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OUR P.A.P.E.R

Parks Are for People & Environmental Resources

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Introduction

Nearly a year has passed since the arrival of the natural resource stewards to the Environmental Management Bureau (EMB) team and many successful projects, presentations, and collaborations have occurred in that time.

This issue of *Our Paper* will explore these accomplishments of the Natural Resource Stewardship Biologists and also others in EMB.

In light of the tough economic times in New York State, austerity measures

have been applied across the entire agency. NRS staff have used their ingenuity, creativity, and partners' help to continue to pursue habitat restoration, invasive species control, public education, and wildlife management projects.

Inside this issue:

<i>Habitat Restoration</i>	2-3
<i>Invasive Species</i>	2, 5
<i>Public Outreach</i>	4
<i>Wildlife</i>	1, 4-5
<i>Meet the Biologist</i>	6

Fisheries class from SUNY-ESF assists with survey at Two Rivers State Park

In the late fall of 2008, students from Dr. Karin Limburg's fisheries class at SUNY College of Environmental Science and Forestry assisted NRS Biologist, Tom Hughes with a 2-day fish survey in the Upper Waverly Reservoir. Despite the rain and cold weather, the sam-

pling team was able to perform several different fish sampling methods, including trap netting, gill netting, backpack electrofishing and angling.

In general, the reservoir seems to be in balance with healthy populations of sun-

fish, yellow perch, largemouth bass and brown bullhead. The survey data will be used in the development of a Master Plan for the Park and will also be shared with Region 7 of the NYSDEC.

*Tom Hughes, NRS
Central and Finger Lakes*



This colorful yellow perch was among the fish captured. Its age was later interpreted to be 16 years!



The scenic waters of the reservoir provided a unique learning experience.



Students from SUNY-ESF sampled the waters of Upper Waverly Reservoir as part of their class lab requirement.



Hither Hills State Park Walking Dunes - Cranberry Bog Protection

The Walking Dunes at Hither Hills, on Long Island's south fork, has a mixture of unique habitats, including a cranberry bog that is nestled at its center. *Phragmites* and succession are threatening this special area that is home to

rare flora such as orchids and sun-dews. Currently, a restoration project is being planned to remove the *Phragmites* and protect the bog. These invasive plants would be manually removed by cutting the stems in order to

reduce the *Phragmites* stands. This in turn would allow the rare native plants to grow with less crowding and the restoration process would begin.

*Ariana Newell, NRS
NYC and Long Island Regions*



Cranberry Bog at the Hither Hills Walking Dunes



Calopogon, a rare orchid inhabiting the cranberry bog.



Researchers measuring Phragmites density in the bog.

Enhancing Shrubland Bird Habitat at Joseph Davis

In New York State, shrublands are an ephemeral habitat, generally created or maintained by natural disturbances such as fires, floods, or wind storms, or following abandonment of farmland. Shrublands provide unique habitat and host a diverse suite of associated bird species. However, in the absence of further disturbance, these shrublands eventually mature into forest. Unfortunately for shrubland-dependent species, many important disturbances have been restricted in recent years, resulting in a loss of shrubland habitat throughout the state. As this habitat has disappeared, populations of most shrubland birds have been reduced. Since 1980, 70% of shrubland-nesting

birds have undergone significant population declines in New York.

Joseph Davis State Park, located on the banks of the Niagara River, was designated a Bird Conservation Area in part because of its important shrubland habitat. These shrublands provide important breeding habitat for species that are declining elsewhere in the state, in addition to serving as valuable migratory stopover habitat for a wide variety of songbirds. However, this shrubland habitat is gradually filling in with trees and becoming less suitable for shrubland-nesting birds.

In order to maintain this important habitat and its associated birds, biolo-

gists from OPRHP have developed a restoration plan for the shrublands at Joseph Davis. Management occurred on ten of the 85 acres of shrubland at the site, involving the removal of dense, later-successional shrub and tree cover. This project aims to restore optimal shrubland conditions, and to enhance habitat for birds that require open, early-successional shrublands. Bird response to this management will be closely monitored in order to determine the success of this project and to inform planning of future shrubland management projects.

Tray Biasioli, Bird Conservation Area Program Specialist



The shrublands at Joseph Davis State Park support a bird community that is declining in many areas of the state.



The restoration project will enhance habitat for shrubland-dependent birds such as the Field Sparrow.

Natural Resources Strong Focus of Master Planning Process

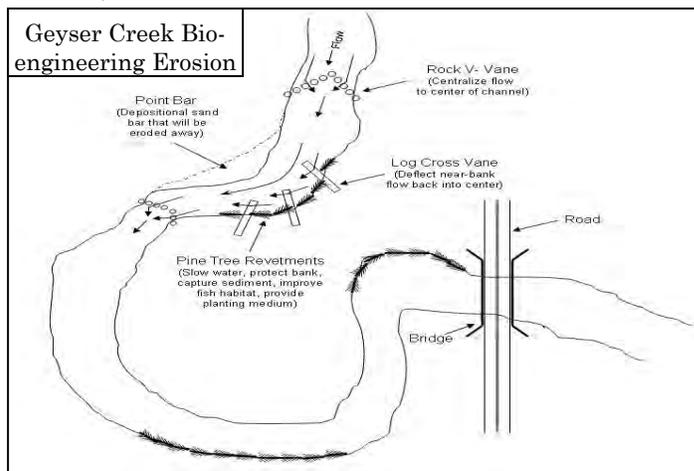
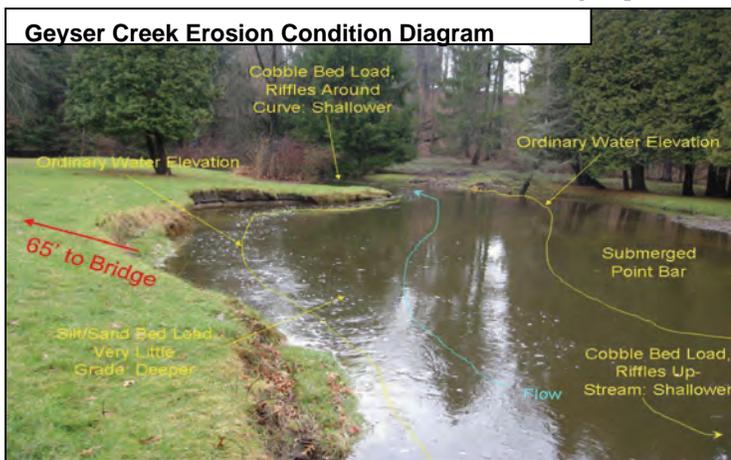
As part of Commissioner Ash's agency directives, a new emphasis has been placed on the master planning processes. Saratoga Spa State Park in the Saratoga-Capital District Region is among the first State Parks to undergo this process. As the region's Natural Resource Stewardship Biologist, Casey Holzworth has taken part in all master plan core team meetings. At these meetings, along with EMB staff, he is working to bring the issues of environmental stewardship and sustainability to the forefront of planning for the Spa

Park's next 20 years.

Although not yet complete, the master plan will include planning information on environmental topics from the perspective of a trained biologist. Thanks to this input, information and recommendations on issues such as the future of successional old fields, storm-water management, streambank erosion, and endangered species protection, among others, will be included in the final master plan. In addition to the completion of the master plan for Saratoga Spa State Park, this year

Casey will be supporting the development of a master plan for Robert G. Wehle State Park in the Thousand Islands Region as well as an Interim Management Guide for Mohawk River State Park in the Saratoga-Capital District Region.

*Casey Holzworth, NRS
Saratoga and Thousand Islands
Regions*



The OPRHP- NY Natural Heritage Program Partnership

In 2008, a new partnership was launched between OPRHP and the NY Natural Heritage Program. Two Natural Heritage Scientists, Julie Lundgren (Ecologist) and Kimberly Smith (Botanist), were brought on to conduct inventories of rare species and natural communities in state parks throughout New York. Their ongoing work is producing the most up-to-date maps and reports of rare species and natural communities for each state park. This information is currently being utilized within OPRHP to guide natural resource management decisions and to

help inform the Master Planning process.

The first field season brought many exciting discoveries in parks throughout the state. At Allegany State Park, populations of two rare freshwater

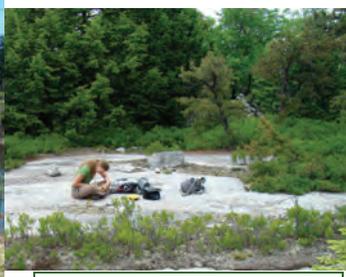
lobed grape fern, was last observed in the park in 1931! In the Palisades Region, two rare moths were rediscovered, and several new rare plant populations were documented at Minnewaska State Park Preserve. These findings represent only a handful of the discoveries that were made during this field season, but they demonstrate that New York's state parks store a wealth of biodiversity, including some of the state's rarest species and ecological communities.



Hydrastis canadensis (goldenseal) in flower at Letchworth SP.



Julie Lundgren collecting data on ecological communities at Brookhaven SP.



Kimberly Smith collecting data on rare plants at Minnewaska SP.

mussels and two rare plant species were rediscovered. One of these plant species, the state-endangered blunt-

*Kim Smith and Julie Lundgren,
NHP Botanist and Ecologist*

What is EBM?

You might have heard the term floating around out there and that there are two park staff (Lynn Schnurr and Kristen Cady-Sawyer) focused on implementing and incorporating EBM into park programs, but what is EBM? Is it watershed management? The term stands for Ecosystem-based Management, but why this “new term” or does it really matter...?

The definition says EBM is “an integrated approach to management that considers the entire ecosystem, including humans”. OK, that is great and all but what does that mean for NYS parks? Well that is just what Lynn and Kristen have been defining...

The way to think about EBM is through the 6 components which are being used to apply EBM in NYS:

Place-based focus; **Scientific foundation** to decision making; **Measurable objectives** to direct and evaluate performance; **Adaptive Management** to respond to new information; Recogni-

tion of **Interconnections** within and among ecosystems; and Involvement of **public**.

The other key item to think about is that humans are integral components of ecosystems thus EBM recognizes economic, social and community benefits and views.

How can EBM be incorporated into Natural Resource Stewardship Projects?

It's pretty straightforward actually, EBM is not something new. Most NRS projects already have EBM elements but if some are missing, there's usually a simple way to incorporate them. It just takes a moment to think about the components and how they could be further developed.

Take involvement of the public for example. Say you're doing a water quality project with the objective of cleaning the water to improve fish and wildlife habitat. Do people get their drinking water from here? Do they fish here? Talk to them and find out. Incorporating their needs will probably strengthen your cause – this water needs to be clean for



the fish, wildlife and the local people. (That strengthens the interconnections part too!)

EBM, A Way of Thinking:

So EBM is a new (but not new) way of managing ecosystems, the services they provide, as well as human activities. The term is long, but the message is short: *being environmentally friendly is good for people*. We all just need to keep that in mind as we go about our daily activities.

Lynn and Kristen look forward to hearing from and collaborating with NR Stewards, analysts, operations, regional staff and other members of the parks family to integrate EBM thinking into programs and activities.

Kristen Cady-Sawyer & Lynn Schnurr, EBM Program Specialist and Ecologist

Bat Protection and Research

Protecting wildlife and restoring habitats is an important aspect of the Natural Resource Stewardship Initiative. Along these lines, NRS Biologist Jesse Jaycox has initiated the installation of a bat gate at one overwintering site



Overwintering Little Brown Bats

(hibernaculum) in Harriman State Park (Palisades Region). Five of the six species of bats known to hibernate in New York State have been identified in this hibernaculum, which supports the majority of documented overwintering bats in this State Park region. The construction of the bat friendly gate will

allow bats, as well as researchers, to easily enter and exit the overwintering site while simultaneously preventing known disturbance caused by human visitation during the winter months. Winter disturbance is thought to be one of the most serious problems for hibernating bats since critical energy reserves are depleted if the bats are awakened too many times, resulting in fewer bats surviving until spring.

In addition to the gates, NYS OPRHP is collaborating with the NYS DEC on White Nose Syndrome (WNS) research and monitoring in the Taconic and Palisades Regions. WNS is a newly emerging condition that often results in a white fungal growth on the bats and is responsible for killing an estimated 200,000 or more bats in the northeastern states last year, including eastern New York. Because bats with WNS have little or no body fat, NYS DEC biologists will attach body temperature recording data loggers

to a sample of the hibernating bats in a hibernaculum in Clarence Fahnestock Memorial State Park site in an effort to better understand the normal body temperature fluctuations of healthy bats as compared to bats with WNS.



Overwintering Location – Sunk Mine

WNS was first confirmed in the Taconic Region in this park in 2009, but has not been recorded at any of the sites in the Palisades Regions during 2009 monitoring.

Jesse Jaycox, NRS

Palisades and Taconic Regions

Belmont Lake Restoration

Belmont Lake is an important recreational and natural resource for Suffolk County, Long Island. However, fanwort (*Cabomba caroliniana*), an invasive plant, is extremely prevalent in this 26 acre waterbody. Overabundant aquatic plant growth has been a problem at the park for decades, and the patrons have had difficulties enjoying two of the main recreational opportunities- fishing and paddle boating. The lake is dominated by a monoculture of fanwort, thus making it less suitable to support a variety of aquatic plant and animal life.

A benthic barrier project was initiated by EMB in spring of 2008 to help control fanwort in the high-use boat rental area, which is approximately ½ acre in size. Solmax benthic barriers, which look like long plastic mats, were installed by anchoring them to the bottom sediment using rebar stakes and cinder blocks as needed.

The optimal time to install benthic barriers is early spring in order to quell plant growth before it even starts. However, the barriers were placed over the existing fanwort

when it measured approximately 2.5' tall. The barrier was monitored throughout the season by EMB's water quality team and biologist, Ariana Breisch, as well as park staff. Staff reported that the covered fanwort



Rolled-up Solmax benthic barrier panels



Boat rental area before benthic barriers



Boat rental area after benthic barriers

plants were trapped and began decomposing underneath the panels, therefore releasing gases which caused the barrier to rise to the surface in some places.

The benthic barriers were a success in that they made an obvious improvement in preventing fanwort growth. After the barriers were removed, there was a dramatic visible improvement in the boat rental area. Pre-barrier, rooted fanwort plants occupied 100% of the boat rental area. Post-barrier, the amount of rooted fanwort plants dropped to about 5%. Park Manager Sal Buonomo was satisfied with the results and encourages reinstallation for next year.

In Spring 2009, under the direction of EMB, the barriers will be reinstalled to determine their effectiveness under ideal conditions. EMB also plans on installing a second type of benthic barrier in 2009 called Aquascreen. The Aquascreen barrier may be better suited to control fanwort at Belmont since the screen material allows for greater gas escape than the panels installed this past summer. As always, State Parks will continue to coordinate lake restoration actions with Suffolk County, the Town of Babylon, and the New York State Department of Environmental Conservation.

Kate Haggerty, Water Quality Program Specialist

Letchworth Biodiversity and Deer Impact Assessment

This winter at Letchworth State Park various steps have been taken for a biodiversity and deer impact assessment. Inside the no hunting zones of the park, extreme deer browse is prevalent, causing a loss of biodiversity. The



Vegetation monitoring plot

herbaceous and shrub layers of the forest are mostly eliminated except for non-native invasive plant species. In order to document the deer impacts, standard point counts, deer trail mapping, and an aerial deer survey were all completed along with the designation of six vegetation monitoring plots. These plots will be evaluated in the spring and summer for plant abundance and diversity. These plots are situated in the three different ecologically significant forest community types in both the hunting and no hunting zones of the park. With all the data gathered this winter and the upcoming field season, a natural resource management plan will



Aerial deer survey with State Police Aviation Unit –Batavia

be developed to restore and enhance the biodiversity within Letchworth SP.

Meg Janis, NRS Western District Regions

Meet the Biologist -Tom Hughes (Central & Finger Lakes Regions)



Tom with a hand full of swallow-wort at Green Lakes State Park in 2008. Unfortunately, the invasive plant is present throughout Tom's regional parks.

I am originally from Rush, NY, just south of Rochester. I have spent much of my lifetime fishing and exploring the Finger Lakes region. Currently, I live in North Syracuse with my wife Kelly and dog Tica.

I received my BS from Cornell University in Natural Resources - Fisheries Science (1995) and my MS from SUNY College at Brockport in Biological Sciences - Aquatic Ecology (2002). Professionally, I have worked for Cornell University's Adirondack Fisheries Research Program, US Fish and Wildlife Service and the New York State Department of Environmental Conservation. I have also worked with Cornell Cooperative Extension as an assistant director for an environmentally based alternative education program for youth at risk in eastern Long Island. I earned an MPS in Environmental Interpretation at SUNY College of Environmental Science and Forestry in 2006.

Prior to NYS Parks, I served as program coordinator for a summer camp that provides environmental education for youth in the greater Syracuse area - ESF SCIENCE. Check it out at

<http://www.esf.edu/outreach/esfscience/>.

I am really enjoying my time with NYS Parks. In addition to battling swallow-wort, I am currently involved with two plant protection and restoration projects - grassland communities at Ganondagan State Historic Site and American harts-tongue fern at Clark Reservation and Chittenango Falls State Parks.



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EMB Mission Statement

The mission of the Environmental Management Bureau is to assist OPRHP in the responsible stewardship of its valuable natural, historic and cultural resources, as well as in providing safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors.