

Marott Park Woods Nature Preserve Restoration Plan Summary

Introduction

Marott Park is named after the Marott family (George and Ella) who donated ~ 87 acres of land to be used as a nature park. Later, other parcels were donated for a total of ~102 acres of parkland. This paper provides a summary of the restoration activities proposed for the park.

The majority of Marott Park is a dedicated Indiana nature preserve named Marott Park Woods Nature. The first portion of the preserve dedicated in 1987 is a second growth 16-acre forested natural area. This part of the nature preserve is considered one of the best areas in Marion County for viewing wildflowers and native flora. This natural remnant allows the park visitor to see an example of how the county may have looked prior to settlement in the 1820's. In 1992, much of the remainder of the park was added as a nature preserve. It is this latter addition that requires intensive management. The only non-preserve areas are the parking area, lawn/picnic shelter and right-of-ways.

The preserve is owned and managed by the Department of Parks and Recreation (Indy Parks) in coordination with the Indiana Department of Natural Resources, Division of Nature Preserves (IDNR-NP). The second addition to the preserve has a number of management challenges. Agriculture and other past land use has propagated a weedy landscape that does not provide quality of habitat or the environmental benefits of a natural area. The long-range goal is to convert the weedy portion of the preserve to native floodplain woodland.

Project Site

The site contains 22 acres of old field in early woodland succession. By looking at aerial photographs from 1937, 1941, and 1956 and into the late seventies, this area was used for row crop agriculture. The agricultural field lay fallow and the property is now in an early woodland stage of succession. Plant species such as staghorn sumac and Canada goldenrod grow here. Native trees include young stands of mesic floodplain tree species such as sycamore and hackberry. However, most of the area contains thick pockets of invasive exotic shrubs and trees. The most common species is Amur honeysuckle. Other species include Siberian elm, white mulberry, tree-of-heaven, and common privet. There are also several invasive-exotic groundcovers and vines. These include wintercreeper, Japanese honeysuckle, oriental bittersweet, crown vetch, and vinca. Garlic mustard is also prominent.

Project Scope

The scope of the restoration presented in this summary are:

- 1) Invasive plant species control and woodland thinning
- 2) Reintroduction of native plant communities

Project Goals

The 3-year goal is to establish control over the invasive plants and the seeds that will vigorously sprout from the seed bank in the soil. The long-term goal of the restoration is to sustain the recovery and regeneration of native forest plant communities that include native canopy trees, understory shrubs and trees, and an herbaceous layer of flowers, grasses and sedges.

Timeline

Jan 2004 – May 2004

Measuring Success

A floral inventory with transects and a photographic record will provide a baseline of existing conditions. Progress can be measured and quantified in intervals by re-sampling the vegetation. Visual observations will be noted throughout the project.

Restoration Process

The primary restoration activity will focus on the removal and/or control of invasive exotic vegetation. The invasive species in the preserve have altered forest plant structure and impeded the natural succession. The following is a list of the primary invasive-exotic species of concern.

Invasive exotic plant species observed onsite:

Invasive Exotic Vegetation

<i>Trees</i>	<i>Latin name</i>	<i>Common name</i>
	Ailanthus altissima	tree-of-heaven
	Ulmus pumilla	Siberian elm
	Morus alba	white mulberry
<i>Shrubs</i>	Lonicera maackii	Amur honeysuckle
	Ligustrum vulgare	common privet
	Euonymus alatus	burning bush
<i>Vines</i>	Euonymus fortunei	wintercreeper
	Vinca minor	Periwinkle or Myrtle
	Hedera helix	English ivy
	Lonicera japonica	Japanese honeysuckle
	Celastrus orbiculatus	oriental bittersweet
<i>Forbs</i>	Allaria petiolata	garlic mustard
	Coronilla varia	crown vetch
	Ranunculus ficaria	lesser celandine
	Polygonum cuspidatum	Japanese bamboo
	Glechoma hederacea	creeping charlie
	Hesperid matronalis	dame's rocket

Control Methods

Control of dense stands of invasive plants will intensive management. Heavy equipment will include a chipper, truck and tractor. Control and removal methods in the old agricultural field in the east, northeast portion of the preserve (Area C) require a phased approach to achieve the management objectives. Natural succession processes have resulted in a tangled stand of almost impenetrable exotic shrubs, trees and vines. Mixed within dense stands of invasive-exotic plants are native “pioneer plants” such as box elder, ash and cottonwood. In this situation, most invasive shrubs and trees will be chipped and hauled offsite. Native woody species will be thinned to optimize growth rates while allowing access and maneuverability for maintenance and planting equipment. Groups of native plants such as cottonwood or sumac stands that are relatively unspoiled by invasive-exotic plants will be maintained. The short-term goal in the old agricultural field area will be to remove a majority of invasive shrubs and establish native canopy trees and a native grass layer. Natural succession will be interrupted for a period of time until exotic seed sources and plants are controlled. Gradually, pockets of native vegetation will be reintroduced and the natural succession will be allowed to continue as native plants regain dominance. Monitoring and follow-up walkthrough maintenance will continue annually.

Native plants will be reintroduced to fill the niche that wintercreeper and other exotics now control. The other goal of native plant introduction is to establish an appropriate seed source to enhance regeneration in areas that have significant loss of one or more components of forest structure.

Indy Parks will maintain the area after contractor warranty period expires. This maintenance will be continued with partner/user groups in coordination with the Indy Parks Land Stewardship Office, and in cooperation with the IDNR-NP.

Below are some of the organizations that partner with Indy Parks within the last ten years. A number of Eagle Scout candidates, churches and businesses have also donated their time in this park. Below are some of the partner groups that help maintain the preserve.

IUPUI, Center for Earth and Environmental Science

http://www.geology.iupui.edu/academics/service_learning/projects/marott_park_and_nature_preserve.htm

Sierra Club

<http://indiana.sierraclub.org/heartlands/greens.asp>

Butler University, Department of Biological Sciences

<http://www.butler.edu/herbarium/marioncoweb/locations.html>