New York State Parks Natural Resource Stewardship and Environmental Interpretation Initiative

Restoration of Native Grasslands at Ganondagan State Historic Site

T Hughes, P Fry, P Jemison, S Poelvoorde and J Zuckerman– NYS Office of Parks, Recreation and Historic Preservation (OPRHP)

PROJECT BACKGROUND

In the spring of 2009, a team of dedicated NYS Parks staff and community partners initiated a project to restore and maintain a 67-acre grassland complex at Ganondagan State Historic Site (SHS) in Victor, NY. The project planting was composed primarily of warm-season grasses - big bluestem (Schizachyrium scoparium), little bluestem (Schizachyrium scoparium var. scoparium) and several wildflowers - black-eyed Susan (Rudbeckia hirta), tall white beardtongue (Rudbeckia hirta), smooth blue aster (Aster novae-angliae), and Indian hemp (Apocynum cannabinum).

An analysis of the Ecological Regions of North America (CIC 1997) provided guidance for identifying plant species of local acyte used for establishing native ‘oak opening’ communities. Seeds from local (regional) sources were purchased through Ernst Conservation Seeds. Native warm-season grasses were selected because they are often better adapted to local soil and climatic conditions and effectively provide wildlife habitat for cover, nesting, nesting and foraging (USDA-OPRHP 2004; MDC 2011). Native warm-season grasses function to concentrate insects, plant seeds and nectar which are important food sources for young birds and other wildlife (MCC 1980; USDA 2004).

The conversion from agricultural land to native grassland communities will create opportunities for historic and cultural interpretation and foster partnerships with agencies and academic institutions that promote research and understanding of historic and current sustainable landscape management practices. In addition, Ganondagan is the only NYS Historic Site dedicated to interpreting the history and culture of the Haudenosaunee Seneca Nation. Native grassland habitats and their associated wildlife and the use of fire in these areas were important to Native American cultures.

PROJECT GOALS

1) Restore grassland communities that are representative in both composition (e.g., native grasses, forbs and woody species) and spatial arrangement of oak opening communities.
2) Enhance the interpretive value of the site.
3) Increase diversity of plants and animals and their habitats.
4) Foster partnerships with agencies and academic institutions that promote research and understanding of historic and current sustainable landscape management practices.

The goals of this project are to:

- Restore grassland communities that are representative in both composition (e.g., native grasses, forbs and woody species) and spatial arrangement of oak opening communities.
- Enhance the interpretive value of the site.
- Increase diversity of plants and animals and their habitats.
- Foster partnerships with agencies and academic institutions that promote research and understanding of historic and current sustainable landscape management practices.

PARTNERSHIPS

Partnering with natural resource agencies and organizations, academia and the public is a central focus of the Natural Resource Stewardship and Environmental Interpretation Initiative. Collaborative natural resource projects and educational programs reinforce NYS Parks’ ongoing commitment to natural resources and demonstrate how vital a role the biologist, scientists and educators have in connecting the NYS parks’ environmental entities with partners.


FUTURE PLANS

An adaptive management approach that incorporates both an ongoing evaluation of burn management and monitoring of the grassland community restoration over time will be used to guide future planting, burning and mowing regimes. For example, characteristic woody species including oak (Quercus spp.) and sumac (Rhus spp.) will be added to the palette once the grassland community becomes established.

A vegetation plan is being developed for Ganondagan SHS, and this plan will include the long-term maintenance of the grassland complex and an invasive species management plan.

FIRE MANAGEMENT

Oak openings are fire dependent and are regularly maintained with periodic burning (Kaiser 1998). Burning is the “universal grass-management tool” (MCC 1980; MDC 2011). Warm-season grasses have evolved with the natural occurrence (e.g., lightning) of fire. In addition, Native Americans used fire for attaining game, “fire proofing” camping sites and for religious ceremonies (Hilbunherd and Bartlett 2000). It is generally accepted that long-term management of native grasses requires periodic burning, even with the use of other management techniques such as mowing, diskng, haying and grazing (USDA-NRCS 1998; MDC 2011; VDGIF 2011).

The benefits of prescribed burning include increased seed germination, increased nutrient availability, control of non-native species, reduced danger from wildfires and low maintenance costs (Hilbunherd and Bartlett 2000; MDC 2011; VDGIF 2011). Native warm-season grasses (NWSG) should be burned at least every 3 to 5 years with 1 to 1.5 years between the complex fires (MCC 1980; MDC 2011). Burning in the late winter or early spring (February/March) will favor NWSG (VDGIF 2011). Most managers recommend initial burning twice to three years after planting (USDA-NRCS 1998).

Fire management and prescribed burning at Ganondagan SHS will be consistent with the goals outlined in OPRHP’s policy adopted in November of 2007 entitled “Fire Management in State Parks and Historic Sites” - http://www.nysparks.com/inside-out-agency/public-documents.aspx. More specifically, the goals from OPHP’s fire management policy that are the focus for this project are:

- To maintain and restore biodiversity and ecological processes of fire adapted/depended ecological communities.
- To protect and maintain historic landscapes.

LITERATURE CITED


MDC (Missouri Department of Conservation). 2011. Native warm-season grasses for wildlife. MO Outdoors


FOR MORE INFORMATION CONTACT:
Tom Hughes, Natural Resource Steward Biologist
NYS OPRHP—Central and Finger Lakes Regions
(315) 350-1717, tom.hughes@oprhp.state.ny.us

Natural Resource Stewardship

New York State’s parks are home to an incredible diversity of plants, animals, and ecosystems, many of which are rare or endangered. OPRHP through the Natural Resource Stewardship and Environmental Interpretation Initiative demonstrates its commitment to the environment by providing leadership for protecting and restoring important plant and natural habitats throughout the State’s park system through comprehensive programs, including Environmental Education, Natural Heritage, Water Quality Monitoring, Biodiversity Conservation, Invasive Species Control, and Ecosystem-based Management.

ENR Mission Statement

The mission of the Environmental Management Program is to support the policies and strategies of the agency in the protection and stewardship of its valuable natural, historic and cultural resources, as well as to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors.