



# Interim Forest Management Plan

## Property Identifiers

Property Name and Designation (multiple small properties can be grouped):

Grand River Marsh Wildlife Area (GRWA) with 1 imbedded State Natural Area (Fountain Creek Wet Prairie SNA), Germania Wildlife Area (GMWA) with 1 imbedded State Natural Area (Germania Wet Prairie), Rogers Memorial Habitat Preservation Area, and Heart Lake Rearing Station Fisheries Area

Counties: Green Lake, Marquette

Property Acreage:

Grand River Marsh WA – 7,944 ac  
Fountain Creek SNA – 252 ac (imbedded at GRWA)  
Germania Wildlife Area – 2,423 ac  
Germania Wet Prairie – 95 ac (imbedded at GMWA)  
Heart Lake Rearing Station FA – 73 ac  
Rogers Memorial Habitat Preservation Area – 75 ac  
Total – 10,515 ac

Forestry Property Code(s):

Grand River Marsh WA - 2465  
Fountain Creek SNA – 2465 (no separate property code)  
Germania Wildlife Area - 3965  
Heart Lake Rearing Station - 2401  
Rogers Memorial Habitat Preservation Area - 2406

Master Plan Date: A Non-NR44 compliant Master Plan Concept Element dated 12 October 1982 for Grand River Marsh WA. A Non-NR44 compliant Master Plan Concept Element dated 14 November 1984 for Germania Wildlife Area.

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## Part 1: Property Assessment (1-2 pages maximum)

The following items should be considered during the property assessment. Not all sections may be relevant for all properties.

### General Property Description

#### ➤ Landscape and Regional Context

The Grand River Marsh WA, Germania WA, Heart Lake Rearing Station FA, and Rogers Memorial Preservation 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 is extensive in some areas and Glacial Tunnels 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 coldwater 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 European settlement the majority of Grand River Marsh and Germania WA was dominated by wetland vegetation with smaller areas of oak. Heart Lake Rearing Station FA was predominately upland oak surrounding the lake itself. According to Finley’s Original vegetation of Wisconsin, the wetland vegetation was identified as marsh, sedge meadow, wet prairie, and lowland shrubs. The oak component was made up of white, black and bur oak. Extensive wetland drainage throughout the majority of Grand River Marsh WA allowed conversion for agricultural purposes, including some muck farming.

Prior to State acquisition the properties were predominated by small dairy and animal farms and the marshlands were cut and burned for the production of marsh hay and grass. Portions of Grand River Marsh were ditched for farming and the west end has deep muck soils. The marsh grass, primarily reed canary and wire grass, was used for cattle feed and bedding.

Germania Marsh was first modified by the Germania Dam Company in 1867 by constructing a dam and mill on the Mekan River. The dam created a large shallow water flowage of several thousand acres that was called Germania Lake. In 1902 the dam was removed to permit farmers to harvest wild hay, but hay cutting was soon abandoned because it was considered economically non-feasible and the area converted to sedge and willow.

Heart Lake Rearing Station FA upland areas were used for animal grazing and the lake itself was leased for the production of walleye fingerlings from the previous landowner.

The preliminary project statement for Grand River Marsh WA was submitted on 16 January 1958 and the Wisconsin Conservation Commission approved acquisition of land within the boundary on February 21, 1958. The Wisconsin Conservation Commission approved acquisition of land within the boundary for Germania WA on 9 September 1955 and the preliminary project statement was submitted on 8 December 1955. The project goal for both properties was similar, to manage a state-owned wildlife area for duck and pheasant production (pheasant production not included at Germania WA), endangered species protection, public hunting, trapping, fishing and other compatible recreational and educational opportunities.

Management has included wetland development (1 large and 3 smaller impoundments at GRWA; 2 large and 4 smaller impoundments at GMWA) and restoration, upland grassland restoration, oak barrens/savannah restoration, undesirable tree removal, invasive species control, and maintenance of the oak resource. Grand River Marsh WA has a large Waterfowl Closed Area that does not allow any hunting during the waterfowl season, except deer during the regular deer gun and muzzleloader seasons. Germania WA also has a Waterfowl Closed Area, but it does not allow any hunting during the waterfowl season.

The Heart Lake Rearing Station FA option for purchase was dated on 15 January 1960 and final Governor approval of purchase was on 7 June 1960. The parcel was purchased specifically for the production of walleye fingerlings and to extend fishing and recreational opportunities.

Due to the fact that the properties are State Wildlife Areas and a Fisheries Rearing Station, any management consideration will emphasize the need to provide recreational opportunities and wildlife habitat as related to hunting, fishing and trapping to coincide with the original intention of the project justification and protection of the fish rearing facilities.



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The Rogers Memorial Habitat Preservation Area was acquired in 1961 as a gift land from the Maude R. Card Estate. The property is to be used for conservation and wildlife refuge purposes. Maintenance of the property was also granted to the Markesan School District for recreational and educational purposes. Hunting is not allowed on this property.

## Site Specifics

- o **Current forest types, size classes and successional stages**

There are 5 different major forest types found on Grand River Marsh WA, Oak (427 ac), Swamp Hardwoods (159 ac), Central Hardwoods (130 ac), Aspen (43 ac), and Misc Deciduous (38). There are 2 pine stands, white and red, 1 ac and 3 ac respectively. Germania Wildlife Area has 4 major forest types, Oak (545 ac), tamarack (153 ac), white pine (52 ac) and aspen (19 ac). Heart Lake Rearing Station FA has 3 forest types, Oak (37 ac), Central Hardwoods (4 ac) and Misc Deciduous (3 ac). Rogers Memorial has 5 forest types, Oak (24 ac), Central Hardwoods (29 ac), White Pine (6 ac), Red Pine (2 ac), and White Spruce (7 ac).

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

### Grand River Marsh WA

#### Year Class

	<b>0-20 yrs</b>	<b>20-80 yrs</b>	<b>80-100 yrs</b>	<b>100+ yrs</b>
Oak –	0 ac	29 ac	35 ac	363 ac
Aspen –	<b>40+ yrs</b> 43 ac			
Central Hardwoods -	<b>0-20 yrs</b> 0 ac	<b>20-80 yrs</b> 26 ac	<b>80-100 yrs</b> 78 ac	<b>100+ yrs</b> 26 ac
Misc Deciduous –	<b>0-30 yrs</b> 38 ac			
Red Pine –	<b>60-80 yrs</b> 3 ac			
White Pine –	<b>40-60 yrs</b> 1 ac			
Swamp Hardwoods –	<b>40-60 yrs</b> 99 ac	<b>100+ yrs</b> 60ac		

### Germania Wildlife Area

#### Year Class

	<b>0-20 yrs</b>	<b>20-80 yrs</b>	<b>80-100 yrs</b>	<b>100+ yrs</b>
Oak -	0 ac	434 ac	111 ac	0 ac
Tamarack -	<b>20-40 yrs</b> 132 ac	<b>40-60 yrs</b> 21 ac		
White Pine -	<b>0-20 yrs</b> 0 ac	<b>20-60 yrs</b> 52 ac		
Aspen -	<b>20-40 yrs</b> 19 ac			



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## Heart Lake Rearing Station FA

	Year Class			
	0-20 yrs	20-80 yrs	80-100 yrs	100+ yrs
Oak –	0 ac	0 ac	5 ac	32 ac
Misc Deciduous -	<b>20-40 yrs</b> 3 ac			
Central Hardwoods		<b>100+ yrs</b> 4 ac		

## Rogers Memorial Habitat Preservation Area

	Year Class			
	0-20 yrs	20-80 yrs	80-100 yrs	100+ yrs
Oak -	0 ac	0 ac	0 ac	24 ac
Central Hardwoods -		<b>20-80 yrs</b> 29 ac		
White Pine -		<b>20-80 yrs</b> 6 ac		
Red Pine -		<b>20-80 yrs</b> 2 ac		
White Spruce		<b>20-80 yrs</b> 7 ac		

### ➤ State Natural Area designations

- There is one designated State Natural Area within Grand River Marsh WA – Fountain Creek Wet Prairie SNA and one within Germania Wildlife Area – Germania Wet Prairie (2 units).
- High Value Conservation Forests (HCVF) or other resources/natural community types limited in the landscape - No
- Biotic Inventory status

The Master Planning biotic inventory is not complete; however, the Bureau of Endangered Resources produced an Ecological Assessment for The Fox River Headwaters Ecosystem in 2002.

- Deferral/consultation area designations (refer to the following website): No
- Rare species

Based on a Natural Heritage Inventory (NHI) search for Grand River Marsh WA and a 1 mile buffer, there were 5 habitat element occurrences, 5 bird species, 3 fish species, 1 herptile element occurrence found, and it is identified as a Migratory Bird Site. Germania WA and a 1 mile buffer, had 4 habitat element occurrences, 8 bird species, 1 mammal, 1 fish, 2 insects, and 1 herptile element occurrence found. Also for Germania WA it is identified as a Migratory Bird Site and a Bird Rookery. Heart Lake Rearing Station FA had no element occurrences identified in the NHI data base. Grand River Marsh and Germania WA are identified as Conservation Opportunity Areas (Upper Midwest for Ecological Significance) in the Wildlife Action Plan, both are considered Important Bird Areas, and Land Legacy Places.



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- Invasive Species

Reed canary grass and Hybrid cattail is widespread throughout the wetland area of the wildlife areas. Common and Glossy buckthorn, honeysuckle, and garlic mustard is prevalent in scattered patches throughout Grand River Marsh WA and Heart Lake Rearing Station FA.

Other invasive species found in scattered smaller areas on GRWA, GMWA, Rogers Memorial Habitat Preservation Area, and Heart Lake include spotted knapweed, crown vetch, autumn olive, black locust, multi flower rose, and oriental bittersweet.

➤ **Soils**

The marsh soils are peat and muck ranging from 12" to 90" deep, and the upland soil types are sandy, ranging from gravelly sands to sandy loams. All the upland soils can become droughty during extended dry periods. Wetland mineral soils are found between the upland and muck soils.

Specifically for Grand River Marsh, the wildlife area has 6 different soil associations which include:

- Oakville-Brems-Granby: well drained, moderately well drained and poorly drained, nearly level to steep soils that have a subsoil of fine sand underlain by fine and medium sand
- Boyer-Oshtemo-Gotham: well drained and somewhat excessively drained, nearly level to steep soils that have a subsoil mainly of loamy fine sand, sandy loam, and loamy sand underlain by sand or stratified sand and gravel outwash.
- Willette-Poy-Poygan: very poorly drained and poorly drained, nearly level organic soils and soils that have a subsoil of silty clay and clay underlain by sand or calcareous clay and silty clay.
- Adrian-Houghton: very poorly drained, nearly level organic soils underlain by sandy, loamy, or clayey material or marl.
- Lapeer-Mecan-Okee: well drained and somewhat excessively drained, gently sloping to steep soils that have a subsoil of sandy loam underlain by calcareous, gravelly sandy loam or gravelly loamy sand glacial till.
- Kidder-Rotamer-Grellton: well drained and moderately well drained, nearly level to steep soils that have a subsoil mainly of loam, clay loam, and sandy clay loam underlain by calcareous, gravelly sandy loam glacial till

Specifically for Germania Wildlife Area, the property has 4 different soil associations which include:

- 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.
- Oshtemo-Gotham: deep, well drained, moderately rapidly permeable and rapidly permeable soils that have a sandy loam and loamy fine sand subsoil over sandy outwash.
- Granby-Tedrow-Moundville: deep, poorly drained, somewhat poorly drained, and moderately well drained, rapidly permeable soils that have a loamy fine sand subsoil over sandy outwash.
- Houghto-Adrian: deep, very poorly drained, moderately rapidly permeable soils that have an organic subsoil over organic material or sand.



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Specifically for Heart Lake Rearing Station FA, the property has one soil association:

- Kidder-Rotamer-Grellton: well drained and moderately well drained, nearly level to steep soils that have a subsoil mainly of loam, clay loam, and sandy clay loam underlain by calcareous, gravelly sandy loam glacial till

Specifically for Rogers Memorial Habitat Preservation Area, the property has three soil associations:

- Friesland: well drained and moderately well drained, nearly level and gently sloping soils that have a loam surface and subsoil with a substratum of silt loam
- Kidder: well drained, nearly level to steep on till plains and moraines. The soils are loamy and are underlain by gravelly sandy loam glacial till.
- Dodge: well drained, gently sloping and sloping soils. The soils are loamy and are underlain by gravelly sandy loam till.

## ➤ Cultural and Recreational Considerations

- Cultural and archeological sites (including tribal sites)

Several archaeological and historical sites have been identified at the Grand River Marsh WA according to the Bureau of Facilities and Lands website. Four historical sites and 26 archaeological sites are identified to the ¼ section of current state ownership or adjacent to state ownership. There is an area of burial mounds found on the east end of the property that have some trees growing in and around the mounds. ([Wis. Stats 157.70\(2r\)](#), “Except as provided under subs. (4) and (4) and ss. 157.111 and 157.112, no person may intentionally cause or permit the disturbance of a burial site or catalogued land contiguous to a catalogued burial site. This subsection does not prohibit normal agricultural or silvicultural practices which do not disturb the human remains in a burial site or the surface characteristics of a burial site.”). Any management activities in this area would need to consider any disturbance to the mounds and Archeological and Historical assistance will be required. Proposed management may include removal of the trees growing on the mounds to preserve the integrity of the burial mounds. No known sites are identified on the Heart Lake Rearing Station, Rogers Memorial, or Germania WA, but each property has identified historical and archeological sites adjacent to the properties

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 hunting, primarily pheasant, duck, turkey and deer hunting. Other important recreational activities on the properties include bird watching, wildlife viewing, canoeing, fishing and trapping.



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## Part 2: IFMP Components (1-2 pages maximum)

**Management Objectives** (Outline primary forest management objectives):

### Oak

The management objective for oak is to maintain the current level of oak acreage at a minimum on the property with management prescriptions to convert the current oak forest to a more open oak woodland condition (see Oak Savanna Management guide). Maintain oak in a variety of ages classes with 15% in 0-20 years, 40% in 20- 80 years, 25% in 80-100 years and 20% in 100 years plus. In addition, restore oak barrens and savannah where the opportunities are economically and ecologically feasible. The oak type may also be expanded into areas of suitable habitat where the mixed deciduous type is now found with some oak available for restoration.

### Bottomland Hardwoods

The management objective for bottomland hardwoods would be to maintain the current level of the type at a maximum. Expansion into quality sedge meadow and wet prairie will be discouraged and conversion to oak, where feasible, will be encouraged.

### Swamp Hardwoods

The management objective for swamp hardwoods would be to maintain the current level of the type. When feasible, swamp hardwoods where present in red maple stands, will be encourage to expand and replace the red maple type.

### Aspen

The management objective for aspen is to maintain the current level of aspen on the property with an even distribution of age classes. Expansion into sedge meadow and wet prairie will be discouraged.

### Mixed Deciduous

The management plan for mixed deciduous types (black locust, box elder, etc) will be to reduce or eliminate this type where feasible. Conversion to open oak woodlands or grassland will be encouraged, depending on the site and species present in the stand.

**Property Prescriptions** (Identify specific and pertinent prescriptions by area or forest type, including passive management areas, extended rotation, and other information that will help achieve the objectives):

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.

Extended rotations will be utilized in the oak stands to encourage the establishment of stands according to the silvicultural handbook for extended rotations. The retention of snags and den trees to provide additional wildlife habitat will also be used.

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



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Approvals:

*Joe Henry* *2-25-2014*  
District Ecologist Date

*Scott Sullivan* *2-25-2014*  
Forester Date

*James Holzwart* *2-25-2014*  
Property Manager Date

*Richard J. Wickham* *2-28-2014*  
Area/Team Supervisor Date