Wisconsin Department of Natural Resources
Tier 3 Management Plan

Property Name: James J. Rule Demonstration Forest

Property Designation or Type: Demonstration Forest

DNR Property Code Number: 2503
Forestry Property Code: 2503

Property Location-County: Iowa County

Real Estate:

Fee acres owned: 86 acres
Easement acres owned: 0 acres
NRB approved acreage goal (land records):

Maps

1. Ownership, State Locator: State Map Rule DF.pdf
2. Property Boundary and Cover Types: Cover Types Rule DF.pdf

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Property Manager: Tom Hill

Address 1: DNR-Division of Forestry
Address 2: 1500 N. Johns Street
City, State, Zip: Dodgeville, WI 53533
Office Phone: (608) 935-1917

Approved by Natural Resources Board: Date: _____

A. Regional and Property Assessment

1.Landscape and Regional Context

The James J. Rule Demonstration Forest (JRDF) is located in Iowa County, approximately 8 miles northwest of Dodgeville. The property contains 86 acres of forest land. It is located in the Western Coulee and Ridges Ecological Landscape (WCREL), and has the Land type Association 222Lc18 (Hills and Valleys-Wisconsin River Drainage), characterized by well-drained and moderately well-drained silt and loamy soil with a silt loam or sandy loam surface over non-calcareous clayey or loamy residuum or over silt loess; most areas over limestone, sandstone, or shale bedrock. It is on the southern edge of the Dodgeville Wyoming Oak Woodlands and Savanna Conservation Opportunity Area (COA) located in the Western Coulees and Ridges Landscape.

The Western Coulee and Ridges Landscape is characterized by its highly eroded, non-glaciated topography with steep sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces. Ancient sand dunes occur on some of the broader terraces along the Mississippi and Wisconsin Rivers.

Historical vegetation in this landscape consisted of southern hardwood forests, oak savanna, scattered prairies and floodplain forests and marshes along the major rivers. With Euro-American settlement, most of the land on ridge tops and valley bottoms was cleared of oak savanna, prairie, and level forest for agriculture. The steep slopes between valley bottom and ridge top, unsuitable for raising crops, grew into oak-dominated forests after the ubiquitous pre-settlement wildfires were suppressed.

Current vegetation is a mix of forest (41%), agriculture (36%), and grassland (14%) with wetlands (5%) mostly in the river valleys. Primary forest cover is oak-hickory (51%). Maple-basswood forests (28%), dominated by sugar maple, basswood and red maple, are common in areas that were not burned frequently. Bottomland hardwoods (10%) dominated by silver maple, swamp white oak, river birch, ashes, elms, and cottonwood are common within the floodplains of the larger rivers. Relict "northern" mesic conifer forests composed of hemlock, white pine and associated hardwoods such as yellow birch are rare but do occur in areas with cool, moist microclimates. Dry rocky bluffs may support xeric stands of native white pine, sometimes mixed with red or even jack pine. Prairies are now restricted to steep south- or west-facing bluffs, unplowed outwash terraces along the large rivers, and a few other sites. They occupy far less than 1% of the current landscape. Mesic tall-grass prairies are now virtually nonexistent except as very small remnants along rights-of-way or in cemeteries.

2. Ownership and Adjacent Land Uses

The property is surrounded by privately-owned land: agricultural croplands on shallower slopes and hardwood forests dominate the steep ridge tops and slopes of the coulee complex. Blackhawk Lake Recreational Area is a large public property approximately 1.5 miles west of JRDF, connected by wooded corridors.

3. General Property Description and Management History and Use

Management History and Use

The James J. Rule Demonstration Forest was a private farm used as pasture until the state purchased the property as a demonstration forest in 1967. Since the demonstration forest's inception, it has been open to public uses such as hunting, fishing, and hiking. A memorandum of understanding for the objectives, development, and assignment of responsibilities for Wisconsin's Demonstration Forest Program originally existed between the U.S. Forest Service, UW-Ext., and DNR. Present management is the responsibility of the Wisconsin Department of Natural Resources.

The current forest is predominately black walnut and central hardwoods. A variety of forested stands are maintained, ranging from a 10 acre central hardwood(walnut) sapling stand to 90 year old walnut saw log stands. The forest's high quality walnut resource is/has been a primary focus of forest management and research on the property. Studies were started in the 1970's by the USFS including; "Crown Release and Fertilization of Natural Walnut", publ. 1986) and in "Hormonal and Enzymatic Aspects of Heartwood Formation (1975)". Periodic timber sales have been conducted over the last three decades focusing on regenerating hardwoods (walnut specifically), growing high quality walnut veneer and improving overall forest health and productivity.

In the later 1980/early 90's wildlife openings were created, woods roads were established/seeded, and invasive plants were treated. Ongoing timber stand improvement (TSI) projects have been implemented throughout the forest and supplemental hardwood plantings have been completed in several stands that were regenerated.

More recent management includes, timber stand improvement, invasive plant removal, walnut sanitation/salvage and sale and the creation of three deer exclosures to further define herbivory problems.

The JRDF is a popular destination for State and National woodland/forestry groups/tours, college site visits and local high school site visits. The National Walnut Council has used the JRDF several times as the focal point of its National Meeting.

Soils

The soils at the JRDF are the Dubuque series that are moderately deep, well drained soils formed from loess over limestone bedrock. These soils are on ridges and side slopes on uplands. Slopes range from 2 to 60 percent.

Water

A stream named Lee Creek lies just outside the border of the property to the east. Lee Creek is a Class II trout stream. An intermittent branch of Lee Creek enters the northwest portion of the property, and a another intermittent branch of the creek borders the southeast edge of the property.

4.Land Management Cover Types

- 100% of the 86 acres of the James Rule Demonstration Forest is forested.
- Central Hardwoods (walnut) dominate approximately 55 acres (64%) of the JRDF. The majority (44 acres) of the Central Hardwoods (including walnut and oak) are 90-130 years old and large diameter (>15"+ diameter) saw log class trees. There is an 11 acre Oak saw log stand (>15"+ diameter) that is mature –over mature (130 years old +).
- Pole timber Central Hardwoods (walnut) can be found on 21 acres (24%) of the JRDF. These younger stands are all products of even aged regeneration harvests periodically completed over the last 30 years. Within many of the pole timber stands are scattered larger reserve walnut saw logs (many over 30" in diameter). These large walnuts are estimated to be 90 years old.
- Recently over 10 acres (11%) of the JRDF was harvested and treated, establishing young walnut/central hardwood sapling stands. Within these areas, invasive brush was treated, non-commercial stems 2"+ was removed and walnut/oak regeneration was augmented with hand planting.

5.Endangered, Threatened, Special Concern Species or Habitats, and Wildlife Species of Greatest Conservation Need

The JRDF is not specifically listed in the DNR's Wildlife Action Plan's Implementation document for the Western Coulee and Ridges Ecological Landscape (WCREL) (http://dnr.wi.gov/topic/WildlifeHabitat/COA.html). The property does contain natural community types: Southern Dry-mesic Forest, and Moist Cliff Communities, for which there are limited opportunities for protection, restoration and management. The JRDF also lies within the boundary of the Dodgeville and Wyoming Oak Woodland/Savanna Conservation Opportunity Area (COA) which is considered a Driftless Area Feature of Continental Significance. A biotic survey proposed for the summer of 2014 will update the property's plant and animal species inventory, and natural community characteristics.

Oak forests, which are present on the property, are an important resource for several important resident bird species along with other neo-tropical migratory songbirds. Insects that feed on oak buds and during leaf out, along with the structure of large oak trees create prime habitat

for these birds during bird arrival and migration. The presence of oak forests is important for neo-tropical songbirds, making continued management and regeneration of the oak type necessary for future populations.

Priority Species of Greatest Conservation Need associated with the community and habitat types on the James Rule Demonstration Forest include the Acadian Flycatcher, Blue-winged Warbler, Cerulean Warbler, Hooded Warbler, Kentucky Warbler, Louisiana Water thrush, Red-headed Woodpecker, Whip-poor-will, Wood Thrush, Worm-eating Warbler, Yellow-throated Warbler, Black Rat Snake, Bull snake, Northern Prairie Skink, Ornate Box Turtle, Prairie Ring neck Snake, Timber Rattlesnake, Western Worm Snake, Yellow-bellied Racer, Gray Fox, and Woodland Vole.

6.Invasive Species

Low levels of buckthorn, garlic mustard, multiflora rose, and honeysuckle exist throughout the property. Several recent projects have targeted honeysuckle, buckthorn and multiflora rose throughout the JRDF.

7.Cultural and Archaeological Features

No known cultural or archeological sites found on the JRDF property.

8.Public Uses and Infrastructure

Hunting and hiking are the primary recreational uses of the JRDF. Good walking access is available on roads and trails that were developed for forest management. Recent timber sales have enabled the property manager to establish an extensive systems of forest trails/landings and openings throughout the forest. These trails have been bladed, shaped and seeded to minimize soil erosion and enhance hunter opportunities.

Deer hunting, turkey hunting and small game hunting are all popular activities on the JRDF. **Gun deer hunting is restricted to "Muzzleloader ONLY Hunting" per a local ordinance enforced by Eden Township, Iowa County.**

9.Refuges and other Closed Areas

None Present

10.Administrative Facilities

None Present

Significant Property Management Issues, Trends and Needs:

Issues:

- A property line disagreement exists along the southern boundary of the JRDF.
- Invasive plant species are a concern with regards to future hardwood regeneration and native plant populations.
- Oak wilt and gypsy moth are significant forest health threats that should be monitored.
- Thousands Canker of walnut.
- Deer browse is negatively impacting hardwood regeneration.

Needs:

- Resolution of the property line situation along the southern boundary of the JRDF.
- Continue to monitor invasive plant populations and eliminate/mitigate their presence when possible/feasible.
- Monitor the forest health issues on an annual basis.
- Monitor for the presence of Thousands Cankers (black walnut). This disease has not been documented in Wisconsin (or the Midwest as of 2014). An active monitoring program should be started to ensure this disease does not create forest health problems in the JRDF in years to come.
- Encourage public deer hunting throughout the property in an effort to keep populations at acceptable levels.

B. Property Purpose and Goals
Management Objectives and Prescriptions

1. Property Purpose and Goals

Purpose:
The purpose of the stewardship demonstration forests is to demonstrate sustainable forest management and responsible stewardship, while also using these lands as educational tools for students, professional foresters, and non-industrial private forest landowners. The forests provide an opportunity to demonstrate active timber management and sustainable forest management. While growth and yield records are no longer maintained on a regular basis, most of the tracts do have good historical information that may be useful in research, and the lands are open for potential "new" research opportunities.

Goals:

(1) Production of high-quality hardwood saw logs while demonstrating sustainable forest management practices and improving songbird habitat and ecosystem health is the priority for JRDF. Central Hardwoods (walnut/oak) are the dominant merchantable cover type and a specific objective of the property is to manage for high quality walnut, oak and other hardwoods. Management will include other merchantable, compatible species whenever possible, including reforestation work.

a. Veneer production will be the goal unless specifically stated otherwise. Walnut and oak will normally receive the benefit of management when site conflict occurs.

b. Saw logs of merchantable species other than walnut and oak will be harvested when economically feasible from all stands. They will be discriminated against in favor of walnut and oak.

(2) Maintain central hardwood cover types with a major component of walnut where feasible

a. Diversify age classes-regenerate stands so that all age classes of central hardwoods and walnut are represented on the property
b. Increase course woody debris
c. Crop tree release walnut and oak in young stands

(3) Emphasize importance of forest interior songbirds.

(4) Control invasive species as needed

2. Current and Planned Land Management Objectives and Prescriptions

(1) Central Hardwood (Walnut) – The walnut trees within the central hardwood stands take priority in all management decisions. A large portion (45 acres) of the JRDF is a large saw log size central hardwood stand with a significant walnut component. Grow large high quality walnut to demonstrate to the public the economic benefits of growing large diameter walnut. Management of this area will be focused on maintaining walnut quality and attempting to regenerate walnut when necessary. Even aged forest management techniques will be used with regards to thinning and regeneration.

There are several younger sapling/pole size central hardwood stands (30 acres). Within these areas the walnut trees take priority in all management decisions. Non-commercial crop tree release activities and even aged thinning later in the rotation will be applicable. Crop trees will include; black walnut, red oak, white oak, black cherry.

(2) Oak - There is an 11 acre oak stand within the JRDF. An effort should be made to maintain the oak cover type. Even age management techniques should be used when working in this area. A regeneration sale will be scheduled in this area prior to 2024. Oak will be planted in areas where natural regeneration is lacking. Sale design will consider effects on forest interior songbirds. This oak is approaching 130 years old. The boundary disagreement on the southern line of the JRDF must be resolved before this sale can be established.

Current and Planned Facilities or Infrastructure

Type of Facility	**Total** (number/length)	**Management Activities**	**Management Issues and Constraints**
Roads - public	0		
Roads – non-public	0		
Parking lots	1		
Boat landings	0		
Designated trails	0		
Managed, non-designated trails	0		
Dikes, ditches	0		
Dams	0		

Other	0		

Other On-going Management Activities (add additional items as necessary)

	Current Management Actions	**Management Issues and Constraints**
Project Boundary Modification	**Survey completed(southern line)**	**Need solution to southern boundary disagreement**
Invasive exotic species	Monitoring of invasive species is ongoing.	None
Endangered, Threatened, Special Concern Species or Habitats, and Wildlife Species of Greatest Conservation Need	Bird Survey Spring 2014	None
Cultural and Archeological Resources	None	None

<u>Additional Comments</u>:

Southern boundary fence has been established via survey. Solution to line discrepancy has never been reached with neighbor to the south.

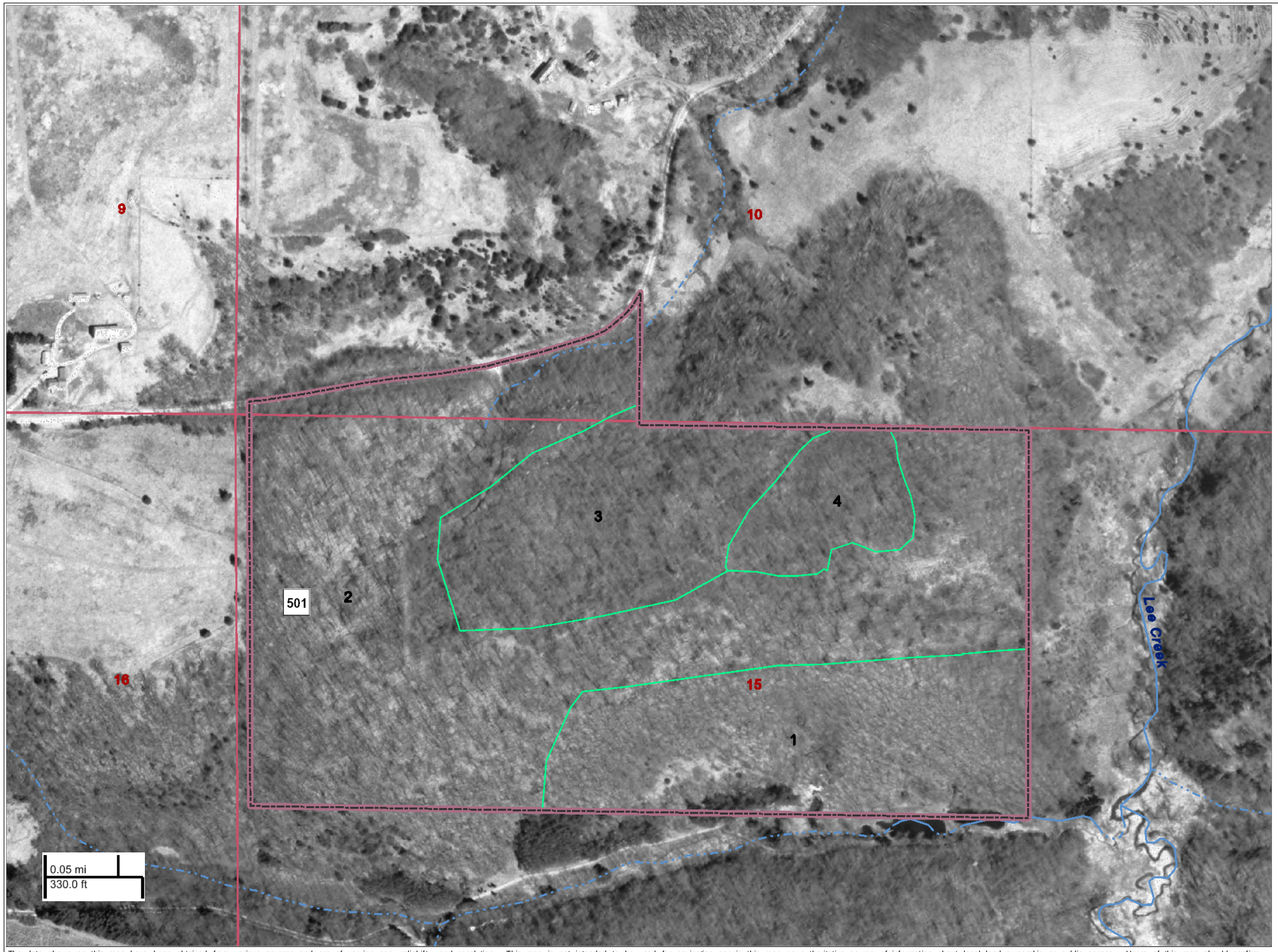
SUMMARY OF PUBLIC INVOLVEMENT ACTIVITIES FOR THIS PLAN AND COMMENTS RECEIVED

On May 20, 2014, a 21-day public review period for revision of Stewardship Demonstration Forest property management plans was publicly noticed statewide. Publics and partners were informed by way of a statewide press release and an email distribution to subscribers of 'eGov', a statewide government delivery system.

A comprehensive DNR web page was developed for Stewardship Demonstration Forests to describe their history and purpose, and to identify individual properties and locations. Draft management plans were posted on the website for public viewing.

The public was invited to respond by on-line electronic comment form, paper comment forms and email. Consultation occurred for Stewardship Demonstration Forests located within the tribal ceded territory.

No comments were received by the public.



James Rule DF

1 = Oak Sawlog
2 = Central Hdwd Sawlog
3 = Central Hdwd Poles
4 = Walnut Poles

Legend

- WisFIRS MGMT BND
- Compartment
- STAND
- State (24K)
- County (24K)
- Interstate Hwy
- US Hwy
- State Hwy
- Township
- Section
- Intermittent
- Perennial
- Lake (24K)

N

The data shown on this map have been obtained from various sources and are of varying age, reliability, and resolution. This map is not intended to be used for navigation nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy or applicability for a particular use, completeness, or legality of the information depicted on this map. This map created using the WI Forest Inventory & Reporting System (WisFIRS), WI DNR, Division of Forestry.