Wisconsin State Forests
Monitoring the Implementation of State Forest Master Plans 2010

Property: Southern Unit – Kettle Moraine State Forest

Master Plan Year: September 1991

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. (completed)
18. Relocate Stark Road, an old gravel road, from it's present location to on-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)

<u>Operations</u>

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 15 years old and has contributed more than $500,000 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 2010	1. Began construction of a shower building at the Horseriders' Campground. 2. Completed redesign and construction of John Muir trails. Work begun on Emma Carlin trails. 3. Mountain bike skills course completed at the John Muir trail (proved to be quite popular). 4. Continued Whitewater Lake shoreline protection project. 5. Completed a use area tree planting project at Hickory Woods and WW campgrounds. 6. Removed numerous hazard trees in the WW campground campsites. 7. Dedicated a small picnic area along the equestrian trails at the Mueller farmstead site. Facility includes a water source.

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 brouchure 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 Nature Trail)
Accomplishments 2010	• Received a $75,000 US Fish and Wildlife Grant for the Scuppernong River Habitat Area that will be used for land management. • Replaced our 2 sliding glass back doors with a new swinging door. • Created a new exhibit on the trumpeter swan. The exhibit consists of a mounted trumpeter swan in flight over several small tables where people can rest and eat in the auditorium. • Created a new otter diorama in the auditorium. This exhibit replaces a former area where we used to keep our surplus mounted animals. • Added new lighting to both auditorium glass exhibits cases. • Created a small new diorama exhibit on the American Bittern. This exhibit is located in our animal section of our museum. • Installed glass windows at the Sock Family Fieldstone Barn • Installed new signs for Skoponong Prairie, Emerson Log Cabin, and the Oleson Log Cabin Historic Sites

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 2010	For calendar year 2010, forest management accomplishments are as follows: <u>Recon update:</u> Completed the updating of one full compartment on the Southern Unit: Compartment #17 totaling 863 acres, plus an additional 108 acres following harvests. Keeping the forest recon current is an important master plan objective for making management decisions based on current up-to-date field information. <u>Timber harvesting:</u> Completed and sold 448 acres of pine thinning (4 separate sales) and 26 acres of oak salvage harvest. The thinnings are in areas identified in the master plan to be maintained as conifers, and this management will help promote good growing conditions for these stands. The oak salvage harvest was following tornado damage at Old World Wisconsin. While this site was a mess from the tornado and the salvage was difficult, it has offered a regeneration opportunity which will be pursued. Maintaining oak forest on this site is the master plan objective. <u>Tree planting:</u> Hand planted one oak woods site on the Southern Unit following brush removal and shelterwood harvest, with red and white oak, totaling 18 acres. Also hand planted oaks in 3 openings in oak woods that totaled 9-acres. Machine planted in 2 other sites totaling 7 acres, one being a 5-acre grass field that was planted to oaks. The other being 2-acres of conifer plantation that had failed and this restocked that area. Additional hand planting was done on 3 sites to replant mortality, area totals 10 acres of conifers. Each of these planting sites was identified in the master plan to be oak or conifer forest, and the planting accomplished worked towards accomplishing that goal. <u>Plantation release:</u> Band sprayed herbicide over young plantations to release them from competing vegetation, and installed tree shelters or tree mats on some sites, total = 58 acres in 10 different sites. Invasive species control: Includes a combination of mechanical and chemical treatments to deal with a variety of invasive plants such as buckthorn, pokeweed, garlic mustard, box elder and honeysuckle. Total area treated = 47 acres on 4 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. Site preparation: Includes chemical and mechanical means of preparing sites for tree planting. Total area treated = 87 acres on 11 sites. This was also 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 2010	• Removed brush and trees on both sides along a several hundred foot long, 3 foot deep drainage ditch in the Scuppernong River Habitat Area. The brush and trees were piled into several large piles. • Removed several of our prairies including Irvin Young Prairie, Scuppernong Prairie, parts of the KM lowland prairie. • Burned 3,000 acres, a record for our State Forest, with the assistance from the BER and the Wildlife Bureau. Over 1,200 of those acres were burned in the Scuppernong River Habitat Area. Also for the first time we burned the Ottawa Lake Fen State Natural Area. • Hired Kettle Moraine Land Stewards using donated funds to spray crown vetch along several miles of Hwy 59 and Hwy 67. They also sprayed Japanese Hedge Parsley along our trails. • Hired several private contractors costing $15,000 to foliar spray brush in a number of our prairie sites that were mowed in the winter. The funding was provided by donations. • Cut brush and trees in several small Cliff Messinger Prairies including Birds Foot Violet Hill and a site along the Emma Carlin Trail. Also cleared brush from a small 3 acre wet mesic prairie using our brush mower within the Irvin Young Prairie State Natural Area • Introduce knapweed beetles at Ottawa Lake Recreation Area. We are hoping to create a nursery at this site so we can use the excess beetles at other knapweed infested sites throughout the State Forest. • Cut a number of boxelders along an old fence line at Lulu Lake State Natural Area. We used our large tree shear and put the cut trees in large piles to burn at a latter date.

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 2010	1. Improved the stream and fish habitat at Paradise Springs Nature Trail by narrowing the stream bed with the use of bio-logs, lunker structures and rip rap improving stream velocity, scouring of the stream bed and improving fish habitat. 2. Worked with Trout Unlimited and Cub Scout groups to harvest prairie seed and planted the seed in Paradise Springs area. 3. Continued improvement of the Bluff Creek stream bed by removal of exotic shrub species along the stream banks. 4. Stocked trout at Ottawa Lake, Scuppernong River, Funk Creek, McKeawn Springs and Paradise Springs 5. Removed trees in Scuppernong Prairie that were adjacent to Paradise Springs trout stream.

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 accoradance 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. Probhibit 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 2010	1. Von Ruden home – a historical structure, has been preserved and repaired. It is currently used as a Hostelling International facility for overnight guests who are traveling. The lease agreement with the operator for the facility was renewed in 2010.

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 2010	As of December 2010, the Southern Unit encompasses 22,360 acres. This includes 34.46 acres that were purchased in 2010. The first parcel within the Paradise Valley expansion was purchased. The parcel accounts for 32.30 acres of the total purchased within the Southern Unit boundary in 2010.

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. 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. Mange 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. 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. 6. Investigate potential of reintroducing prairie chickens on suitable grassland areas of the forest.
Accomplishments 2010	• The sharecropping program has continued with 810 acres being farmed in 2010. • Cleaned up several areas that were logged in the Scuppernong River Habitat Area including 15 acres along the Stark Road Site and another 10 acres north of the Wilton Road. Both these sites were quite a mess with stumps, logs and standing buckthorn left behind. If need be we can now remow the area without damaging our mowers. • Removed large invasive Siberian elms along the entrance road to the Oleson Log Cabin • Sharecropping continues to provide winter food plots and brood cover within the Southern Unit. • Approximately 30 artificial nesting and resting structures exist through out the Southern Unit. These

	include both wood duck boxes and bluebird houses. • Before and during the 2010 pheasant season, 2550 phesants were stocked through out the Southern Unit.