shoreline. The bottom is composed of muck and sand. Sedges and rushes dominate the emergent vegetation, while the submerged vegetation is lush and diverse. Trumpeter swans have nested here. Because the shallow lake contains no fish, it serves as an excellent site for the study of diverse aquatic insect and plant populations (see map in Appendix M-IV).

T44N-R11W, Sec 3, 4 (in part).
Containing 94 acres more-or-less.

530.1.10 Goose Lake

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~~This 80-acre site has a soft water, seepage lake with a fluctuating shoreline. Sedge and rushes are the most common plants and 20 acres of sedge meadow adjoin the lake. This type of lake and wetland is found in the sandy outwash areas that were dominated by pine barrens in the pre-European period. Shorelines and wetlands were subjected to periodic fires. Species of concern in these shoreline communities include plantain shoreweed, ternate grape fern, common bog arrow grass, and Blanding's turtle. BMP along the shoreline would include periodic tree removal from the immediate shoreline, and leaving scattered individual trees or small groves. Goose Lake is an excellent site for studying the ecological effects of fluctuating water levels. Timber management will continue on the uplands using BMP for water quality (see map in Appendix N-IV).~~

Goose Lake features a soft water, seepage lake with a fluctuating shoreline and emergent vegetation consisting of sedges and rushes. Twenty acres of high-quality northern sedge meadow adjoins the lakeshore. Rare species found here include Plantain Shoreweed, Ternate Grape Fern, Common Bog Arrow-Grass, and Blanding's Turtle. The lake provides makes an excellent location to study the ecological nature of fluctuating water levels on aquatic systems (see map in Appendix N-IV).

T43N-R10W, Sec 10 (in part).
Containing 67 acres more-or-less.

530.1.11 Upper Nemadji River Floodplain Forest

~~This 610-acre mesic floodplain forest along the banks of the upper Nemadji River, including the north and south forks, is an exceptional and unique resource. The primary natural community type is a mesic floodplain terrace. Many plants found primarily much farther south are abundant on the terraces along the Nemadji River. The diverse natural communities, remote location and varied topography all elevate this area to a significant natural feature unique in all of Wisconsin. The County has recognized this area as a natural reserve and will not actively manage the area for timber. Further conservation goals and strategies can be found in the Nemadji River Corridor Land Protection Project Land Management Plan (see map in Appendix S-IV).~~

The Upper Nemadji River Floodplain Forest comprises 713 acres along the banks of the Nemadji River and supports a type of forest unusual in composition. Floodplain forests are very rare along rivers flowing north into Lake Superior. The natural area lies in a steep-sided valley cut through the Lake Superior clay plain, on terraces about ten feet above normal water levels. The forest canopy is composed of black ash, green ash, basswood, red maple, silver maple, balsam poplar, American elm, and bur oak. Scattered conifers - white spruce, white cedar, white pine, and balsam fir - are also present in the canopy, making for an unusual mix of tree species. The deep, red clay alluvial soils support an herb layer that is exceptionally rich, with a species composition reminiscent of maple-basswood forests far to the south. Spring ephemerals and their associates are especially well-represented, and include sessile-leaved bellwort, downy yellow violet, tall meadow-rue, spring-beauty, bloodroot, yellow trout-lily, wild ginger, Dutchman's-breeches, cut-leaved toothwort, blue cohosh, wild leek, and American starflower (see map in Appendix S-IV).

T47N-R15W, Sec 14, 15, 16, 20, 21, and 29 (in part).

Containing 713 acres more or less.

530.1.12 Solon Springs Sharptail Barrens

Situated on the rolling glacial outwash sand plain that extends from Burnett to Bayfield counties, Solon Springs Sharptail Barrens features a large pine barrens with widely scattered clumps of jack pine, pin oaks, bur oak grubs, and occasional red pine. The vegetation is characteristic of the presettlement vegetation that once covered much of northwestern Wisconsin. Maintained by fire, the barrens are one of the best sharp-tailed grouse habitats in Wisconsin. Shrubs present are sweet fern, blueberry, dewberry, New Jersey tea, hazelnut, willow, wild rose, chokecherry, and bearberry. Groundlayer species include big and little blue-stem, prairie alumroot, puccoon, Canada mayflower, wormwood, asters, and goldenrods. Bird life is dominated by species, which require extensive open landscapes including the rare sharp-tailed grouse (*Tympanuchus phasianella*), upland sandpiper (*Bartramia longicauda*), grasshopper sparrow (*Ammodramus savannarum*), Connecticut warbler (*Oporornis agilis*), and Tennessee warbler (*Vermivora peregrina*). Other birds include mourning dove, eastern towhee, Brewer's blackbird, and vesper and field sparrow (see map in Appendix T-IV).

T44N-R12W, Sec 11 (in part).
Containing 227 acres more or less.

530.2 Exceptional Resource Areas (High Conservation Value Forests)

In addition to the regionally important SNA areas listed, Douglas County harbors many other areas with great biological diversity. 9 sites, comprising 3,397 total acres, have been identified as High Conservation Value Forests (HCVF) on the Forest. The County will manage these resources to maintain or enhance their ecological values (see map in Appendix U-IV).

530.2.1 Moose Lake

Moose Lake is a small, soft water bog lake that forms the headwaters of Moose River. This lake is fringed with alder and bog birch. Surrounding the fringe is a black spruce and tamarack bog (see map in Appendix V-IV).

T46N-R13W, Sec 36 (in part).
T46N-R12W, Sec 31 (in part).
T45N-R13W, Sec 1 (in part).
T45N-R12W, Sec 6 (in part).
Containing 291 acres more or less.

530.2.2 Amnicon River Pines

Amnicon River Pines is a small area of older natural origin red and white pines north of the Amnicon River. The County will manage the area for perpetuation of the pines (see map in Appendix W-IV).

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T46N-R13W, Sec 19 and 20 (in part).
Containing 47 acres more or less.

530.2.3 Ericson Creek Pine Forest

Ericson Creek Pine Forest is south of the Amnicon River and west of Ericson Creek. Scattered islands of natural origin pine are present in the large, open bog. Dominant species are red and white pine with characteristic understory plants present. The County will manage the area for perpetuation of the pines (see map in Appendix X-IV).

T46N-R16W, Sec 24 and 25 (in part).
Containing 43 acres more or less.

530.2.4 Breitzman Lake Bog

Breitzman Lake Bog is a 13 acre soft water bog lake that is surrounded by ~~22 acres of~~ spruce and tamarack forest. The shoreline is a floating bog mat. Boreal birds use the area for breeding. The floating bog mat will not be managed. Part of this area is in private ownership (see map in Appendix Y-IV).

T46N-R15W, Sec 23 (in part).
Containing 34 acres more or less.

530.2.5 St. Croix River

St. Croix River includes a reach several miles up and downstream from the County Highway T bridge. This area has significant populations of rare species, including the ~~endangered pygmy snaketail dragonfly~~, state-threatened gilt darter (fish) and as well as the Blanding's turtle and ~~the rapids clubtail dragonfly, a species of special concern~~. pygmy snaketail dragonfly, both of which are special concern species (see map in Appendix Z-IV).

T44N-R13W, Sec 34, 35, and 36 (in part).
T43N-R13W, Sec 3, 4, 5, 7, 8, 17, and 18 (in part).
T43N-R14W, Sec 13, 23, 24, 26, 27, 28, 33, and 34 (in part).
Containing 1,382 acres more or less.

530.2.6 Gordon Lake

Gordon Lake is a shallow, soft water seepage lake southeast of Gordon. It contains a rare species of dragonfly. Timber management will continue on the uplands around the lake (see map in Appendix A-V).

T43N-R11W, Sec 7 (in part).
Containing 19 acres more or less.

530.2.7 Mud Lake Bog

Mud Lake Bog encompasses a peatland of open bog, muskeg, and black spruce swamp. Six rarely encountered butterfly species are found in abundance on the site (frejia fritillary, purple lesser fritillary, bog fritillary, red-disked alpine, jutta arctic, and bog copper). Since most of the site has no or stunted trees, timber management will be limited (see map in Appendix B-V).

T46N-R16W, Sec 15, 16, 22, and 23 (in part).
Containing 441 acres more or less.

530.2.8 Nemadji River Terrace

This ~~960~~ 926 acre high conservation value forest area includes the steep terraces of the Nemadji River system. Younger deciduous forest with patches of conifer cover the steep slopes above the floodplain. Boreal forest groundlayer species dominate the forest floor and have much different species than the floodplain terrace. In addition, the well vegetated slopes provide an excellent filter to maintain water quality in the Nemadji River system and the seep areas contain a unique composition of plant species preferring mineral rich water. The County will passively manage the area for its timber to promote natural succession towards climatic boreal forest conditions. ~~by restoring and favoring dominant conifer components.~~ Further management goals and strategies can be found in the Nemadji River Corridor Land Protection Project Land Management Plan. ~~(see map in the Appendixes).~~ (see map in Appendix C-V).

T47N-R15W, Sec 13, 14, 15, 16, 19, 20, 21, 28, 29, and 30 (in part).
Containing 926 acres more or less.

530.2.9 Lower Ox Lake Conifer Swamp

Situated within the floodplain of the St. Croix River, the 214 acre Lower Ox Conifer Swamp features a good-quality stand of northern white cedar, near the northwest range limit for this species in Wisconsin. In some areas, black ash is co-dominant with cedar in the overstory and across the site the understory contains a mix of alder, winterberry and some red osier dogwood. Groundlayer plants range from wet species such as blue joint grass and sensitive fern, to wet-mesic species such as goldthread, blueberry and bunch berry (see map in Appendix D-V).

T44N-R11W, Sec 7, 8, 17, and 18 (in part).
Containing 214 acres more or less.

4h. 2.

CHAPTER 900 AMENDMENT
DOUGLAS COUNTY FOREST COMPREHENSIVE LAND-USE PLAN 2006-2020

APPENDIXES

CHAPTER 900: Appendixes *(Included in a separately bound document)*

915 Memorandums of Understanding

- MOU for Fire Suppression Services Agreement Appendix U-I
- MOU for Designation of Wisconsin State Natural Areas Appendix U-IA (new)

935 Supplement Plans

- Dam Maintenance Plan..... Appendix E-II
- Outdoor Recreation Plan 2003 to 2008 Appendix F-II
- Five Mile Barrens Forest Management Plan Appendix F-IIA (new)
- Five Mile Barrens Forest Management Plan Extended Zone ... Appendix F-IIB (new)

950 Maps and Brochures

950.15 State Natural Areas

- State Natural Areas Appendix D-IV (replace)
- Black Lake Bog State Natural Area..... Appendix E-IV (replace)
- Belden Swamp State Natural Area Appendix F-IV (replace)
- Ericson Creek Forest and Wetlands State Natural Area..... Appendix G-IV (replace)
- Nemadji River Floodplain Forest State Natural Area..... Appendix H-IV (replace)
- ~~Buckley Creek and Barrens State Natural Area~~ ~~Appendix I-IV~~
- Five Mile Barrens State Natural Area Appendix I-IV (replace)
- Empire Swamp State Natural Area..... Appendix J-IV (replace)
- Blueberry Swamp State Natural Area..... Appendix K-IV (replace)
- ~~Pokegama Red Clay Flats State Natural Area~~ ~~Appendix L-IV~~
- Pokegama Carnegie Wetlands State Natural Area Appendix L-IV (replace)
- Flat Lake State Natural Area Appendix M-IV (replace)
- Goose Lake State Natural Area Appendix N-IV (replace)
- Upper Nemadji River Floodplain Forest State Natural Area.... Appendix S-IV (new)
- Solon Springs Sharptail Barrens State Natural Area Appendix T-IV (new)

950.16 Special Grouse Management Areas

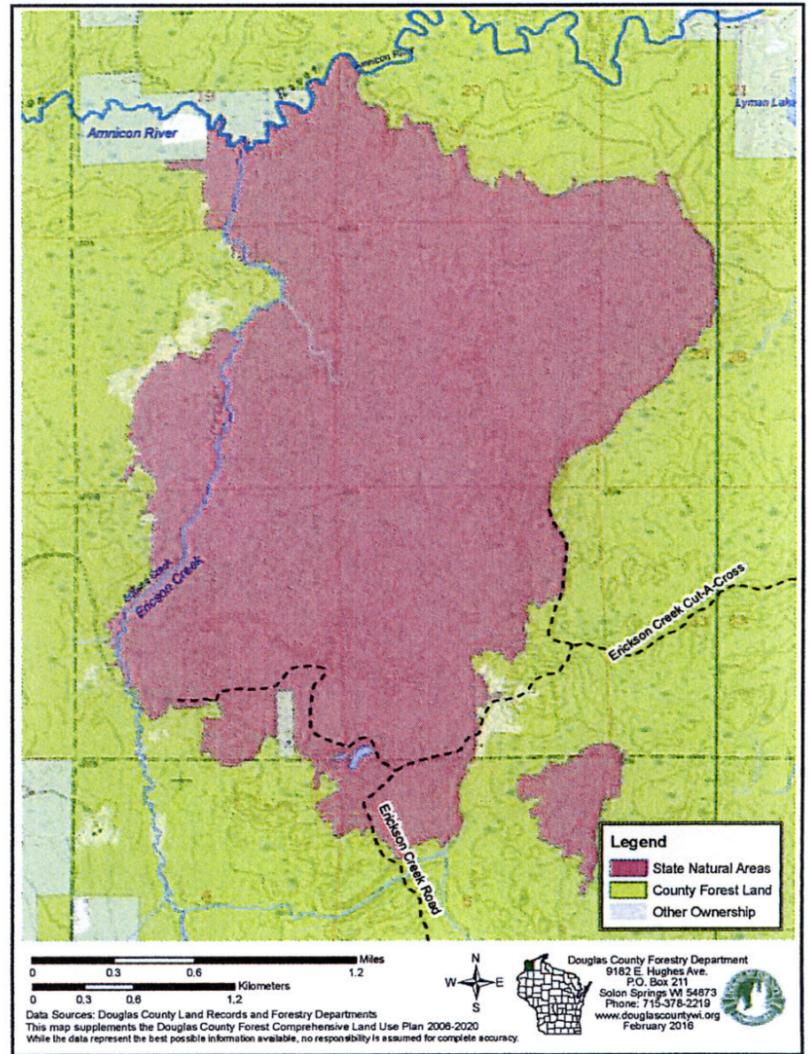
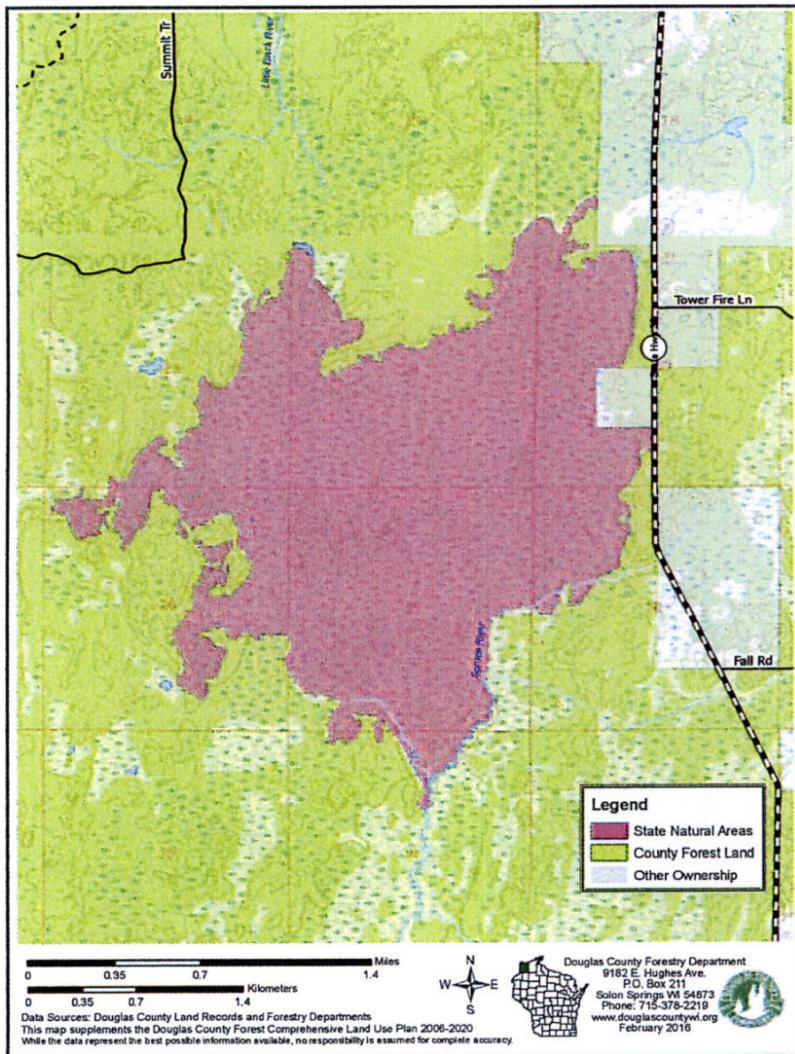
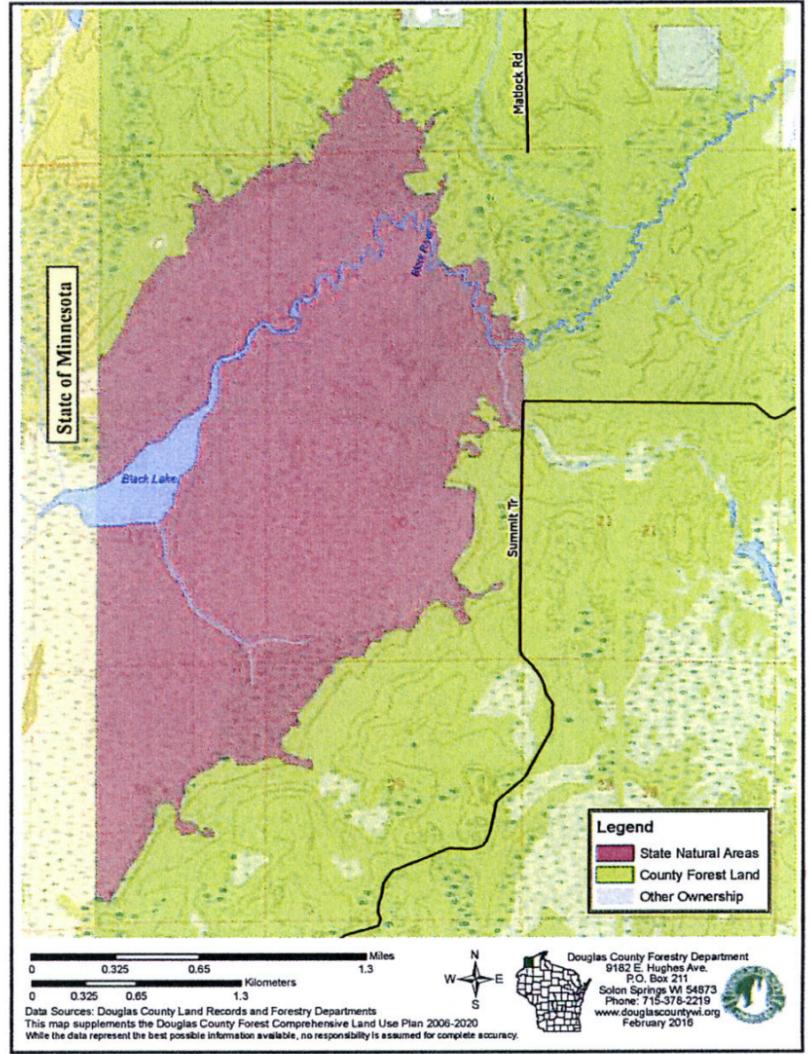
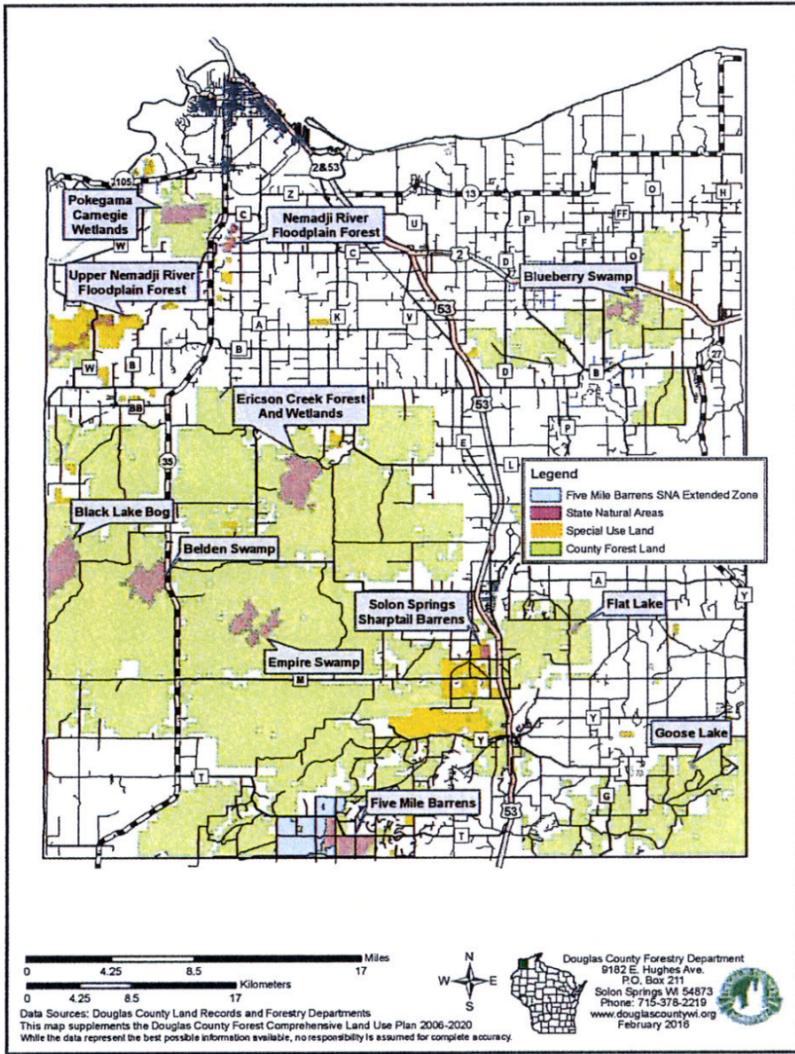
- Special Grouse Management Areas..... Appendix O-IV
- Spruce River Special Grouse Management Area Appendix P-IV
- Poplar River Special Grouse Management Area Appendix Q-IV
- Empire Grade Special Grouse Management Area..... Appendix R-IV

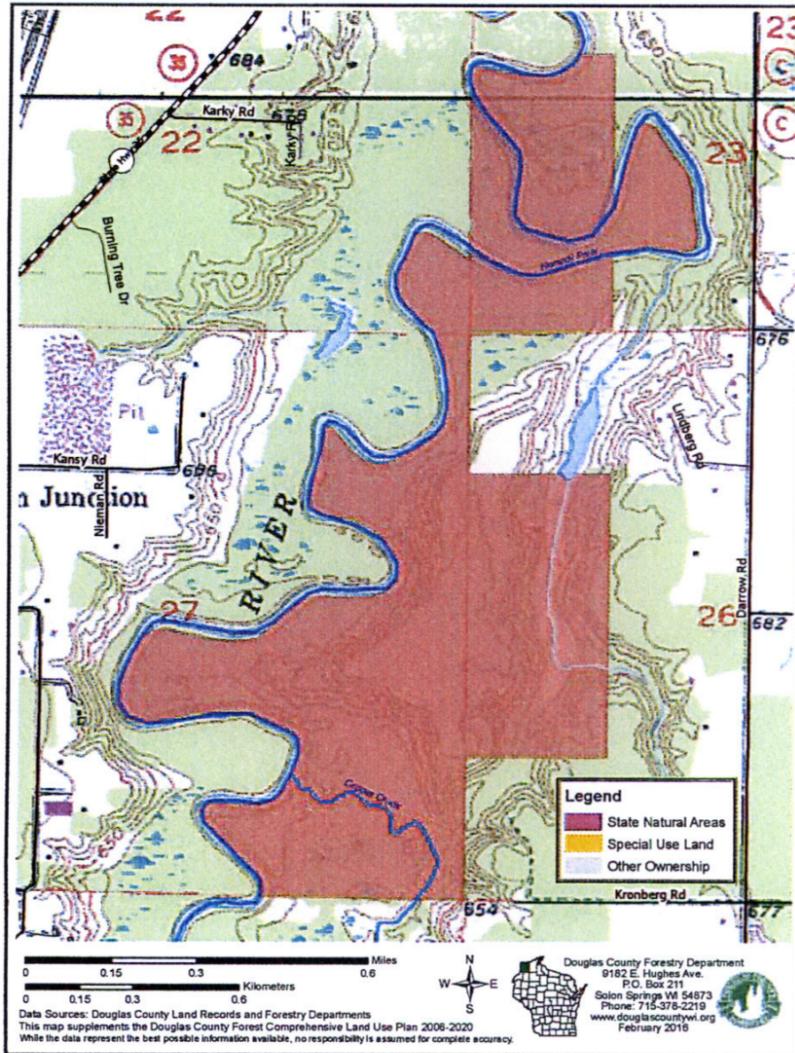
950.17 Exceptional Resource Areas (High Conservation Value Forests)

- High Conservation Value Forests..... Appendix U-IV (new)
- Moose Lake High Conservation Value Forest..... Appendix V-IV (new)
- Amnicon River Pines High Conservation Value Forest Appendix W-IV (new)
- Ericson Creek Pine Forest High Conservation Value Forest.... Appendix X-IV (new)
- Breizman Lake Bog High Conservation Value Forest Appendix Y-IV (new)

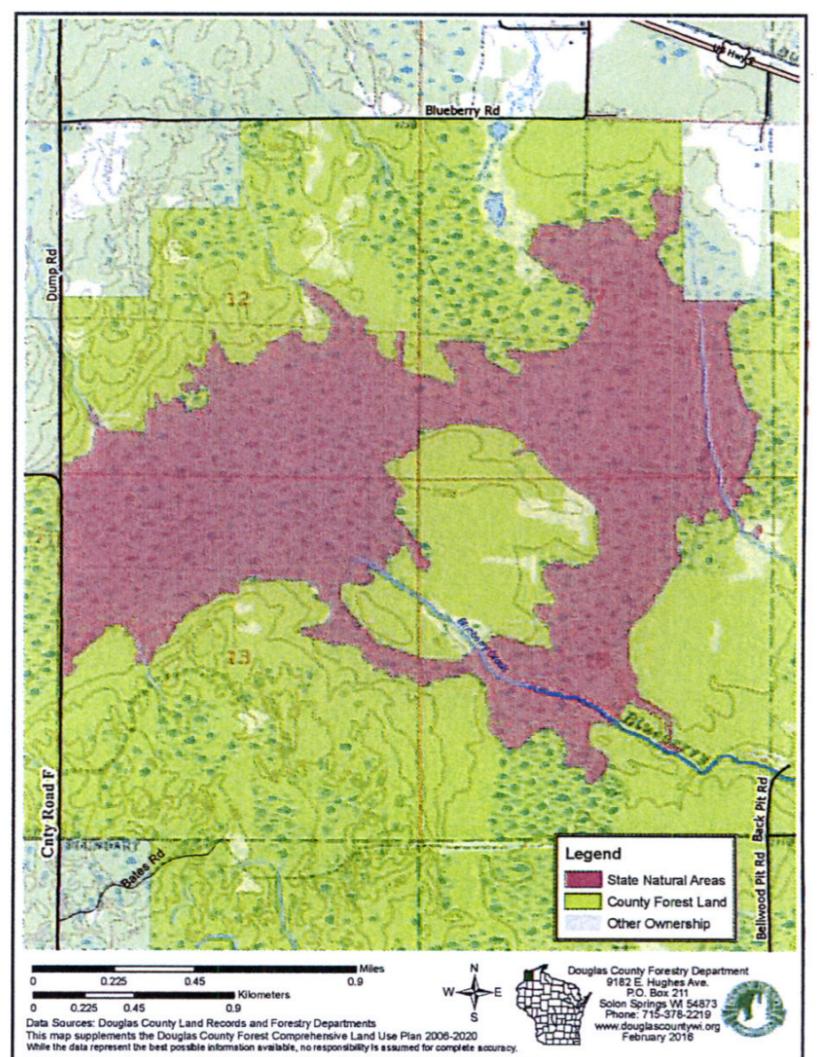
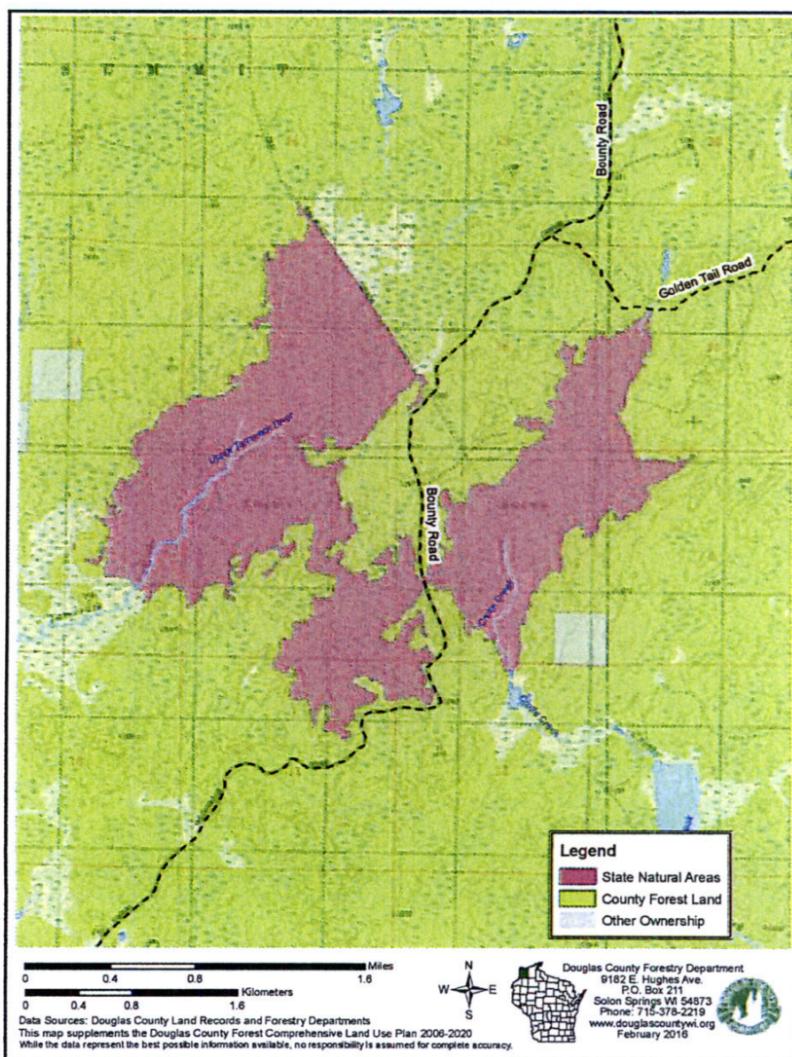
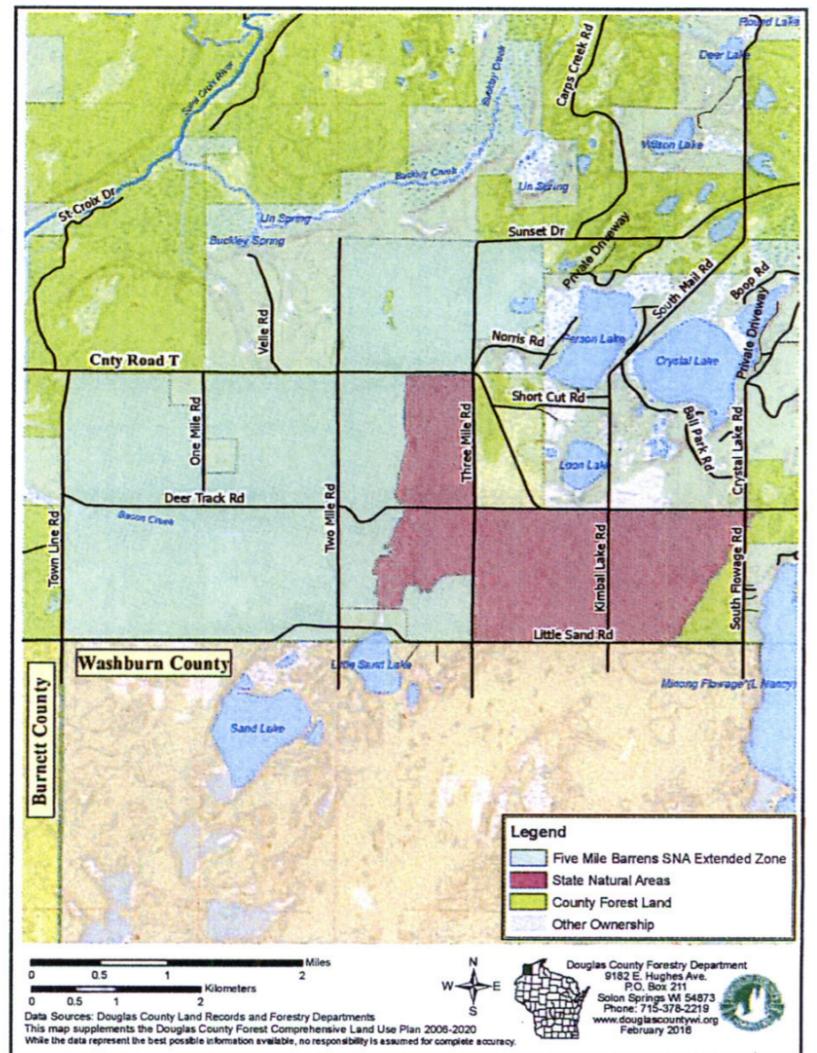
St. Croix River High Conservation Value Forest Appendix Z-IV (new)
Gordon Lake High Conservation Value Forest Appendix A-V (new)
Mud Lake Bog High Conservation Value Forest Appendix B-V (new)
Nemadji River Terrace High Conservation Value Forest..... Appendix C-V (new)
Lower Ox Lake Conifer Swamp High Conservation Value
Forest Appendix D-V (new)

4h.2.





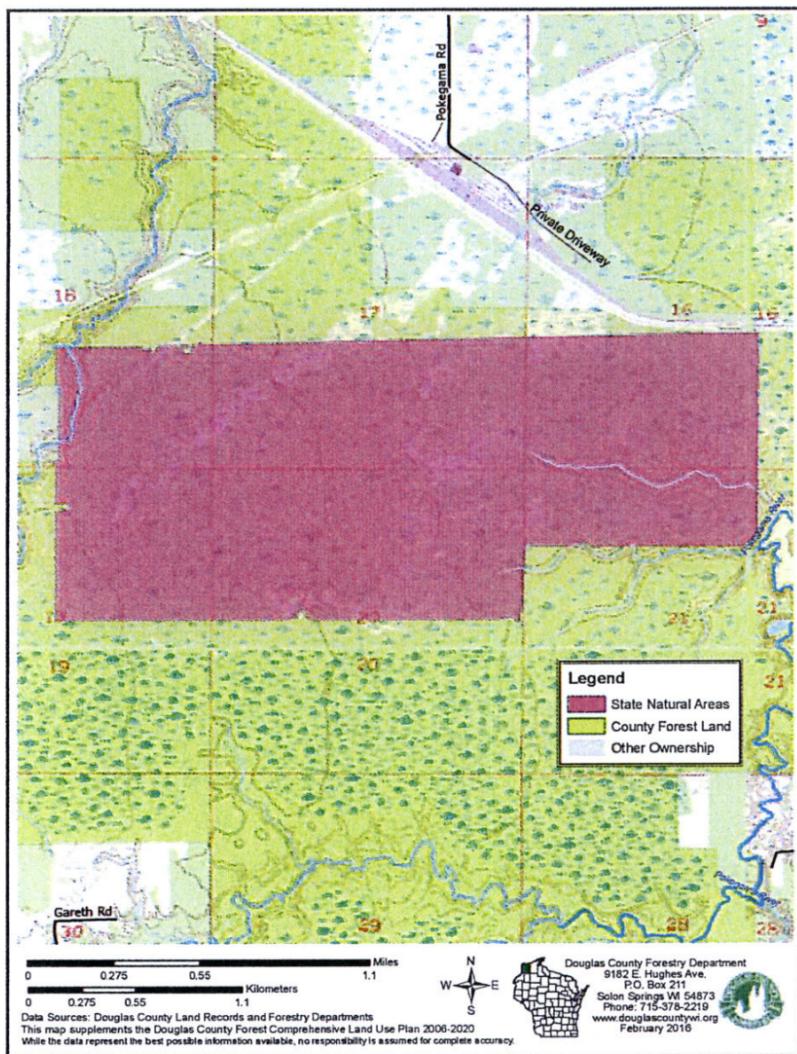
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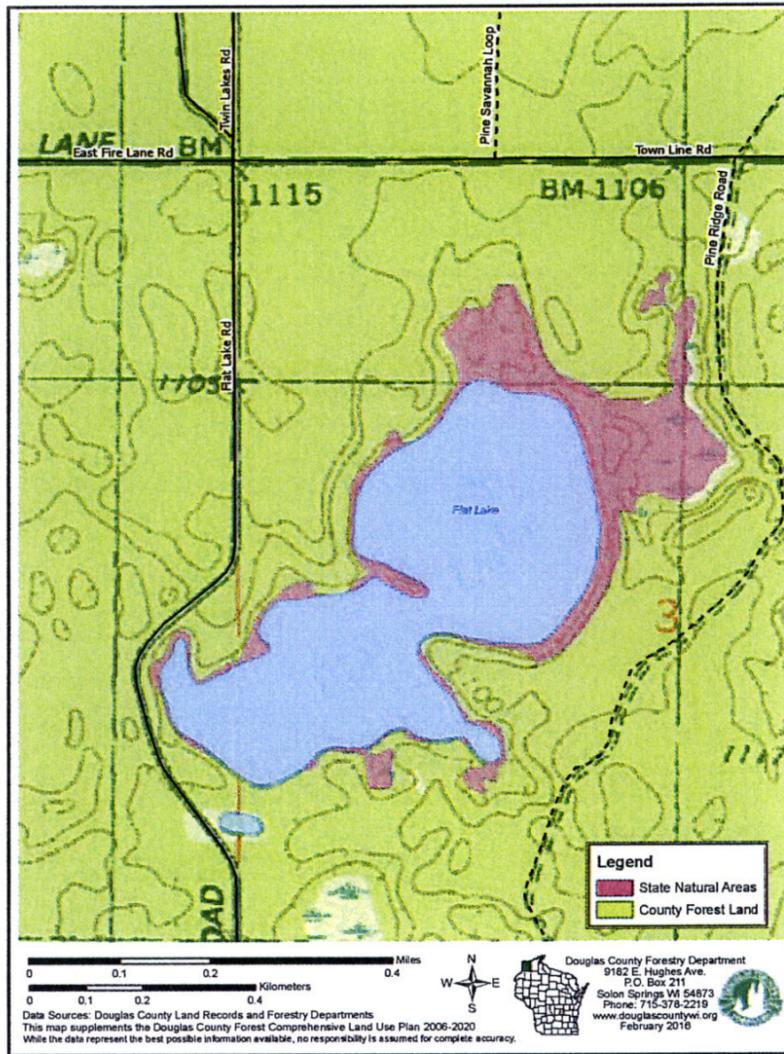
POKEGAMA CARNEGIE WETLANDS STATE NATURAL AREA

APPENDIX L-IV



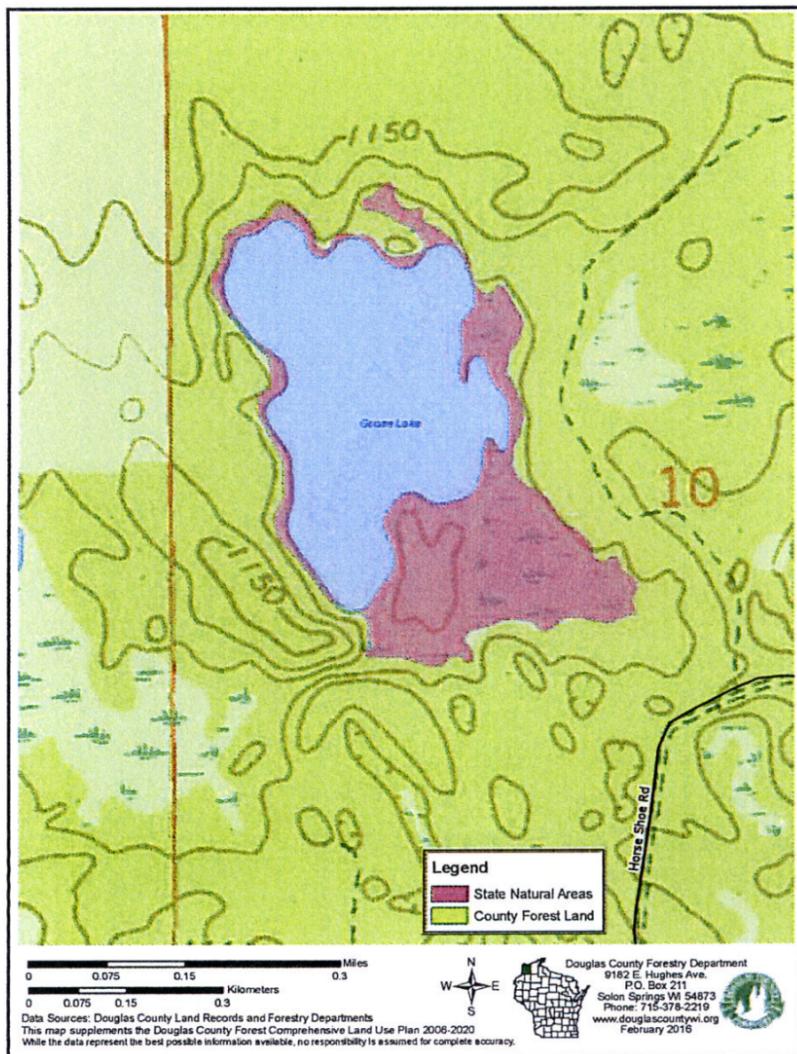
FLAT LAKE STATE NATURAL AREA

APPENDIX M-IV



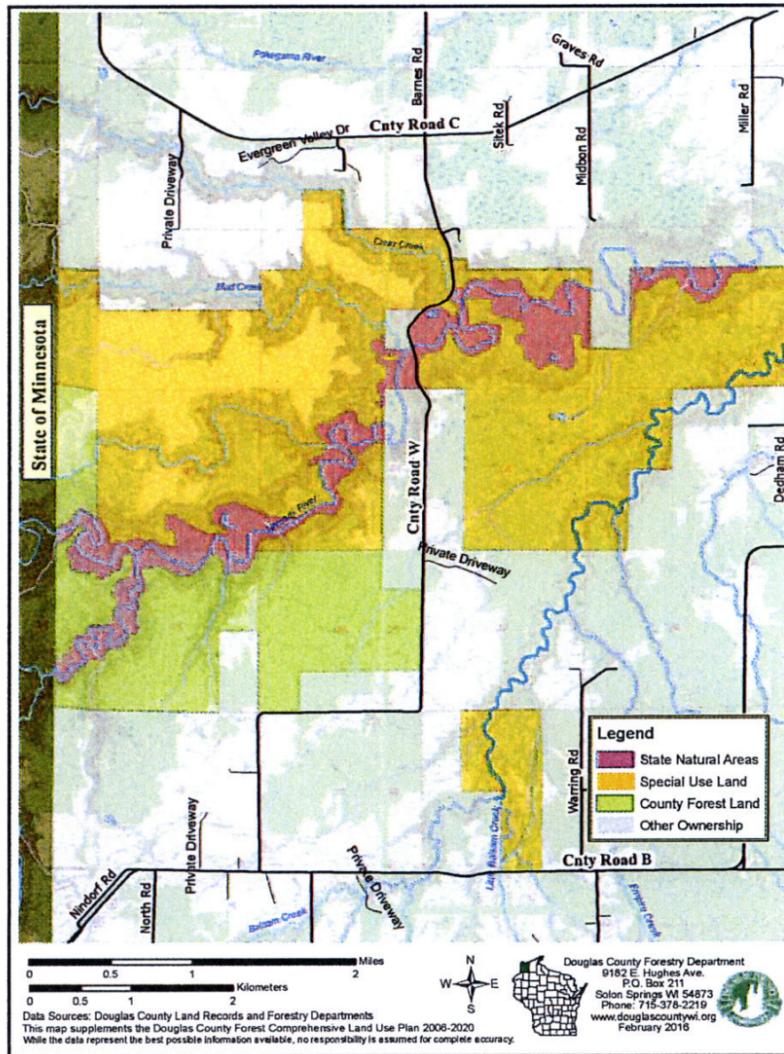
GOOSE LAKE STATE NATURAL AREA

APPENDIX N-IV

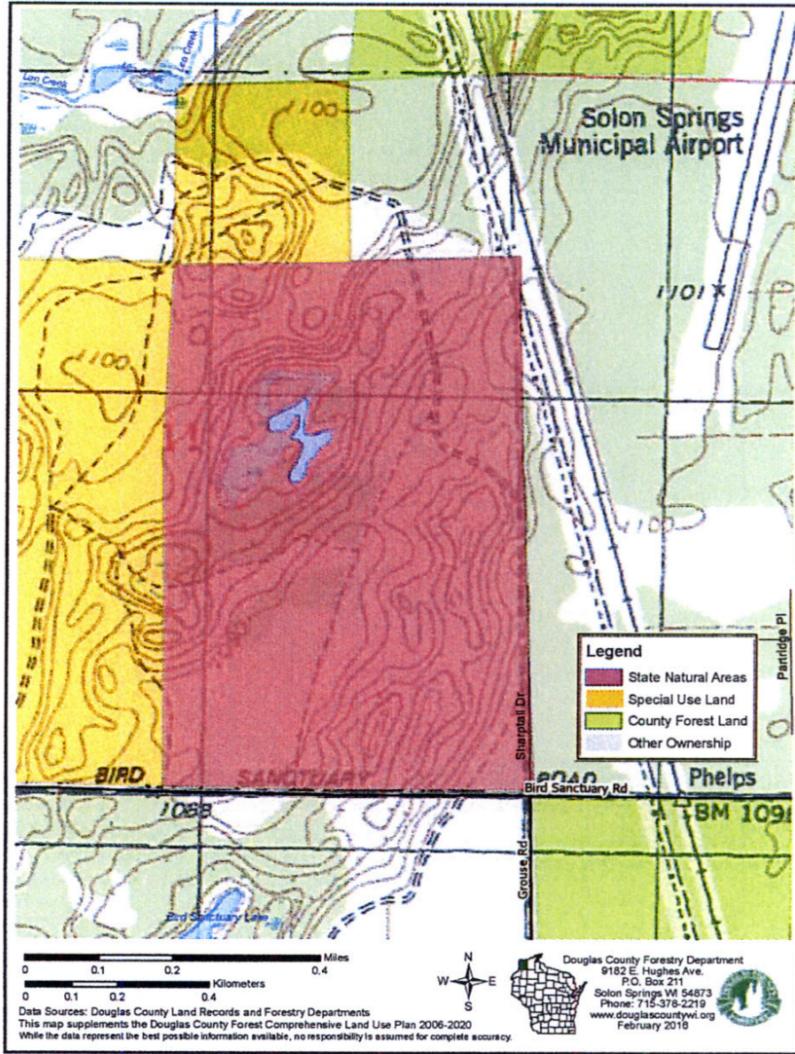


UPPER NEMADJI RIVER FLOODPLAIN FOREST STATE NATURAL AREA

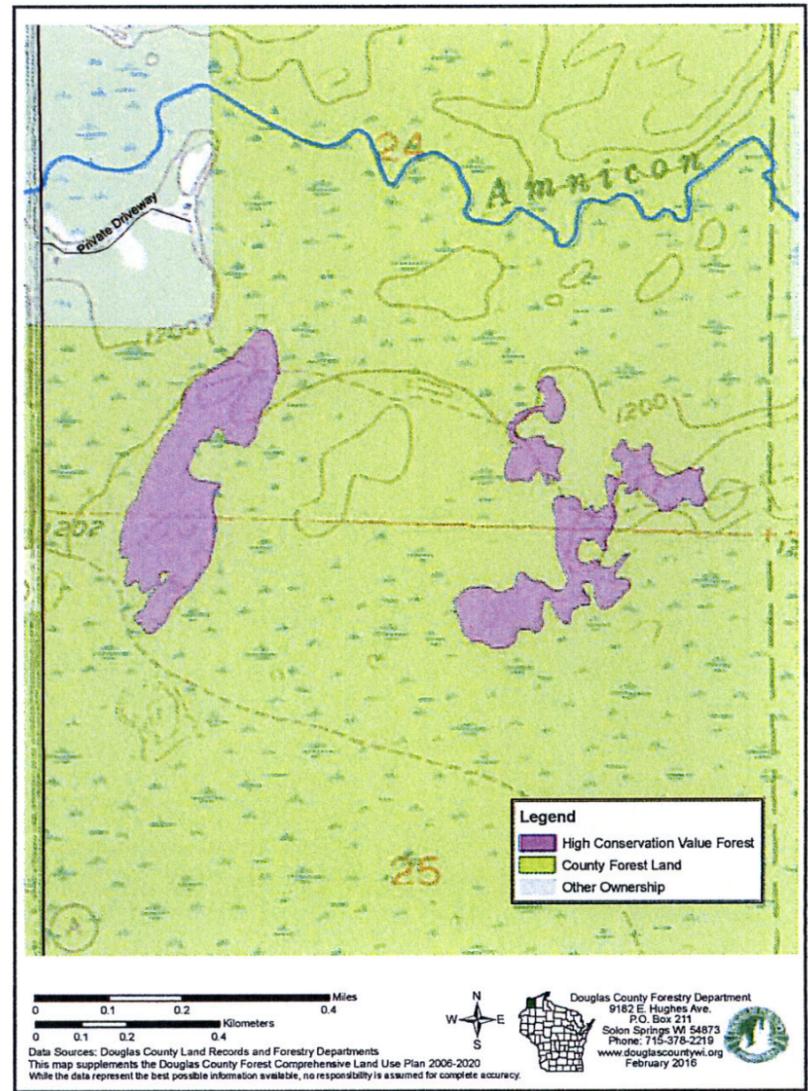
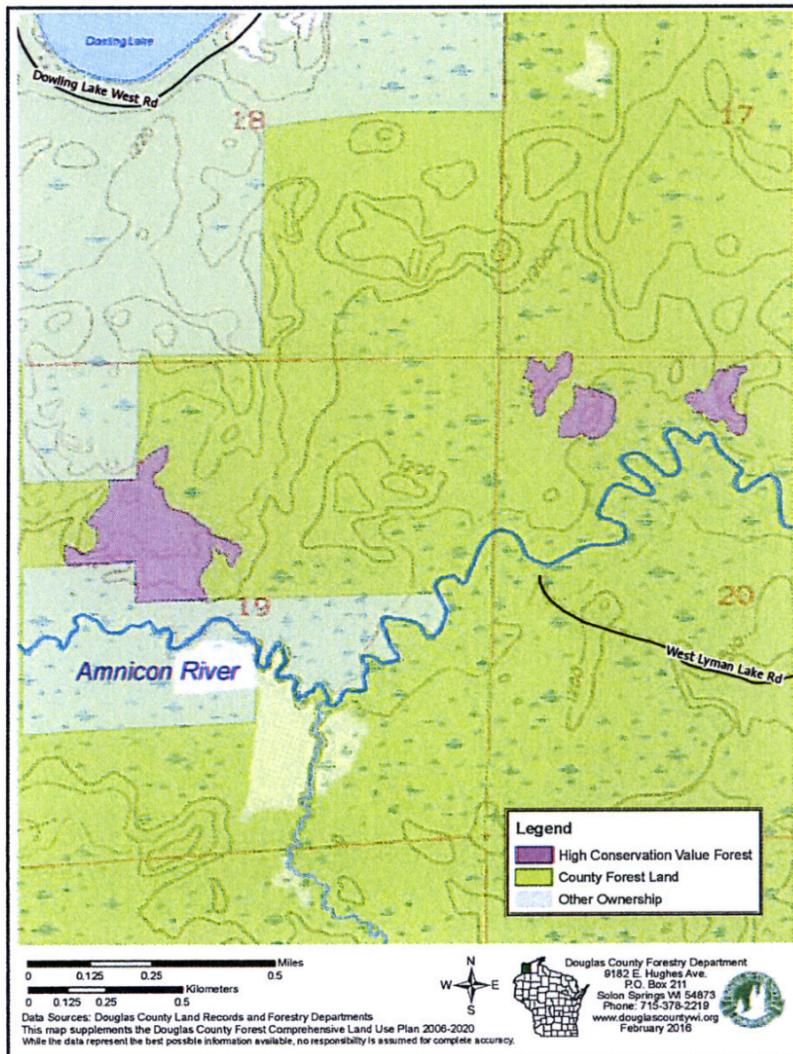
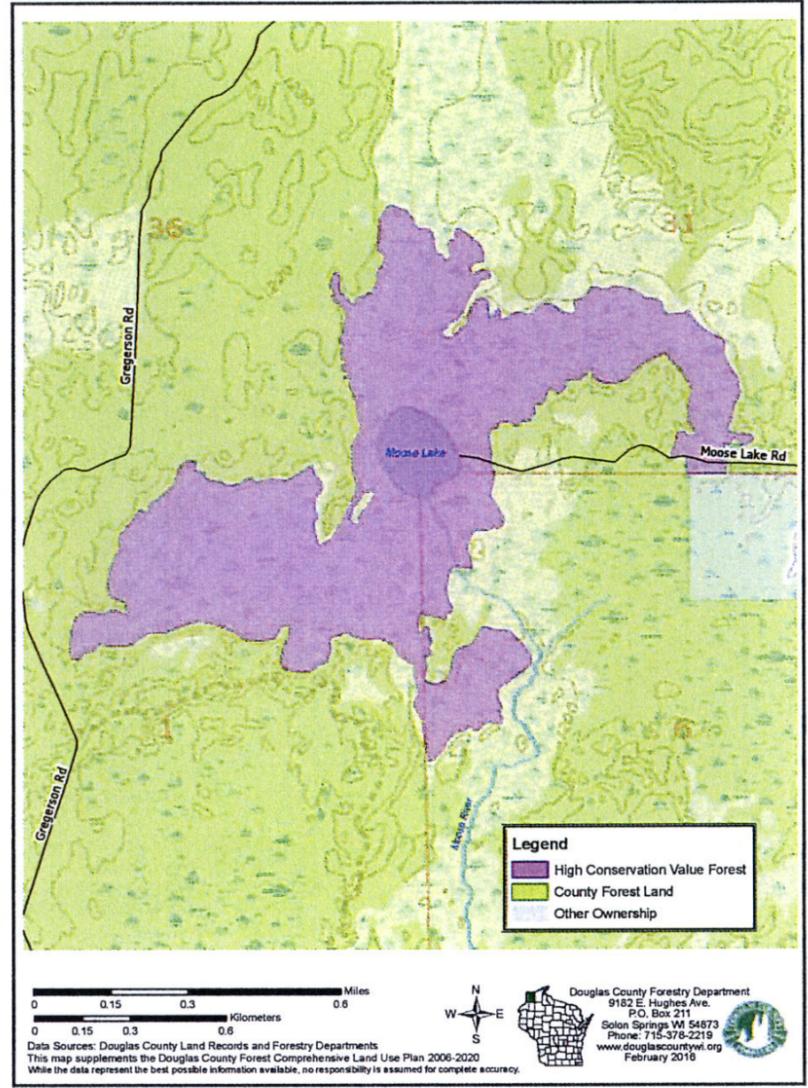
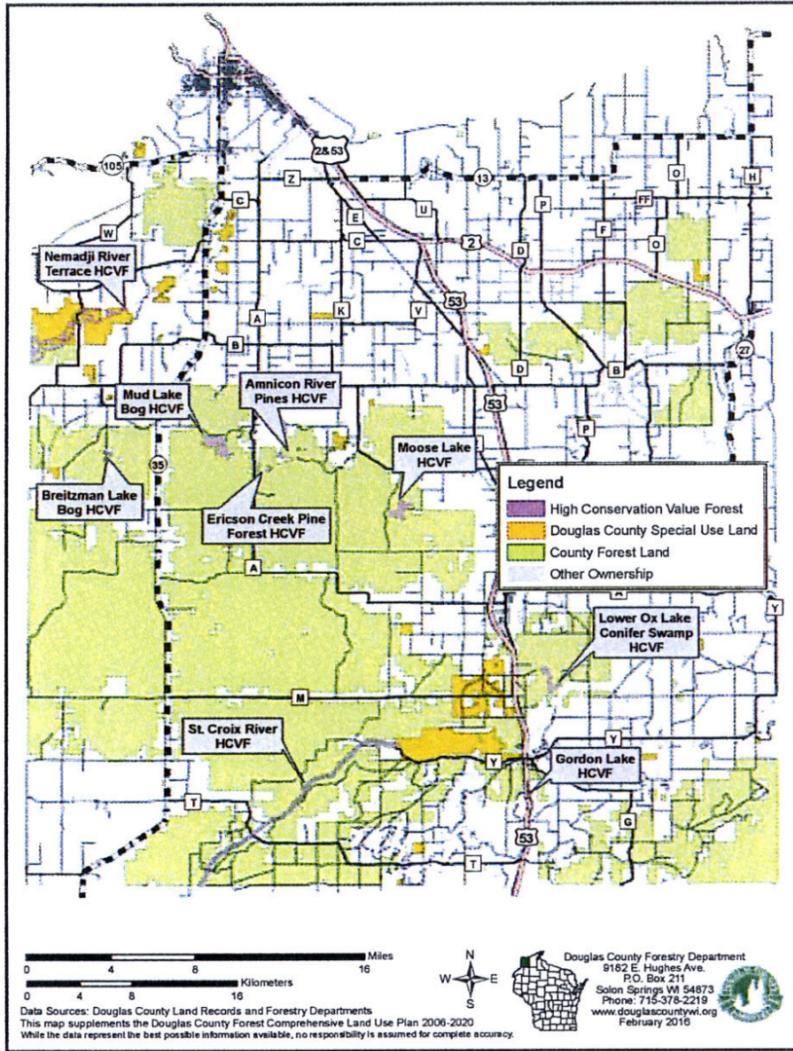
APPENDIX S-IV



4h.2.



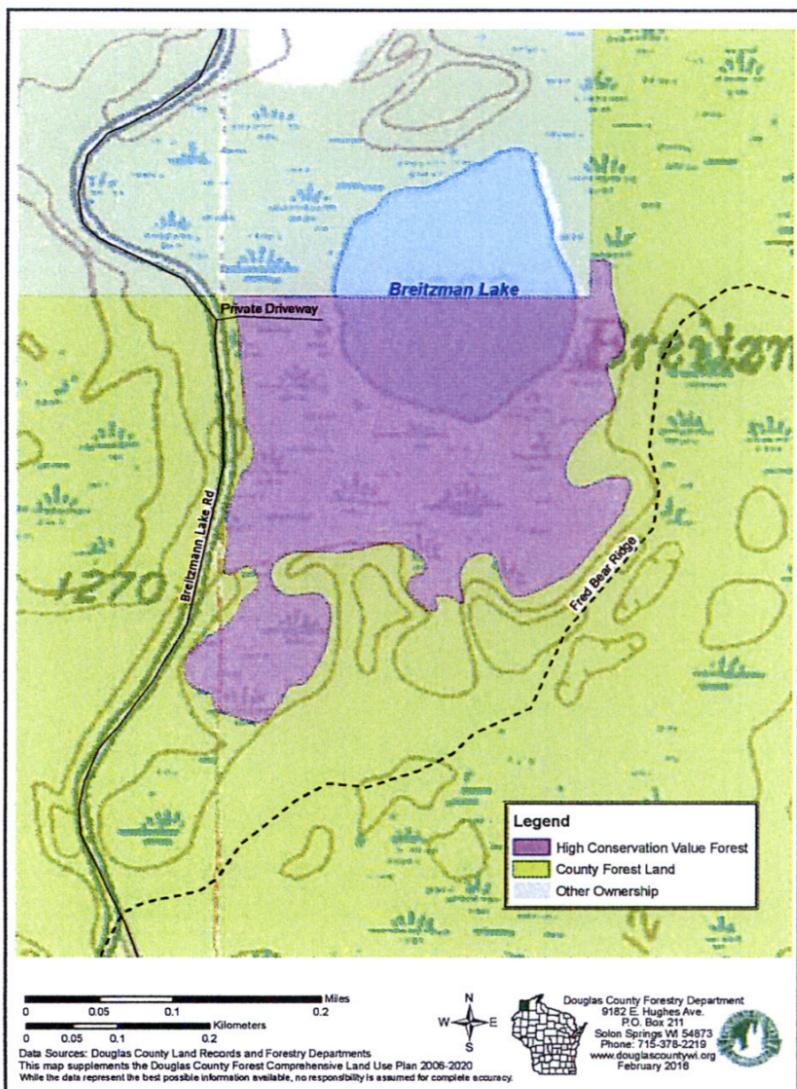
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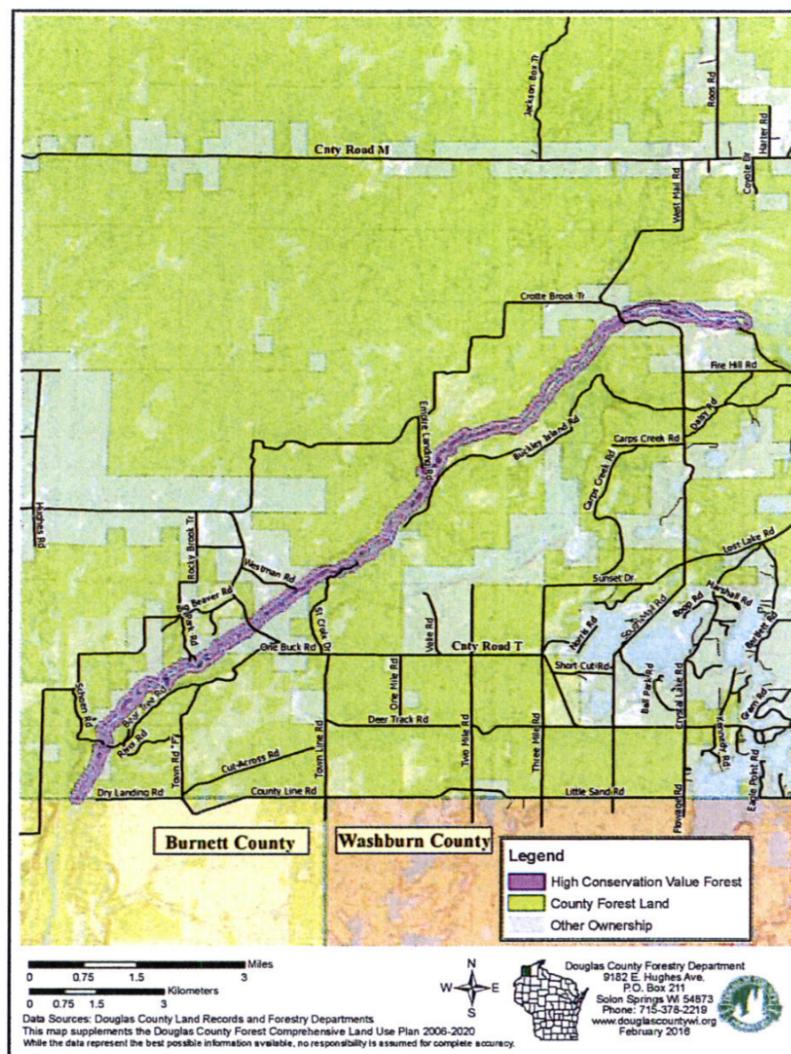
BREITZMAN LAKE BOG HIGH CONSERVATION VALUE FOREST

APPENDIX Y-IV



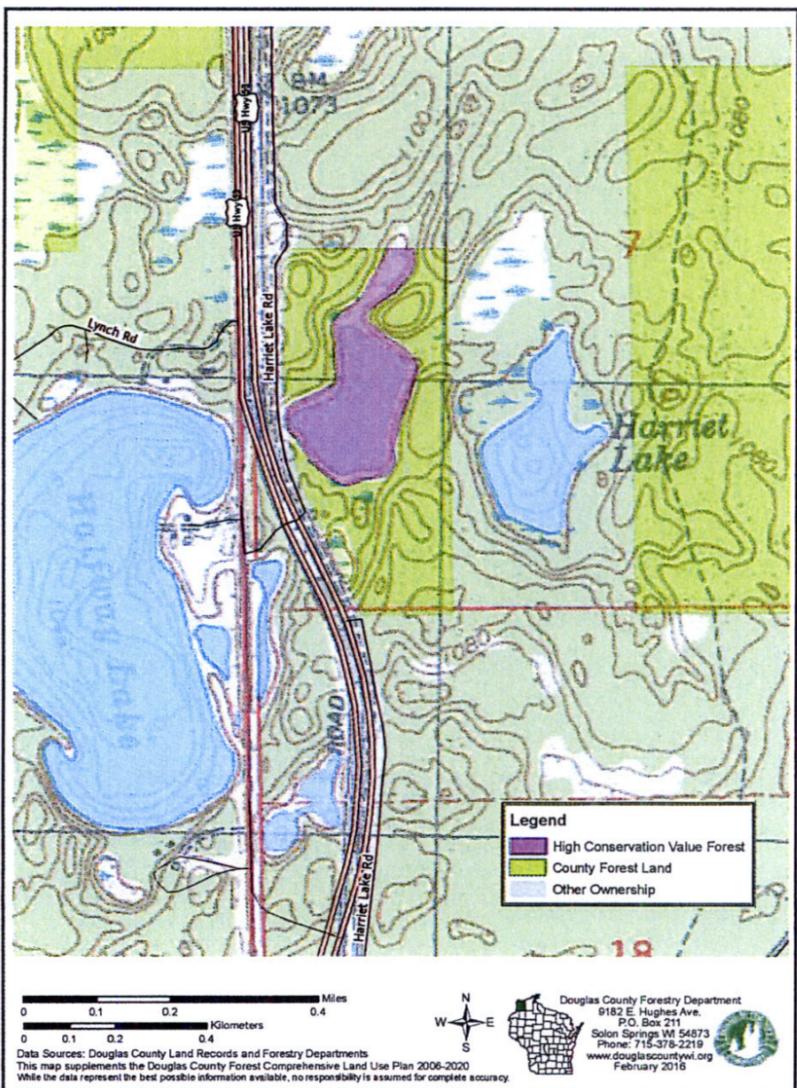
ST. CROIX RIVER HIGH CONSERVATION VALUE FOREST

APPENDIX Z-IV



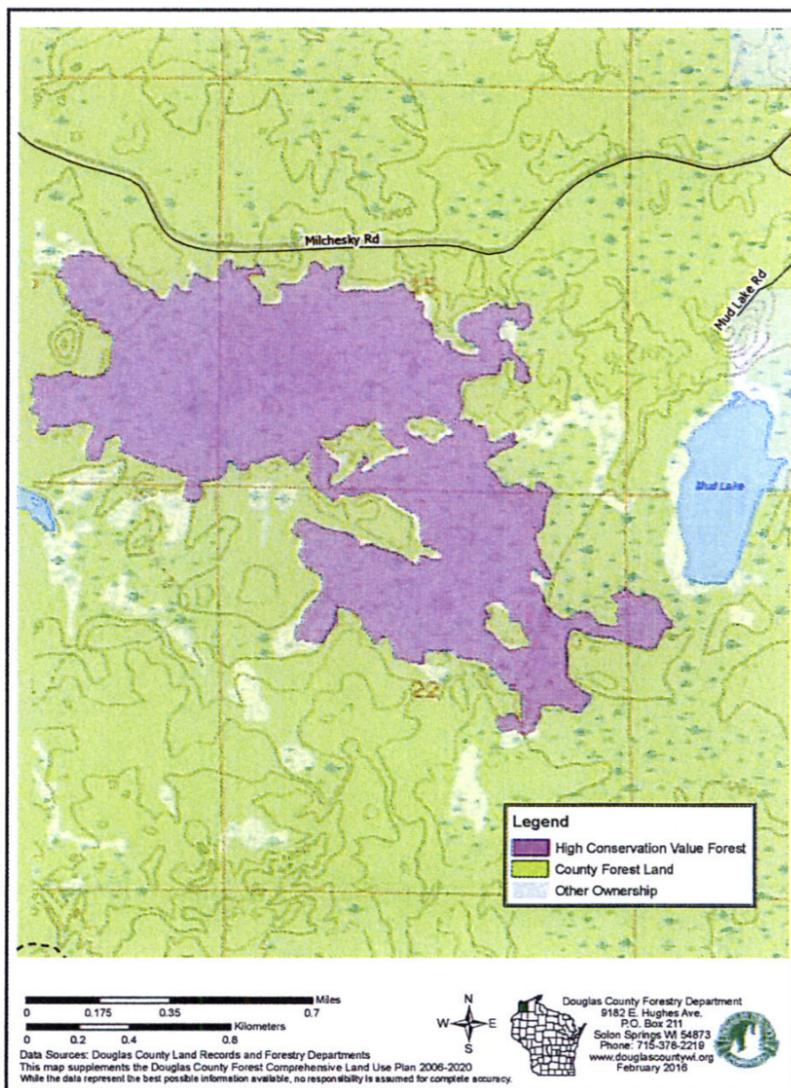
GORDON LAKE HIGH CONSERVATION VALUE FOREST

APPENDIX A-V

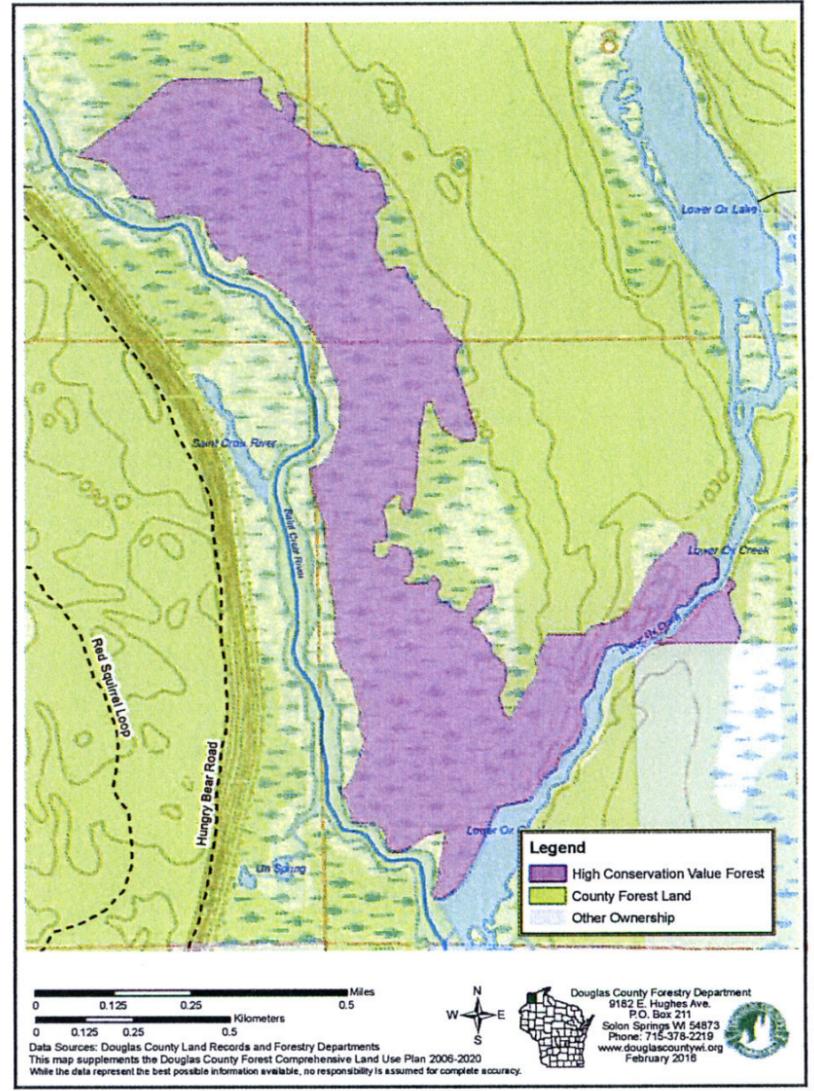
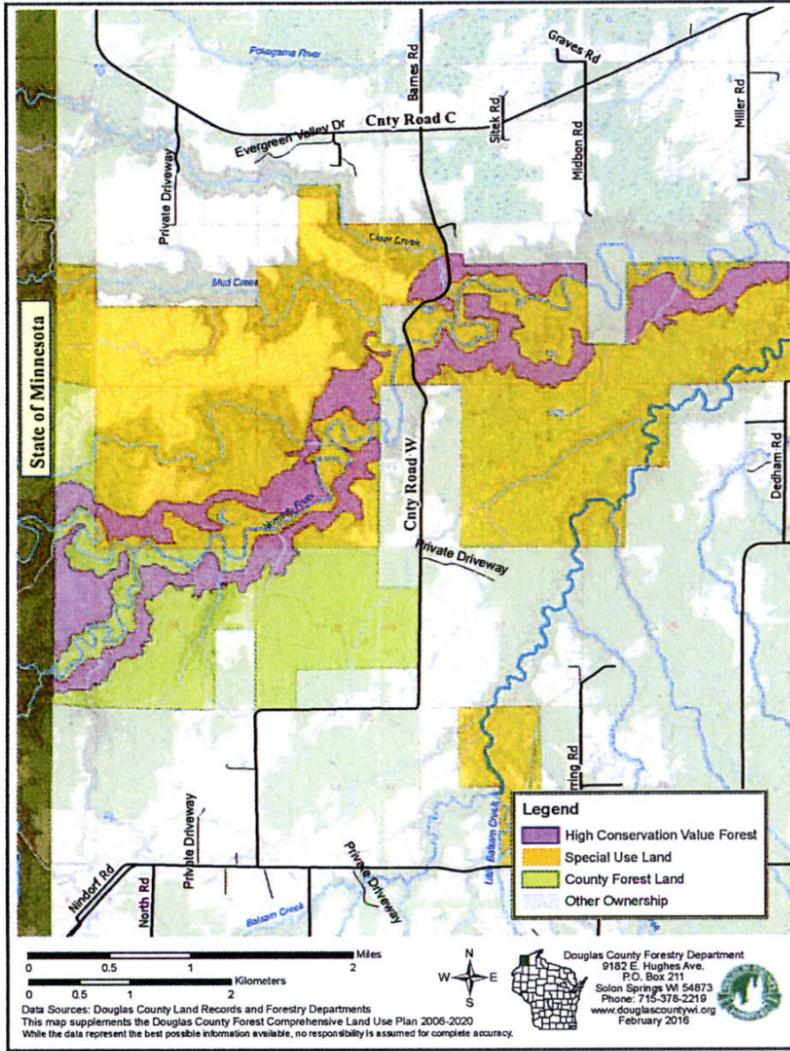


MUD LAKE BOG HIGH CONSERVATION VALUE FOREST

APPENDIX B-V



4h.2.



4h.3.

Memorandum of Understanding

By and Between

The Wisconsin Department of Natural Resources
Bureau of Natural Heritage Conservation
State Natural Areas Program
and
Douglas County Forestry Department

for the designation of Wisconsin State Natural Areas

This Memorandum of Understanding is entered into by and between the State Natural Areas Program in the Wisconsin Department of Natural Resources, Bureau of Natural Heritage Conservation, hereinafter called the "DNR", and the Douglas County Forestry Department, hereinafter called the "County", for the purpose of designating Wisconsin State Natural Areas on Douglas County lands.

WITNESSETH:

WHEREAS, the DNR has a statutory program to establish a system of State Natural Areas (§23.27 and 23.28 Wis. Stats.) devoted to the protection of ecological communities, rare species, and other significant natural features native to the state for the purpose of scientific research, environmental education and for the preservation of Wisconsin's biological diversity for this and future generations; and

WHEREAS, the County owns and manages land, recognized by the DNR as being of statewide significance, meeting the criteria for State Natural Area designation, and containing outstanding natural features further described in Exhibit A; and

WHEREAS, the County is authorized to work in partnership with state agencies in the acquisition, protection, and stewardship of natural resources; and the County has **voluntarily** expressed its willingness, **wholly of their own free will**, to participate in the DNR's State Natural Areas Program; and

WHEREAS, the designation of these lands as Wisconsin State Natural Areas will further the mutual goal of the DNR and the County to protect the unique natural features of Wisconsin and Douglas County for the people of the state.

NOW, THEREFORE, the DNR and the County hereto enter into this Memorandum of Understanding and mutually agree to the following:

1. The DNR shall officially designate the sites described in Exhibit A as Wisconsin State Natural Areas and accept them into the State Natural Areas system as authorized under §23.28(1) Stats. The locations of the sites are depicted on the project boundary maps and in the legal descriptions contained in Exhibit A.

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MEMORANDUM OF UNDERSTANDING
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and
Douglas County Forestry Department

2. The County shall **voluntarily** recognize the designation of these lands as State Natural Areas and provide, to the best of its ability, the ongoing stewardship of the natural values of these State Natural Areas in accordance with **individual** property management plans prepared jointly by the County and the DNR. The property management plans are part of this Memorandum of Understanding and are filed with the County and the DNR's Bureau of Natural Heritage Conservation in Madison, Wisconsin.
3. **Unless specifically identified and described in any of individual property management plans, the County reserves the right to implement sustainable forest management practices on any and all of these lands to the fullest extent necessary as determined by itself, including but not limited to, timber harvesting, forest improvement activities, reforestation practices, timber access road construction, etc.**
4. The County and the DNR shall monitor the ecological status and human uses of these State Natural Areas and take those actions necessary to assure the lasting protection of their natural values.
5. The DNR and the County shall review all requests for conducting formal research or collecting specimens at these State Natural Areas. Researchers shall possess a valid research permit issued by the DNR or the County.
6. The DNR shall assemble information on the natural features of these State Natural Areas, host a web page containing a description and map of each site, and acknowledge the cooperation of the County in any reports and publications.
7. This Memorandum of Understanding shall not be construed as requiring the expenditure of public funds by either the DNR or the County. All obligations of the DNR are subject to legislative appropriations.
8. **Both the DNR and the County mutually agree to enter into this Memorandum of Understanding, wholly of their own free will, and throughout the entire term of this agreement the County shall retain the exclusive right to call for modifications to this agreement and/or to the individual property management plans or for full termination of the same, in whole or in part, as deemed essential and necessary by itself for any and all purposes. Any such modification and/or termination as called for by the County shall not subject the County to any penalty or consequence and the DNR agrees to hold the County harmless for the same.**
9. This Memorandum of Understanding shall be effective and remain in effect from the date of signature until terminated by either the DNR or the County following 60 days notice in writing to either the DNR or the County and an opportunity for negotiation of a new agreement between the parties.

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MEMORANDUM OF UNDERSTANDING
By and Between
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Bureau of Natural Heritage Conservation
and
Douglas County Forestry Department

EXHIBIT A

Descriptions and maps of State Natural Areas designated under this Memorandum of Understanding.

1. **Belden Swamp**

Belden Swamp is a huge wetland straddling the divide between two major watersheds. It forms the headwaters of the Spruce River, which flows south into the Mississippi River watershed; and the Black River, which flows north into the Lake Superior drainage basin. The wetland complex contains the largest remaining undisturbed open bog in Wisconsin, along with an extensive muskeg, northern wet forest and a zone of shrubby, emergent aquatic vegetation surrounding the wetland. The thinly timbered muskeg contains stunted black spruce and tamarack with ericaceous shrubs, and sedges over a carpet of Sphagnum moss. Other parts of the site are quite open with abundant wire-leaved sedges and a low growth of bog birch and ericads, including bog laurel and bog rosemary. A dense conifer swamp of black spruce and tamarack, recovering from long-ago logging, is found in the northeast corner of the site. The large size, isolated location, and roadless aspect provide excellent habitat for the resident pack of timber wolves. Also present are four rare species: LeConte's sparrow (*Ammodramus leconteii*), yellow-bellied flycatcher (*Empidonax flaviventris*), northern harrier (*Circus cyaneus*) and the Jutta Arctic butterfly (*Oeneis jutta*). Other resident birds include palm, Nashville, and yellow warblers, savanna and Lincoln's sparrows, hermit thrush, veery, and sedge wren.

T45N-R14W, Secs 18, 19, and 30 (in part).
T45N-R15W, Secs 13, 23, 24, 25, and 26 (in part).
Containing 1,795 acres more or less.

2. **Black Lake Bog**

Located on end moraine, Black Lake Bog contains a vast, inaccessible, undisturbed wetland complex of bog lake, open bog, and northern wet forest, a community poorly represented in the younger drift-west zone. The open bog is dominated by leather-leaf with patches of bog-rosemary. Black spruce are scattered in the bog and are usually stunted but occasionally grow into a dense stand of full-sized trees. The bog and Black Lake form the headwaters of the Black River. Black Lake is entirely muck-bottomed and has a maximum depth of 4 feet, methyl purple alkalinity of 28 ppm, and a Secchi disk reading of 3 feet. Black River has a gradient of 22 feet/mile and methyl purple alkalinity of 41 ppm. The river below the outlet averages 2.5 cu. ft./sec. Wildlife found on the tract include waterfowl, great blue heron, beaver, and short-eared owl which may nest in the bog. Timber wolves also use the area.

T45N-R15W, Sec 8, 17, 18, 19, 20, 29, and 30 (in part).
Containing 2,008 acres more or less.

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Douglas County Forestry Department

3. Blueberry Swamp

The core of Blueberry Swamp holds mineral-rich waters, harbors a high quality forest of black ash and white cedar, and provides habitat for numerous rare plant and animal species, including a diverse array of orchids. Birds known to inhabit the area include Yellow-bellied Flycatcher, Blue-headed Vireo, Golden-winged Warbler, Canada Warbler, and Evening Grosbeak. The relatively undisturbed core functions as an excellent ecological reference area, because this site has been rated one of the top hardwood swamps in all of northern Wisconsin.

T47N-R10W, Sections 7, 18 (in part).
T47N-R11W, Sections 12, 13 (in part).
Containing 864 acres more-or-less.

4. Empire Swamp

Empire Swamp is a large, undisturbed peatland that serves as the headwaters of the Tamarack River. The wetland is a combination of several natural communities of outstanding quality, including northern sedge meadow, northern wet forest, tamarack swamp, black ash swamp, alder thicket, open bog, and muskeg. The swamp harbors 11 rare bird species, including Osprey, Gray Jay, Merlin, and Black-backed Woodpecker. Bird diversity is exceptional, with 19 species of warbler present, including the highest known density of Golden-winged Warblers in the state. Five rare butterfly species are known from the site, including the Jutta Arctic, as well as nine rare plant species, among them Calypso, Dragon's Mouth, Hooker's Orchid, Sheathed Sedge, and Small Pyrola.

T44N-R13W, Section 6 (in part).
T44N-R14W, Sections 1, 2, 3, 11, 12 (in part).
T45N-R13W, Section 31 (in part).
T45N-R14W, Sections 26, 34, 35, 36 (in part).
Containing 1,570 acres more-or-less.

5. Ericson Creek Forest and Wetlands

Ericson Creek Forest and Wetlands harbors a rich combination of natural communities with a diverse composition of species. Ericson Creek forms a portion of the western boundary of the natural area before joining the Amnicon River on its journey to Lake Superior. An extensive northern sedge meadow parallels the creek and small pockets of cedar swamp (northern wet-mesic forest) are located along the eastern boundary. The principal feature is the 500-acre open Sphagnum bog and associated muskeg of tamarack and black spruce. Imbedded in the wetland are upland islands containing boreal forest of white spruce and balsam fir and northern dry-mesic forest dominated by red and white pines. The southern portion of the area contains northern mesic forest of sugar maple, basswood and red oak. The natural area has had varying degrees of past disturbance, which has increased the amount of site heterogeneity and species

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MEMORANDUM OF UNDERSTANDING
By and Between
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Bureau of Natural Heritage Conservation
and
Douglas County Forestry Department

diversity. The boreal forest was logged at the turn of the 20th century and has evidence of past fire while the second-growth mesic forest has a history of maple sugaring. The wetlands appear essentially undisturbed. Eighteen rare species have been identified in the natural area, including several birds, butterflies and plants. The threatened red-shouldered hawk has nested here as have several other bird species of special concern, including three-toed woodpecker, boreal chickadee, Swainson's thrush, LeConte's sparrow, great gray owl, northern harrier, and Connecticut, Cape May, and black-throated blue warblers. Four rare fritillary butterflies live here: bog fritillary (*Boloria eunomia*), freija fritillary (*Boloria freija*), frigga fritillary (*Boloria frigga*), and titania fritillary (*Boloria titania*). This is the only known location in the state for the titania fritillary. Rare plants growing here include the endangered small shin-leaf (*Pyrola minor*) and dragon's-mouth orchid (*Arethusa bulbosa*).

T45N-R13W, Sec 5 and 6 (in part).

T46N-R13W, Sec 19, 20, 21, 28, 29, 30, 31, and 32 (in part).

Containing 2,505 acres more or less.

6. Five Mile Barrens

The Five Mile Barrens natural area is within the footprint of the so-called "Five Mile Tower Fire", a wild fire that burned in the summer of 1977. This catastrophic blaze burned over 13,000 acres in total. Five Mile Barrens lies near the midpoint of the fire's path. The site is dominated by jack pine with small inclusions of scrub oak that originated from the fire. The topographic relief is rolling outwash plain with extensive flat areas. Characteristic barrens plant species present include downy phlox, hoary puccoon, New Jersey tea, rough blazing star and the state-threatened dwarf milkweed.

T43N-R13W, Sec 28, 33, 34, and 35 (in part)

Containing 1,699 acres more-or-less

7. Flat Lake

Flat Lake features a shallow, soft water, seepage lake that has a fluctuating shoreline. The bottom is composed of muck and sand. Sedges and rushes dominate the emergent vegetation, while the submerged vegetation is lush and diverse. Trumpeter swans have nested here. Because the shallow lake contains no fish, it serves as an excellent site for the study of diverse aquatic insect and plant populations.

T44N-R11W, Sections 3, 4 (in part).

Containing 94 acres more-or-less.

4h.3.

MEMORANDUM OF UNDERSTANDING
By and Between
The Wisconsin Department of Natural Resources
Bureau of Natural Heritage Conservation
and
Douglas County Forestry Department

8. Goose Lake

Goose Lake features a soft water, seepage lake with a fluctuating shoreline and emergent vegetation consisting of sedges and rushes. Twenty acres of high-quality northern sedge meadow adjoins the lakeshore. Rare species found here include Plantain Shoreweed, Ternate Grape Fern, Common Bog Arrow-Grass, and Blanding's Turtle. The lake provides makes an excellent location to study the ecological nature of fluctuating water levels on aquatic systems.

T43N-R10W, Section 10 (in part).
Containing 67 acres more-or-less.

9. Nemadji River Floodplain Forest

Nemadji River Floodplain Forest, along the banks of the Nemadji River, supports a type of forest unusual in composition and perhaps unique in the state. Floodplain forests are very rare along rivers flowing north into Lake Superior. The natural area lies in a steep-sided valley cut through the Lake Superior clay plain, on terraces about fifteen feet above normal water levels. The forest canopy is composed of black ash, green ash, basswood, red maple, silver maple, balsam poplar, American elm, and bur oak. Scattered conifers - white spruce, white cedar, white pine, and balsam fir - are also present in the canopy, making for an unusual mix of tree species. The deep, red clay alluvial soils support an herb layer that is exceptionally rich, with a species composition reminiscent of maple-basswood forests far to the south. Spring ephemerals and their associates are especially well-represented, and include sessile-leaved bellwort, downy yellow violet, tall meadow-rue, spring-beauty, bloodroot, yellow trout-lily, wild ginger, Dutchman's-breeches, cut-leaved toothwort, blue cohosh, wild leek, and American starflower. Resident birds include the common raven, Nashville warbler, northern waterthrush, red-eyed vireo, hermit and wood thrush, and rose-breasted grosbeak.

T48N-R14W, Sec 22, 23, 26, and 27 (in part).
Containing 320 acres more or less.

10. Pokegama Carnegie Wetlands

Pokegama Carnegie Wetlands is an excessively poorly-drained area of red clay flats in the headwaters of the Pokegama and Little Pokegama Rivers. It supports a wetland mosaic of shrub swamp, sedge meadow, emergent marsh, small ponds and tiny upland islets of white spruce, white pine, balsam fir, and trembling aspen. Of special significance are the many populations of rare plants occurring here in their highest concentration in the state. Among the rare species are Clustered Bur Reed, Floating Marsh Marigold, Neat Spike-Rush, Seaside Crowfoot, Small Yellow Water Crowfoot, Sweet Coltsfoot, and Water Starwort.

T48N-R14W, Section 16-21 (in part).
Containing 1,205 acres more-or-less.

46.31

MEMORANDUM OF UNDERSTANDING
By and Between
The Wisconsin Department of Natural Resources
Bureau of Natural Heritage Conservation
and
Douglas County Forestry Department

11. Solon Springs Sharptail Barrens

Situated on the rolling glacial outwash sand plain that extends from Burnett to Bayfield counties, Solon Springs Sharptail Barrens features a large pine barrens with widely scattered clumps of jack pine, pin oaks, bur oak grubs, and occasional red pine. The vegetation is characteristic of the presettlement vegetation that once covered much of northwestern Wisconsin. Maintained by fire, the barrens are one of the best sharp-tailed grouse habitats in Wisconsin. Shrubs present are sweet fern, blueberry, dewberry, New Jersey tea, hazelnut, willow, wild rose, chokecherry, and bearberry. Groundlayer species include big and little blue-stem, prairie alumroot, puccoon, Canada mayflower, wormwood, asters, and goldenrods. Bird life is dominated by species, which require extensive open landscapes including the rare sharp-tailed grouse (*Tympanuchus phasianella*), upland sandpiper (*Bartramia longicauda*), grasshopper sparrow (*Ammodramus savannarum*), Connecticut warbler (*Oporornis agilis*), and Tennessee warbler (*Vermivora peregrina*). Other birds include mourning dove, eastern towhee, Brewer's blackbird, and vesper and field sparrow.

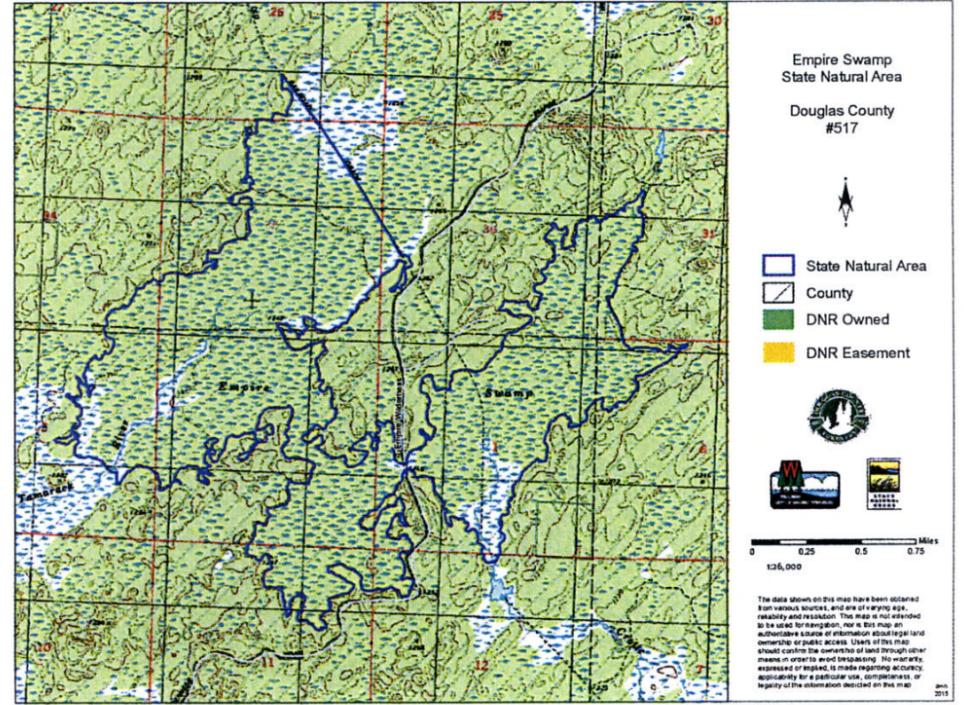
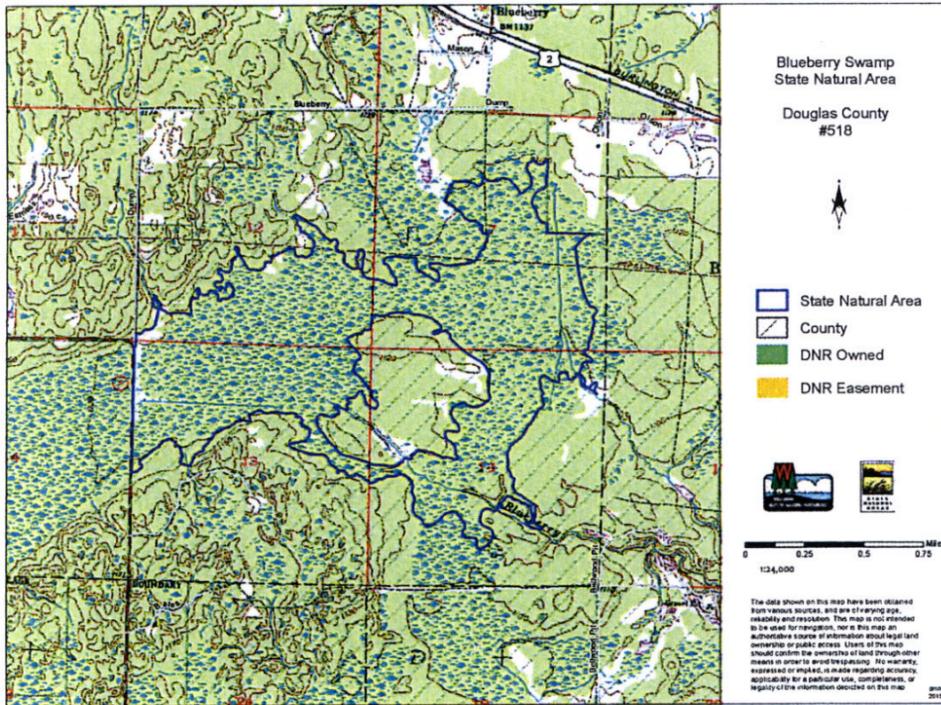
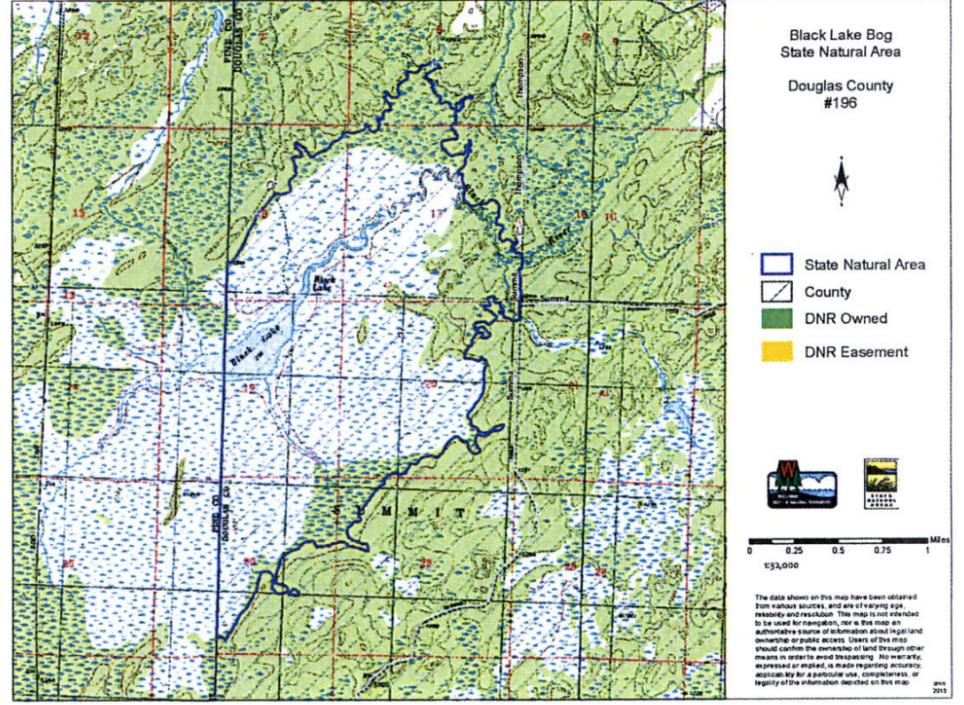
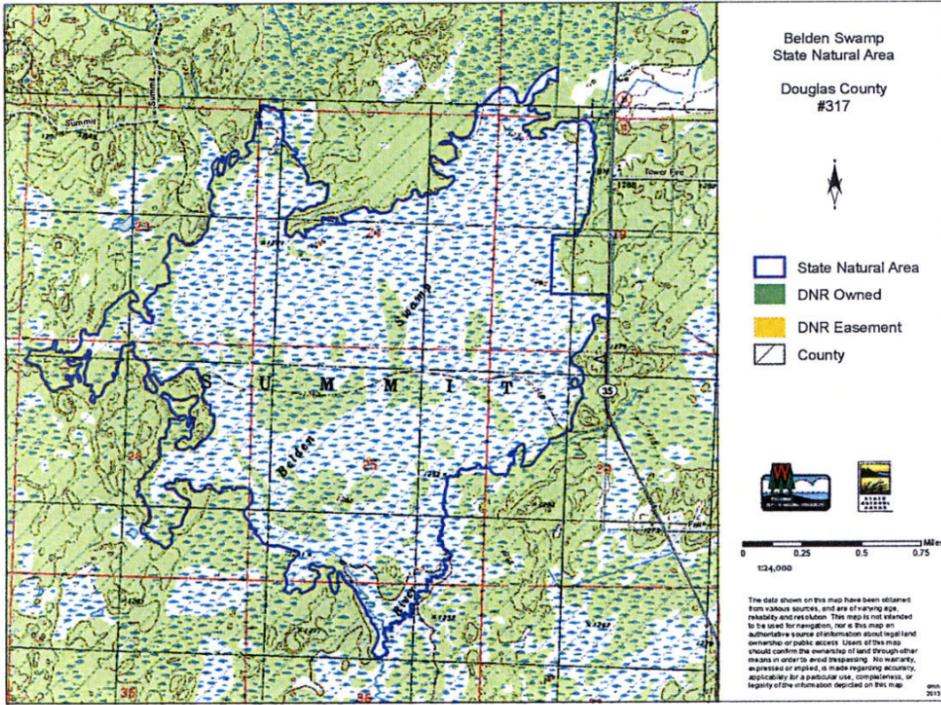
T44N-R12W, Sec 11 (in part).
Containing 227 acres more or less.

12. Upper Nemadji River Floodplain Forest

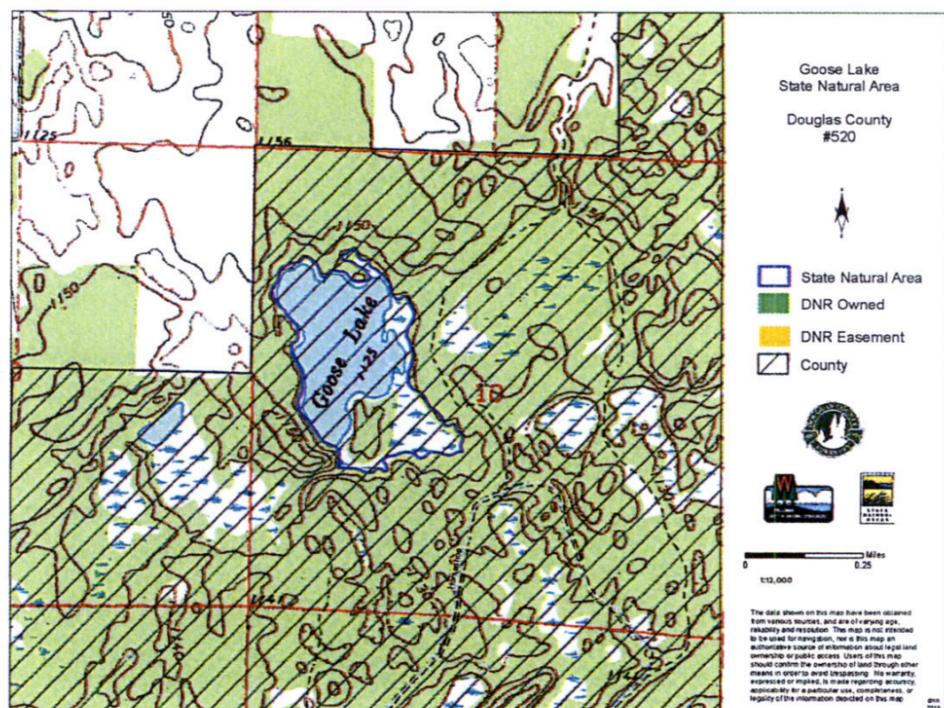
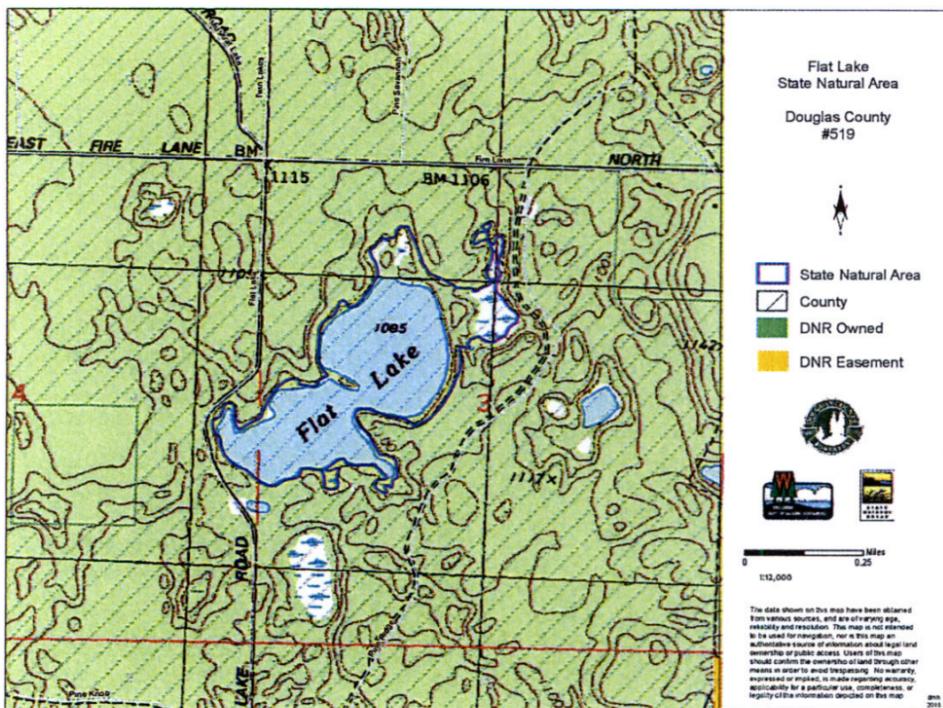
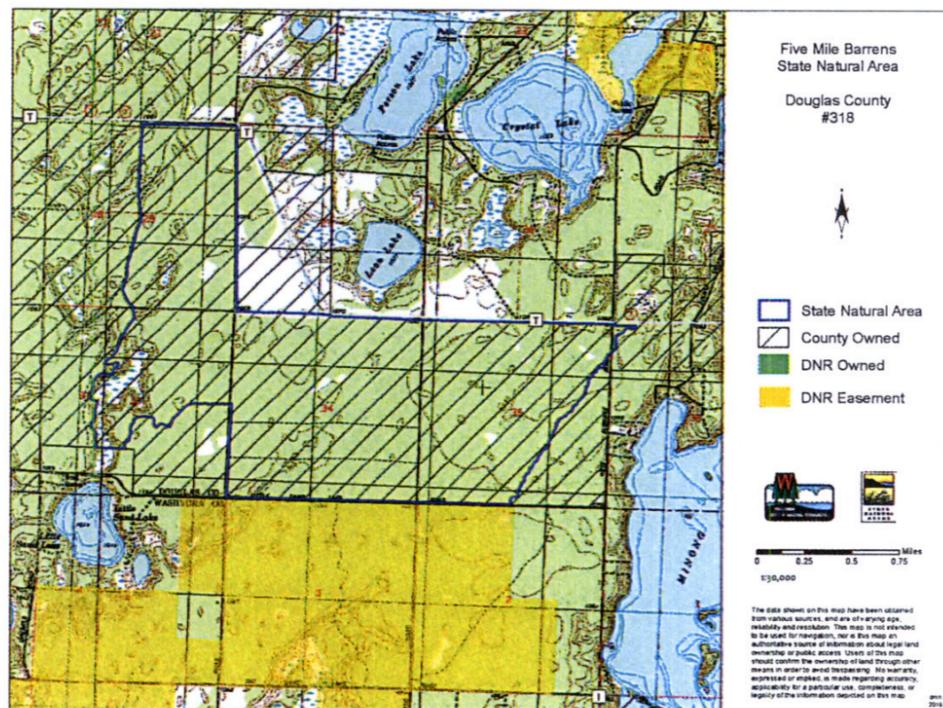
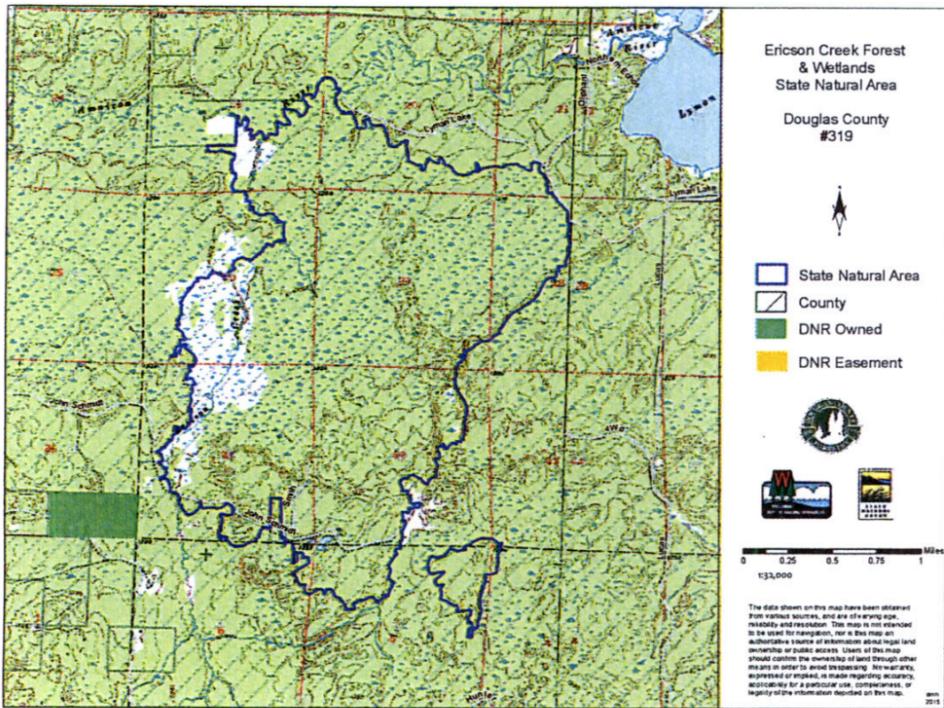
The Upper Nemadji River Floodplain Forest comprises 713 acres along the banks of the Nemadji River and supports a type of forest unusual in composition. Floodplain forests are very rare along rivers flowing north into Lake Superior. The natural area lies in a steep-sided valley cut through the Lake Superior clay plain, on terraces about ten feet above normal water levels. The forest canopy is composed of black ash, green ash, basswood, red maple, silver maple, balsam poplar, American elm, and bur oak. Scattered conifers - white spruce, white cedar, white pine, and balsam fir - are also present in the canopy, making for an unusual mix of tree species. The deep, red clay alluvial soils support an herb layer that is exceptionally rich, with a species composition reminiscent of maple-basswood forests far to the south. Spring ephemerals and their associates are especially well-represented, and include sessile-leaved bellwort, downy yellow violet, tall meadow-rue, spring-beauty, bloodroot, yellow trout-lily, wild ginger, Dutchman's-breeches, cut-leaved toothwort, blue cohosh, wild leek, and American starflower.

T47N-R15W, Sec 14, 15, 16, 20, 21, and 29 (in part).
Containing 713 acres more or less.

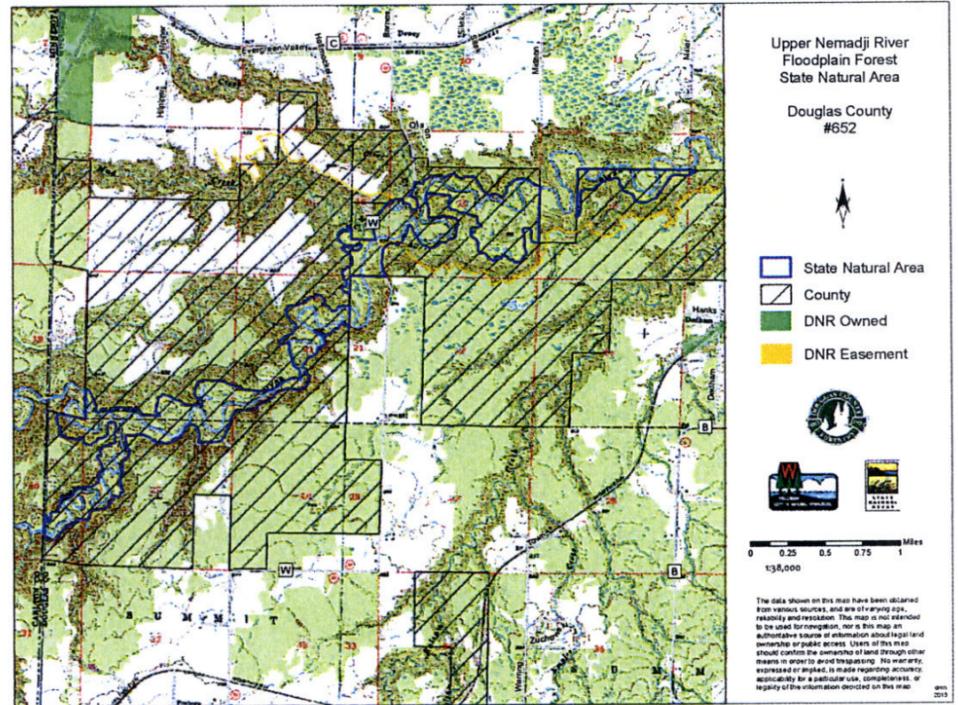
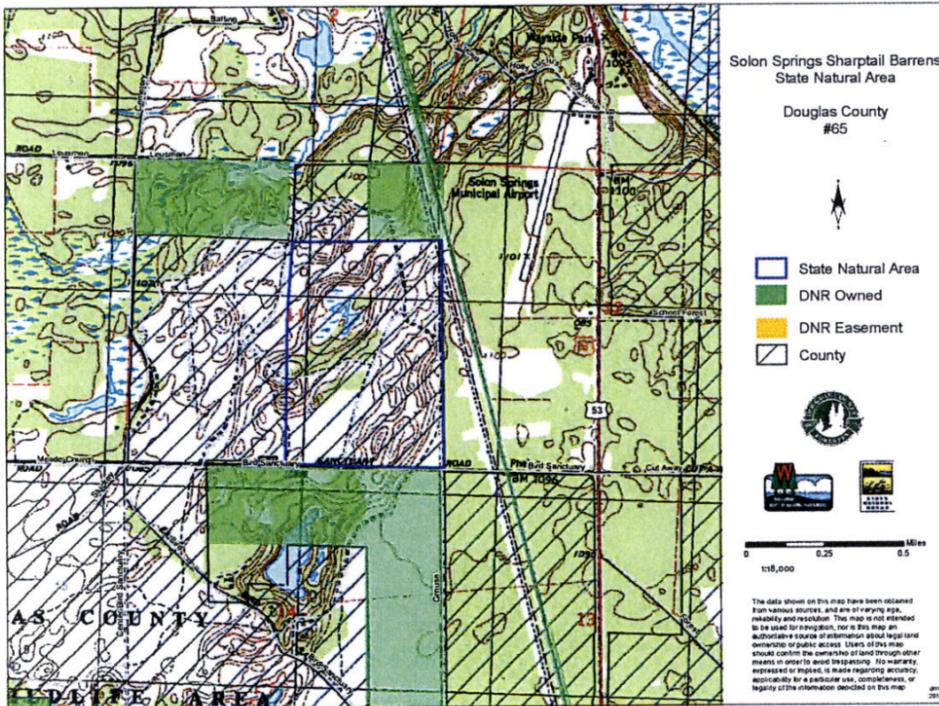
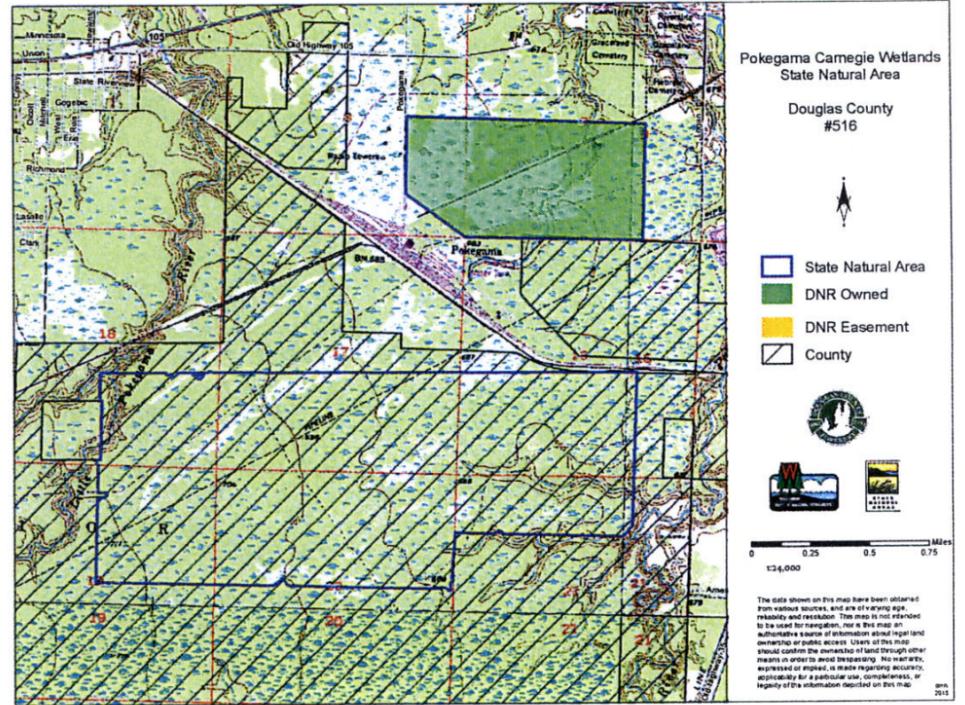
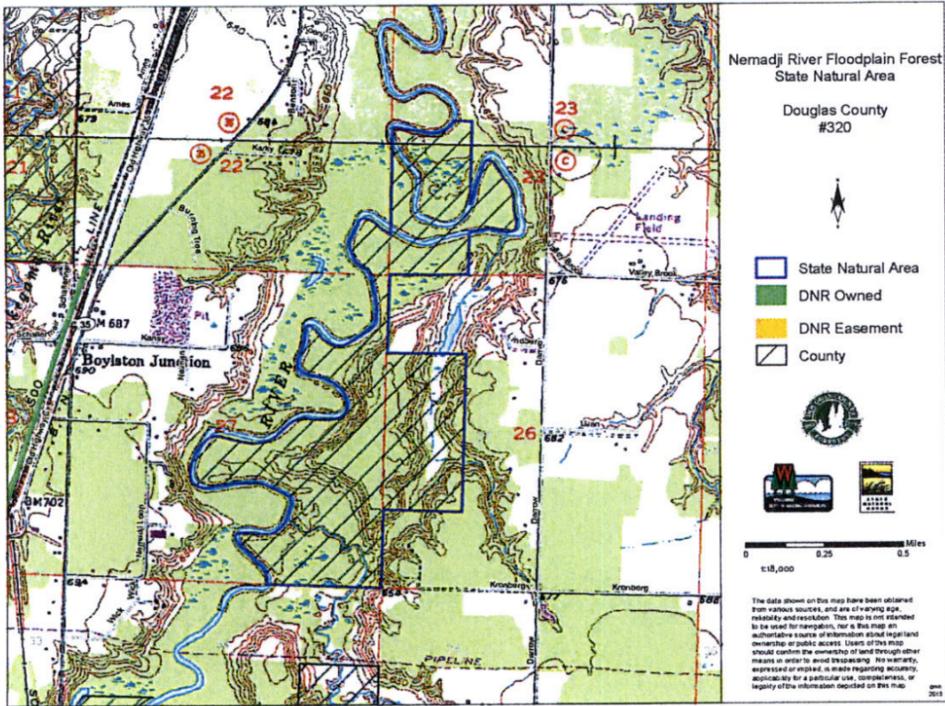
4h.3.



44.3.



4h.3.



Five Mile Barrens Forest Management Plan

4h.4.

Property Identifier

Douglas County Forest – Five Mile Barrens State Natural Area

County: Douglas

Designated SNA Acreage: 1699

Forestry Property Code: 1600 – compartment 230 and portion of compartments 229, 233, and 234.

Management Plan Date:

Part 1: Property Assessment

General Property Description

- Landscape and regional context

Five Mile Barrens is located in the Northwest Sands Ecological Landscape and Landtype Association 212Ka06 Bayfield Level Barrens. The site is in the center of the Northwest Sands – Pine Barrens Conservation Opportunity Area. This site is also at the core of the Namekagon – Solon Springs Important Bird Area. Within the NW Sands Habitat Corridor this site is perfectly positioned between the Namekagon Barrens and the Douglas County Wildlife Areas core barrens properties.

This area lies near the center of the Northwest Sands ecological landscape. The topographic relief is rolling outwash plain with extensive flat areas, especially along river ways. These rolling uplands consist of native and restored pine barrens, with patches of grassland interspersed with groves of jack pine and red pine. The flat basins are vegetated with wiregrass sedges for the most part. Some red pine plantation and swamp conifers also are present.

- History of Land Use and Past Management

The site was part of the Five Mile Tower Fire that burned in the summer of 1977. This catastrophic fire burned --- acres in total with the Five Mile Barrens near the midpoint of the fires path. This fire in typical wild fire fashion burned some areas to the point of soil sterilization, whereas in some areas patches of unburned vegetation escaped the conflagration.

Site Specifics

Five Mile Barrens is dominated by jack pine with small inclusions of scrub oak that originated from the fire of 1977. A few stands originated in 1981 as a result of post fire timber management. A small area originated in 1995, and an area of 7 acres had its origin in 1943. The remaining acreage is a red pine plantation that was planted in 2001 and inclusions of sedge meadow (keg).

State Natural Area designation - If approved by Douglas County, the entire management area would be designated as a State Natural Area.

4h.4.

Five Mile Barrens Forest Management Plan

- High Value Conservation Forests (HCVF) or other resources/natural community types limited in the landscape – Douglas County could list this land as High Conservation Value Forest for the purposes of forest certification.
- Biotic Inventory status- A plant list was developed in September 2012.
- Rare species – Dwarf milkweed was found on site in September 2012
- Invasive species
 - Spotted knapweed is found throughout the site, but presently limited to road and trail sides.
 - Orange Hawkweed is sparsely found in the same areas as knapweed.
- Soils – Sandy and sandy loam soils of variable particle sizes predominate on the outwash sands.

Cultural and Recreational Considerations

- Cultural and archeological sites (including tribal sites)

There are no archaeological or historic records found in the Department's database.

Part 2: Management Components

Management Objectives:

Manage the site to represent the full-range of barrens successional stages and diverse habitats in a landscape context. This "rolling barrens" would not be managed as the early successional barrens that can be found in the nearby Namekagon Barrens. This site will be managed in a shifting mosaic of timber harvest providing open habitats of regenerating forest and over time, multiple age classes of pine.

- 1) Pine Barrens
 - a. Provide rolling barrens habitats while regenerating Pine Barrens forests at a landscape scale conducive to species requiring large habitat blocks.
 - b. Restore stand origin diversity to the jack pine stands that originated in the 1977 wild fire.
 - c. Utilize appropriate mechanical soil disturbance methods to attain natural regeneration where practical. Consideration will be given to methods causing the least soil disturbance when practical.
 - d. Strive to keep invasive species populations and their expansion to a minimum noting that Douglas County has a local ordinance that restricts the use of chemical herbicide treatments
- 2) Pine Plantation
 - a. Consider landscape objectives while planning harvests; where feasible enhance the scale of adjoining block habitats.
 - b. After last entry, the site will be evaluated and priority given to promoting a stand or mixed stand of jack pine, red pine and/or oak species. Existing natural regeneration will be used if possible.
 - c. Restore ground layer composition by removing invasive shrubs through mechanical or prescribed fire means.
- 3) Sedge Meadow (Keg)
 - a. Maintain.
 - b. Consider running fire through the sedge meadow, if deemed safe.

Five Mile Barrens Forest Management Plan

4h.4.

Management Prescriptions:

A 340 acre block of county land was recently salvage cut and planted to jack pine, contiguous with the western boundary of the Five Mile Barrens. This presents an opportunity to conduct the initial harvests adjacent to this block and generally continue to the east and south over time creating a shifting mosaic of rolling barrens.

Site preparation efforts will be primarily mechanical. Prescribed fire will be considered as an alternative method for the area located east of Three Mile Road, where practical.

Since the entire Five Mile Barrens SNA has the same soil type this will provide a great comparison of site preparation effectiveness for pine stand re-establishment.

Jack Pine - Oak – Conduct timber harvests as the primary tool to maintain pine barrens at the landscape scale.

- To promote more stand origin diversity, divide the stands into smaller stands and accelerate harvest on approximately 1/3 of the 1977 origin acres. Add on to the original 340 acres by harvesting the western and northern most stands first. The assemblage of harvests/regenerating stands over time will provide a landscape scale rolling barrens of at least 640 acres. This acceleration could be between two and ten years early depending on the condition of the stand.
- Delay harvest on 1/3 of the western 1977 origin stands by a similar two to ten years for the same reason.
- Rejuvenate the ground layer composition by either conducting a low intensity prescribed fire or using mechanical means to break up Pennsylvania sedge sod.
- In large stands, leave limited small patches of trees in low areas or other locations that will not cause visual barriers blocking the view shed. Limit retention of shade tolerant species.
- Harvest smaller stands completely, as preferred by wildlife species adapted to open barrens. Do not leave visual barriers that block the view shed in small harvest areas.
- Prescribed fire could be conducted in fall with lower temperatures and higher humidity rather than similar burns conducted in spring. Also, the volatility of fuels would be reduced during this fall time period. The first burn should be small and well publicized to address concerns of neighbors.
- If adequate regeneration is not found within a suitable time frame, supplemental planting via hand planting or direct seeding will be considered.
- Post-harvest, monitor for ground layer diversity. In 2013, Preliminary surveys recorded nearly 75 native barrens ground layer species. The long-term goal is to maintain at least this diversity and have less than 5% coverage by invasive plant species.
- DNR staff will conduct bird monitoring surveys to assess the usage of different successional stages by birds. A survey once every five years would presumably be adequate.

Pine plantation

- Consider landscape objectives while planning harvests; where feasible enhance the scale of adjoining block habitats, including salvage cuts.
- Upon last entry to remove the final trees, decide whether to work with existing natural regeneration, or use an artificial means to reforest the site.

Five Mile Barrens Forest Management Plan

4h.4.

Trails and Roadsides – A popular year-round motorized recreational trail (ATV, UTV, snowmobile) runs across the entire southern half of the area and is frequently used by the public. Trail improvements and/or developments can occur as deemed necessary and appropriate by the County. Utilize trails and roadsides as haul roads and landing areas during harvests. Thereafter, reseed if necessary with native species. DNR staff will periodically monitor and control, if necessary, invasive exotic species to keep under 5% coverage. Control can be via any method found in the DNR invasive species guidance documents and supported by the County. Herbicides used can only be those approved on the FSC list of approved pesticides. The DNR recognizes that Douglas County has an ordinance that restricts the use of chemical herbicide treatments.

Approvals:

Northwest District Ecologist Date

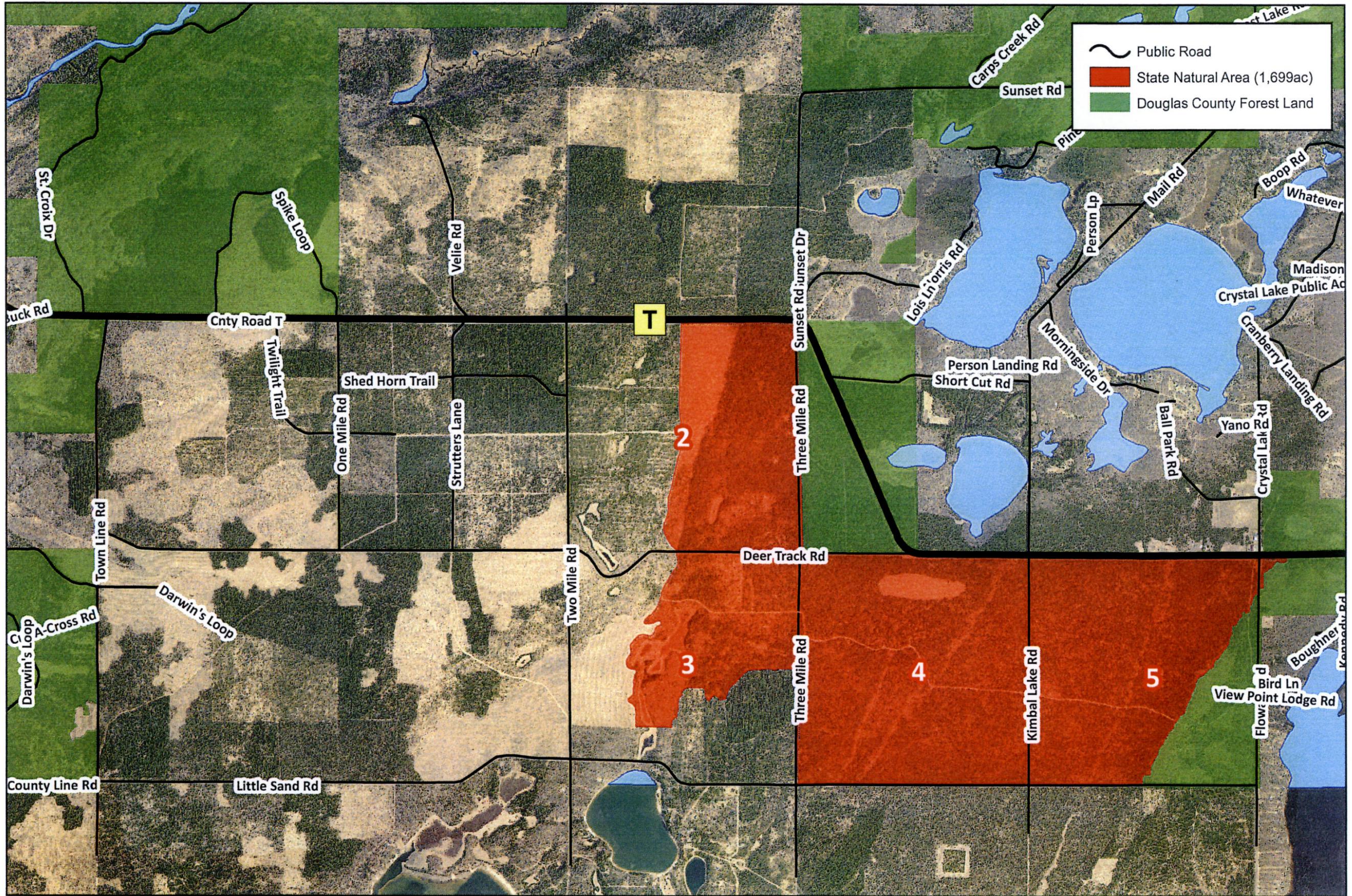
DNR Liaison Forester Date

Natural Heritage Conservation Bureau Director Date

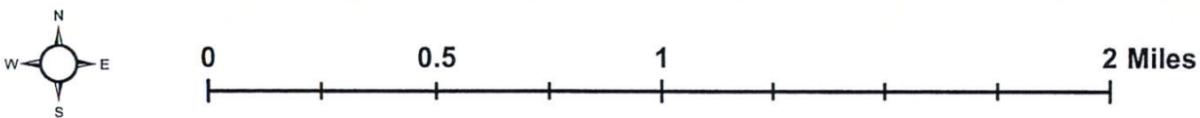
Douglas County Forest Administrator Date

Five Mile Barrens - State Natural Area (SNA)

Sections 28, 33, 34, & 35, T43N - R13W, Town of Wascott, Douglas County, Wisconsin



Public Road
State Natural Area (1,699ac)
Douglas County Forest Land



4h.5.

Five Mile Barrens Forest Management Plan Extended Zone

This plan consists of entirely voluntary guidelines and considerations to assist with managing the area. The following general guidance contains no mandatory requirements and shall not be binding in any fashion. Consideration and implementation of all information shall be at the sole discretion of Douglas County.

Property Assessment:

Extended Zone Acreage: 4,087
The Five Mile SNA Acreage: 1,699
Total Five Barrens Project Acreage: 5,786

Management Summary:

The General Property Description fits the description covered in the SNA plan with the addition of red pine and other forest types identified in the Extended Zone Map.

The Five Mile Barrens Forest Management Plan: Extended Zone forms an added barrens opportunity to enhance the proposed Five Mile Barrens SNA to manage red pine stands to provide critical barrens wildlife habitat, while supplying recreation and forest products. This opportunity is a voluntary consideration, based on the stands condition and proximity to the current rolling barrens project. Rolling barrens is an area of forest management where stands are harvested sequentially to provide a larger area of regenerating forest/young barrens. An example: a red pine stand has had mortality from disease, and the stand is adjacent to recently harvested/regenerating rolling barrens. Under this plan, consideration could be used to harvest the red pine stand more completely, adding to the barrens landscape effect. The stand would then be regenerated to productive forest as part of a new larger forested block.

This plan will help implement the highest priorities within the WI Wildlife Action Plan and The NW Sands Habitat Corridor Plan. The location and landscape scale of this plan is designed to provide a critical connection, creating a stepping stone for barrens wildlife to use over time between the Douglas County Wildlife Area and the Namekagon Barrens Wildlife Area.

Management Objectives:

Voluntarily consider managing the site to enhance the Five Mile SNA Rolling Barrens and the full-range of barrens successional stages and habitats in a landscape context. This rolling barrens would not be managed as the early successional barrens that can be found in the nearby Namekagon Barrens. This site is managed in a shifting mosaic of timber harvest providing large open barrens habitats of regenerating forest and over time, multiple age classes of pine.

Pine Plantations/Pine Barrens

- Consider landscape objectives while planning harvests; where feasible enhance the scale of adjoining rolling barrens block habitats. Enhancing the size of adjacent rolling barrens will provide critical habitat for wildlife species requiring large open barrens blocks, and over time large forested blocks.
- Consider regenerating some red pine stands to jack pine where the opportunity exists. Jack pine stands grow slower at first, providing open young barrens habitat for a longer period of time.
- Utilize appropriate mechanical soil disturbance methods to attain pine forest regeneration, and to restore the barrens herbaceous ground layer. Consideration should be given to less intensive soil disturbance methods when practical.
- Strive to keep invasive species populations and their expansion to a minimum noting that Douglas County has a local ordinance that restricts the use of chemical herbicide treatments.

Management Prescriptions:

The Extended Zone Plan follows with the Five Mile SNA Plan as a voluntary consideration as the rolling barrens moves across the area designated. The Five Mile SNA starts at a 340 acre block of county land that was recently salvage cut and planted to jack pine, contiguous with the western boundary of the Five Mile SNA Barrens. This presents an opportunity to conduct the initial harvests adjacent to this block and generally continue to the east and south over time creating a shifting mosaic of rolling barrens. The Extended Zone gives consideration for salvage and other harvests to be a part of the Five Mile Rolling Barrens. As SNA portion is finished, the Extended Zone provides addition consideration to continue the rolling barrens west over time. The entire general barrens rotation might take around fifty years.

Voluntarily consider timber harvests/regeneration as the primary tool to enhance the Five Mile Rolling Barrens at the landscape scale.

- Consider adding on to the original 340 acres by harvesting the western and northern most stands first. The assemblage of harvests/regenerating stands over time will provide a landscape scale rolling barrens of at least 640 acres. Over time, as the rolling barrens moves over the SNA, consider adjacent Extended Area stands for harvest/regeneration to enhance the rolling barrens.
- Consider accelerated harvests for salvage or landscape considerations to meet the objectives of the rolling barrens and to re-block the fragmented forest. Accelerated harvests could be earlier than normal rotations for red pine and other tree species.
- Rejuvenate the diverse barrens ground layer composition by using mechanical means to break up Pennsylvania sedge sod and invasive shrub layer. Consider less intensive practices where practical. For example, anchor chaining across old furrows to provide scarification.

4h.5.

- Consider making modifications to the Woody Biomass Harvest Guidelines and have the option to use biomass harvesting to meet barrens objectives and to mimic wildfires. Whole tree harvesting may also create a critical more open temporary barrens habitat.
- Harvest stands completely, as preferred by wildlife species adapted to open barrens. Do not leave tree retention, visual barriers, or buffers that block the view shed. Limit the presence of shade tolerant species.

Trails and Roadsides:

Manage in a manner consistent with the Douglas County Fifteen Year Plan.

Approvals:

_____ Date
DNR NW Sands Wildlife Biologist

_____ Date
DNR Liaison Forester

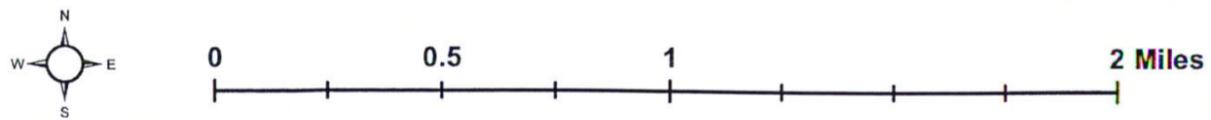
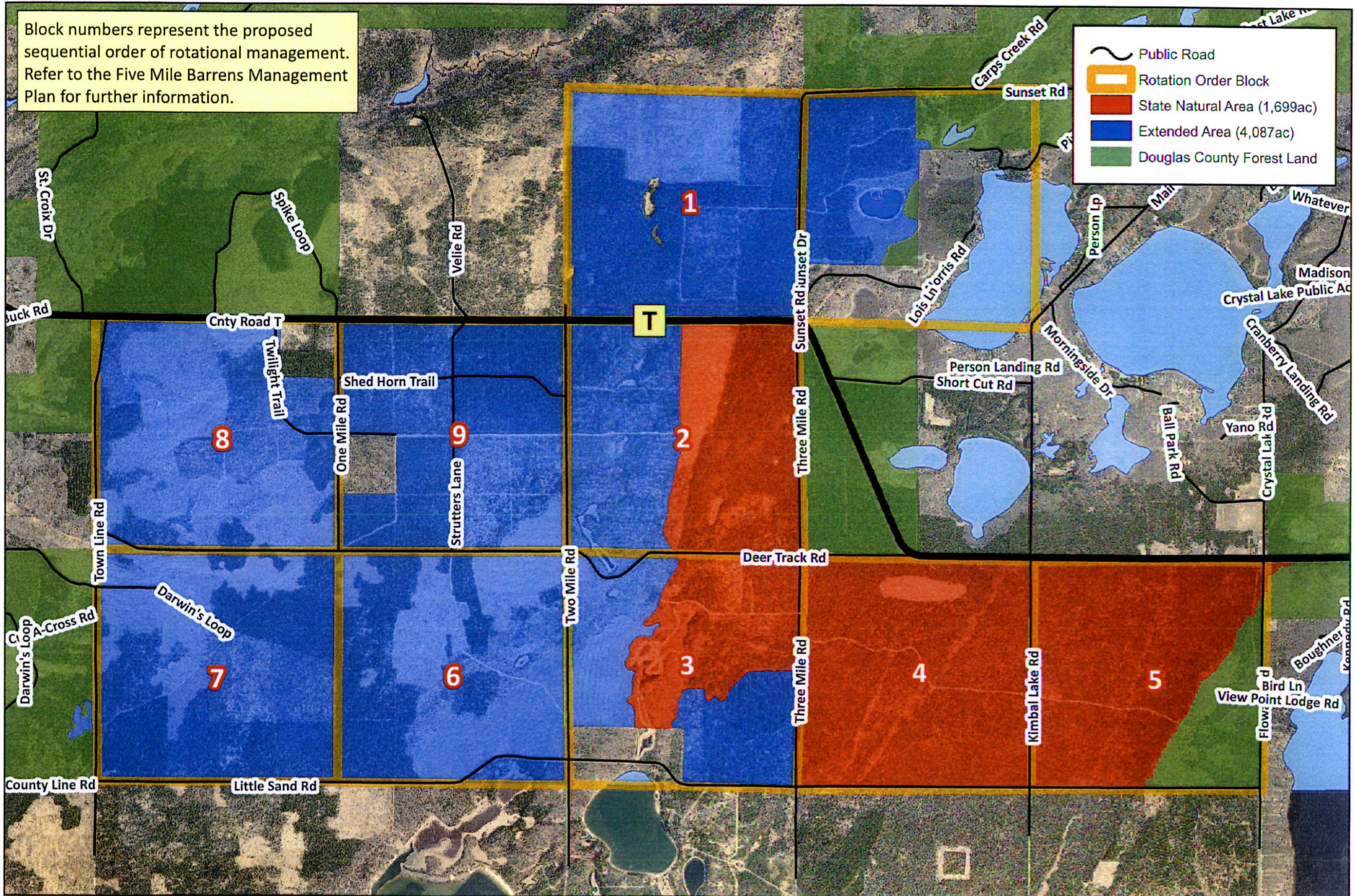
_____ Date
County Forest Administrator

Five Mile Barrens - Extended Zone (4,087 acres)

Sections 21, 22, 28, 29, 30, 31, 32, & 33, T43N - R13W, Town of Wascott, Douglas County, Wisconsin

Block numbers represent the proposed sequential order of rotational management. Refer to the Five Mile Barrens Management Plan for further information.

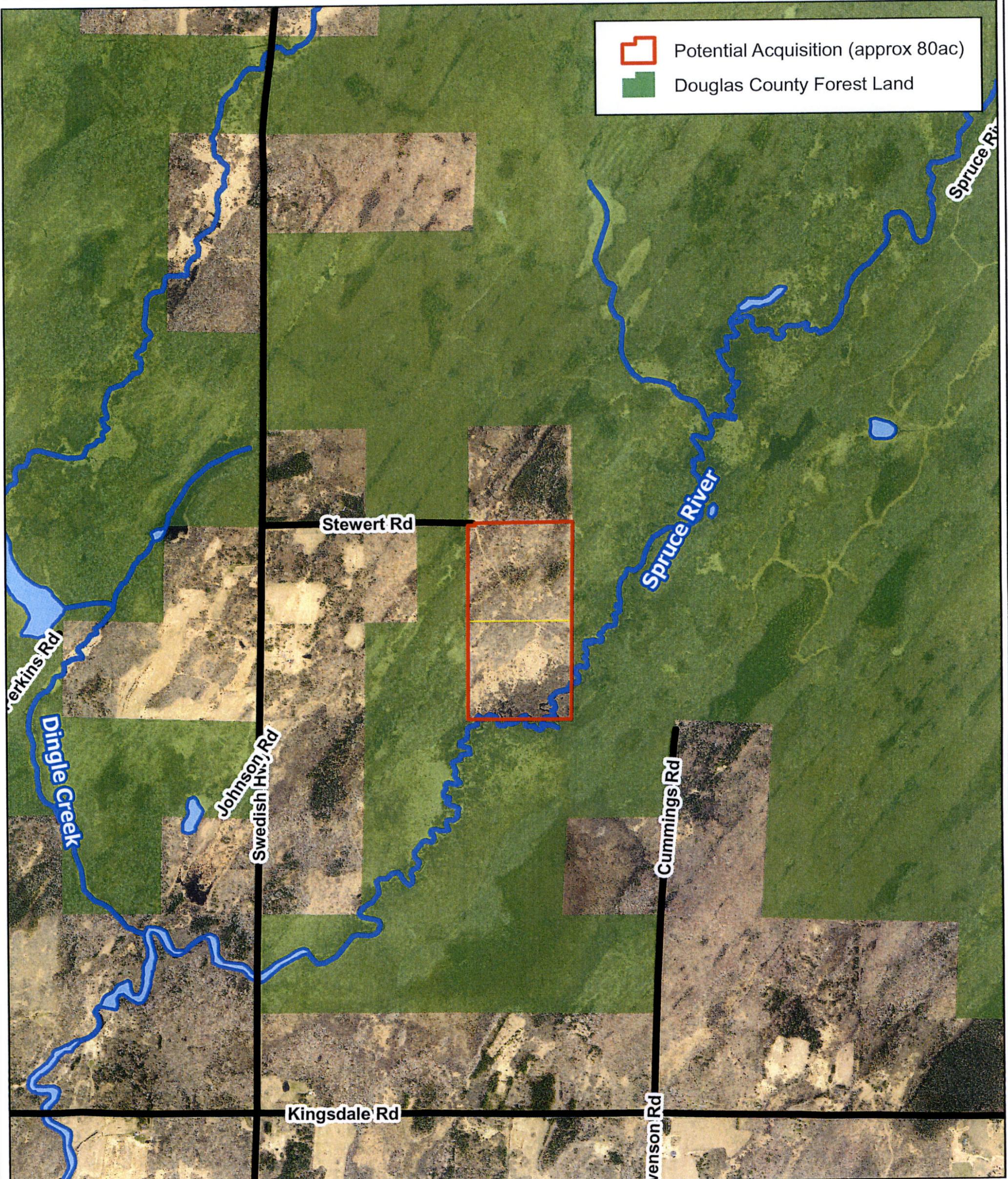
- Public Road
- Rotation Order Block
- State Natural Area (1,699ac)
- Extended Area (4,087ac)
- Douglas County Forest Land



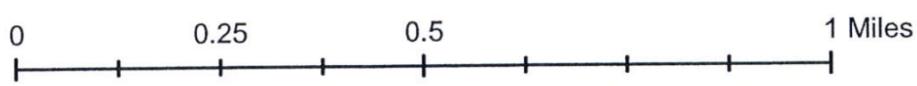
LINSTROTH GIFT OF PROPERTY

NWSE and SWSE, Section 28, T44N - R15W, Town of Dairyland, Douglas County, Wisconsin

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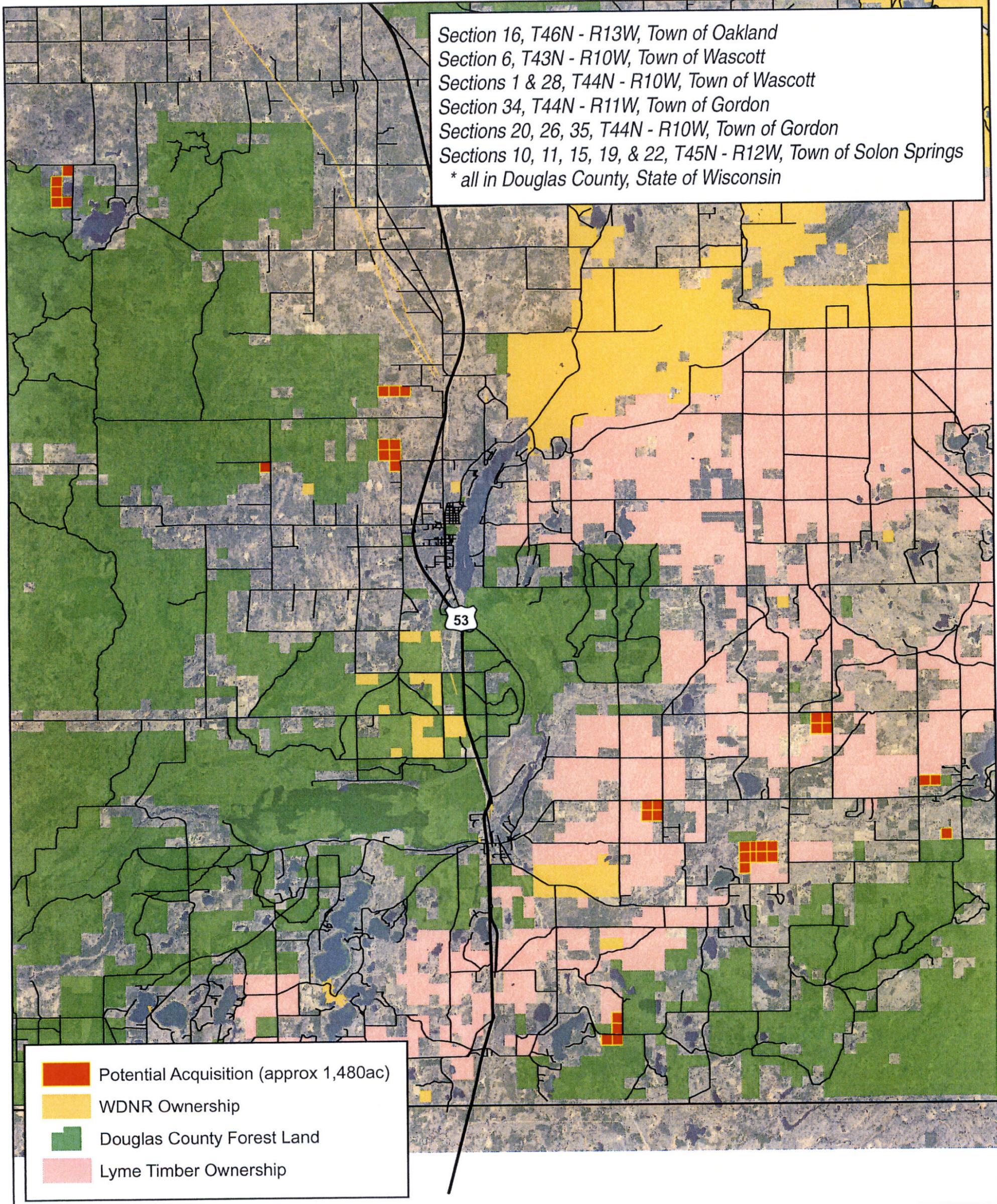
 Potential Acquisition (approx 80ac)
 Douglas County Forest Land



UPPER ST. CROIX FOREST LAND CONSERVATION PROJECT

4j

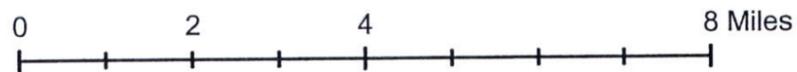
Section 16, T46N - R13W, Town of Oakland
Section 6, T43N - R10W, Town of Wascott
Sections 1 & 28, T44N - R10W, Town of Wascott
Section 34, T44N - R11W, Town of Gordon
Sections 20, 26, 35, T44N - R10W, Town of Gordon
Sections 10, 11, 15, 19, & 22, T45N - R12W, Town of Solon Springs
* all in Douglas County, State of Wisconsin



- Potential Acquisition (approx 1,480ac)
- WDNR Ownership
- Douglas County Forest Land
- Lyme Timber Ownership



Douglas County, WI

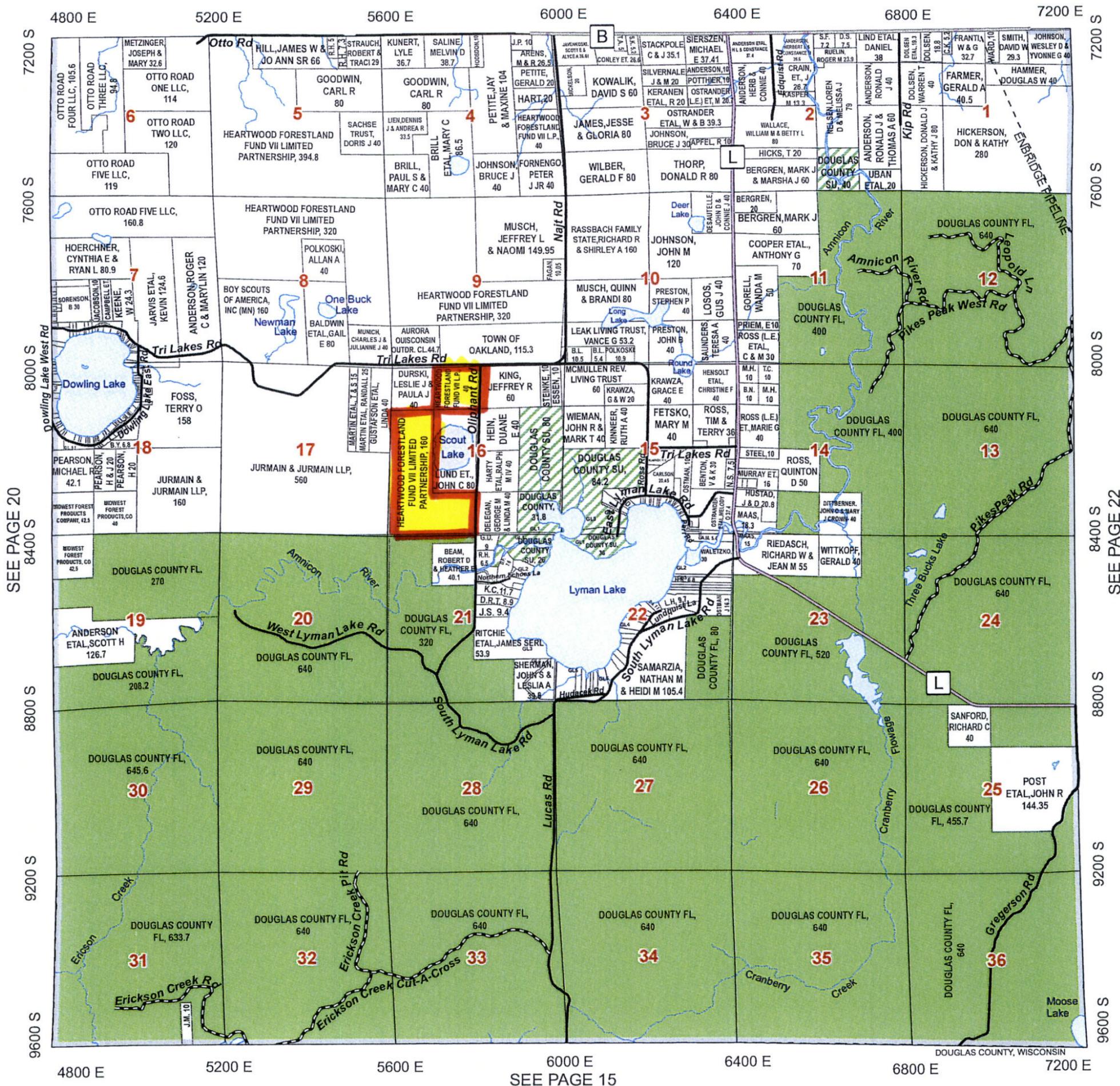


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OAKLAND

T.46N.-R.13W.

SEE PAGE 27



SEE PAGE 20

SEE PAGE 22

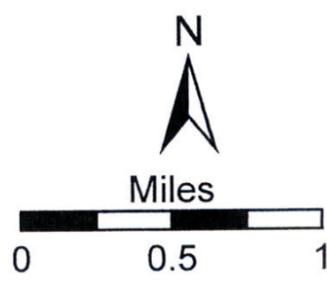
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AERIAL VIEW

Legend

- US Highway
- State Highway
- County Road
- City Streets
- Town Roads
- Unpaved Roads
- Village Roads
- Private Roads
- Forest Roads
- Pipelines
- Railroads
- Major Trails
- Lakes/Rivers
- Municipalities
- State Non DOT Land
- Douglas County FL
- Douglas County SU
- Douglas County Wildlife



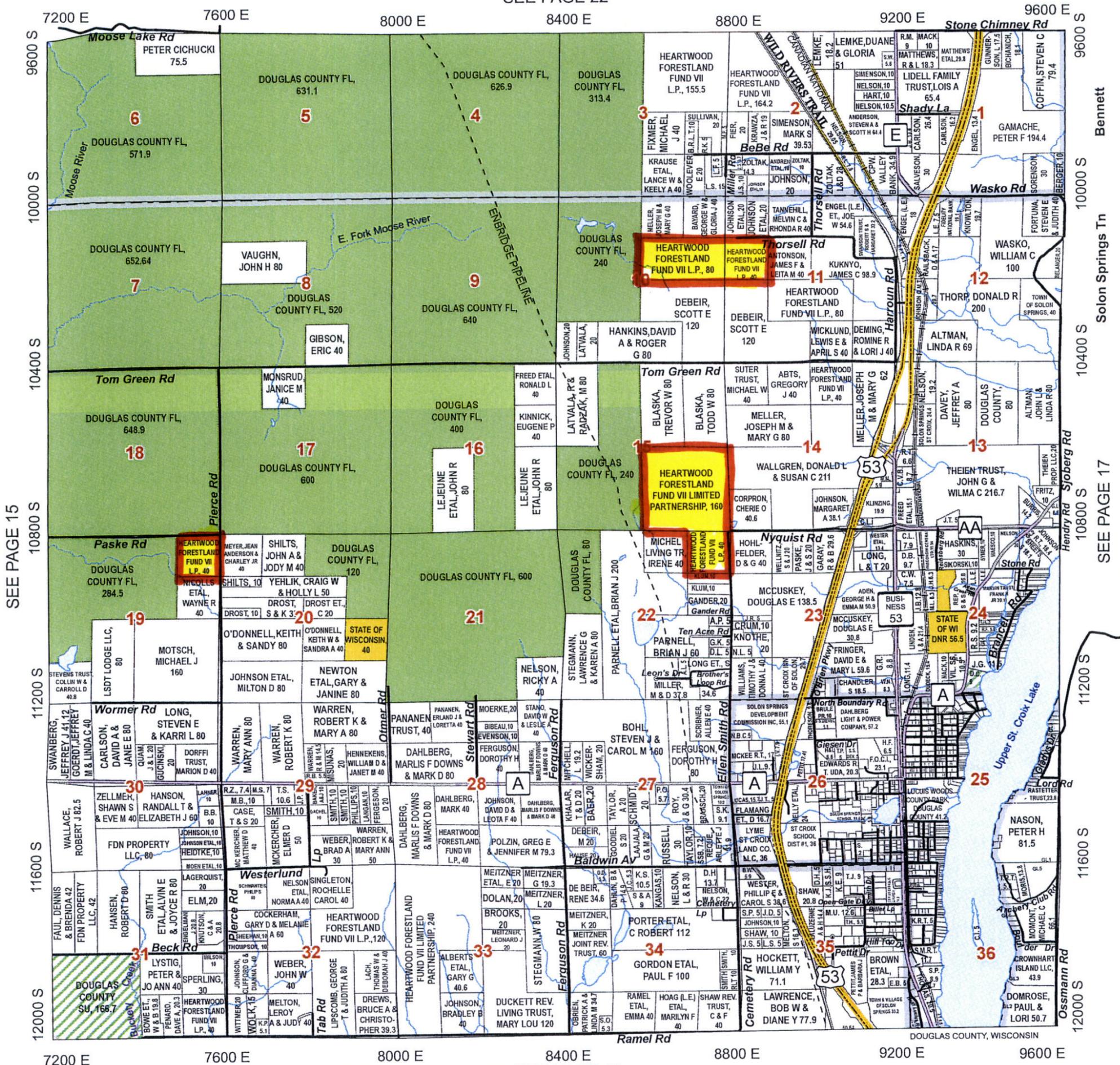
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16 SOLON SPRINGS VILLAGE

T.45N.-R.12W.

SOUTH PART BENNETT CENTRAL PART SOLON SPRINGS

SEE PAGE 22



SEE PAGE 15

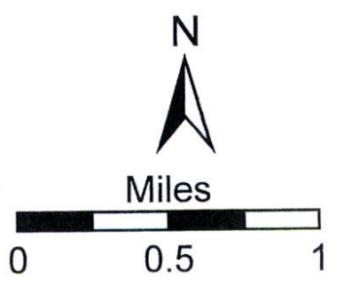
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AERIAL VIEW

Legend

- US Highway
- State Highway
- County Road
- City Streets
- Town Roads
- Unpaved Roads
- Village Roads
- Private Roads
- Forest Roads
- Pipelines
- Railroads
- Major Trails
- Lakes/Rivers
- Municipalities
- State Non DOT Land
- Douglas County FL
- Douglas County SU
- Douglas County Wildlife



Bennett

Solon Springs Tn

SEE PAGE 17

Stoberg Rd

SEE PAGE 17

11200 S

11600 S

12000 S

Ossmann Rd

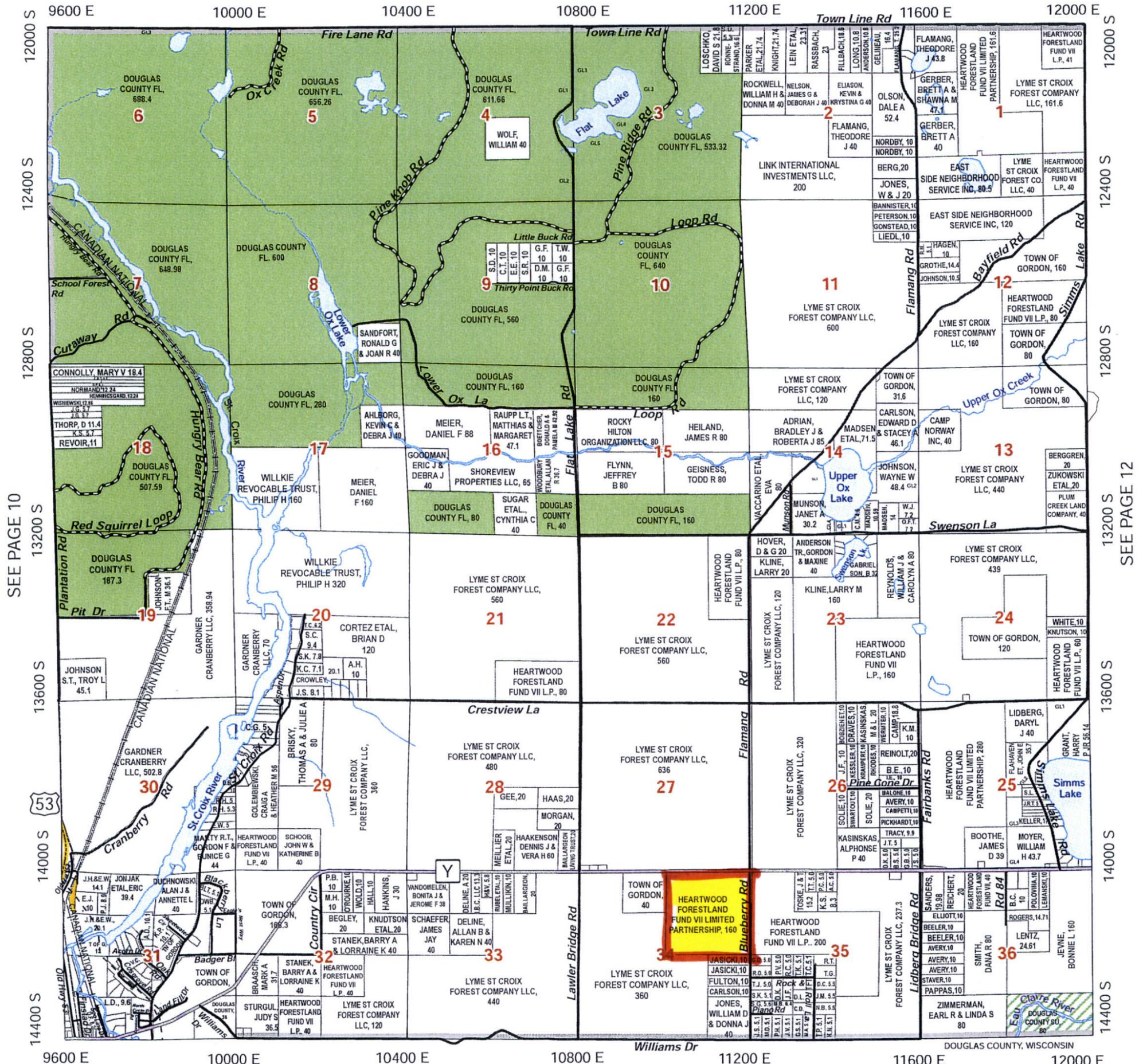
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GORDON

T.44N.-R.11W.

SEE PAGE 17



SEE PAGE 10

SEE PAGE 12

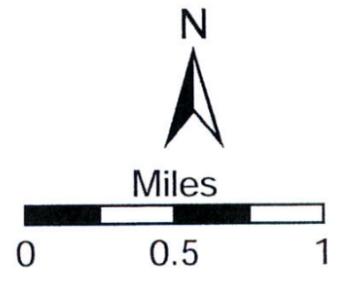
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AERIAL VIEW

Legend

- US Highway
- State Highway
- County Road
- City Streets
- Town Roads
- Unpaved Roads
- Village Roads
- Private Roads
- Forest Roads
- Pipelines
- Railroads
- Major Trails
- Lakes/Rivers
- Municipalities
- State Non DOT Land
- Douglas County FL
- Douglas County SU
- Douglas County Wildlife



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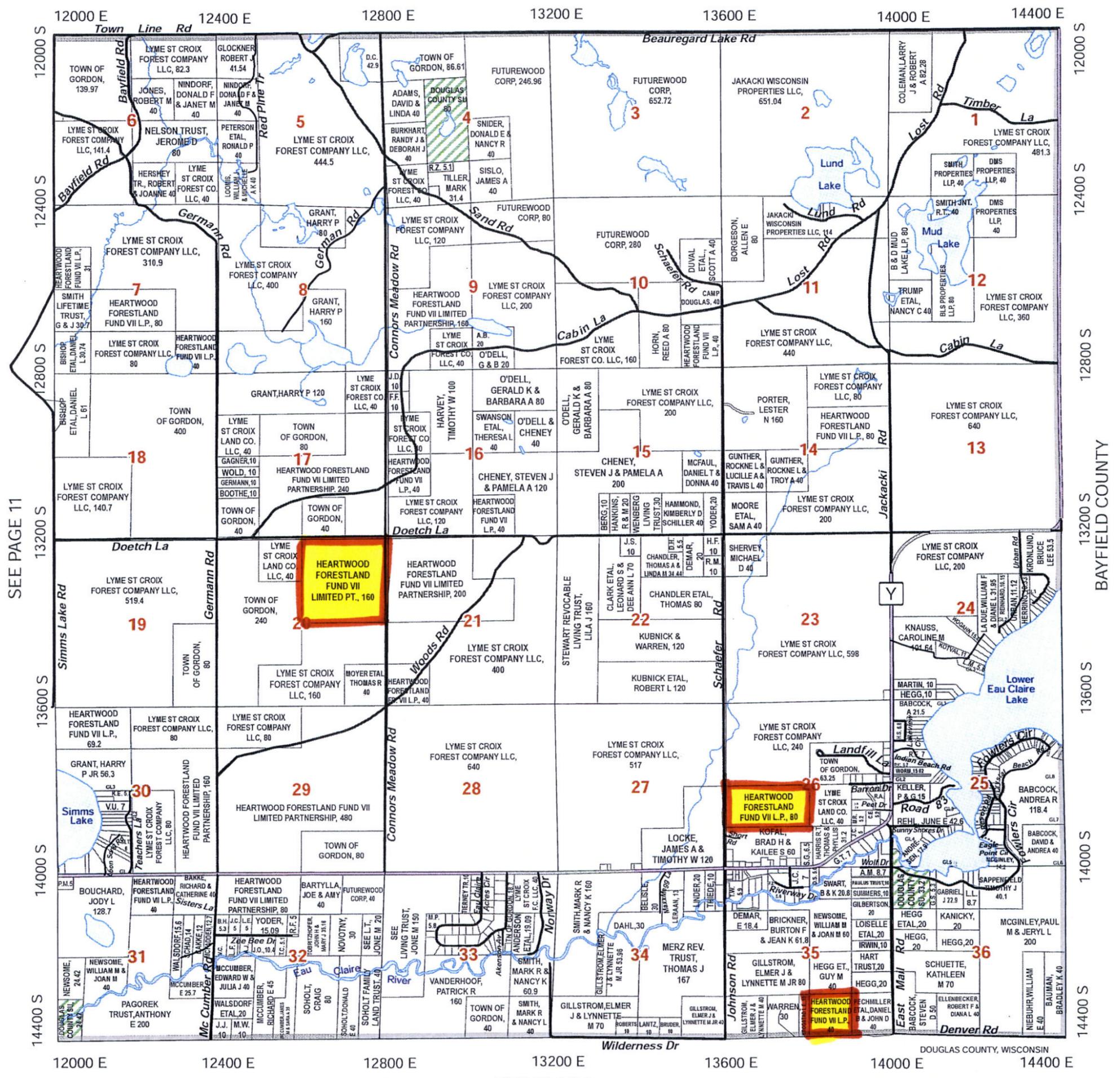
12 EAST PART

GORDON

SEE PAGE 18

T.44N.-R.10W.

12



SEE PAGE 11

12000 S
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12800 S
13200 S
13600 S
14000 S
14400 S
BAYFIELD COUNTY

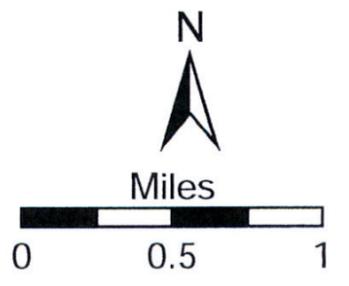
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AERIAL VIEW

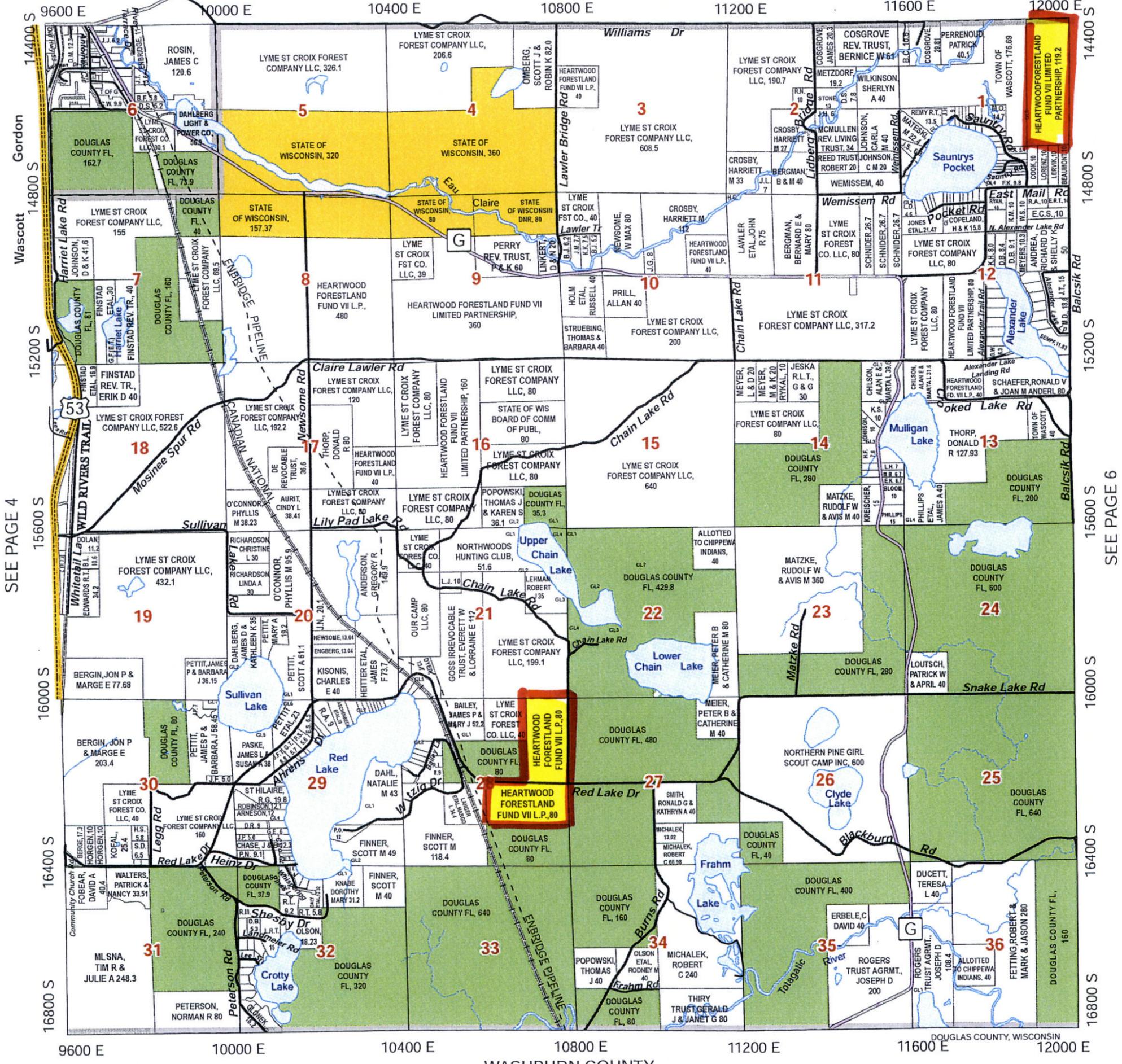
Legend

US Highway	Town Roads	Pipelines	State Non DOT Land
State Highway	Unpaved Roads	Railroads	Douglas County FL
County Road	Village Roads	Major Trails	Douglas County SU
City Streets	Private Roads	Lakes/Rivers	Douglas County Wildlife
Forest Roads	Municipalities		



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SEE PAGE 11



SEE PAGE 4

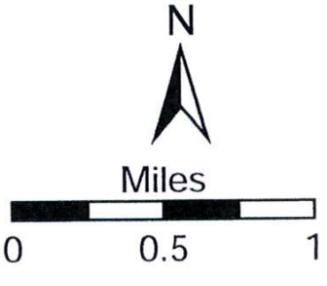
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AERIAL VIEW

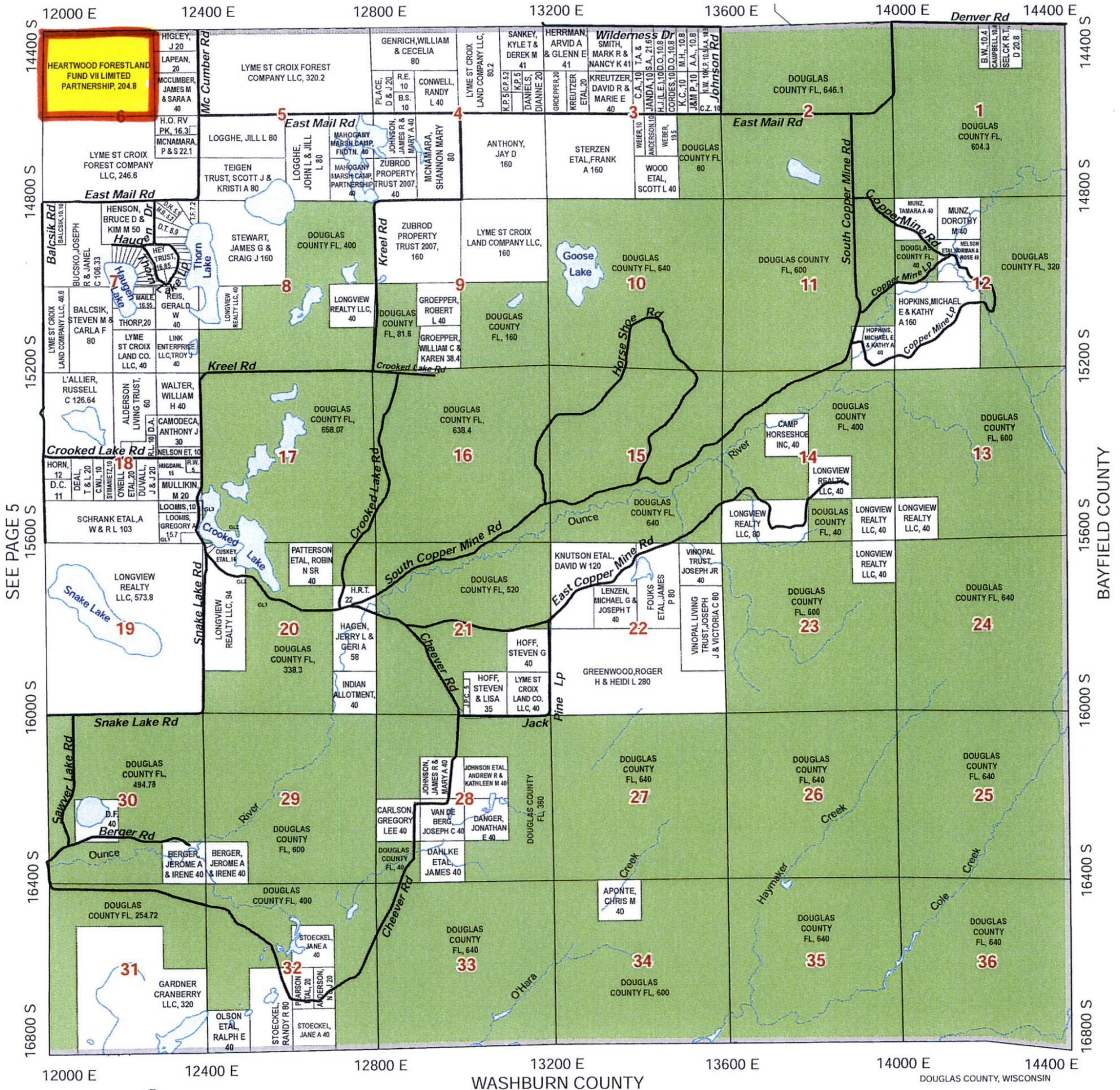
Legend

US Highway	Town Roads	Pipelines	State Non DOT Land
State Highway	Unpaved Roads	Railroads	Douglas County FL
County Road	Village Roads	Major Trails	Douglas County SU
City Streets	Private Roads	Lakes/Rivers	Douglas County Wildlife
Forest Roads	Municipalities		



Aj.

SEE PAGE 12



SEE PAGE 5

BAYFIELD COUNTY

WASHBURN COUNTY

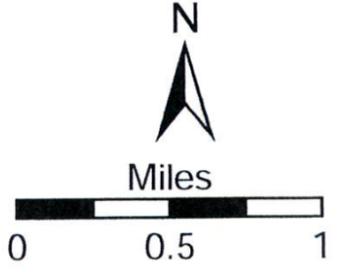
DOUGLAS COUNTY, WISCONSIN

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AERIAL VIEW

Legend

US Highway	Town Roads	Pipelines	State Non DOT Land
State Highway	Unpaved Roads	Railroads	Douglas County FL
County Road	Village Roads	Major Trails	Douglas County SU
City Streets	Private Roads	Lakes/Rivers	Douglas County Wildlife
Forest Roads	Municipalities		





Douglas County Forestry Department

9182 E. Hughes Avenue • PO Box 211
Solon Springs, WI 54873

4k.

Tel 715-378-2219
Fax 715-378-2807

LEGAL NOTICE

2016 TREE HAND PLANTING CONTRACT

The Douglas County Forestry Committee will accept bids for the hand planting of approximately 168,500 Jack Pine (1+0) containerized and 127,440 Red Pine (1+0) containerized seedlings on 464 acres of County Forest land. Funding for the entire 464 acres is anticipated, however, the total acreage for planting is not guaranteed. Bids must be submitted on both a **per acre** basis and a **total project amount**. The contract will be awarded on a **per acre** basis. **Bids will be opened on MONDAY, FEBRUARY 29, 2016 during the regular meeting of the Douglas County Forest, Parks & Recreation Committee, held at the Douglas County Forestry Department Headquarters, Solon Springs, Wisconsin.**

Bids must be received no later than **4:30 PM, FRIDAY, FEBRUARY 26, 2016** at the Douglas County Forestry Office, Solon Springs.

Bids must be specifically marked: **"SEALED BID – HAND PLANTING"**

Bid Guarantee Bond: **A cash bid guarantee bond in the form of cash, cashiers check, certified check, or money order for 20% of the total bid must accompany your bid.**

Only bids on the entire 464 acres (13 sites) will be considered. Six (6) sites have been Furrowed, Two (2) sites Disk Trenched and Five (5) sites have no site prep.

The successful bidder must post the required performance bond in the form of cash bond, written performance bond (surety bonds will not be accepted), or irrevocable letter of credit for 20% of the bid value and return the signed contract **on or before March 25, 2016**. The successful bidder must also provide current certificates of workers' compensation insurance and manufacturers/contractors liability insurance in the amount of \$1,000,000 before any work begins. The contractor shall comply with all federal and state laws applicable to the business of the contractor and the work to be done.

Douglas County reserves the right to reject any or all bids or to accept the bid most advantageous to Douglas County.

A sample contract, maps, specifications, and bid form may be obtained by contacting the Douglas County Forestry Department.

For more information, please contact:

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