

# The Forum

NEW YORK STATE WETLANDS FORUM

**NEW YORK STATE WETLANDS FORUM, INC.  
2003 ANNUAL CONFERENCE AND MEETING  
“WETLANDS DEVELOPMENT, PROTECTION AND  
CONSERVATION ISSUES IN NEW YORK”**

**SHERATON SARATOGA SPRINGS  
SARATOGA SPRINGS, NY  
MARCH 11 & 12, 2003**

## **PROGRAM**



# WELCOME FROM THE CHAIR

— Jennifer Brady-Connor



[insert article]

# AGENDA

MARCH 11, 2003

6:30 a.m. - 7:30 a.m.

7:30 a.m. - 5:00 p.m.

7:30 a.m. - 9:00 a.m.

8:30 a.m. - 8:35 a.m.

8:35 a.m. - 9:05 a.m.

9:05 a.m. - 9:30 a.m.

9:30 a.m. - 10:50 a.m.

10:50 a.m. - 11:10 a.m.

11:10 a.m. - 12:30 p.m.

## Exhibitor Setup

## Registration and Review of Exhibits

## Continental Breakfast

## Opening Remarks

*Jennifer Brady-Connor, Chair, NYS Wetlands Forum, Inc.*

## KEYNOTE ADDRESS

## PUBLIC-PRIVATE PARTNERSHIPS FOR WETLAND CONSERVATION

*Ms. Erin Crotty, Commissioner, New York State Department of Environmental Conservation*

## BREAK and Review of Exhibits

## CONCURRENT SESSION A

### 1. Wetlands and the SEQR Process

*Moderator: Virginia Ursitti, Watts Engineers*

– Overview of SEQR Process, *Betty Ann Hughes, Acting Chief, SEQR & Training, NYSDEC*

– The Analysis of Alternatives Under Section 404 and Working with the SEQR Process, *John Connell, US Army Corps of Engineers*

– Effectiveness of CT Programmatic General Permit for CWA Section 401 and 404 Activities, *Melissa Toni, CT Army National Guard*

### 2. Tidal Wetlands: Mapping, Study Efforts and Restoration

*Moderator: Christine Delorier, USACOE*

– Tidal Wetland and SAV Mapping Efforts, *Chuck Nieder, NYSDEC*

– The Ups and Downs of Tidal Freshwater Wetlands Creation – Schodack Island State Park, *Bernie Carr, Terrestrial Environmental Specialists*

– Do Local Dynamics Determine Saltmarsh Response to Sea Level Rise? *Alexander Kolker, SUNY @ Stony Brook*

### 3. Reference Wetlands Network

*Moderator: Patricia Riexinger, NYSDEC*

– Introduction: What are we Trying to Accomplish with Wetlands Monitoring; Resources Implications and Federal Expectations, *Patricia Riexinger, NYSDEC*

– Monitoring and Assessment of Wetlands, *Mary Anne Thiesing, USEPA Region II*

– Incremental Development of Wetland Program Elements on the Foundation of Bioassessment Data, *John Mack, Ohio EPA*

## BREAK and Review of Exhibits

## CONCURRENT SESSION B

### 1. Student Session

*Moderator: Richard Smardon, SUNY @ ESF*

– Embayment Wetlands Along Lake Ontario: Structure and Function; *Nicole E.M. Hotaling and Donald J. Leopold, SUNY @ ESF*

– Using Remote Sensing to Evaluate Riparian Zone Function in the Onondaga Creek Watershed, *Emera Bridger, SUNY @ ESF*

– Meadow Brook Retention Basin Study for Treatment of Water Quality and Quantity, City of Syracuse, NY *Caroline Miller, Greg Mercurio, Janet Marsden, SUNY @ ESF*

### 2. Watershed Protection at the Local Level

*Moderator: Diane Kozlowski, US Army Corps of Engineers*

– Overview of Oneida Lake Watershed Management Plan, *Anne Saltman, Senior Planner, Central NY Regional Planning and Development Board*

– Lake Champlain Basin Program, *Nicole L. Ballinger, Communication and Publications Coordinator, Lake Champlain Basin Program*

– Lake George Association's Land Use Management Program – Striking a Balance, *Mary-Arthur Beebe, Executive Director, Lake George Association*

**3. Reference Wetlands Network**

*Moderator: Patricia Riexinger, NYSDEC*

- Introduction, Part II: What does all this mean for New York? *Patricia Riexinger, NYSDEC*
- A Conceptual Framework for Monitoring Wetlands in New York: Recommendations of an EPA Funded Study, *Anna Hartwell, SUNY @ Albany*
- Panel Discussion and Dialogue with Participants: Where is there interest? How practical are the recommendations? Where are there opportunities? *Speakers and audience, facilitated discussion*

12:30 p.m. - 2:30 p.m.

**LUNCH and Annual Membership Meeting**

2:30 p.m. - 3:50 p.m.

**CONCURRENT SESSION C**

**1. Stormwater Wetland Systems - Practical Approaches for Changing Times**

*Moderator: Kim Copenhaver, Copeland Environmental*

- Planning for Storm Water Wetland Systems, *Kim Copenhaver, Copeland Environmental*
- Overview of the Federal Phase 2 Storm Water Regulations, *Bill Lupo, P.E., NYSDEC*
- Wetland Leachate Treatment Systems, *Richard Smardon, SUNY @ ESF*

**2. What is an Isolated Wetland?: Solid Waste Agency of Cook County and Related Judicial Decisions and ACOE Guidance**

*Moderator: Teresa Bakner, Whiteman, Osterman and Hanna*

This will be a panel discussion and will include a hypothetical case to involve participants.

Panelists are: *James Palmer, Esq., New York District, US Army Corps of Engineers*

*Mark Chertok, Esq., Sive, Paget and Risel*

*\* 1.5 CLE credits – practical skills*

**3. Wetland Mitigation**

*Moderator: Don Wilson, Wilson Environmental*

- Developers' View of Wetland Mitigation, *Bill Tynne, Pratt and Huth Associates, LLC*
- Vernal Pool Design Considerations in Southern New York State, *Ed Samanns and Karen Appell, Louis Berger Group, Inc.*
- The Use of Landscape Data to Improve the Success of Mitigation, *Mary Anne Thiesing, USEPA Region II*

3:50 p.m. - 4:10 p.m.

**BREAK and Review of Exhibits**

4:10 p.m. - 5:30 p.m.

**CONCURRENT SESSION D**

**1. Golf Courses and Wetlands**

*Moderator: Barbara Beall, Chazen Companies*

- Wetlands, Golf Courses and "The Edge", *Dr. RW Abrams, Dru Associates*
- Wetlands, Golf Courses and Regulatory Reviews, *Steve Marino, Tim Miller Associates*
- Golf Courses, Pesticides and Wetland Water Quality, *Kevin Franke, LA Group*

**2. Wetland Resources and Regulations in the Adirondack Park**

*Moderator: Beth Gelber, NYCDEP*

- Wetlands in the Adirondack Park, *Daniel M. Spada, APA*
- Determining Project Jurisdiction in the Adirondack Park, *Rita G. Quinn, APA*
- Near-Stream Storm Response in Two Adirondack Wetlands, *Maryann Ashworth, SUNY @ Cortland*

**3. Wetland Issues**

*Moderator: Doug Eldred, BME Associates*

- Inventory of Selected Coastal Wetlands in Oswego County, *Shane Gebauer, New York Natural Heritage Program, NYSDEC*
- Multiple Wetland Boundaries: When Different Levels of Government Undermine Credible Regulation, *James A. Schmid, Schmid and Company, Inc., Consulting Ecologists*
- Discussion using Project Examples to Debate Regulatory Rights versus Property Rights with Audience, *Doug Eldred, BME Associates*

5:30 p.m. - 6:30 p.m.

**COCKTAIL HOUR**

6:30 p.m.

**DINNER**

**THANK YOU**

Thanks to The Chazen Companies  
For sponsorship of Cocktail Hour

The Chazen Companies  
Glens Falls Office – 518-812-0513  
Poughkeepsie Office – 845-454-3980  
Newburgh Office – 845-567-1133  
Troy Office – 518-235-8050

**MARCH 12, 2003**

7:30 a.m. - 8:30 a.m. **Registration and Continental Breakfast**

8:30 a.m. - 8:45 a.m. **Announcements**

8:45 a.m. - 10:15 a.m. **LEGISLATIVE AND REGULATORY PANEL SESSION**

*Moderator: Kevin Bernstein, Bond, Schoeneck, and King*

– National Wetlands Mitigation Action Plan, *Daniel Montella, USEPA, Region II*

– NYS Wetlands Legislative Update, *Raymond W. Cummings, Jr., Niagara Mohawk, A National Grid Company*

– USACE Regulatory Update and Application of Section 106 of NHPA in Regulatory Program, *Richard Tomer, Branch Chief, New York District, US Army Corps of Engineers*

*\* 1.5 CLE credits – practice management*

10:15 a.m. - 10:30 a.m. **BREAK**

10:30 a.m. - 11:45 a.m. **FEDERAL AND STATE WETLAND APPEALS PROCESSES**

*Moderator: Terresa Bakner, Whiteman, Osterman and Hanna*

– Regulatory Program Administrative Appeal Process, *James Haggerty, North Atlantic Division, US Army Corps of Engineers*

– The USACE’s Administrative Appeals Program, *Roberto Barbosa, Read and Laniado, LLP*

– Using the Freshwater Wetlands Appeal Board, *David Sampson, Esq., Martin, Shudt, Wallace, DeLorenzo & Johnson*

*\* 1.5 CLE credits – practice management*

11:45 a.m. – 12:00 p.m. **Closing Remarks**

*Jennifer Brady-Connor, Chair, NYS Wetlands Forum, Inc.*

1:00 p.m. – 5:00 p.m. **FIELD TRIPS**

\*\*\*\*\*

In conjunction with the New York State Bar Association, under New York’s MCLE rule, this program has been approved for a total of 4.5 credit hours, consisting of 1.5 credit hours in practical skills and 3 credit hours in practice management. This program will not qualify for credit for newly admitted attorneys because it is not a basic practical skills program.

Discounts and Scholarships: Attorneys may apply for a discount or scholarship to attend this program, based on financial hardship. Under this policy, an attorney who has a genuine basis for his/her hardship, and if approved, can receive a discount or scholarship, depending on the circumstances. To apply, please send your request in writing to Drayton Grant, Grant & Lyons, LLP, 149 Wurtemberg Road, Rhinebeck, NY 12572, or fax it to (845) 876-2816.

---

**FIELD TRIPS FOR THE WETLANDS FORUM MEETING**

**MARCH 11-12, 2003**

***1. Highpointe at Malta Wetlands Mitigation/Saratoga Spa State Park Wooded Swamp***

The U.S. Army Corps of Engineers worked closely with the developer of this residential subdivision to minimize impacts to wetlands on the property due to the development, which is not yet finished. The property covers about 150 acres of land in the Town of Malta, Saratoga County near Saratoga Lake. The mitigation effort consisted of the establishment of new wetlands preserved with adjacent lands in an open space/Homeowner’s Association area as required in their Department of the Army permit, issued in 1998. Biologist Andy Dangler from the Corps’ Troy field office will lead this trip. To find Highpointe at Malta, take I-87 to Exit 12 (Malta exit). Head east on State Route 67 about ½ mile to U.S. Route 9. Take a left (north) on Rt. 9 about one mile to the newly constructed Community Center on the west side of Rt.9, about 1/4 mile south of Cramer Road. Meet Andy at the Community Center.

The second portion of this trip includes a visit to a high-quality old growth red maple swamp within Saratoga Spa State Park in the City of Saratoga. In addition to the developed northern areas of the park which include the numerous mineral springs and accompanying trails, the southern area contains a red maple swamp which is home to a great blue heron rookery. Biologist Andy Dangler of the Corps of Engineers will also lead this trip.

## **2. Schodack Island State Park Wetlands Mitigation Site**

Schodack Island State Park is located to the south of Albany on a 1058-acre peninsula along the east side of the Hudson River. The park has over five miles of Hudson River shoreline and another four miles of frontage on Schodack Creek, which borders the park on the east. For many years the park sat undeveloped due to access limitations posed by the adjacent CSX rail corridor. In 1997 Governor Pataki earmarked over seven million dollars to fund access and recreational improvements at the park. To provide access from the mainland, a vehicular bridge over the rail corridor was constructed, which required a small amount of disturbance to an existing forested wetland area. To mitigate this disturbance, the NYS OPRHP constructed a four-acre wetlands area just south of the new boat launch on the Hudson River. The constructed wetland utilizes tidal guts to provide daily flows from the river into freshwater marsh and forested wetland habitats. This project was constructed on an area that was previously filled by the U.S. Army Corps of Engineers during Hudson River shipping channel deepening activities. Construction of this tidal wetland, one of the few ever attempted on the upper Hudson, was completed in 2001 with funding provided by the NYS DEC's Hudson River Estuary Program. Steve McCorkell of the Saratoga regional OPRHP office will lead this trip and discuss the overall mitigation effort. Meet Steve at the Schodack Island State Park boat launch parking area. Directions: from Albany, take Route 20 east over the Hudson River about one mile to State Route 9J. Head south on 9J about eight miles to the park entrance on the right. Follow entrance road about ½ mile to the parking area.

## **3. Bog Meadow Brook Nature Trail**

Owned by the City of Saratoga Springs and maintained by volunteers, this trail is laid out on two miles of an old railroad grade that passes through fine marshland, wet meadow, swamp, and upland woods. This is a level, easy (depending on snow cover) hike and a great way to get into a wetland without getting too wet. The trail crosses Bog Meadow Brook at one point - this brook flows south to Saratoga Lake, which in turn drains east to the Hudson River. Interpretive signs have recently been placed along the trail to allow a hike to be of a self-guided nature. Wetlands Forum member Mike Corey will lead the trip. To find the parking pull-off for the trail, take State Route 29 east from the city center. About ½ mile past the Northway (I-87), there will be a pull-off (opposite Old Schuylerville Road) for parking to access the trail

### **THANK YOU EXHIBITORS**

CT Male Associates  
Ernst Conservation Seeds  
Fagan Enterprises  
NASCO  
Pinelands Nursery  
Terrestrial Environmental Specialists  
United Environmental Group

### **THANK YOU SPONSORS**

New York State Department of Environmental Conservation  
University at Albany

### **THANK YOU**

Bond, Schoeneck & King, PLLC  
US EPA Region 2 Wetlands  
Watershed Protection Division

Although development of this conference has been funded in part through a Grant provided by the United States Environmental Protection Agency under Assistance ID # X-98246300-0, this conference may not necessarily reflect the views of the Agency and no official endorsement should be inferred. For complete details about the above-referenced grant, please visit the NYS Wetlands Forum website at <http://www.wetlandsforum.org>.

# NINTH ANNUAL MEMBERSHIP MEETING

TUESDAY, MARCH 11 2003, 1:15 TO 2:00

PRIME (FORMERLY SHERATON) HOTEL AND CONFERENCE CENTER  
SARATOGA SPRINGS, NEW YORK

## Agenda

**Introduction of Board of Governors and Consulting Staff** – Jennifer Brady-Connor, Chair

**Annual Report** – Christine DeLorier, Secretary

**The Year Ahead** – Christine DeLorier, Secretary

**Treasurers Report** – Joseph McMullen, Treasurer

**Newsletter Committee Report** – Kevin Bernstein, 1st Vice-Chair

**Board Elections** – All NYSWF Members

The following individuals have been nominated for the NYS Wetlands Forum Board of Directors. If the nominee is a current board member, their terms of previous service are reflected.

Name	Affiliation	Current Term	Terms of Service
Teresa Bakner	Whiteman Osterman and Hanna	2000-2003	Third
Christine DeLorier	US Army Corps of Engineers	2000-2003	First
Sandra Doran	US Army Corps of Engineers		
Diane Kozlowski	US Army Corps Of Engineers	2000-2003	Second
Paula Marshman	NYS Department of State		
Joseph McMullen	Terrestrial Environmental Specialists, Inc.	2000-2003	Second
Anne Secord	US Fish and Wildlife Service	2000-2003	First
Richard Smardon	SUNY-College of Environmental Science and Forestry	2000-2003	First

**New Business** – presented by NYSWF members

Adjourn

For the latest NYSWF 2003 Annual Conference agenda and registration information visit [www.wetlandsforum.org](http://www.wetlandsforum.org)

## THANK YOU

Christine DeLorier, Program Chair

Anne Secord, Co-Program Chair

Jennifer Brady-Connor

Kevin Bernstein

Michael Corey

Amy Haviland

Katharine Moody

Heather Otis

## ABSTRACTS

### **THE NEW YORK STATE ENVIRONMENTAL QUALITY REVIEW ACT AND THE REGULATION OF WETLANDS PROJECTS**

The New York State (NYS) Environmental Quality Review Act (SEQR) applies to discretionary decisions by state and local governments in NYS. This includes the review of applications for projects which may affect wetlands, whether those projects are:

- subject to review under specific wetlands jurisdictions ('404 of the federal Clean Water Act and accompanying '401 Water Quality Certification, the NYS Freshwater or Tidal Wetlands Acts, or local wetlands regulations);
- jurisdictional under activity-based jurisdictions (like local subdivision or site plan reviews, or NYS-administered air and water discharge permits); or
- subject to multiple jurisdictions.

Regardless of the applicable jurisdictions, however, basic application of SEQR requirements to a project remains the same:

- classification of the project to determine need for analysis under SEQR;
- for projects requiring analysis, establishment of the lead agency from among the involved agencies;
- determination by the lead agency whether to require an environmental impact statement (EIS) on the project; and
- conclusion of the SEQR analysis with preparation by the lead agency of a negative declaration where no further analysis is required; or
- where an EIS was required, conclusion of the SEQR analysis with preparation of the final EIS (FEIS) by the lead agency, followed by findings prepared by each involved agency.

Each step will be described generally, and then specifically related to wetlands projects.

Finally, we will discuss the appropriateness and effectiveness of wetlands protection through SEQR compared to that achieved by using specific programmatic standards.

### **THE ANALYSIS OF ALTERNATIVES UNDER SECTION 404 AND WORKING WITH THE SEQR PROCESS**

With the revisions to the Nationwide Permit Program in 2002, many projects previously authorized under this program now require individual Department of the Army permits. The individual permit process can be long, confusing, and require a significant expenditure of consulting and engineering fees in order to ensure authorization from the Corps to fill a waterbody or wetland. The key to this process is the documentation of steps taken to avoid and minimize impacts to aquatic resources, through a review of alternatives under the Section 404 (b)(1) Guidelines. It is the applicant's burden to demonstrate that the preferred alternative is the least environmentally damaging practicable alternative available to the applicant.

However, in order to document that alternatives have been considered under the Guidelines, an applicant must have considered these alternatives early in the process. Since the Corps requires detailed plans to initiate permit review, many applicants initially proceed with SEQR to address alternatives, and then once approved, submit the plan to the Corps for review. Many municipalities do not require an applicant to consider federal wetlands in its SEQR review, therefore applicants may expend resources to complete SEQR, only to have to initiate a NEPA process under Section 404. With some minor modifications to SEQR, applicants can be saved significant delays and consulting fees in the Section 404 process, if a Corps permit is necessary.

### **MULTIPLE WETLAND BOUNDARIES ON A SINGLE TRACT OF LAND: WHEN DIFFERENT LEVELS OF GOVERNMENT UNDERMINE CREDIBLE REGULATION**

As a result of historical accident and the political battles reflected in laws and ordinances, construction activities in the wetlands that exist on any tract of land in New York State may be regulated by Federal, State, and/or local governments. Wetlands physically connected with or proximate to other Waters of the United States may be regulated by the Army Corps of Engineers. Wetlands usually (but not always) larger than 12.4 acres and more or less accurately identified on promulgated maps may be regulated by the New York State Department of Environmental Conservation or the Adirondack Park Agency. Other wetlands may be regulated by counties or municipalities that have adopted local ordinances establishing wetland protection. State and local governments also may regulate activities in the uplands adjacent to wetlands in order to protect wetland functions.

Hence it is understandable that some activities in wetlands will be regulated at one level of government; others, at two or three levels or at no level. It is less understandable that regulators often differ dramatically as to the extent of what land constitutes wetlands on a single tract. Technical manuals exist to aid in wetland recognition and in regulatory determinations of wetland boundaries.

Current agency practice, however, often leads to disparate wetland identification among the different levels of government. In my experience this confuses the general public and tends to undermine confidence in equitable wetland regulation. It also leads to the inefficient use of scarce resources in regulatory agencies and thereby weakens actual wetland protection.

## TIDAL WETLAND AND SAV MAPPING EFFORTS

Under the Hudson River Estuary Program, New York State is conducting an inventory and trends analysis of the Hudson River estuarine wetlands and submerged aquatic vegetation (SAV) beds. We are also conducting a functional assessment of this SAV habitat. Remote sensing is being used to document the spatial distribution of SAV beds and estuarine wetlands in the Hudson River estuary. SAV beds (dominant species: water or wild celery, *Vallisneria americana*) and Eurasian water-chestnut (*Trapa natans*) were mapped from true color aerial photographs acquired during periods of spring low tide from about mid-July through August, in 1995 and 1997 (stereoscopic coverage, at 1:14,400 scale). The estuarine wetlands were mapped at scale or 1:12,000 using 1998 color-infrared photography. During the summers of 2000 to 2002, 24 SAV beds were selected for intensive study to assess the habitat functions these beds provide to the estuary. Fish, macroinvertebrates, plant biomass and diversity, dissolved oxygen and turbidity were measured during times of peak plant biomass. Initial results indicate these beds supply oxygen to the river, provide habitat (either forage or protection) to the fish and refuge for macroinvertebrates in the freshwater tidal portion of the estuary. NYS is beginning the process of adding these inventories to the Freshwater Wetland Maps for protection under the Freshwater Wetlands Act (NYS ECL, Article 24). Funding for these projects have been provided by the New York State Environmental Protection fund through the New York State Estuary Program, the National Oceanic and Atmospheric Administration (NOAA), and the Hudson River Foundation.

## THE UPS AND DOWNS OF TIDAL FRESHWATER WETLAND CREATION- SCHODACK ISLAND STATE PARK

TES developed a wetland creation plan, in association with C & S Engineers to mitigate for the wetland impacts at Schodack Island State Park. SISIP is located at Castleton, NY approximately 10 miles south of Rensselaer and Albany on the eastern shore of the Hudson River. Establishing proper wetland hydrology is critical to wetland development. In a tidal freshwater environment, the challenge for wetland creation increases with the tidal amplitude. The Hudson River is a dynamic, high-energy environment with ice buildup in winter, spring floods, and extremely high water after summer rain events. In most wetland creation projects, determining elevation is relatively simple. Yet, on a tidal river, the USGS, NOAA, the NYS DOT, and the design engineers may all use different benchmarks. This talk will describe the challenges we faced in dealing with tides, topsoil amendments, tree planting, and invasive plant species. Based on the first year development, it appears that the wetland is on a trajectory to be a success.

## DO LOCAL DYNAMICS DETERMINE SALT MARSH RESPONSE TO SEA LEVEL RISE?

The possibility that climate change may bring about an acceleration in the rate of sea level rise during this century has prompted a need for studies to examine how marshes might respond to this potential threat. A study was taken under the presumption that the best way to understand the impacts of future sea level changes is to understand impacts of past sea level changes. This study exploits an ecological gradient in benthic agglutinated foraminifera as a means for reconstructing paleosealevels. Cores were taken from salt marshes from Hempstead Bay and Jamaica Bay, neighboring bays along the south shore of Long Island. Accretion rates were established using excess  $^{210}\text{Pb}$  as a chronometer, and averaged  $2.0 \text{ mm yr}^{-1}$  in Hempstead Bay and  $2.8 \text{ mm yr}^{-1}$  in Jamaica Bay. Sea level curves were generated by comparing changes in the foraminiferal community over time. While there exists significant bay-to-bay variation in local rates of sea level rise, marsh accretion and foraminiferal assemblage data show that marshes track local rates of sea level rise.

- 1) Marine Sciences Research Center, SUNY at Stony Brook. Stony Brook, NY 11794-5000
- 2) Town of Hempstead, Department of Conservation and Waterways, Point Lookout, NY 11569

## MONITORING WETLAND CONDITION

Section 305(b) of the Clean Water Act requires states to report on the quality of their waters and on which waters attain or do not attain categories of use which are designated by the state. In 1998, only 4% of states reported on their wetlands in the 305(b) reports, and that information was not in any way comparable. EPA is currently working with the states, tribes and territories to assist them in developing strategies to monitor their wetlands as part of their 305(b) reports. In order to do so in a manner that will provide consistent, meaningful data, we are recommending that the states consider a three-tiered approach to collecting these data. This approach would comprise: Landscape analysis, in which data at the landscape scale may be collected and used to identify region-wide stressors, populations of wetlands at risk, and to prioritize watersheds for recovery efforts. Level two analysis would comprise rapid assessment, which would evaluate site specific conditions of wetlands by identifying the presence or absence of key stressors which affect overall condition. Level three analysis would be the collection of comprehensive data for analysis, from a small but statistically robust sample of wetlands from given watersheds. Level three data could be used to develop indicators of biological diversity (IBI's), or other measures of wetland condition; it is also used to calibrate the rapid assessment tools in use by the state, and to provide scale for the evaluation of condition.

While the primary use of these data may be for reporting under §305(b), the data gathered can have myriad uses for the state and for other programs in which the state is a partner. These uses can include the management of watersheds for flood control, natural heritage programs, wetland regulatory programs, and estuary programs, among others. Examples of where states collect and use monitoring data will be provided, as well as descriptions of how their programs were built.

## REFERENCE WETLANDS FOR MONITORING PURPOSES

Reference wetland data sets support multiple program elements and can be used for multiple purposes in the development of a comprehensive state wetland program including evaluation of mitigation wetland success, development landscape and rapid wetland assessment tools, permit support, adoption of narrative and numerical wetland biocriteria, and performing watershed based wetland resource assessments. Ohio's wetland program and development will be discussed and examples of how reference data sets can be developed and used will be provided.



## EMBAYMENT WETLANDS ALONG LAKE ONTARIO: STRUCTURE AND FUNCTION

We are investigating the structure and function of wetlands associated with eight embayments along the Lake Ontario shoreline. Vegetation surveys were conducted in the summer of 2001 to establish wetland community composition. From plot data of stem density and percent cover of each vascular plant species we tabulated species richness and calculated species relative importance values  $[(\% \text{frequency} + \% \text{density} + \% \text{dominance})/3]$ . The percentages of each community type (graminoid herbaceous, non-graminoid herbaceous, shrub, tree, water) present on a site were calculated from line-intercept data gathered along transects. During the summer of 2002 we investigated water level fluctuations, substrate (i.e. peat) depth, and water chemistry (TN, TP, DOC, Ca, Mg) in wetlands at each study embayment as possible factors affecting wetland plant species composition and structure. These wetlands may function as nitrogen sources to embayments since at least one of these nitrogen-fixing species, mosquito-fern (*Azolla caroliniana*), speckled alder (*Alnus incana* ssp. *rugosa*), and sweetgale (*Myrica gale*) occurs on six of the eight study sites and these species have the potential to fix approximately 30-40 kg N/ha/yr. This summer, we will investigate the ecological role of these species in our study sites relative to nitrogen levels in wetland and bay waters.

## USING REMOTE SENSING TO EVALUATE RIPARIAN ZONE FUNCTION IN THE ONONDAGA CREEK WATERSHED, NY

There has been a growing trend in watershed management to use riparian buffers as a water quality device. Riparian areas have a number of ecological and social values such as floodwater abatement and storage, wildlife habitat, and biogeochemical cycling. How well these values will be fulfilled will depend on the structure and function of the riparian zone. Thus, it is important for watershed managers to develop a cost-effective way to delineate, monitor, and manage riparian corridors. Remote sensing is one method that has been suggested as an alternative to field sampling, but the accuracy of remote sensing techniques has not been determined. In this study, conducted between January and September 2003, remote sensing and geographical information systems will be used to classify the structure and function of the riparian corridor of Onondaga Creek. From this research I hope to determine the accuracy of unsupervised ISODATA classification of digital orthophoto quarter quadrangles (DOQQ) of Onondaga Creek to predict the extent and in situ condition of the riparian area. I will also investigate the correlation between riparian health and stream water quality including the biological, chemical and physical condition of the Onondaga Creek watershed. Data collection will be completed in three phases. I will first "train" the geographical information system (GIS), ERDAS, to locate riparian areas on the DOQQ image. Once these areas have been identified, I will classify each area by length, width, and vegetation type. I will then collect field data to determine the accuracy of the GIS projection.

## MEADOW BROOK RETENTION BASIN STUDY FOR TREATMENT OF WATER QUALITY AND QUANTITY, CITY OF SYRACUSE, NEW YORK

**Meadowbrook Retention Basin:** The basin was redesigned about 25 years ago using natural channels and configurations, replacing an engineered rip-rap channel with vegetated channels and wetlands. A water quality study was conducted approximately 20 years ago.

**Purpose of Study:** To provide a qualitative and quantitative analysis of the treatment by the Meadow Brook retention basin located in the City of Syracuse, NY along Barry Park to water and constituent (pollutant) inflows. The retention basin was designed to provide several functions, including water quality treatment of stormwater runoff and abatement of downstream flooding. The success of the basin in these functions has not been recently analyzed. It is expected that such a study will better inform the expectations from, and maintenance of, this retention basin as well as the design of similar basins.

**Implementation:** Implementation of the study will require the measurement of several parameters. Inflow and outflow volume and constituents for the retention basin will need to be measured during several precipitation or snowmelt events and during low flows. There are inflows by the main channel, through a concrete box culvert, and by two or three round metal culverts. Outflow is from a concrete box culvert. Channel inflows and culvert inflows will be measured using a calibrated stage - discharge curve, where stage is recorded using ESF available data loggers and pressure transducers. Stage to discharge relations will require field visits. The water quality constituents will be measured with two different sets of tools. First is the portable and real time Hach Sension 156 probe kit that detects total suspended solids (and salinity), pH, temperature, and dissolved oxygen. Second is the collection of a sample bottle with Hach Spectrophotometer DR/2500 laboratory analysis of nutrients (nitrogen and phosphorous) and metals (zinc and copper).

## OVERVIEW OF ONEIDA LAKE MANAGEMENT PLAN

The Central New York Regional Planning and Development Board (CNY RPDB) initiated work in 2001 on a watershed management plan for Oneida Lake. US EPA and NYS DEC grants to the CNY RPDB is providing an opportunity for watershed decision-makers to identify and prioritize issues of concern and to select restoration and maintenance goals for the long-term protection of local water resources. Given the large size of the watershed (surface and groundwater from six counties drain into Oneida Lake), communication and regional partnerships across political and municipal boundaries are vital to the success of this complex initiative. But encouraging 69 municipalities to all agree on the same issues and priorities has been quite a challenge! Anne Saltman will provide a summary of the different components that have been initiated as part of this project. Short and long-term goals and progress to-date with projects such as agricultural programming, education and outreach, and water quality monitoring will be presented.

The CNY RPDB has worked with many watershed stakeholders to prepare a State of the Lake and Watershed Report. Check out the report, a collection of GIS maps, and project descriptions at the following website: <http://cnryrpd.org/oneidalake/>.

## **LAKE GEORGE ASSOCIATION'S LAND USE MANAGEMENT PROGRAM – STRIKING A BALANCE**

This grassroots program began in 1979 and strives to ensure that a reasonable balance is struck between lake conservation and development within the basin. The presentation will focus on how the balanced approach is advocated for and implemented in the Lake George watershed. Three counties, eight townships, and one village border Lake George; and the watershed contains approximately 256 square miles of land area, 44 square miles of water area, and is located in the Adirondack Park. This means that many agencies, jurisdictions, organizations, and citizen interests are involved in the review of development projects, and cooperate in scoping out and implementing watershed planning initiatives. Session attendees will learn lessons about how to promote land use practices to protect water quality and aesthetic resources.

## **REFERENCE WETLANDS FOR MONITORING PURPOSES**

Reference wetland data sets support multiple program elements and can be used for multiple purposes in the development of a comprehensive state wetland program including evaluation of mitigation wetland success, development landscape and rapid wetland assessment tools, permit support, adoption of narrative and numerical wetland biocriteria, and performing watershed based wetland resource assessments. Ohio's wetland program and development will be discussed and examples of how reference data sets can be developed and used will be provided.

## **STORM WATER WETLAND SYSTEMS – PRACTICAL APPROACHES FOR CHANGING TIMES.**

With changes in the NYS storm water management regulations on the horizon and last years changes to the Federal wetland permit program, it is time to put some creativity in storm water management planning. In this session we will consider rethinking the typical engineering methods for storm water management systems by incorporating storm water wetland systems into our development plans. These creative storm water systems not only provide the typical storm water detention and retention functions required, but also provide improved water quality and additional wildlife habitat.

## **CREATING STORM WATER TREATMENT WETLANDS FOR HARBOR CREEK, SYRACUSE, NY: AN URBAN ECOSYSTEMS EDUCATIONAL PARTNERSHIP**

Under the Clean Water Act's Section 303(d) States are required to develop and formally submit a list of waters for which required technology based pollution controls are not stringent enough to attain or maintain compliance with applicable state water quality standards. The most recent list submitted by the State of New York in April 1998 includes three tributaries to Onondaga Lake; namely Ley Creek, Onondaga Creek, and Harbor Brook which together receive the City of Syracuse surface runoff and all 66 CSO's. A partnership proposes to build treatment wetlands along Harbor Brook at the intersection of Velasko and Grand Avenues, along the Harbor Brook floodplain before the brook is channelized and eventually goes underground. The Partnership is composed of the SUNY College of Environmental Science and Forestry, Onondaga County Division of water and Sanitation (who owns the land), Atlantic States Legal Foundation, and The City of Syracuse.

Many expensive proposals for water quality improvement in urban Syracuse have been put forth, but wetlands functionally serve the same purpose at much less cost. The construction of this wetland, which will incorporate two different designs, will allow investigators to assess the efficacy of constructed/restored wetlands to remediate stormwater runoff and CSO's in the urban sectors of the City specifically in the impacted streams listed above. In addition to the improvement of water quality, the project is also designed to serve as an environmental resource for the community, provide an attractive natural urban park to which community residents, who will participate in its creation, can point with pride, and educational opportunities for both school aged children and adults the Syracuse area. Enthusiastic Partners to date include the US Environmental Protection Agency ; the Onondaga County Division of Water and Sanitation; Vito Scioscioli, City of Syracuse, Department of Community Development & Economic Development; City of Syracuse, Engineering Department; Community residents, through Tomorrow's Neighborhoods Today; Milagros Escalera, Principal, and science teachers, Delaware Elementary School; Appropriate City and Onondaga County officials (including the Director of the Onondaga County Planning Board). The end objective is build experimental treatment wetlands that can be monitored, in regard to water quality and habitat creation, and to have a co-produced siting and design process that can be replicated.

## **WETLAND MITIGATION – “DEVELOPERS VIEW OF MITIGATION”**

An examination of the dynamic between the regulatory permitting process (with respect to wetlands) and the goals and objectives of a developer's vision (with respect to his or her project). Brief history of the regulatory permitting process, and the evolution of the developers' view of wetland mitigation, and how to best integrate the goals and objectives of mitigation with the goals and objectives of a project, will be discussed.

## **VERNAL POOL DESIGN CONSIDERATIONS IN SOUTHERN NEW YORK STATE**

Construction of a 4-mile two-lane access roadway has been proposed to provide airport patrons with improved access to Stewart International Airport in Orange County, New York. While the majority of the new access roadway will utilize an existing road network, a 900-ft. portion of this alignment impacts a valley containing a complex of emergent and forested wetlands and a headwater stream. In compensation for potential impacts to two New York State Species of Special Concern, the spotted turtle (*Clemmys guttata*) and the Jefferson salamander (*Ambystoma jeffersonianum*), a vernal pool mitigation plan was devised and incorporated into the highway design.

The mitigation plan was developed as a collaborative effort with NYSDEC, NYSDOT, NYTA and the Louis Berger Group, Inc. (Berger). Berger developed full design plans and specifications for the construction of 12 vernal pools to provide supplemental breeding habitat for several herpetile species. The vernal pools are located in close proximity to the impacted wetland areas, ranging in size from 0.07 to 0.33 acre, for a total of 1.37 acres. The design, water budget analysis and plan and specification preparation was a collaborative effort between biologists and engineers from Berger.

Several criteria were used to analyze feasibility and selection of the best sites for pool construction. These criteria took multiple factors into consideration including proximity to existing wetlands, upslope drainage, forest quality, site topography, soil characteristics, and availability of adjacent upland buffer habitat. The design also placed major emphasis on site hydrology. Water budgets were developed for each proposed site to determine the necessary design elements required to create naturally functioning vernal pool hydrology that could support target species breeding biology. A ten-year monitoring plan will be implemented to monitor the colonization and success of the vernal pools.

## **THE USE OF LANDSCAPE DATA TO IMPROVE THE SUCCESS OF MITIGATION**

Wetland compensatory mitigation, in addition to targeted, non-regulatory wetland restoration, is a *de facto* form of landscape management. The National Academy of Sciences (NAS) recent study on wetland mitigation, as well as a study performed by the New Jersey Department of Environmental Protection (NJDEP) on state-required wetland mitigation projects, recommended that site selection and evaluation use watershed data. The landscape scale is the only appropriate scale at which such variables as wetland diversity, habitat connectivity, and metapopulation stability may be examined. Furthermore, the long-term sustainability of wetland mitigation is dependent on its hydrogeologic setting, which can only be determined by using landscape information.

There are a variety of techniques which provide landscape level wetland analyses that are directly useful in planning, executing, and evaluating wetland restoration and mitigation. Hydrogeologic classification is useful for better identifying wetland resources on a landscape, as well as identifying hydrologic equivalence for the purpose of restoring wetlands which will be self-sustaining. Landscape profiling is another tool by which the wetland diversity of a landscape or watershed may be evaluated. Both of these tools provide templates for wetland restoration/wetland mitigation. In addition, synoptic assessments of hydrologic units may provide a landscape-level Arisk assessment@, which can identify watersheds under environmental stress, and help prioritize not only protection efforts but also establish priorities for wetland restoration and the development of watershed recovery plans. Landscape data are already used at the state and regional levels for monitoring the status of plant and animal species of concern. There is, however, no consistent strategy on how to incorporate landscape data into mitigation planning, nor is the use of these data routinely employed.

In order for the recommendations of NAS and NJDEP to be employed, there needs to be an overall mitigation planning framework, rather than the current, *ad hoc* approach which is common practice among the agencies proposing to authorize or implement wetland mitigation/restoration. I suggest ways in which such a strategy may be developed, as well as possible techniques and data sources. Mutual effort among agencies which collect these data and evaluate/implement wetland mitigation and restoration can result in wetland programs which provide more successful and sustainable projects, as well as strengthening the ecological integrity of the landscapes on which they act.

## **WETLANDS, GOLF COURSES AND “THE EDGE”**

Throughout the 1990's the push to construct more and more golf courses led developers to many sites containing sensitive ecological resources in their search for parcels large enough to accommodate championship level designs. In New York there were two golf projects that set a new standard in the extent of impacts and associated mitigation requirements. The Anglebrook Golf Course in Westchester and the Saratoga National Golf Club in Saratoga Springs were both located within sensitive watersheds and involved impacts to wetlands that required innovative designs along “The Edge” of the wetlands and watercourses. The same golf course architects and ecologists collaborated in producing the two most challenging and successful golf-wetland projects of the decade, completing the work without issuance of a single water quality or wetland violation despite continual monitoring by both the NYS DEC and US Army Corps. The key to success was in the attention paid to design of the transition between golf and wetland, and by constant upgrades of those design features as construction proceeded.

## **GOLF COURSES, PESTICIDES AND WETLAND WATER QUALITY**

Golf courses are a land use that requires high intensity management. Management of most golf courses integrates the use of pesticides with other practices in order to protect golf course turf and to provide suitable playing conditions. Without proper planning and implementation, golf course management practices have the potential for impacting wetland water quality, flora and fauna. Migration of pesticides via surface runoff and shallow groundwater interflow can be avoided or lessened to such a degree to prevent these impacts. Computer modeling of pesticide transport, developing integrated turf management plans that include non-chemical practices, incorporating stormwater management practices into golf course design, specifying proper pesticide storage and handling practices, and implementing water quality monitoring programs for golf courses in the New York metropolitan area, the mid-Hudson Valley, the Catskill and Adirondack Mountains, and the Saratoga County region have used this approach to successfully protect wetland water quality.

## **WETLANDS IN THE ADIRONDACK PARK**

In 1975 the NYS Freshwater Wetlands Act gave sole authority to protect freshwater wetlands in the Adirondack Park to the Adirondack Park Agency. The Act describes all the different kinds of wetlands found in the Park (such as needle- and broadleaved forested swamp, shrub swamp, emergent marsh, deepwater marsh, wet meadow and bog), provides for wetland map creation, and seeks to protect, preserve and conserve wetlands and their benefits. It is estimated that wetlands cover approximately 15% of the Parks surface with some watersheds greatly exceeding this number. There is no other comparably sized area in the northeast United States that has such a high percentage of wetlands, lakes and ponds. The Park also has the largest repository of peatlands outside of Maine and Minnesota. Wetlands of note are the large peatlands in the northwest and west, and the extensive riparian forested and shrub swamps associated with major river floodplains. Agency staff delineated 297 wetland boundaries last year at the request of landowners for general information purposes, tax abatement or project planning.

## **DETERMINING PROJECT JURISDICTION IN THE ADIRONDACK PARK**

The 6 million acre Adirondack Park has been recognized by the legislature as a significant part of New York State. The Adirondack Park Agency was created in 1971 and administers the Adirondack Park Agency Act, the NYS Freshwater Wetlands Act, and the Wild, Scenic and Recreational Rivers System Act within the Park. Understanding these laws and the rules and regulations which implement them can be a daunting task for the public. Three full-time Agency staff have the specific responsibility for guiding project sponsors through the jurisdictional determination process. Based on written and graphic submittals from prospective sponsors, staff provides a written binding jurisdictional determination. If the project requires a permit, the predicates of jurisdiction are clearly enumerated and the appropriate project applications are forwarded to begin the project review process.

## **NEAR-STREAM STORM RESPONSE IN TWO ADIRONDACK WETLANDS**

To examine the connections between surface water and groundwater in wetland systems during summer precipitation events, we are studying two wetlands in the Archer Creek Watershed, Huntington Wildlife Forest, Newcomb, New York. Transects of well and piezometer clusters were positioned across the creek above and below the confluences of the main stream and wetland tributary and across the tributary. Head, water table elevation, and stream stage were collected by dataloggers at one-hour intervals. Two storms of approximately equivalent magnitude and duration with different antecedent precipitation conditions were studied. Low hydraulic conductivity most likely precludes groundwater-surface water interactions such as bank storage and bank flow at depths greater than 0.2m. It is hypothesized that from the surface to 0.2m depth is a region of higher hydraulic conductivity and greater hydrologic activity. For the smaller storm, the water table response was controlled by topography, while for the larger storm, the water table response was controlled by the stream. Topography also controls the water table between storms. Antecedent conditions do not control the water table storm response, topographic locations and other hydrologic controls exert a greater control over response.

## **INVENTORY OF SELECTED COASTAL WETLANDS IN OSWEGO COUNTY**

In 2001, the Oswego County Department of Planning and Community Development contracted the NY Natural Heritage Program (NY Natural Heritage) to inventory wetlands along the eastern shore of Lake Ontario. The NYS DEC Great Lakes Protection Fund provided funding for this project. The project goals were to gather biological and ecological information within 11 selected wetlands, with a particular emphasis on rare animals, rare plants, rare natural communities, and the state's best examples of common natural communities.

The final product provides a detailed overview of each study wetland, including descriptions of rare species and significant natural communities found, seamless maps of all natural communities, and maps of rare species populations. The full community delineations cover approximately 2,850 acres, which is roughly 2% of the total acreage of regulated wetlands in Oswego County and about 0.5% of the entire county. Despite this relatively small area, these wetlands account for approximately 34% of the total number of significant natural community occurrences and rare species populations, and 38% of the different types of communities and rare species, currently known in Oswego County.

The report also discusses potential threats to the long-term persistence of the study wetlands' rare species and significant natural communities, and outlines potential courses for protection. All data were geographically referenced, converted to digital format, and stored in the NY Natural Heritage database.

NY Natural Heritage is a partnership between NYS DEC and The Nature Conservancy whose mission is to enable and enhance conservation of rare species and significant natural communities.

## **PROPERTY RIGHTS ONCE WERE HIGHLY RESPECTED IN THIS COUNTRY.**

So strong was the belief in private property ownership that our Founding Fathers guaranteed it in the Bill of Rights. The 5th Amendment to the Constitution stated "...nor shall private property be taken for public use without just compensation." Many believe that wetland laws can constitute a taking of land without compensation. What legal rights do property owners have when they feel that their property rights have been violated. What gives the Government the right to enact laws such as wetland regulations that some would say constitutes an illegal taking of land?

## **NATIONAL WETLANDS MITIGATION ACTION PLAN**

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency, in conjunction with the Departments of Agriculture, Commerce, Interior, and Transportation, have strengthened their commitment to achieve the goal of no net loss of our Nation's wetlands with the release of a comprehensive action plan and improved guidance to ensure effective, scientifically-based restoration of wetlands impacted by development activities. The Corps' regulatory guidance and the multi-agency action plan will help advance technical capabilities for wetlands restoration and protection, as well as clarify policies to ensure ecologically sound, predictable, and enforceable wetlands restoration completed as part of Clean Water Act and related programs. Both actions are the result of extensive multi-agency collaboration.

The National Wetlands Mitigation Action Plan lists 17 action items that the agencies will undertake to improve the effectiveness of restoring wetlands that are impacted or lost to activities governed by clean water laws. Completing the actions in the plan will enable the agencies and the public to make better decisions regarding where and how to restore, enhance, and protect wetlands; improve their ability to measure and evaluate the success of mitigation efforts; and expand the public's access to information on these wetland restoration activities.

A revised Regulatory Guidance Letter leads the list of action items in the National Wetlands Mitigation Plan. Crafted with input from the Federal agencies that play a role in wetlands protection, the Corps' Regulatory Guidance Letter will improve wetlands restoration implemented under the Clean Water Act in support of the Administration's "no net loss of wetlands" goal.

Recent independent evaluations published in 2001 by the National Academy of Sciences (NAS) and the General Accounting Office (GAO) reviewed the effectiveness of wetlands compensatory mitigation for authorized losses of wetlands and other waters under Section 404 of the CWA. In its study, the NAS concluded that, despite progress in the last 20 years, the goal of no net loss of wetlands is currently not being met for wetland functions by the compensatory mitigation programs of Federal agencies. The action plan and guidance were developed in response to, and are consistent with, the recommendations made in those reports.

## **NEW YORK STATE LEGISLATIVE UPDATE**

Representatives of the New York State Assembly and Senate recognize the importance of wetlands from a number of perspectives including conservation, enforcement, mitigation, tax abatement, and property rights and, each year, continue to introduce or re-introduce bills addressing these and other wetlands-related issues. This presentation will include a brief summary of each of the wetlands bills that have been introduced in New York State since the beginning of the year and will provide step-by-step instructions on how to access these bills and review their status. An information packet, including a summary sheet for each bill introduced through the end of February, will be provided to meeting attendees.

## **EFFECTIVENESS OF CONNECTICUT'S PROGRAMMATIC GENERAL PERMIT FOR CWA SECTIONS 401 AND 404 ACTIVITIES**

The purpose of this presentation is to introduce New York State regulators and consultants to a simple and effective joint state and federal wetlands permitting process that has been extremely successful in Connecticut and other New England states and may be equally beneficial to New York State.

The Connecticut Programmatic General Permit (PGP), effective since 1996, streamlines the review process for minimal impact activities in Waters of the U.S. and Navigable Waters subject to regulation under Sections 401 and 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The PGP was adopted jointly by the Connecticut Department of Environmental Protection, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and National Marine Fisheries Service to replace all Section 404 Clean Water Act Nationwide Permits in Connecticut.

Applications for PGP coverage are very simple and coverage determinations are completed within 60 days from the date of receipt of a complete application. The CT PGP has been highly effective at reducing labor and paperwork associated with minimal impact projects, allowing regulators and consultants to concentrate conservation efforts on more significant projects.

## **THE USACE'S ADMINISTRATIVE APPEALS PROGRAM**

In March 1999, the U.S. Army Corps of Engineers ("USACE") promulgated regulations to implement an administrative appeals process for Jurisdictional Determinations ("JD") and in March 2000, the USACE revised its regulations to allow appeals of denied or declined permits. This presentation would discuss the administrative appeals process, including what actions are appealable, who may conduct the appeal, what standard is applied to determine whether an appeal has merit, who makes the decision on the merits of the appeal, and who makes the decision on the final USACE action. Special emphasis would be given to matters relevant to JD appeals (*e.g.*, basis of jurisdiction) and on the impact of the U.S. Supreme Court's decision in the *SWANCC* case. The presentation would suggest, in light of *SWANCC*, what matters an appellant - or potential appellant - should consider before filing an appeal.

## **UPPER SUSQUEHANNA COALITION EPHEMERAL WETLAND PROGRAM**

Most wetland scientists will acknowledge the fact that isolated wetlands are overlooked in the majority of wetland regulations as well as in protection strategies. One group of isolated wetlands particularly easy to overlook are ephemeral wetlands. Whether on account of their size (being that they are generally less than an acre) or due to the fact that they are isolated, ephemeral wetlands are often excluded from the consideration of conservation and preservation programs. The Upper Susquehanna Coalition (USC) is attempting to remedy this oversight through the incorporation of ephemeral wetland protection, enhancement, and development into its well-established wetlands program.

To promote the protection of ephemeral wetlands the USC will initiate public education programs, develop local support, create a database of existing vernal pools, develop protocols for ephemeral wetland identification and development, and create and monitor several ephemeral wetlands. All of these projects will focus on furthering the recognition of ephemeral wetlands as important components of the landscape. The USC believes that some of the best public outreach opportunities are through the enhancement or the development of ephemeral wetlands and then through bringing the public to see how ecologically important this wetland type can be. By way of partnering with several universities including Cornell and Binghamton and organizations such as the Susquehanna River Basin Commission and the Izaak Walton League of America, the USC plans complete this project by utilizing as much expertise as possible.