Wisconsin State Forests
Monitoring the Implementation of State Forest Master Plans 2013

Southern Unit – Kettle Moraine State Forest

Property: _____

September 1991

Master Plan Year: _____

Recreation

MASTER PLAN OBJECTIVES	Providing opportunities for a high-quality recreational experience is a primary objective in the future management and development of the forest. Recreational development will generally be concentrated in existing intensive development areas.
Resource Management Prescriptions	Development 1. Provide two disabled accessible flush toilet/shower buildings in Whitewater Lake Campground. (not accomplished) 2. Replace the existing toilet, changing stall, and beach access facilities at the Whitewater Lake beach. (completed 1998) 3. Construct a permanent entrance station at Pinewoods Campground (not completed) 4. Develop a forest – long snowmobile/equestrian trail with parking lot access at three points. (completed 2005 with 4 access points – Ottawa, Eagle, Palmyra and LaGrange). 5. Construct a hiking and nature-interpretive trail around Ottawa Lake that will be accessible to people with disabilities. (not completed – wetland issues prevent construction) 6. Expand the east loop of the 35-site Whitewater Lake campground to a 100-unit campground with one entrance developed at the existing contact station. (not completed – land acquisition is required) 7. Develop a Special Events Area in the present location of the Ottawa Dog Trial Area and Puckner's Pond picnic grounds off of State Highway 67. (not completed) 8. Construct a reservable group picnic shelter, and upgrade the parking and restroom facilities at the former site of the LaGrange campground off of Co. H. (completed at the Nordic trailhead 2000) 9. Replace the existing entrance station at the Ottawa Lake campground & day use area. (completed 2002) 10. Purchase and install play equipment at the Ottawa Lake day use area that is accessible to children with disabilities. (completed 2006) 11. Construct five walk-in camp sites at the Ottawa Lake campground. (completed - 2 built at OL 1997, 2 built at PW 1997, 2 built at PW 2000, 4 built at WL 2000) 12. Convert the west loop of Whitewater Lake campground into a group camp. (4 new sites added at Hickory Woods, opened in 2008). 13. Convert the Whitewater/Rice Lake Recreation Area into a one-entrance configuration. (not completed) 14. Construct an 80-foot tall wooden observation tower on the moraine ridge to the west of the

Scuppernong hiking/ski trail parking lot. (not completed)

15. Construct a bike and snowmobile trail on the railroad, when it is abandoned, connecting the Villages of Palmyra and Eagle with the forest headquarters and various points of interest in the forest. (not completed, railroad not abandoned and has increased use)
16. Finish construction of a 300-yard target range at the McMiller Sports Center. (completed 2004)
17. Upgrade two existing blinds and create on additional wildlife observation/photography blind at the Ottawa and Rice Lake recreation areas.
18. Relocate Stark Road, an old gravel road, from it's present location to one-half mile south along Hwy 67. (not completed)
19. Create an area for people with disabilities to pheasant hunt on the west side of County Hwy N at Paradise Springs. (not completed)

Operations

1. Manage the Ice Age Trail as a lightly used hiking trail. (completed, hiking use only – throughout forest)
2. Prohibit the use of motorized all terrain vehicles (ATV's) on the forest, except possibly for disabled persons by permit only. (completed)
3. Designated the John Muir and Emma Carlin trails for mountain biking. Construct a connection between the Carlin and Muir trail systems. Mountain biking will be prohibited from other trails in the forest. (completed)
4. Schedule special events and management activities to minimize conflicts between user groups and disturbance to nesting wildlife species. (completed & ongoing)
5. Encourage citizens to form a friends group with Department assistance. (completed – Kettle Moraine Natural History Association more than 18 years old and has contributed more than $600,000 towards forest improvements and programs).
6. Encourage volunteer help in the forest for activities such as a campground host, nature programs, ski and mountain bike patrol, trail maintenance and development projects. (completed/ongoing)
7. Acquire the town roads in the Blackhawk area, north of Hwy 12 in the Town of LaGrange. (completed 2004).
8. Take additional action in managing the vehicle parking and fee collection systems. No parking zones will be sought along two highways where congestion occurs. Co ZZ east and west of Hwy 67 and Co N north from Hwy 59. (partially completed – No parking established on Hwy ZZ in the vicinity of Ottawa Lake).
9. Establish a recycling program for waste generated by forest users in cooperation with local service clubs. Composting of lawn or other organic materials will not be a part of this program. (completed – carry in/carry out for day users to encourage reduce/reuse/recycle. Recycle bins for campers)
10. Establish an archery hunting and trapping zone around the Scuppernong Trail. (completed)
11. Remove underground storage tanks on the forest and replace with above-ground tanks or alternative energy-powered facilities. (completed)
12. Provide limited-impact concessions at the Ottawa and Whitewater lakes recreation areas, Pinewoods campground, McMiller Sport's Center, and a few selected trailhead parking lots. (completed)
13. Survey forest visitors and local residents periodically to better understand their needs and concerns. (partial/ongoing)
14. Develop an implement a prescribed burn policy across the forest. (complete/ongoing)

	15. Designate the Pinewoods campground traditional and group sites as pet-free. Pets assisting the disabled will be allowed. (completed and modified). 16. Upgrade existing facilities to provide adequate service to the public and to meet current standards and codes. This includes structural, electrical, and plumbing work as well as road and trails. (ongoing, as of 12/2010 John Muir bike trails and connector mountain bike trail has been brought to IMBA standards, Emma Carlin trail has been partially completed. Equestrian connector trail completed to create a forest long trail. Erosion issues addressed on equestrian trails. Ski trails regraded and improved, all fountains replaced and some plumbing upgrades completed, electrical lighting upgrades to energy efficient fixtures ongoing, all campsites brought up to current standards) 17. Explore the possibility of a private concessionaire operating the McMiller Sports Center. (completed, leased to concessionaire beginning in 1994) 18. Landscape old building sites and abandon wells and septic tanks when properties are acquired. (ongoing) 19. Upgrade the energy efficiency of buildings through insulation, water conservation, electrical modification and other methods. (ongoing)
Accomplishments 2013	1. Work complted to add electric hook up to 16 additional sites at the Ottawa Lake Campground. 2. The property was certified as a Travel Green Wisconsin site. 3. A total of 7,589 hours of volunteer time were logged in 2013.

Interpretation and Education

MASTER PLAN OBJECTIVES	Provide interpretation and education of the natural history of the Southern Unit's flora and fauna, ecology, geology, archeology and history. Focus interpretation and education on ecosystem processes, plant communities, and rare species.
Management Prescriptions	Development 1. Establish an interpretive nature trail through a wet-mesic prairie west of the Paradise Springs Nature Trail. (wayside exhibit established – trail not appropriate) 2. Establish a historic exhibit at the old limestone kiln located in the LaGrange area of the forest. (completed) 3. Develop a teacher's guide to the forest identifying sites to visit and providing lesson plans that can be used in conjunction with the visit. (not completed) 4. Develop an outdoor exhibit at Heart Prairie following the acquisition of this last remaining prairie remnant in the Kettle Moraine Area. (not yet acquired) 5. Develop a self-guided auto brochure identifying glacial features of the Southern Unit. Features to be highlighted include the interlobate moraine, kettles, glacial spillways, a post glacial lake bed, an outwash plain, drumlins and eskers. (not completed) 6. Develop outdoor exhibits near the Co. C location of the Lake Koshkonong to Milwaukee Indian Trail and at the Whitewater/Millis Road Indian Camp. (not completed) 7. Encourage the maintenance and restoration of native plant communities through prescribed burns. Continue the current management of the North Prairie Cedar Glade and LaGrange Pasque flower area. (completed/ongoing) 8. Develop an interpretive trail at the limestone outcropping. The trail will connect to the Ice Age Trail. (completed – Brady's Rocks Spur Trail)
Accomplishments 2013	All Interpretation and education objectives are ongoing. The permanent Naturalist position has been vacant since the spring of 2011. Other staff filled in to provide a limited number of public events and children's activities.

Forestry

MASTER PLAN OBJECTIVES	"Implement integrated silvicultural and other vegetation management practices to promote a balance between recreational goals, aesthetic values, wildlife habitat, and educational activities, and the continued production of forest products." Reforestation and afforestation are key parts of this management, encouraging and supplementing natural regeneration, as well as tree planting on non-forested sites designated in the master plan.
Resource Management Prescriptions	"The long-range cover type goals established for the forest are based on two principles – biodiversity and aesthetic management." The specific recommendations for the forest types are as follows: Oak savanna – The oak savanna is a semi-open area with less than 50% tree (crown) cover per acre. The management recommendation is to cut brush, girdle problem woody species, and burn once every three to seven years. Oak/Central hardwoods – This community consists of red, black, white and burr oak associated with other hardwoods or dominated by cherry, elm, and walnut and associated with oak and hickory. The oak is favored on many sites to produce habitat and food resources for deer, wild turkeys, squirrels, rodents, birds and many other species of wildlife. The primary management recommendation is to perpetuate the oak type. Much of the oak timber in the forest is mature or over-mature and needs to be regenerated. Because oak does not reproduce well in heavy shade, clear-cutting, shelterwood harvesting and prescribed burning are accepted silvicultural methods for regeneration. Control of understory competition and supplemental planting of oak seedlings may be required to ensure successful regeneration. The final harvest in the shelterwood area is not completed until adequate regeneration is established. Timber sales in this cover type will be designed to retain three to four den trees per acre. Oak wilt exists in the forest and control measures will be implemented as necessary. On some sites, succession from the oak forest to a central hardwood forest will be allowed to occur. Conifer plantations – Include white pine, red pine, Norway spruce and white spruce. The management activities prescribed for this timber type include thinning to maintain vigor, and pruning to improve stand quality, reduce fire hazard and prevent insect or disease infestations. Openings and small patches of vegetation within the plantation will be maintained. Plantations will be harvested at rotation age (from 90 to 120 years) and the site evaluated for continued pine plantation or conversion. Some new pine plantations will be considered in old field situations and be used as accents to hardwood associations. Small plantings of spruce will be considered for winter wildlife cover and for screening road sights and sounds from natural settings. Management activities will include: 1) Site preparation – Prescribed burning, mechanical means and herbicide application will be used to remove competing vegetation to prepare a site for regeneration. 2) Reforestation – Natural regeneration is encouraged, but where this is not possible, tree planting will be used. When planting open areas, guidelines given by the master plan vegetation management committee are followed. 3) Timber stand improvement – Includes a variety of management practices including thinning, release, salvage, and pruning, designed to improve the growth and species composition of immature forest stands. 4) Big tree silviculture – is a special management technique that is used to encourage the development of large diameter trees in long-lived species on specific habitats. This management technique produces den trees and nuts for wildlife, and adds to the aesthetics of the forest. Some

	timber harvesting is allowed under this management technique. 5) Timber harvest – Timber harvest decisions will consider the affect on outdoor recreation, wildlife habitat, and forest aesthetics. Approximately fifty acres of hardwood and one hundred acres of softwood will be harvested annually. Timber sales will be in accordance with the forest objectives and management guidelines established for the stand in which a timber sale takes place. 6) Aesthetics – Aesthetic management techniques are defined in the Department's silviculture and forest aesthetics handbook and are modifications of standard timber management techniques. They are designed to minimize the negative effects on aesthetics and recreational values. As an integral part of all this, forest recon records are to be kept current, updating as needed in the WisFIRS system.
Accomplishments 2013	For calendar year 2013, forest management accomplishments are as follows: <u>Timber Harvesting:</u> Completed the preparation of and sold 487 acres of pine thinning (6 separate sales), 20 acres of oak shelterwood harvest,. The conifer thinnings are in areas identified in the property master plan to be maintained as conifers, and this management will help promote good growing conditions for these stands. The oak shelterwood is a regeneration harvest aimed at promoting conditions that will allow for new regeneration of desirable trees, especially oaks. The locust harvest is part of an effort to transition that stand area to better hardwood forest. The black locust on this site were all killed by girdling and herbicide application. After the harvest occurred, the site was foliar sprayed with herbicide to kill any locust regrowth and then the slash and brush was mowed using a heavy brush mower. The site will be planted with a mix of red and white oak along with a few other quality hardwoods. Promoting quality hardwood growth on this site is the objective. <u>Tree Planting:</u> 87 acres of new tree planting re-planting were performed on the Southern Unit in spring of 2013. The new planting involved planting 2sites with a mix of red and white oak, black cherry, and hickory. The conifer planting included white pine and white spruce in areas that: a) Red pine had been cleared due to insect and disease problems, b) Replanting sites where the previous planting had failed, and c) Filling-in plantations that had scattered mortality. The planting in these sites is according to the guidance given in the property master plan and works towards the goal of oak or conifer forest as identified. <u>Plantation Release and Invasive Species Control:</u> Plantation release work including band spraying herbicide over young plantations to release them from competing vegetation, installing tree shelters or tree mats on some sites, mowing between rows in some locations, and hand removal in a few spots, total = 137 acres on 16 separate sites. Invasive species control includes a combination of mechanical and chemical treatments to deal with a variety of invasive plants such as buckthorn, pokeweed, black locust, box elder and honeysuckle. Total area treated = 147 acres on 15 separate sites. As mentioned above, planting was done on areas designated in the master plan to be forest. The efforts described here were aimed at helping these young forest sites to develop well and not be lost to competition and pests. <u>Site Preparation:</u> Includes chemical and mechanical means of preparing sites for tree planting. Total area treated = 175 acres on 9 sites. Seventy nine of these acres were the new planting this year, on which was applied herbicide as a site preparation to control competing vegetation. This work was performed to encourage healthy development of the trees planted on these sites, to become the hardwood or conifer forest desired by the master plan.

Endangered Resources

MASTER PLAN OBJECTIVES	The mission of the Endangered Resources Program is to identify, protect and manage native plant and animal species, natural communities and other natural features; enhance and restore populations and habitats of rare and endangered species; and promote knowledge, appreciation, and stewardship of Wisconsin's native species and ecosystems for present and future generations.
Management Activities	Designations (Designate the following sites as State Natural Areas or Habitat Preservation Areas) 1. Kettle Moraine Oak Opening State Natural Area (completed) 2. Addition to Young Prairie State Natural Area (completed) 3. Scuppernong River Habitat Preservation Area (completed) Development 1. Manage the Kettle Moraine Oak Opening through the removal of brush, exotic species and selective trees. (ongoing) 2. Inventory the forest for locations of rare plant species. 3. Inventory the forest for locations of rare aquatic animal species, reptiles and amphibians. 4. Survey forest compartments 2,3,10, 13 and 14 for endangered and threatened bird species to determine densities and to map their locations. The same compartments will be surveyed for locations of kittentails, prairie remnants and oak openings. 5. Design and implement a prescribed burn plan for Kettle Moraine Oak Opening and develop fire breaks. (completed) 6. Manage Scuppernong River Habitat Preservation Area by brushing, girdling and removing woody and exotic species. (ongoing) 7. Design and implement a prescribed burn plan for Scuppernong River Habitat Preservation Area and develop firebreaks. (ongoing) Operations 1. Continue natural area management on the following State Natural Areas – Scuppernong Prairie (including Melendy's Prairie), Eagle Oak Opening, Kettle Moraine Fen and Low Prairie, Ottawa Lake Fen, Young Prairie, Blue Spring Oak Opening, Clifford Messinger Dry Prairie and Savanna Preserve, and Bluff Creek Springs, Fens and Oak Woods. 2. Conduct annual inspections on State Natural Areas to assess the facility and land management needs, threats to plant or community integrity and use encroachment factors. 3. Continue surveys of breeding birds on the State Natural Areas. 4. Continue gathering locations of and population information on endangered, threatened and special concern species.

Accomplishments 2013	1. Burned approximately 1800 acres with Bureau of Endangered Resources and Wildlife Staff. 2. Herbicide was applied to various invasives inside State Natural Areas. 3. Held a work party with Bureau of Endangered Resources, Wildlife Management, and Kettle Moraine South maintenance staff, and volunteers to collect native, local genotype seeds to use in 2014. 4. Volunteers have cleared buckthorn from a majority of the Scuppernong Springs Nature Trail area. They have also been working to remove other non-native plants from the area.

Fisheries

MASTER PLAN OBJECTIVES	The lakes and streams of the forest support a diverse fish population and provide anglers with a variety of fishing opportunities.
Management Activities	<u>Development</u> 1. Dredge Paradise Springs Pond to provide for a 10% increase in trout populations. 2. Construct a self-guided aquatic habitat education trail at Paradise Springs and Ottawa Lake. (completed) 3. Construct a disabled-accessible fishing piers at Ottawa, Rice, and Whitewater Lakes. (Ottawa Lake and Whitewater Lakes completed) 4. Remove the dike at Scuppernong Springs to allow reversion back to a natural spring and stream system. (completed) <u>Operations</u> 1. Restore a balanced, productive fishery for warm water game and pan fish at Ottawa Lake. 2. Restore a quality brook trout fishery to McKlintok (McKeawn) Springs to provide angling opportunities for youth. Alter existing laws to permit fishing by youth only. 3. Improve at least one-quarter of trout stream habitat, on an annual basis, at either Bluff Creek, South Branch Scuppernong River, Paradise Springs Creek, Scuppernong River, or Whitewater Creek. Trout stream habitat improvement will restore aesthetic beauty and biological productivity to these damaged forest trout streams. 4. Establish a 200-foot strip along all water bodies on state property where agricultural practices such as cultivation, fertilization, or spraying of pesticides will be restricted.
Accomplishments 2013	1. Installed new buoys for self-guided aquatic habitat education trail (Canoe Trail) on Ottawa Lake. 2. Realigned 1 mile of the Scuppernong River from a heavily degraded ditched portion to the original historical stream bed. 3. Removed numerous beaver dams along the Scuppernong River to protect and enhance coldwater communities. 4. Improved habitat and recreational opportunity at Paradise Springs Pond by removing exotic species through stream and pond side brushing efforts with Trout Unlimited. 5. Stocked brook trout in McKlintok Springs, Funk Creek, Scuppernong River and Paradise Springs Creek to provide additional angling opportunity and supplement natural reproduction throughout the

	watershed. 6. Stocked northern pike and walleye into Ottawa Lake to promote angling opportunity and a restore a balanced fish community.

Cultural Resource Management

MASTER PLAN OBJECTIVES	Manage the cultural resources within the forest to preserve the human history and how they adapted to changing environments and use of the resources available in southeastern Wisconsin.
Management Activities	1. Develop long-term management plans for properties listed on or eligible for the National or State Register of Historic Places. 2. Consider cultural resource protection and preservation in any land use changes or development projects. 3. Plant sensitive site areas in grasslands to protect them from future disturbance and looting. 4. Negotiate with the State Historical Society to mitigate adverse affects on cultural resources before any land disturbance activities, in accordance with the Federal Historic Preservation Act of 1966, as amended, and Wisconsin Statutes. 5. Consider alternative uses, intact sale, or donation of historic structures before demolition. If this is not possible, fully document these structures before removal. 6. Provide interpretive and educational programs on cultural resources. 7. Develop educational literature on the preservation and protection of archeological and historic sites. 8. Prohibit the collection of artifacts on cropped lands and other exposed areas controlled by the Department. 9. Develop a friends group to aid in the preservation of known sites and the discovery of new ones. (completed) 10. Work with special interest groups to protect burial mounds, cemeteries, and other culturally sensitive areas on state holdings within the forest. 11. Prohibit disturbance of burial mounds or cemeteries, marked or unmarked, on state holding within the forest.
Accomplishments 2013	All activities are ongoing. The Naturalist position is currently vacant.

Land Acquisition

MASTER PLAN DESCRIPTION	As of December 1990 the Southern Unit of the Kettle Moraine State Forest encompasses 22,480 acres of which 18,390 acres is in state ownership. The master plan proposed boundary expands the project boundary by 6,605 acres to a total of 29,085 acres. It is the policy of the Department of Natural Resources Board to acquire land from willing sellers or through donations. The Department will focus its real estate acquisition activities on land within the proposed project boundary that has a high probability of a change in use, land now used or suitable for intensive outdoor recreation, land needed for habitat management or public facility development, and scenic land with a high potential for incompatible land use.
Accomplishments 2013	

Wildlife

MASTER PLAN OBJECTIVES	
Resource Management Prescriptions	Development 1. Restore drained wetlands and manage selected wetlands for waterfowl, furbearers, and other game and non-game. 2. Restore 10 small (1-10 acre) wildlife impoundments/wetlands. 3. Establish an annual spring turkey hunting season. (completed) 4. Establish a 200-foot strip along all water bodies on state property where agricultural practices such as cultivation, fertilization, or pesticide application will be restricted. 5. Continue the sharecropping program. 6. Incorporate information on wildlife observation areas into forest literature. 7. Provide dense nest cover for a variety of ground nesting wildlife species including grassland birds. Retain snags, snag replacements, woody ground debris, cavity trees, and other selected trees valuable to wildlife. 8. Implement integrated silvicultural and other vegetation management practices to promote a balance between recreational goals, aesthetic values**, wildlife habitat**, and educational activities, and the continued production if forest products. Operations 1. Manage Lake LaGrange and surrounding uplands for waterfowl production 2. Maintain and improve species composition and distribution of specific upland brush areas. 3. Continue to use sharecropping as a cost-effective technique for providing wildlife with winter food plots and brood cover. (ongoing) 4. Construct and maintain artificial nesting and resting structures for wood ducks, bluebirds, swallows, and other cavity nesting species. The nesting structures are very effective in improving production of these wildlife species. 5. Stock approximately 2,000 ring-necked pheasants annually. (ongoing) 6. Investigate potential of reintroducing prairie chickens on suitable grassland areas of the forest.

Accomplishments 2013	• The sharecropping program has continued with 590 acres being farmed in 2013. • Before and during the 2013 pheasant season, 2500 pheasants were stocked through out the Southern Unit.