Wisconsin Department of Natural Resources
Monitoring the Implementation of Property Master Plans

Property: Willow Flowage

Master Plan Year: 2013

Land Management Areas
Forest Production Management Area

MASTER PLAN OBJECTIVES	**LONG-TERM OBJECTIVES (100 YEARS)** • Maintain a forest community of diverse forest types and age classes for the sustainable production of a variety of forest products, wildlife habitate – especially deer and grouse, and biological diversity, and to offer a range of opportunities for dispersed, low-impact recreation in an aesthetic forest setting. **Long Term Aspen Management Objectives:** Maintain 4,600 to 6,000 acres in aspen and other associated early succession timber species in a mosaic of different stand age and size classes in patches ranging from 20 to 50 acres, with minor components of pine, spruce, hemlock, and oak, for the sustained production of pulpwood and deer and grouse habitat. **Long Term Pine Management Objectives:** Maintain 2,000 to 3,300 acres in red and white pine timber on suitable sites (i.e. sandier, drier soils) for the sustained production of saw timber and the enhancement of biodiversity, wildlife habitat, and aesthetics. **Long Term Red Oak, Fir-Spruce, and Red Maple Management:** Maintain 650 to 1,500 acres in red oak, fir-spruce, and red maple timber types on suitable sites to enhance biological diversity and wildlife habitat. **Long Term Lowland Forest and Other Wetland Habitat Management:** Perpetuate the existing 4,000 acres of forested wetlands (including black spruce, tamarack, swamp hardwood, and swamp conifers) and areas of open bog, northern sedge meadow, and shrub swamp for wildlife habitat, aesthetics, and biological diversity of the property. **Short Term Objectives (Aspen):** Increase the age and size class diversity of large even-aged aspen stands. Establish a random mix of different size class patches throughout the management area.

	Short Term Objectives (Pine): On suitable sites, convert up to 1,000 acres of aspen timber type to red, white, or jack pine and convert existing pine plantations to the appearance, structure, and function of a natural stand. **Short Term Objectives (Red Oak, Fir-Spruce, and Red Maple):** Convert selected sites from aspen to mid-successional species (red oak, fir-spruce, and red maple timber types). **Short Term Objectives (Lowland Forest and Wetland Habitat):** Regenerate commercial stands of swamp hardwood, tamarack, and black spruce by limited harvesting. Do not cut white Cedar.
Appropriate Management Activities or Prescriptions	**General Forest Management Prescriptions in Forest Production Management Area:** • Emphasize forest diversity. Whenever possible, manage for those components that are missing or underrepresented (e.g. oak or hemlock) and employ landscape-scale management concepts. • Conduct logging operations to minimize the scenic impacts on recreational activities. • Apply aesthetic considerations to maintain a natural-appearing landscape (i.e. lay-out timber sales in irregular shapes and leave scattered trees or clumps of trees within clear-cut areas. • Emphasize aesthetic management considerations along public roads or designated trails and other public use areas. Reduce harvest slash in these areas to less than 12 inches. • No timber harvesting activity is allowed from Memorial Day through Labor Day or on weekends in May and September within 0.5 miles of the flowage, except as needed for public health and safety after a catastrophic natural event.
Accomplishments 2013	*Established timber harvests on 783 acres in the Forest Production Management Area including tracts 945, 946, 947, 948, 949, 950, 951, and 952.*

Native Community Management Area

MASTER PLAN OBJECTIVES	**Long Term Management Objectives:** Maintain a managed old-growth native forest community with a dominance of red and white pine component. These stands will be well represented by large and relatively old trees (older than their traditional rotation age). This community has much of the structural diversity typical of natural old-growth forests, including dead trees, snags, tip-up mounds, and a substantial amount of course woody debris. **Short Term Management Objectives:** Convert stands dominated by aspen and other short-lived species to red and white pine and other longer-lived species. Encourage large diameter trees and other old-growth forest characteristics. Maintain the scenic quality of all shoreline areas.
Appropriate Management Activities or Prescriptions	Authorized Management Activities: Activities include light selective harvesting or thinning, prescribed fire, hand planting, moderate salvage operations, and construction and maintenance of logging roads. Management activities are primarily directed toward developing and maintaining old-growth compositional, structural and functional attributes. The production of timber products is a secondary by-product of management. • In developing stands, conduct light thinning harvests to allow pine to grow and develop large-diameter characteristics quickly. Retain dead snags, live cavity trees, and woody debris to the degree practicable. • Before, but usually near, a stand's pathological maturity age, regenerate the stand by a combination of prescribed fire and harvest (leaving a portion of the mature trees as reserves that will not be harvested). Prescribed fire should be used early and periodically to eliminate undesirable competition from species like aspen and red maple. • Conduct harvesting operations primarily on frozen ground to minimize soil compaction and erosion, and to avoid conflicts with warm season recreation activities. • Restrict wheeled or tracked equipment from operating within 50 feet of the ordinary high water mark of the flowage or wetlands. • Locate logging roads and decking areas at least 200 feet landward from the flowage or wetlands. • Within 200 feet of the wooded edge of the flowage, treat the slash remaining after tree cutting so it lies within 12 inches of the ground. • Eagle and osprey nests areas are protected by a minimum 330-foot no activity zone around each nest site. • Remove hazard trees within designated public use areas.
Accomplishments 2013	*No timber sales were established in this area in 2013.*

Scenic Resources Management Area

MASTER PLAN OBJECTIVES	**Long Term Management Objectives:** Promote, maintain, and enhance a natural, wild-appearing landscape around the flowage and along the lower Tomahawk River and in other designated public use areas. Provide nesting and brood rearing areas for eagles, osprey and great blue heron. The vegetation will be characterized by a mature forest dominated by long-lived species, especially large diameter (more than 12-inch DBH) red and white pine. **Short Term Management Objectives:** Maintain and enhance existing sites that meet the long-term objective conditions, and convert as rapidly as practicable the stands dominated by aspen and other short-lived species to red and white pine and other longer lived species.
Appropriate Management Activities or Prescriptions	**Authorized Management Activities:** In 'transition areas' (areas not in the desired future condition) allowable activities include selective harvesting, hand tree planting, prescribed fires, thinning and routine timber stand improvement activities (e.g. pruning, non-commercial thinning, crop tree release, and elimination of competing cull trees and shrubs), and construction and maintenance of logging roads. In 'climax forest areas' (areas at the desired future condition) allowable activities include passive management, limited selective harvesting, and moderate salvage and restoration management following major storm damage. Activities include light selective harvesting or thinning, prescribed fire, hand planting, moderate salvage operations, and construction and maintenance of logging roads. Management activities are primarily directed toward developing and maintaining old-growth compositional, structural and functional attributes. The production of timber products is a secondary by-product of management. • On upland sites perform selective harvesting of aspen until long-lived species like red and white pine and red maple become established. This may range from 60 to 100 years. Only limited selective cutting to maintain the stand will be done after the climax forest is established, except for salvage following major storm damage. • Lowland sites generally will not be harvested. • Maintain 60 square feet or more of basal area per acre of 5-inch DBH trees and larger in harvest areas. • Conduct harvesting operations primarily on frozen ground to minimize soil compaction and erosion, and to avoid conflicts with warm season recreation activities. • Restrict wheeled or tracked equipment from operating within 50 feet of the ordinary high water mark of the flowage or wetlands. • Locate logging roads and decking areas at least 200 feet landward from the flowage or wetlands. Schedule harvest intervals at a minimum of 10 years.

	• Retain snag trees, live cavity trees, dead and downed logs, and other ground material characteristic of unmanaged forests as important habitat for reptiles, amphibians, and other wildlife. • Within 200 feet of the wooded edge of the flowage, treat the slash remaining after tree cutting so it lies within 12 inches of the ground. • Eagle and osprey nests areas are protected by a minimum 330-foot no activity zone around each nest site. • Remove hazard trees within designated public use areas.
Accomplishments 2013	*No timber sales were established in this area in 2013.*

Natural Area Management
Tomahawk River Pines and Lower Tomahawk River Pines

MASTER PLAN OBJECTIVES	**Long Term Objective:** To preserve the area's native communities in a natural condition with minimal human disturbance. The communities include northern dry-mesic forest (dominated by large red and white pine), northern wet forest (dominated by black spruce and tamarack), alder thicket, and slow, warm hard-water streams.
Appropriate Management Activities or Prescriptions	**Authorized Management Activities:** Activities include passive management (i.e. no timber harvesting) and control of invasive exotic species by means approved by the Department. Management Prescriptions: • Erect and maintain boundary signs • Periodically search for invasive exotic species and remove according to approved guidelines • Close and berm any roads leading into the natural area, and monitor for unauthorized motor vehicle use • As needed, pick up litter and restore sites that have been damaged by recreational use to native vegetation
Accomplishments 2013	*No timber sales were established in these areas (passive management). Both areas were inspected twice during 2013. A 5-car parking lot was constructed along Prairie Lake Road at the entrance road to the Tomahawk River within the LTRP SNA that will provide visitors with water access to the river. Meetings took place in December, 2013, to initiate a wood turtle research project in both of the SNA's in conjunction with staff from the Bureau of Wildlife Management and the Bureau of Natural Heritage Conservation.*

Recreation Management

MASTER PLAN OBJECTIVES	**Forest Production Area** The general recreation management objective for the Willow Flowage is to emphasize opportunities for non-motorized, dispersed recreational activities in a large, forested setting offering solitude and a sense of remoteness. Limited motorized recreational vehicle use (snowmobiles and ATVs) is allowed on designated trails. **Core Flowage Area** The recreation management objective for the core flowage area is to provide opportunities for dispersed, low-impact recreation – particularly water-based recreation – and for the enjoyment of the area's natural scenic beauty and solitude. Camping opportunities are at watercraft accessible and hike-in, semi-primitive campsites on the flowage. Camping is allowed at designated campsites only. All campsites are available to campers on a first-come, first-served basis and camping fees are waived per NR 45.10(1)(k).
Appropriate Management Activities or Prescriptions	**Forest Production Area** Specific recreation management provisions include the following: • Motorized public access to the area shall be limited. Except for the Iron Gate Road and the designated snowmobile and ATV trails, access shall be only by foot from the flowage shore or public roads along the edge of the property. • The Iron Gate road from Highway Y to the second gate (about 2.5 miles) is open seasonally to public highway licensed vehicles. It shall be maintained as a moderately developed road. A six-car parking lot is available near the second gate. • Hunting, trapping, and fishing are traditional uses of the area that are allowed according to season regulations. **Core Flowage Area** There are currently 29 single-unit, semi-primitive campsites (up to 6 people) and 5 semi-primitive group campsites (up to 15 people). Allowable activities at campsites include the following: • All designated campsites shall be regularly inspected for litter and maintenance needs thoughout the camping season. Campsites shall also be periodically inspected for public safety hazards, such as dead trees, and the hazards removed or the site closed. • Appropriate shore/bank protection measures, such as rip-rap or steps and railings, may be placed at campsites to minimize erosion from human use. • Management activities for campsites may also include planting, clearing trees or brush, minor grading, and erosion control measures.

Accomplishments 2013	*Motorized road access was examined in 2013 following public interest in expanding motorized opportunities. Internal discussions began in March---meetings with the local tribes, Wisconsin Valley Improvement Company, local Townships, and the public occurred throughout summer 2013. Information gathered throughout the year was summarized and presented to the Natural Resources Board members at their Madison meeting on October 23rd. A decision was made to expand motorized access on Iron Gate Road between gates 2 and 4 from the Tuesday after Labor Day until December 15th.* *A 6-car parking lot and informational kiosk were constructed at the Willow Flowage Hiking Trail located on Cedar Falls Road.* *All campsites were inspected twice in 2013 and numerous hazard trees were removed. Campsite number 6 remains closed (closed in 2010) due to a newly constructed eagle nest directly adjacent to the site. All campsite equipment was removed (picnic table, fire ring, latrine, and signs). This site will be re-opened when the nest is no longer active.*

Road Management

MASTER PLAN OBJECTIVES	There is no language provided by the Master Plan regarding specific objectives for roads except for the following: • Motorized public access to the area shall be limited. Except for the Iron Gate Road and the designated snowmobile and ATV trails, access shall be only by foot from the flowage shore or public roads along the edge of the property. • The Iron Gate road from Highway Y to the second gate (about 2.5 miles) is open seasonally to public highway licensed vehicles. It shall be maintained as a moderately developed road. A six-car parking lot is available near the second gate.
Appropriate Management Activities or Prescriptions	All logging roads throughout the property are closed to public motor vehicle access. At the completion of a logging operation, all logging roads that intersect public roadways shall be closed and blocked by a berm or other means.
Accomplishments 2013	*The first 4 miles of Iron Gate Road (up to the third gate) was graded during 2013. Several areas throughout this section were improved with the addition of gravel from the Willow Flowage gravel pit.*

Real Estate Management

MASTER PLAN OBJECTIVES	The Willow master plan addresses the following real estate activities: • Boundary Acreage Goal (currently set at 34,804 acres) • Real Estate Acquisition Policies • Aides in Lieu of Taxes
Accomplishments 2013	*There were no new lands acquired in 2013.*

Non-Metallic Mining

MASTER PLAN OBJECTIVES	The Special Management Area located in the southeastern part of the property is a gravel pit that was used by the previous landowners to provide gravel for logging roads. The existing gravel stockpile of approximately 3,000 cubic yards of high-quality gravel will be used. Then the site shall be abandoned and reclaimed to a natural-appearing condition. Additional gravel extraction at this site or other sites on the Willow Flowage property is not authorized. Following reclamation, the Special Management Area classification will expire, and the site will become part of the Forest Production Area. Restoration will use native plant species.
Accomplishments 2013	*Approximately 350 yards of gravel were utilized for road projects in 2013.*

Fishery Management

MASTER PLAN OBJECTIVES	The Wisconsin Valley Improvement Company developed a fishery management plan that is in place and has been approved by the Federal Energy Regulatory Commission (FERC). The plan's goal is to maintain the existing self-sustaining walleye population and quality panfish fishery (especially bluegill and crappie). The plan is based on recommendations from the Wisconsin DNR and the public through the FERC relicensing process.
Accomplishments 2013	*Wisconsin Valley Improvement Company conducts an annual survey of fish populations on the Willow Flowage. In addition, Wisconsin DNR conducted population estimates and angler harvest surveys during the 2008 season. The DNR surveys take place every 6-8 years.*

Wildlife Management

MASTER PLAN OBJECTIVES	A variety of wildlife inhabit the Willow Flowage. Department wildlife management staff will work with the Property Manager to review timber harvesting activities in order to maintain and enhance the composition and structure of forest habitat. The wildlife management staff will also conduct surveys to monitor wildlife populations, including rare, threatened, endangered, or game species. Wildlife information about the Willow Flowage will be provided to the public. Additionally, staff will work to protect sensitive species areas, such as those of the eagle, osprey, great blue heron, and gray wolf.
Appropriate Management Activities or Prescriptions	**Gray Wolf** The Department shall manage the area consistent with the state wolf recovery plan. This includes prohibiting logging and trail or road development within 330 feet of active den sites, unless open trails or roads already occur in such areas at the time the dens are established. Also, areas within 0.5 miles of an active den site will be closed to logging and road or trail development from March 1 through July 31. Further, the Department will maintain strict limits on motor vehicle access to the property. **Eagle and Osprey** Department staff shall follow established or future federal and/or state guidelines for management of bald eagle and osprey, which include the actions listed below. Similar guidelines, or other heron-specific guidelines established the Bureau of Endangered Resources, shall be applied to protect great blue heron rookeries. • Prohibit most land uses within 330 feet of eagle and osprey nests. • Reserve a number of large mature and dead red and white pine within 200 feet of the shoreline of the flowage and river for eagle roost and nest sites.
Accomplishments 2013	*All of the established timber sales in 2013 were reviewed by a Department wildlife biologist and the NHI database was used to determine if threatened or endangered species were present. All timber sales include provisions to enhance wildlife habitat such as den and snag tree retention (approximately 5 trees per acre) and retention of standards in coppice areas (mature spruce, pine, or oak). In addition, green-tree retention guidelines are followed on all timber sales and portions of the stand in the established sale area are retained in order to sustain or improve wildlife habitat.* *Meetings took place in December, 2013, to initiate a wood turtle research project in both of the SNA's in conjunction with staff from the Bureau of Wildlife Management and the Bureau of Natural Heritage Conservation.* *Campsite number 6 remained closed due to a newly constructed eagle nest directly adjacent to the site. All campsite equipment was removed (picnic table, fire ring, latrine, and signs). This site will be re-opened when the nest is no longer active.*

Public Communication

MASTER PLAN OBJECTIVES	The Willow Flowage Property Manager will maintain a list of persons, groups, and governments interested in receiving information about important management or use issues. Contact Person: The Property Manager should be contacted regarding questions about the Willow Flowage or the master plan. The Property Manager may be contacted at: WDNR Service Center 8770 Highway J Woodruff, WI 54568 (715) 356-5211
Accomplishments 2013	*The Property Manager attended an integrated property management meeting in March 2013 to provide timber sale establishment and other planned project information to Department personnel. The Willow Flowage website continues to be updated with pertinent timber sale information and maps. The Property Manager attended several meetings throughout 2013 with tribal government officials, Wisconsin Valley Improvement Company personnel, local Town government officials, and members of the public.*