

The governance of coastal ecosystems shall be guided by the following principles:

1. activities in and uses of the coastal ecosystem are sustainable;
2. ecological health and integrity is maintained;
3. broad public participation occurs in planning and decision making;
4. understanding of coastal ecosystems is enhanced;
5. decisions are informed by good science;
6. when risks are uncertain, caution is applied; and
7. ecosystems' interconnections among land, air and water are recognized.

**NEXT
PUBLIC
STAKEHOLDER
MEETING:**

**Wednesday
September 24,
2008**

6:00 - 9:00 pm

**Adams Fire Hall
6 North Main St.
Adams, NY**

Sandy Creeks Ecosystem-based Management Initiative

Volume I, Issue 2

Summer 2008

Progress in the Sandy Creeks Watershed

Since the last newsletter, published in the Spring of 2007, a lot of activity has been occurring on the Sandy Creeks Ecosystem-based Management (EBM) Initiative. This newsletter outlines ongoing efforts and work completed in the last year. The Steering Committee overseeing the project is made up of representatives from NYS Department of Environmental Conservation, NYS Department of State, The Nature Conservancy, and the Tug Hill Commission. Please see the back page for a list of contact information for each, and feel free to contact any with questions.

Implementation projects underway include: riparian buffer restoration, invasive species eradication, a study of the Tug Hill Aquifer, installation of educational signage, ATV recreation management, and natural species and communities inventory and mapping. Planning and stakeholder outreach continue as well, with the next opportunity for public participation occurring on September 24th from 6:00—9:00 pm at the Adams Fire Hall.

The Sandy Creeks demonstration area continues to be an example that the

statewide EBM council considers as the November 2008 report to the Governor and State Legislature is drafted. That report will lay out a long-term agenda to improve the ecosystems of New York State's Great Lakes and Ocean by implementing ecosystem-based management.



EBM Refresher

Ecosystem-based Management (EBM) is an approach to managing human activities that consider the entire ecosystem, including humans. It is a way in which we look at how we can keep the economy of our watersheds healthy and resilient by ensuring that the natural resources (scenic views, agricultural lands, forests, lakes, rivers, etc.) we depend on for our livelihoods can continue to provide for future use.

The EBM initiative in NYS was adopted

by legislation. In August of 2006, the New York Ocean and Great Lakes Ecosystem Conservation Act (Act) was signed into law. The intent of the Act, which authorized the EBM approach, is to look at ecosystems or watersheds, not just in terms of their natural resources, but also for their importance to the community in social and economic terms.

The Sandy Creeks Watershed was chosen as one of two areas in the State to show how EBM could work locally.

USGS Tug Hill Aquifer Study

One year ago, a group of interested agencies, organizations, municipalities and citizens met at the Salmon River Fish Hatchery in Altmar to discuss the Tug Hill Aquifer. At that meeting the general consensus was that further study of the aquifer would be useful to provide additional information and knowledge to a variety of audiences. As a result, the U.S. Geological Survey developed a 6-year proposal to develop models to simulate ground-water flow conditions in the three segments that form the Tug Hill Aquifer system.

In addition to furthering the understanding of how the ground-water system works, the models will be important tools for Jefferson, Oswego, and Oneida counties and the towns and villages within these counties to develop more comprehensive water-management strategies. Local

governments, water managers, businesses, and homeowners will also have the ground-water information needed to ensure that there will be (1) a safe drinking-water supply, (2) water available for economic development, and (3) healthy aquatic environments in the future.

EBM funding has been combined with other sources (Jefferson County Water Quality Coordinating Committee, Oswego County, Salmon River Council of Governments and USGS matching funds) to:

1. Establish, and operate for one year, a real-time continuous-recording stream flow gage on Trout Brook at Centerville
2. Compile base maps of the selected areas using GIS (ArcMap)
3. Start a well inventory of the northern and middle sections of the aquifer
4. Run levels to selected wells

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Educational Signage for the Dunes and Agricultural Riparian Area

The eastern shore of Lake Ontario is an ecologically important area that features a 17-mile long barrier beach of Great Lakes sand dunes and a globally significant complex of ponds, marshes, and fens. This barrier system contains the largest, most extensive freshwater sand dune formations in New York State. This ecosystem supports migrating shorebirds, waterfowl, raptors, songbirds, and spawning fish while harboring numerous rare and endangered plant and animal species.

In addition to supporting numerous flora and fauna, this area provides a myriad of recreational opportunities such as canoeing, kayaking, fishing, hunting, bird watching, hiking, and much more. Balancing environmentally sound recreational usage and conservation efforts is often a challenge. As visitors to this sensitive area grow in number, the planned comprehensive interpretive kiosks and satellite interpretive panels will promote sound stewardship practices and provide much needed public education about the dunes. In addition, educational signage

will be installed in the upper portion of the watershed on agricultural riparian restoration sites where DEC owns public fishing easements. This will increase public awareness of the importance of conserving these areas.



For this demonstration project, the Commission will partner with NY Sea Grant out of SUNY Oswego to undertake the development and installation of two comprehensive interpretive kiosks and eight satellite interpretive panels. The interpretive kiosks and most of the interpretive panels will be located in the dunes area, while the remaining interpretive panels will be located on riparian restoration sites in the upper watershed. Partners will work together on the design and location decisions of the production materials and NYSDEC will construct and install the kiosks and signs. For more information, contact Mary Penney at mp357@cornell.edu or (315) 312-3042 or Jennifer Harvill at jennifer@tughill.org or (315) 785-2392.

EBM Planning

Along with the numerous on the ground projects detailed throughout this newsletter, planning work for the Sandy Creeks Watershed continues. The Steering Committee has again contracted with EcoLogic, LLC (the same firm who facilitated last year's stakeholder outreach) to assist with continuing outreach and planning.

Rather than reinvent the wheel, EcoLogic LLC will first complete a detailed literature review of existing plans, studies and reports that relate to the Sandy Creeks Watershed, and pull out the relevant information and recommendations. That analysis, along with the baseline and strategy work done specifically for Sandy

Creeks last year with Biohabitats and Camoin Associates, will be presented for comment at a public meeting in Adams on September 24th.

Also on September 24th, EcoLogic and the Steering Committee will be looking for volunteers to represent the different aspects of the watershed. During autumn work sessions, these volunteers will assist with developing a shared vision for the watershed and prioritizing community and environmental action items and steps. The results from those work sessions will be presented at a final meeting in January 2009.

If you would like to serve during the fall work sessions, please contact Katie Malinowski at the Tug Hill Commission (785-2380 or katie@tughill.org).

"Of great value to me in the Sandy Creeks ecosystem is the rural character that provides the setting for where I want to raise my family."

Comment from
2007
Stakeholder
Outreach

Jefferson County SWCD and Riparian Habitat Restoration

Improved water quality, enhanced wildlife habitat and improved herd health are just some of the benefits of installing riparian buffers on agricultural lands. Stacey Berry's farm in Rodman, NY is the first farm in Jefferson County to participate in a collaborative effort between the Jefferson County SWCD, NYS Ag and Markets, USDA NRCS and USDA FSA. Stacey is participating in two programs; USDA CREP (Conservation Reserve Enhancement Program) and *Implementation of Multiple Conservation Buffer Systems in the Sandy Creek Watershed*, a pilot project with

Ag and Markets that is funded through the EBM program. These two programs are pairing to implement riparian buffers at Stacey's farm.

Cattle have been fenced out of the stream that runs through Stacey's pasture and a laneway has been developed for the cattle to get to other pastures. A spring development has been installed to provide water to the cattle while on pasture. Trees have been planted along the stream and in the riparian area to reduce streambank erosion, improve water quality

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Natural Heritage Inventory and Modeling

In most cases, there are little data available on biodiversity and natural habitats in the Sandy Creeks Watershed. Since one of the cornerstones of good ecosystem-based management planning is a good understanding of the natural system, this project begins the process of gathering it for these watersheds. The Commission will subcontract for this work with New York Natural Heritage Program, which has expertise doing these types of projects across NYS and very recently in the Salmon River Watershed directly to the south of the Sandy Creeks watershed.

Natural Heritage will conduct element distribution modeling for the priority species for both the Sandy Creeks and Black River Watersheds. (A Black River Watershed Planning Initiative is also underway.) A list of potential sites for high priority species will be developed for both watersheds. Natural Heritage will analyze and evaluate the biodiversity hot spots from previous findings in this project and expert opinion. They will also conduct GIS analysis to identify potential Special Areas. It will locate sites of higher ecological in-

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New York Ocean and Great Lakes Atlas

On July 23, 2008, under the auspices of the New York Ocean and Great Lakes Ecosystem Conservation Council, Commissioner of the Department of Environmental Conservation (DEC) Pete Grannis and Secretary of State Lorraine Cortés-Vázquez announced the launch of the New York Ocean and Great Lakes Atlas, which allows the public to incorporate hundreds of data sets of New York State's resources into an internet-based atlas.

Governor

David A. Paterson commended the Council for its work in making this new information available. "New York State has always been a leader in protecting the environment," Governor Paterson said. "This valuable new tool will help build on that legacy, improving the ability of government to manage our resources, while also promoting greater environmental democracy."

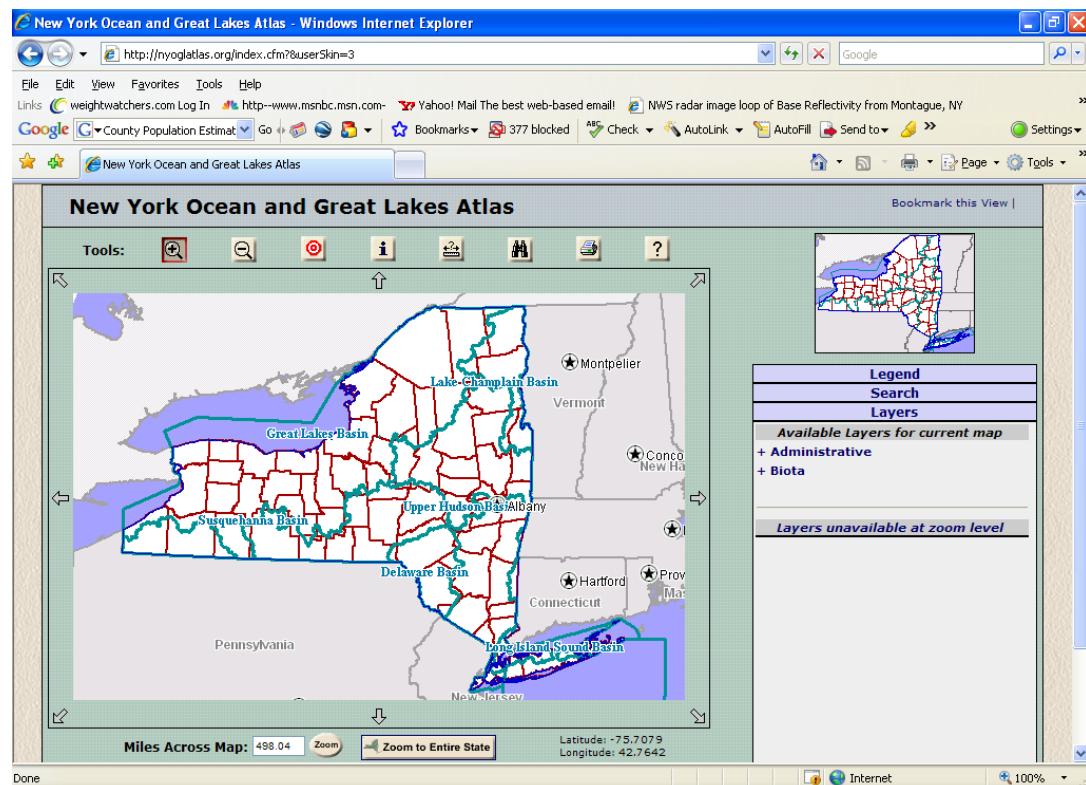
The atlas is an online mapping program that makes it possible to download data into

Google Earth Geographic Information System (GIS) software. Currently, more than 200 data sets that contain information on such resources as storm drains, wetland boundaries, underwater vegetation, park locations, and fisheries are available through the atlas. Eventually, more than 1000 datasets will be included. Also, plans are being made for robust google-like search capabilities to make it easier to find the information you're looking for in the datasets. The atlas can be accessed at WWW.NYOGLATLAS.ORG.

Some of the things you can do at this mapping site include zooming to specific areas, search for information, viewing desired information and download map layers such as lake contours (bathymetry), Great Lakes coastal wetlands and port and waterway facilities. Users can identify specific features such as campgrounds and

create and print maps showing a number of different map layers available on the site. Lacking from the site at this time are parcel datasets.

The atlas has been created to help advance ecosystem-based management statewide. The philosophy of ecosystem-based management takes into account environmental and human interrelationships. Its goal is to manage human activities in order to create healthy, pro-



ductive and resilient ecosystems that can deliver the resources people want and need.

For more information about the Altas, contact Jeff Herter at (518) 486-7942 or jeff.herter@dos.state.ny.us.

The 2007 Stakeholder Outreach Report is available at the following websites:

www.tughill.org
www.nyoglecc.org

You can also contact the Commission for a hard copy (315-758-2380)

Invasive Species Work

The Nature Conservancy (TNC) has a number of invasive species programs presently underway in the Sandy Creeks watershed. With EBM funding, TNC has hired seasonal staff to carry out the work. The swallow-wort spraying team has contacted many landowners and has been spraying as much as possible. (Swallow-wort is an invasive plant from the Ukraine that is toxic to insect larvae and cannot be eaten by deer and other plant-eating animals. Its seed pods look like milkweed and last throughout the winter.) When the spraying season is over they likely will turn to seed pod collection in some areas to help control its spread. The mapping crew has done a lot of terrestrial mapping and will also be mapping aquatic plants this summer.

TNC staff is mapping the occurrences of invasives and recording vital information such as the type, size and frequency of occurrence. This is important for future work. Knowing where the invasive "hot spots" are this season will further TNC's efforts next summer to manage and control the invasive plants.

TNC is targeting a variety of invasive plants including swallow-wort, buck-

thorn, honeysuckle, leafy spurge, garlic mustard and common reed. In addition, TNC is also looking to eradicate invasives such as glossy buckthorn, European frogbit, and water chestnut.

At the end of their season, TNC staff will be documenting in detail what they have done, how, where, etc and ensuring all the data are entered.

For more information, contact Chris Lajewski at the Nature Conservancy at (315) 387-3600 Ext. 22 or at clajewski@tnc.org.



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"Get local environmental education ingrained in local schools. Kids will grow to love and protect only what they know and education in local species and ecosystems is lacking."

"Outreach and education is an important tool for providing information to all to help maintain this wonderful, diverse region. Communication is key to establishing cooperation for planning, funding and project implementation."

Comments from 2007 Stakeholder Outreach

Natural Heritage Inventory and Modeling

(Continued from page 3)

tegrity and sites with unusual sets of ecological conditions and therefore worthy of further examination. This task will be completed for the Sandy Creeks watershed only.

A progress report is expected which will include a list of priority species/natural communities for both Sandy Creeks and Black River Watersheds; both existing and potential locations of priority species/natural communities for each watershed; and GIS data of all areas being evaluated via field inventory for Sandy Creeks Watershed and a table of attributes indicating the reason/s for inclusion. The subcontractor will oversee field inventories of potential

biodiversity hotspots in the Sandy Creeks Watershed during the spring-summer-fall of 2009.

Heritage will oversee analysis of the field survey data and submit pertinent information to the statewide NY Natural Heritage Program database. In cooperation with the Sandy Creeks Steering Committee, a final report to be titled *Conservation Site Development and Inventory Prioritizations in the Sandy Creek and Black River Watersheds* will be produced. The final report will include GIS data, maps, and excel spreadsheets developed for the project.



Data from this inventory and modeling project will provide users with insight about what special species or habitat types might exist in the Sandy Creeks watershed and set the stage for future field verification and better decision making.

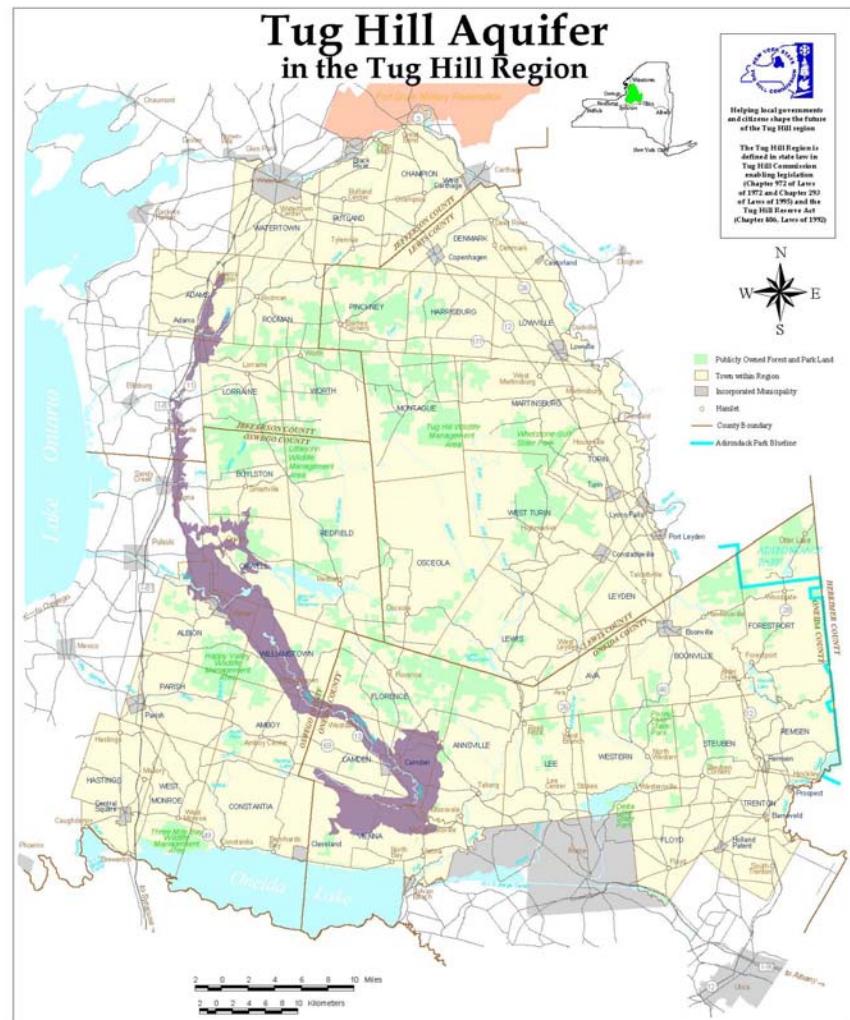
USGS Tug Hill Aquifer Study

(Continued from page 2)

5. Conduct seepage measurements on 14 stream sites in the middle aquifer segment and collect baseline water quality samples at 8 sites
6. Conduct base-flow hydrograph separation analysis on Sandy Creek at Adams and for a 5-year period of record of an abandoned station on Orwell Brook near Orwell
7. Conduct a pair of seepage measurements on seven selected streams in the northern aquifer segment
8. Conduct additional seepage streamflow measurements on selected streams connected for the Tug Hill aquifer study area

The Commission and Partners continue to work on funding for year two of the study. For more information on the USGS study, contact Katie Malinowski at the Commission at (315) 785-2380 or katie@tughill.org.

The Tug Hill Aquifer is a 47-mile-long underground rock and soil formation that is shaped like a crescent bending around the western and southwestern side of the Tug Hill region, from Jefferson County through Oswego County and into northern Oneida County. The aquifer is made of sand and gravel that was deposited by retreating glaciers approximately 12,000 years ago.



ATVs and Inman Gulf

Recreation is a large part of the local economy in Sandy Creeks. ATV recreation in particular has been on the rise over the past several years, with both Jefferson and Lewis Counties hiring trail coordinators that are working actively to create a comprehensive ATV trail network in the Sandy Creeks watershed and the larger Tug Hill region. ATV enthusiasts realize, however, that they must keep their all terrain vehicles on designated, hardened trails and out of ecologically sensitive areas. Illegal ATV activity in Inman Gulf, an area that contains unique habitat for plants and animals, has been ongoing for years. The Commission proposes to work with NYS Department of Environmental Conservation (who manage the state-owned reforestation property that encompasses much of the gulf) and the Jefferson and Lewis County trail coordinators to investigate the establishment of appropriate barriers and signage at critical points of entry to prevent access to the gulf and keep ATV recreationists on designated trails.

The Commission will work with the Sandy Creeks Steering Committee, Jefferson and Lewis County Trail Coordinators and other project partners to identify ATV issues at Inman Gulf and surrounding state reforestation property and to identify possible solutions to remediate issues. Solutions may include, but are not limited to, construction of barriers, installation of signs, increased enforcement, and educational materials.

Jefferson County SWCD and Riparian Habitat Restoration

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and provide wildlife habitat.

There has also been 8200 feet of three strand high tensile fence installed to restrict the cattle's access to the stream. Over 2200 trees and shrubs have been planted on 12 acres. Included in the tree and shrub planting are RPM plants (Root production method). These trees have accelerated growth, increased root mass, early flower, fruit, seed, and/or nut production, and higher rates of establishment and survivability compared to regular seedlings. Only 40-50 RPM trees are needed to canopy and regenerate one acre of land compared with several hundred bare root seedlings needed to achieve the same results.

Riparian buffers provide a multitude of benefits for the farmer and for the community. Environmental stewardship is important to all farmers. The Berry's are improving the environment for future generations while enhancing their business.

The Jefferson County Soil and Water Conservation District (JCSWCD) and the NYS Department of Environmental Conservation (DEC) are also partnering on two similar projects involving farms with DEC fishing access. The DEC owns public fishing rights along many streams in the Sandy Creeks watershed and in some places, serious erosion and degradation of the riparian zone has occurred.

One particular site is on North Sandy Creek, where there are DEC owned fishing rights on the Willix property in the Town of Ellisburg. During the 2009 sea-

son the JCSWCD will work with the DEC, and with key partners to discuss the problems at the restoration site and potential remedies and oversee the installation of fencing, appropriate plantings, or other best management practices as agreed upon at a site visit, to stabilize the streambanks and protect the riparian habitat. The JCSWCD will compile a final report on the streambank restoration which will include digital photographs taken before and after installation, a written summary of the work completed at the site and the anticipated future results.

The photos below depict yet another riparian and fishing access site on Skinner Creek that was restored in 2008 by JCSWCD in coordination with NYS DEC with EBM funding through The Nature Conservancy. The photo on the left was taken before and the photo on the right taken after work was completed. At this particular site, streambank stabilization included construction and placement of natural structures, the removal of spoils piles and planting of hardwood trees along the riparian area using the root production method. Several site visits, including two during sizable rain events, have demonstrated that the work performed has substantially improved the stream banks and shown markedly decreased soil erosion potential at this site.

For more information about DEC fishing access and easements, contact Dick McDonald (DEC) at (315) 785-2264 or rpmcdona@gw.dec.state.ny.us. For more information about riparian restoration, contact Brian Wohnsiedler (JCSWCD) at (315)782-2749 or bwohnsiedler@centralny.twcbc.com.



Before



After

"EBM can only be truly successful if the human element is considered and remembered throughout the process. While planning for rare communities of plants and animals and significant areas of scenic quality we need to not forget that people live and raise their families here. All aspects of industry and each community no matter how small needs to be involved from the outset to ensure comprehensive planning ensues. Funding must follow planning."

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Additional printed copies or
electronic copies of this
newsletter can be obtained by
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Commission (see box above).

If you would like to add someone
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contact information, please
contact the Tug Hill Commission
(see box above).

Visit the Council's EBM Website at
www.nyoglecc.org

Public Meeting Announcement

Date: Wednesday, September 24th
Time: 6:00 - 9:00 pm
Place: Adams Fire Hall
Address: 6 North Main St, Adams, NY

Light Refreshments will be Served

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