



Westfield Area Wildlife and Fisheries Properties Interim Forest Management Plan

Lawrence Creek Wildlife Area, Caves Creek Fishery Area, & John A. Lawton Fishery Area

Property Identifiers

Property Names and Designation:

Caves Creek Fishery Area (Includes embedded State Natural Area)
John A. Lawton Fishery Area (formerly Tagatz Creek Fishery Area)
Lawrence Creek Wildlife Area. (Includes embedded State Natural Area)

Counties: Adams, Marquette

Property Acreage:

Lawrence Creek Wildlife Area – 962 ac
Caves Creek Fishery Area – 822 ac
John A Lawton (formerly Tagatz Creek) Fishery Area – 209 ac
Total – 1,993 ac

Forestry Property Code(s):

Lawrence Creek WA - 3966
Caves Creek Fishery Area - 3959
John A Lawton Fishery Area - 3904

Master Plan Date: Non-NR44 compliant Master Plan Concept Element for all 3 properties.

Part 1: Property Assessment

General Property Description

The Westfield Area Wildlife and Fisheries Properties is a geographical reference for the properties included in this IFMP. The area encompasses two fishery areas and one wildlife area. Lawrence Creek Wildlife Area is found partially in Adams and Marquette Counties. The two fishery areas (John A. Lawton and Caves Creek) fall entirely in Marquette County.

Landscape and Regional Context

The Caves Creek, John A Lawton Fishery Area and the Lawrence Creek Wildlife Area are found within the Central Sand Hills Ecological Landscape, which covers approximately 1.4 million acres, representing 3.9% of the land area of Wisconsin. The area is in central Wisconsin at the eastern edge of what was once Glacial Lake Wisconsin. The landforms in this Ecological Landscape include a series of glacial moraines in which pitted outwash are extensive in some areas. Glacial Tunnel Channels occur here. Soils are primarily sands and organic soils underlie the wetlands found in the landscape including tamarack swamps and sedge meadows. A mosaic of extensive wetlands and small kettle lakes in the outwash areas, and the headwaters of cold-water streams originating in glacial moraines are found in the Landscape.

Historically, fire dependent communities were once common and widespread in the Central Sand Hills. These vegetative communities included oak forest, oak woodland, oak savanna, tallgrass prairie, sedge meadow and fen. The oak species were primarily white, black and bur oak.



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Current vegetation is more than 1/3 agricultural crops, 1/3 forest, and almost 20% grasslands with smaller amounts of open wetland, open water, shrubs, unvegetated (termed “barren”), and urban areas. Large

contiguous areas of any of the major natural or surrogate vegetation types are uncommon. The major forested type is oak-hickory, with smaller amounts of white-red-jack pine, maple-basswood, lowland hardwoods, aspen-birch, and spruce-fir. Unfortunately, most of the forested areas are infested with buckthorn (common and glossy), honeysuckle, and garlic mustard and have converted to more closed forest canopy with the lack of disturbance, primarily fire.

History of land use and past management

Prior to State Acquisition the properties were predominated by small dairy and animal farms and the marshlands were cut for marsh hay or used for pasture. The poor soils on the upland areas made farming difficult and in many cases not profitable for smaller family run operations. The former crop areas were left idle to return to more native upland vegetation, including oak and dry prairie species, or were planted to monotypic stands of pine.

Land Acquisition on Lawrence Creek WA began in 1944 under the Public Hunting Grounds Program with the intent to permanently assure State protection and management. Shortly after State acquisition many of the upland areas and former crop fields were converted to monotypic stands of pine and habitat disturbance, including fire, was eliminated or prevented. Until recently the only active management for the property was related to in-stream habitat improvement projects, boundary posting and parking lot maintenance. A small dry prairie restoration was completed on the far west end of the property, which has been managed with the use of prescribed fire, and a few timber sales have occurred on portions of the property.

The Wisconsin Conservation Commission approved the Marquette County Fishery Remnant Habitat Program in 1961 which included the Caves Creek and Tagatz Creek (now John A Lawton) FA's and identified an acreage goal of 1,179.0 acres. Initial land acquisition began on Caves Creek and Tagatz FA in 1962 in which 2 easements were acquired under the county remnant program. A complete electro-fishing survey of Tagatz Creek was conducted during the summers of 1971 and 1972. As a result, the entire stream length was reclassified as Class 1 water. Reproduction was found to be adequate to support natural brook trout fishery and stocking was discontinued after 1972.

Until recently the only active management for the property was related to in-stream habitat improvement projects, including near shore brushing, boundary posting and parking lot maintenance. Some areas of native dry prairie habitat has been restored and maintained through prescribed fire on the Caves Creek FA and some smaller timber sales have occurred.

Property Context

Contextually all 3 properties are located within the Comstock Bog and Germania Marsh Conservation Opportunity Area (COA) for Large Sedge Meadows, Fens, and Prairies as identified within the Wildlife Action Plan's(WAP) implementation document for the Central Sand Hills Ecological Landscape. This COA is of Upper Midwest Significance according to the Wisconsin WAP. There are a number of Priority Conservation Actions that have been outlined in the WAP aimed at protecting and enhancing the natural communities present in the Ecological Landscape and area which include:

- Manage oaks as a large-scale mosaic of patches along a successional gradient that includes oak forest, oak woodland, oak opening, and native or surrogate grassland.
- Identify and restore oak barrens and oak forest on appropriate sites to expand and connect existing stands.



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- Maintain or restore mixed pine-oak forests to represent the full natural range of variability in patch sizes and age classes.
- Maintain and restore oak/conifer barrens and shrub habitats on public lands in appropriate Conservation Opportunity Areas through fire, ground layer enhancement, and timber management.
- Preserve and manage wet-mesic prairie, wet prairie, calcareous fen and southern tamarack swamp sites; restore degraded sites (emphasizing restoration of hydrology), and manage for area-sensitive species in a matrix of surrogate grasslands, sedge meadow, shrub carr, and savanna habitats. Monitor restored sites to determine whether the restoration is maintaining sensitive species.

All 3 properties are considered within the High Potential Range of the Federally Protected Karner Blue Butterfly.

State Natural Area designations

There is one imbedded State Natural Area at Lawrence Creek Wildlife Area and one embedded State Natural Area (SNA) at Caves Creek Fishery Area. Hunting, Fishing, trapping and other recreational activities are allowed within the SNA's. Lawrence Creek Wildlife Area contains the 288 acre Lawrence Creek SNA. The Caves Creek Fishery Area contains the 70 acre Caves Creek Unit of the Upper Fox Headwaters SNA.

High Value Conservation Forests (HCVF)

No High Value Conservation Forests have been identified on the three properties covered in this plan.

Biotic Inventory Status

The Master Planning biotic inventory is not complete, however the Bureau of Endangered Resources (currently National Heritage Conservation) produced an Ecological Assessment for "The Fox River Headwaters Ecosystem" in 2002.

Natural Heritage Inventory (NHI)/Rare Species

Based on a Natural Heritage Inventory (NHI) search and a 1 mile buffer for Lawrence Creek Wildlife Area there are 19 Element Occurrences, of which the majority (11) are labeled as "Community" Groups, such as Shallow Seepage Lake to Southern Dry Forest. Specifically, there is one identified reptile and 6 plant species found at the property. Caves Creek Fishery Area has 9 Element Occurrences of which 4 are Community Groups, 2 reptiles, 1 insect and 1 plant. John A Lawton Fishery Area also has 9 Element Occurrences of which 6 are Community Groups, 1 reptile and 1 beetle.

Invasive Species

Spotted knapweed, garlic mustard, bush honeysuckle and black locust are found at several different upland sites on the properties. Japanese Hedge Parsley has also been found on Lawrence Creek WA. The other invasive species would be associated with the wetland or low areas and would include: reed canary grass and buckthorn.

Soils

The northwestern part of Marquette County is characterized by well-drained upland soils on irregular shaped hills and ridges and deeply pitted outwash terraces. Soils on the area are derived primarily from the weathering of glacial drift deposits which are products of glacial action on the underlying Upper Cambrian sandstone. Glacial action also brought material of crystalline rocks from further north so that the sandy soils here are somewhat more productive than the sandy soils found in the unglaciated central sand plains just west of Marquette and Waushara Counties.



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Specifically for Lawrence Creek Wildlife Area, the wildlife area and imbedded State Natural Area has 3 different soil associations:

- o Gotham-Mecan: Deep, well drained, moderately rapidly permeable and rapidly permeable soils that have a sandy loam and loamy fine sand subsoil over loamy glacial till and sandy outwash.
- o Houghton Adrian: Deep, very poorly drained, moderately rapidly permeable soils that have an organic subsoil over organic material or sand.
- o Plainfield-Gotham: Deep, excessively drained and well-drained, very rapidly permeable and rapidly permeable soils that have a sand substratum or a loamy fine sand subsoil over sandy outwash.

Specifically for Caves Creek and John A Lawton Fishery Areas, there are 3 different soil associations:

- o Gotham-Mecan: Deep, well drained, moderately rapidly permeable and rapidly permeable soils that have a sandy loam and loamy fine sand subsoil over loamy glacial till and sandy outwash.
- o Plainfield-Gotham: Deep, excessively drained and well-drained, very rapidly permeable and rapidly permeable soils that have a sand substratum or a loamy fine sand subsoil over sandy outwash.
- o Delton-Briggsville-Mundelein: Deep, well drained and somewhat poorly drained, slowly permeable and moderately slowly permeable soils that have a silty clay and silty clay loam subsoil over lake-laid silt, clay, or sand.

Cultural and Recreational Considerations

- Cultural and archeological sites (including tribal sites)

There are no known Historical Sites found on current State Ownership at Lawrence Creek Wildlife Area or Caves Creek Fishery Area, although known sites are either adjacent or nearby. John A Lawton Creek Fishery Area does have one documented site. All three properties do have documented Archaeological Sites on areas of the property, and all have several identified areas adjacent to current State ownership as well.

- Recreational

Due to the proximity to major metropolitan areas (Milwaukee, Madison and Fox Valley), the properties receive considerable public use. The majority of the activity is related to fishing, and hunting, primarily turkey and deer hunting, although some of the near shore “brushing” has restored some early successional habitat for ruffed grouse and woodcock. Other important recreational activities on the properties include bird watching, hiking, wildlife viewing, canoeing, snowmobiling, and trapping.

Current forest types, size classes and successional stages

There are 7 different major forest types found on Lawrence Creek WA, Oak (including scrub oak type) (398 ac), White Pine (129 ac), Red Pine (86 ac), Jack Pine (87 ac), and Misc Deciduous (21 ac), Aspen (7 ac), and Tamarack (1 ac). Caves Creek Fishery Area has 7 major forest types, Oak (269 ac), White Pine (97 ac), Swamp Hardwoods (27 ac), Jack Pine (26 ac), Misc Deciduous (20 ac), Central Hardwoods (10 ac) and Red Pine (7 ac). John Lawton FA has 5 forest types, Tamarack (83 ac), Oak (including Scrub Oak type) (29 ac), White Pine (18 ac), White Birch (5 ac), and Red Maple (4 ac).

Break down for each type by age class by acres for is as follows:



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Lawrence Creek WA

Year Class

	0-20 yrs	20-80 yrs	80-100 yrs	100+ yrs
Oak –	4 ac	258 ac	55 ac	81 ac
White Pine –	0-20 yrs 33 ac	20-80 yrs 96 ac		
Red Pine -	0-20 yrs 0 ac	20-80 yrs 86 ac		

Lawrence Creek WA *continued*

Jack Pine –	0-20 yrs 16 ac	20-60 yrs 71		
Misc. Deciduous –	0-20 yrs 21 ac			
Aspen –	0-20 yrs 4 ac	20-60 yrs 3 ac		
Tamarack –	0-20 yrs 0 ac	20-60 yrs 1 ac		

Caves Creek Fishery Area

Year Class

	0-20 yrs	20-80 yrs	80-100 yrs	100+ yrs
Oak -	0 ac	109 ac	123 ac	21 ac
White Pine -	0-20 yrs 3 ac	20-60 yrs 0 ac	60-115 yrs 95 ac	
Swamp Hardwoods -	0-20 yrs 0 ac	20-80 yrs 0 ac	80-100 yrs 27	
Jack Pine -	0-20 yrs 0 ac	20-40 yrs 26		
Misc. Deciduous	0-20 yrs 0 ac	20-60 yrs 0 ac	60-80 yrs 20 ac	
Central Hardwoods	0-20 yrs 0 ac	20-50 yrs 10 ac		
Red Pine	0-20 yrs 0 ac	20-40 yrs 7 ac		



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John Lawton Fishery Area

	Year Class			
	0-20 yrs	20-50 yrs		
Tamarack –	0 ac	83 ac		
Oak -	0-20 yrs 0 ac	20-80 yrs 19 ac	80-100 yrs 0 ac	100-135 yrs 10 ac
White Pine -	0-20 yrs 0 ac	20-80 yrs 18 ac		
White Birch -	0-20 yrs 0 ac	20-50 yrs 5 ac		
Red Maple -	0-20 yrs 0 ac	20-90 yrs 4 ac		

Part 2: IFMP Components

Management Objectives:

The primary forest management objectives include the following:

- Identification of viable forest acreage that is to be managed in a manner that will maintain that acreage in a productive forested cover type. Specific areas identified for management will be based on WISFIRS data and discussed at the Annual Integrated Property Management Meetings (IPMM).
- Identification of forested acreage that may be potentially converted to other cover types that could improve upon habitat that is otherwise fragmented or lacking from the property and surrounding area (ex. oak barrens). Specific areas identified for potential restoration or conversion will be discussed at the Annual IPMM's and may include areas that had recent catastrophic events (ie: wild fire, storm damage, insect infestation, etc). in which barrens restoration would be logistically and economically feasible. Any potential restoration area will also be dependent on funding availability.
- Maintain forest health and species diversity across the property.
- Favor mast producing species such as oak and hickory where they exist.
- Allow for regeneration of aspen in those areas where aspen is currently present and it does not negatively affect other habitat or cover types.
- Prepare the property for introduction of emerald ash borer by reducing the proportion of ash in stands where it is present while also encouraging establishment of other appropriate species that are capable of growing in similar conditions.
- Reduce the prevalence and dominance of invasive exotic species and control them to the extent possible with the knowledge and resources available.
- Maintain/improve water quality within the watershed.
- Identify rare/endangered species and protect/provide habitat.
- Lawrence Creek SNA - manage the site as an oak woodland / barrens and calcareous fen / springs run reference area. The oak woodland / barrens portion is not currently functioning as an ecological reference area and needs to be restored to that function.
- Upper Fox Headwaters SNA: Caves Creek - manage the site as a preserve for fen, sedge meadow wet-mesic, wet prairie, oak barrens, and tamarack swamp, as an aquatic preserve and wetland protection site, and as an ecological reference area. The oak barrens portion is not currently functioning as an ecological reference area and needs to be restored to that function.



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Property Prescriptions:

- **Central Hardwoods-**

Utilize both even and uneven aged silvicultural methods such as thinning, seed tree, shelterwood, clearcut, as well as timber stand improvement methods and other techniques described in the DNR silviculture and Forest Aesthetics Handbook to regenerate these stands. Promote species such as Oak, Black Cherry, Hickory, Basswood, Hard Maple and others that would create habitat diversity.

- **Swamp Hardwoods-**

Utilize uneven aged silvicultural methods such as thinning and group selection, as well as timber stand improvement methods and other techniques described in the DNR Silvicultural and Forest Aesthetics Handbook to maintain/regenerate these stands and promote large diameter trees. Protect hydrology through appropriate BMP's for water quality.

- **Aspen-**

Regenerate and promote this type where it exists on non-barrens or savannah development sites primarily through clearcutting (even-aged management).

- **Red and White Pine-**

Thin pine plantations every 8-10 years. Promote the growth of large crowned trees for wildlife and aesthetics. Leave dead and dying trees for wildlife habitat. Consider conversion following final harvest to oak or pine barrens habitat which would be representative of the Ecological Landscape

- **Jack Pine-**

Regenerate and promote this type in non-barrens development areas primarily through clearcutting (even-aged management) with a target rotation age of 45 years.

- **Oak-**

In sites that are capable, extended rotations will be utilized in the oak stands to encourage the establishment of stands according to the silvicultural handbook for extended rotations. Restoration of oak barrens and savanna, where economically and ecologically feasible, will follow the Oak Savanna Management guide. The retention of snags and den trees to provide additional wildlife habitat will also be used.

- **All Stands-**

All forest management prescriptions will follow the forest management principles outlined in the "Wisconsin Forest Management Guidelines" and the "Silviculture Handbook" for those stands where continuation of the forested habitat type is the goal. For those areas where forested acreage may be converted to other cover types those guidelines will not apply.

Stand specific objectives and prescriptions will be discussed and determined at the Annual Integrated Property Management meetings. Typically these meetings occur in January and several resource professionals associated with the property attend the meeting, including the forester, district ecologist, fish manager, wildlife biologist / property manager, and Facilities and Lands technicians. Long term objectives and prescriptions may be modified at the Integrated Property Management meetings in the case of catastrophic events such as wild fires, insect invasions, or disease that cause safety concerns or create significant stand modifications.



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Green Tree Retention (GTR): Reserved species include white oak, red/black oak, swamp white oak and elm. Refer to the Tree Retention and Marking Guidelines chapter of the silvicultural handbook for more specific information and guidelines.

Identify invasive plant species and implement control practices such as prescribed fire, hand pulling, chemical and mechanical control to eliminate or reduce negative impacts. Utilize BMP's for Invasive Species to help limit the introduction and spread of invasive species when conducting timber sales.

- **Grasslands-**

Existing cool and warm season grasslands will be maintained via prescribed fire, and through mechanical or chemical control of unwanted species. Additional upland areas, including some areas that are currently under farming agreements, maybe converted to native upland prairie.

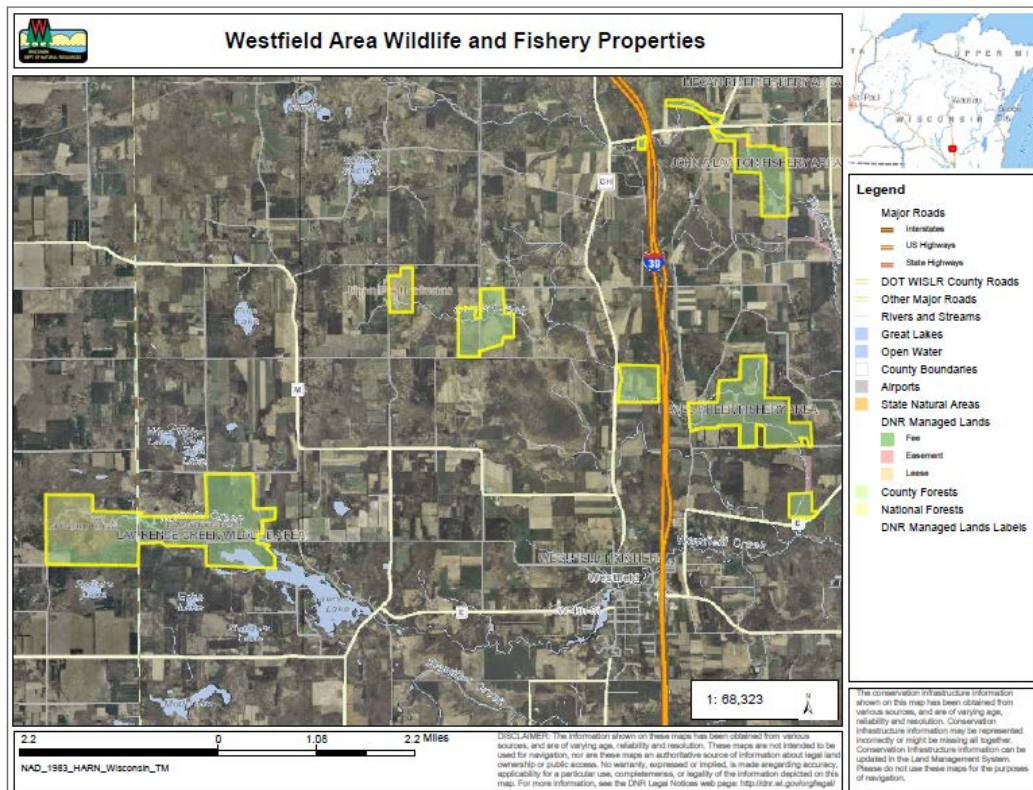
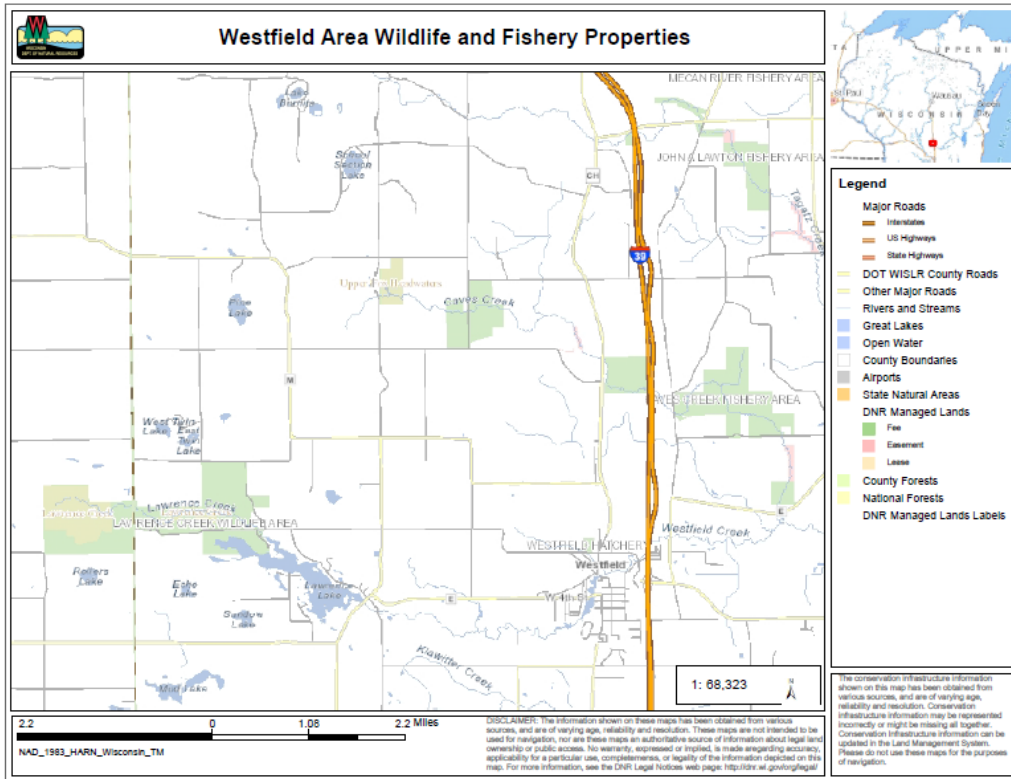
- **Wetlands-**

Protect hydrology through appropriate BMP's for water quality.



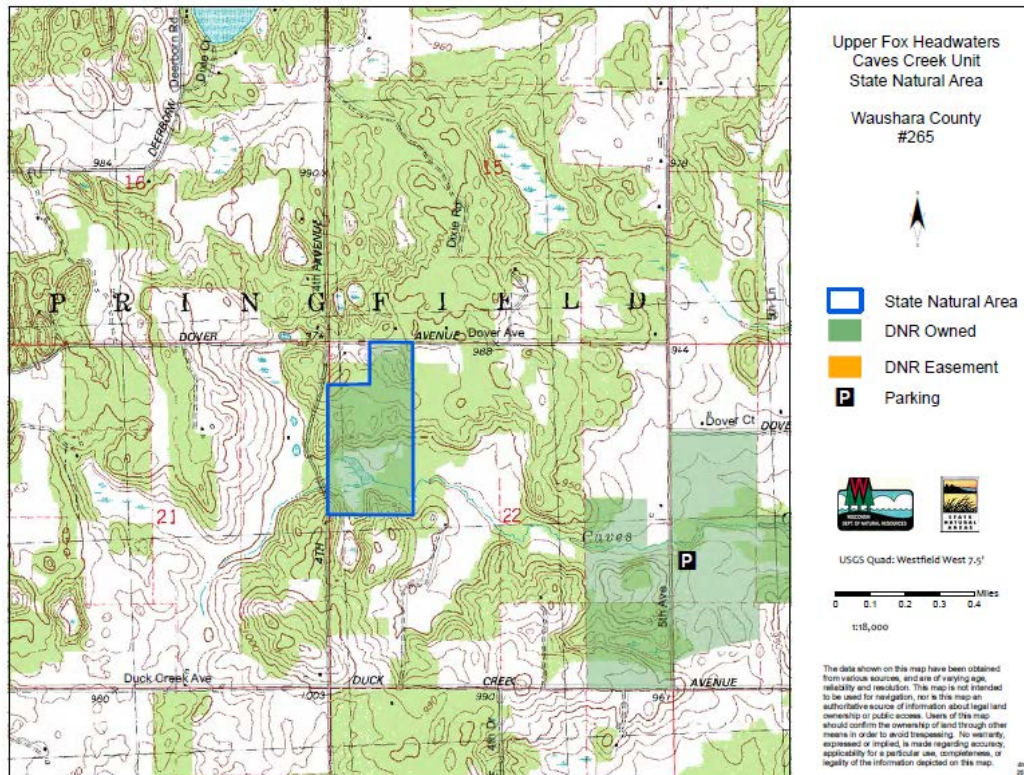
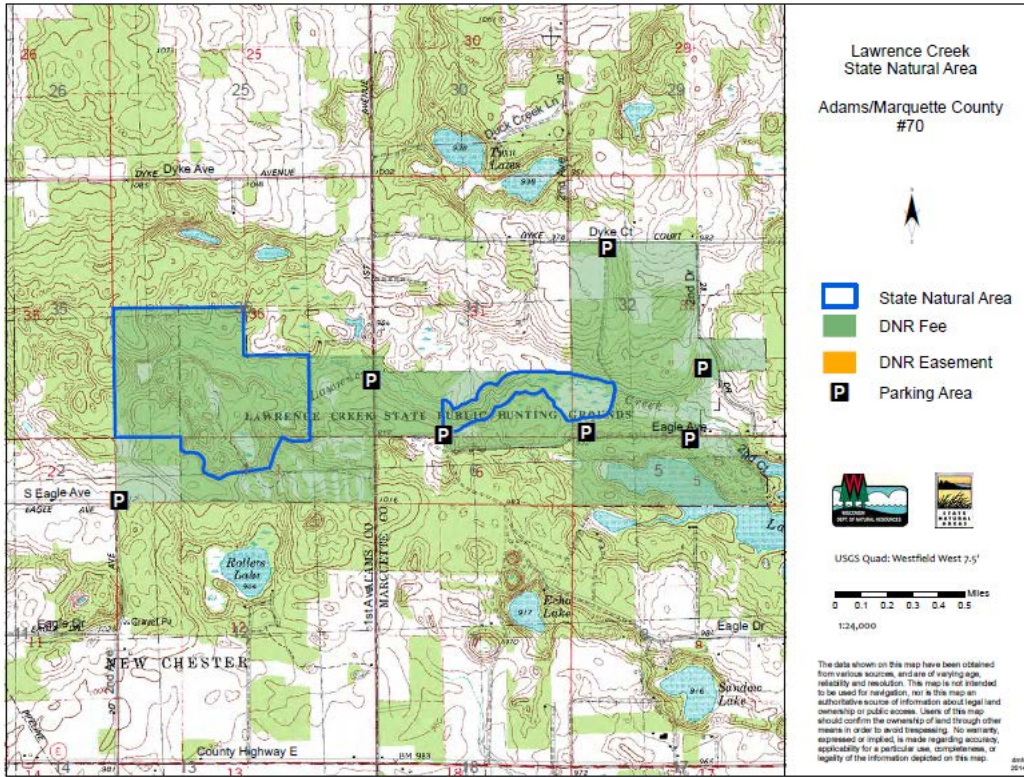
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Maps:





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Approvals:

District Ecologist *Jan F. Rukwid* *6-5-15* Date

Forester *Scott Miller* *6/11/15* Date

Property Manager *[Signature]* *6-2-15* Date

Area/Team Supervisor *Ellen Barth* *June 2 2015* Date