

MEETING SUMMARY

Freshwater Wetland Restoration Strategy Kick-off Meeting
July 7, 2010, 2:00 PM to 4:00 PM, RIDEM, Room 300

Project coordinators present:

Christine Caron, NEIWPCC
Carol Murphy, DEM Office of Water
Sue Kiernan, DEM Office of Water

Advisors present:

Scott Ruhren, Audubon Society of Rhode Island
Catherine Sparks, DEM Divisions of Forestry and Fish & Wildlife
Peter Holmes, EPA Region 1
Margherita Pryor, EPA Region 1
Tom Ardito, Narragansett Bay Estuary Program
Robert Nero, Pawtuxet River Authority
Joe Klinger, RI Association of Wetland Scientists
Jane Sherman, RI Rivers Council
Wenley Ferguson, Save the Bay
John O'Brien, The Nature Conservancy
Chris Mason, University of Rhode Island Dept. of Natural Resources Science
Denise Poyer, Wood-Pawcatuck Watershed Association
Alicia Lehrer, Woonasquatucket River Watershed Council

Others present:

Russell Chateaufneuf, DEM Office of Water, Chief of Groundwater and Wetlands Protection
Lisa McGreavy, DEM Water Quality and Wetland Restoration Team
Sam Whitin, EA Engineering
Walter Berry, EPA Office of Research and Development
Greg Mannesto, US Fish and Wildlife Service

Welcome

Christine Caron opened the meeting with a brief welcome and introduction.

Why are we doing this?

Carol Murphy outlined the EPA Core Elements Framework, which includes: Monitoring and Assessment, Regulatory activities, Voluntary Restoration and Protection, and Water Quality Standards. For each core element, EPA provides terms and definitions, goals and benefits, and a menu of activities.

Carol provided a brief synopsis of RI DEM's ongoing work in the areas of Monitoring and Assessment and Regulatory activities. Monitoring work has included development and demonstrations of a rapid method to assess the condition of wetlands on a watershed basis. The programs Regulatory activities have included Rule development and revisions, development of outreach materials, training workshops for consultants and municipals. Ongoing efforts include projects on permit outcomes, mitigation policy, database development, and methods for sharing permits and plans.

This project falls under the core element of Voluntary Restoration and Protection. Voluntary Restoration is "...manipulation of a former wetland's or a degraded wetland's characteristics to return its natural functions." Restoration practices included re-establishment of a former wetland or rehabilitation of a degraded wetland. The goals and benefits are to maintain and restore wetland functions, help meet watershed goals, and contribute to economic well-being.

Finally, Carol reviewed that this project compliments many related efforts in Rhode Island, including coastal habitat restoration, riparian buffer plans and projects, habitat restoration, invasive species, stream continuity, and river restoration plan and projects.

Rhode Island Restoration

Christine Caron asked participants to each: introduce themselves, briefly describe their role, and explain what they hoped to get out of a Freshwater Wetland Restoration Strategy or how their organization could benefit?

Participants' responses:

- R. Chateaufneuf – Wetland Water Quality Team – he sees projects that come through; heavily involved with wetland permitting; excited about group sharing with DEM
- M. Pryor – EPA – relates to her work with NPS program & development of biological criteria for water quality standards; interested in link to watershed based plans – wetlands should be part of plans
- J. Sherman – RIRC – Happy this is happening; past experience with the Woonasquatucket River work
- C. Mason – Professional scientist/consultant for 30 years; now teaching at URI- Dept Natural Resources – wetland ecology; interested in how NRS dept can assist.
- G. Mannesto – USFWS – has had lots of projects- purple loosestrife control; phragmites control – always looking for projects; interested in habitat protection broadly
- P. Holmes – EPA Region I – actively involved ; interested in more strategic approach; has seen good job on estuarine restoration planning; would like to see priorities for freshwater
- S. Ruhren – Director of Conservation at Audubon – lots of invasive control; degradation they see on their lands – yard waste dumping/actions of neighbors
- J. O'Brien – TNC working via partnership; communication; conservation partners.
- C. Sparks – DEM FW/Forestry – huge interest - overall ecosystem health; need to determine priorities moving forward; be nimble enough to respond to opportunities; be organized and productive
- R. Nero – PRA Chair – own a lot of wetlands; interested in restoration; anadromous fish
- J. Klinger – professional wetland scientist - RIAWS – involved in restoration related to enforcement matters; RIAWS interested in promoting understanding of science
- D. Poyer – WPWA – ecologically important watershed; done a number of projects; Shannock Dam Removal current activity; done monitoring; beetles/invasive species
- L. McGreavy – DEM-WWQTeam; interested in what others are doing; feedback on permitting
- W. Ferguson – STB – has worked on coastal projects; a few freshwater projects; brackish marshes (few in RI)
- A. Lehrer – WRWC – many restoration projects; more degraded part of the river; some work on invasives

- S. Whitin – EA – fisheries restoration; coastal wetland projects; permitting strategies; Corporate Wetland Restoration Partnership
- T. Ardito – NBEP – river/coastal restoration experience
 - planning/policy to promote habitat restoration throughout a watershed
 - rivers/wetlands – integrated systems
 - recommend focus on hydro alterations that degrade wetlands
 - degraded wetlands – most altered in some way
 - what does degraded mean?
 - Invasives/aging dams – seeing changes in wetlands
 - Need framework to decide should we restore and how
- W. Berry – EPA – wetland eco services research /EPA would like to develop tools states /others can use
- S. Kiernan – DEM – Improve coordination and effectiveness; limited resources; framework where to focus

Previous Work at DEM

Carol Murphy provided an overview of the previous work completed by the University of Rhode Island Department of Natural Resources Sciences researchers for the Department, funded by the EPA Region and the State, in the Development of a Statewide Freshwater Wetland Restoration Strategy including Phase 1 – Site ID and Prioritization Methods (2001) and Phase 2 – Woonasquatucket River Watershed Wetland Restoration Plan (2003).

The Phase 1 study reviewed other states wetland restoration programs, looked at freshwater wetland activities going on in RI at the time, identified restoration opportunities based on impact types that could be restored, and developed methods to identify and prioritize potential wetland restorations areas. The Phase 1 study also analyzed the RIGIS wetlands data (1988) according to watersheds, wetland types, and ownership category.

Phase 1 identified nine wetland impact types in RI that could be restored – the impacts filling and draining destroy wetlands while removal of adjacent vegetation, impedance of surface flow, removal of wetland vegetation, trash dumping, stream channelization, invasive species and sedimentation degrade wetlands. Task C provides a thorough discussion of these impacts. Task C also indentified the restorability of wetland types based on the scientific literature, with ponds and marshes having high restorability, wet meadows, streams, vernal pools, and shrub swamps with moderate restorability, low/moderate for forested swamps, and low restorability for fens and bogs.

Phase 1 described the following methods to identify sites: time lapse analysis, some stereo viewing, RIGIS soils and wetlands coverages, and stakeholder nominations. In addition, methods to prioritize wetlands were presented through functional assessments that estimate the potential of a restored wetland to perform each of five wetland functions. Sites were ranked by their ability to perform each individual function and also by their ability to perform multiple functions. To prioritize buffer sites, the authors of Phase 1 asked whether the site was vulnerable to human impacts or if the wetland type was highly sensitive to such impacts. The sites were grouped into 3 tiers based on the answers to these questions.

Questions/responses/comments arising regarding discussion of Phase 1:

- Yes, methods in Phase 1 could be applied in a variety of ways, including in other parts of the state.
- The reports can be accessed through the links on the back of the agenda. Excerpts will also be provided to the group.
- In response to a comment that all except a couple impacts listed in Table C2 are components of land use changes. Filling and draining refers to direct impacts; Table C1 relates the impact types to functions and values; Top of the list has potential to restore more functions/values; Other impacts relate to degradation and may be ongoing (i.e. Invasive species, remedy may be short term if other impacts not addressed).
- No, Water Quality (i.e. SW discharge, nutrients) is not listed as an impact in Table C2 [Its exclusion is noted by the authors in the report]. It was suggested that this may be something to add going forward.
- Comment (regarding Table C3) that restorability may be changing or could use updating, noting work in Cranberry bogs in Plymouth, MA.
- Impediments like waste issues were considered at feasibility stage, but not up front; also noted wetland enforcement action of some sites.

Carol continued by providing an overview of Phase 2, which focused on the Woonasquatucket. The authors focused on 2 major impact types in a watershed that provide the most restored functions, which were: filling of wetlands (i.e. destroyed) and removal of upland buffer vegetation (i.e. degraded).

For wetland fill sites, 77 potential restoration sites were identified. 11 were publicly owned and 66 privately owned. The sites were located in 7 clusters, and 42 of the sites had enforcement flags on them (indicating OCI had a file on the site, that something had prompted a visit over the 30 years of the database). Sites were divided into 3 tiers with 24 Tier 1 sites, 22 Tier 2 sites, and 31 Tier 3 sites. Tier 1 sites had a mean of 2.5 acres and occurred on main stem, tributaries, or larger wetland complexes. Tier 3 sites had a mean size less than 0.5 acres and were located in more urban areas.

For upland buffer vegetation sites, 239 potential sites were identified. 18 were publicly owned and 221 privately owned. The sites were also located in 7 clusters and divided into 3 tiers. Tier 1 had 40 sites, Tier 2 had 103 sites, and Tier 3 had 96 sites.

Questions/responses/comments arising regarding discussion of Phase 2:

- Tiers are based on a composite functional assessment score; Tier 1 restores more functions.
- In response to interest in identifying wetlands that need to be protected. Authors, were not looking at protection in this study, they were looking at restorability, but sensitive wetland types were flagged; also Nick Miller (co-author) has recently adapted these methods for protection and restoration plan in Wisconsin.
- Buffer sites were not cross-referenced for violations during this project (as the fill sites were), but one intern did some cross walking to enforcement files.

Carol noted that there were many outcomes and lessons learned during and after project completion, including the possibility of extracting sites from enforcement database as a method to ID. She noted that field visits/inspections/outreach meetings were quite involved and

comprehensive. After the project, a website was developed with map server for data and provided training to municipalities. Meetings continued after the plan and they tried to further some of the projects. (Riparian Buffer plan for Woonasquatucket was also developed around this time.) A number of projects have been completed based on sites identified in the Plan, including a restoration project at the Smithfield DPW.

Carol also highlighted many activities at DEM that have provided ongoing support of restoration, including revisions to the Rules, formation of DEM's Water Quality and Wetland Restoration Team, training, and development of a Freshwater Wetland Restoration Kit.

Questions/responses/comments arising regarding during discussion following:

- Comment regarding odonate data available and may relate to health of wetlands.
- RI is not participating in the National Wetland Assessment, but keeping informed.
- Possible that a rapid stressor approach could be used in watersheds to ID some impact types as a coarse 1st cut.
- Yes, other projects have come out of study other than DPW. Of projects that WRWC has completed, about 8 were vegetated buffer or wetland (many have come from Phase 2 and/or the riparian buffer plan).
- The Queens was not included in the Phase 1 pilot as originally planned because the authors were not finding enough impact types in the watershed, so de-emphasized Queen's and focused on Woon.
- A USGS study on habitat was completed in Queen's, looking at river and stream crossings.
- Save the Bay used volunteers to look at stressors as one way to ID potential restoration projects and built upon with subsequent mapping and assessments, suggestion to employ volunteers to ID future FW restoration sites. URI/DEM had a site nomination form in Phase 1 to ID sites, but not a lot of response.
- Suggestion to look at demand, who wants wetlands restored and where, not a lot of incentive for private landowners even with money; suggest make some initial first cuts for where to focus (vs. enormous amount of screening in plan sites).
- Comment that study was based on what was historically a wetland, but so much has changed, and may never be the way they were; what to continue to do now to enhance functions and values?
- Task C (Phase 1) talks about additional factors that affect wetland restorability.

Current Work – Development of a Freshwater Wetland Restoration Strategy: Phase 3

Christine Caron gave an overview of the project components and future meetings and logistics for the current project. There are three main project components:

- **Data Collection:** As a part of this project, we are working to compile data on any voluntary freshwater wetland restoration projects that have been completed in Rhode Island in the past 10 years. Many of you have been contacted by Christine about this already. If you haven't been contacted and you have worked on projects that should be included, please let Christine know.
- **Strategy:** The objective is to produce a written document to guide voluntary freshwater wetland restoration activities in Rhode Island. We hope to create a framework to improve coordination and effectiveness of wetland restoration activities. DEM will be working with the advisory group to complete a strategy that will reflect work completed to date and identify recommended actions on several topic areas.

- Outreach: Once we have a draft strategy developed (which is targeted for the end of the year), we will be soliciting broader input and comments on the draft. We also plan to set up a web page on the DEM web site for this project. We will continue to send meeting announcements to the RI-Restoration list-serve and will report on progress as appropriate.

Christine also described some of the meeting logistics. She will be contacting the designees from each organization regarding the scheduling of future meetings, which are tentatively scheduled to take place during the targeted weeks identified in proposed schedule on the meeting agenda. She will distribute poll(s) to identify the specific date(s) and time(s).

DEM will continue to distribute meeting announcements and agendas to the workgroup and to the RI-Restoration list serve before each meeting. Meeting summaries will be sent out after each meeting to the workgroup members and any others who attended. If applicable to the topic being discussed, Christine will send out background information or suggested resources to the workgroup before the meeting

Identification of Topics and Issues

Sue Kiernan led a discussion with the group to brainstorm issues related to topics proposed for the strategy. The issues/ideas that emerged were:

MAPPING/SITE ID:

- How to make method more efficient/targeted
- Is 1939 the right basis for comparison?
- Is this the appropriate method statewide?
- Priority for protection
- Mapping broadly
- Involve locals to ID and gain practical knowledge (help assess “do-ability”)
- Rapid assessment model with watersheds
- Are watersheds the right unit/scale?
- Private properties, restoration potential - need to pull opportunities/agencies together
- NRCS can’t do outreach directly to private property owners – watersheds can help with reaching out
- Take into account what is healthy around the wetlands
- Bias to urban or degraded areas?

PRIORITIZATION/ASSESSMENT:

- Goal setting/objective
- Does the method translate well to less degraded sites, but still benefit of restoration to habitat? (urban vs. rural)
- Limited resources
- Could vary per watershed priorities (and per wetland types)
- Mechanism/team approach to review assessment, but open enough to take advantage of opportunities that arise (not too rigid, open to opportunities, i.e. funding, cultural, public interest)

- Start with those easy to pick out (stream continuity, hydro alterations, dams, floodwalls) – can assess with aerials, easy to get to
 - Volunteers can help with this b/c all road accessible
 - Need support for volunteer projects (\$\$)
 - Need more intensive study for higher level of detail
- Figure out who is using the tool ahead of time (purpose before design) and the questions
 - Want people to use it
 - Ask the users what do you need to do and how could you do it better with a tool?
- Bring in DOT early on
- Set goals to provide clarification – state level/watershed level

TECHNICAL ASSISTANCE/TRAINING NEEDS:

- \$\$\$ for admin support, training opportunities (hard to fund) – need someone else to do this for watersheds without paid staff
- Some more established organizations find it easy to find technical assistance, but maybe not easy for more grass roots organizations
- Capacity – ability to take on projects, pursue in a timely way
- Other states with designated groups (MA & CT) but not as much freshwater work done (more coastal)

FUNDING:

- State coordination and leverage of funds
- Private funds
- CWRP- working with corporations (encourage responsibility to healthy watersheds, public recognition)
- Need a revolving fund (pot of \$\$ that doesn't need to be spent down)
- ID where constraints come from
- Banking for restoration?? (NH, ME have in lieu fee programs)

PERMITTING:

- Need permit to restore to prior conditions (how to reconcile no wetland loss and dam removal – changes, etc.)
- Want info from DEM ahead of time – (continuing analysis and review of Rules)
- Small impoundments/small streams/areas changing – block fish
- Sediment standards – what are the standards of review? – suggest recreational standards
- Hazardous waste sites (could deter restoration)
 - Involve Office of Waste in process
 - Know if issues there to begin with
- Coordination of DEM offices/divisions; no problem with Office of Water permitting
- Wetland change (restoration) can be hard to permit
 - Looking to improve functions/values might change footprint
- Conflicting priorities (vegetated wetlands, water quality, etc.)
 - sedimentation, how to solve problem (changes wetland, how to do it)?

Any other topics missing from this list? [on the agenda]

- Habitat restoration vs. other restoration (how to integrate overall)
- Climate change – will the wetland be there in the future?

Some other issues arising during topic discussion:

- Note: many projects don't classify as wetland restoration (ex: water quality, point source, non point source)
- Question regarding LID – “vegetated treatment systems” – concern about running into natural wetland restoration; concern about using existing wetlands as treatment areas