

FRESHWATER WETLAND RESTORATION

Phase I

In the summer of 1999 the Department of Environmental Management (DEM) Office of Water Resources and the University of Rhode Island's Department of Natural Resources Science began collaboration on a project funded by the United States Environmental Protection Agency, Region 1, to investigate freshwater wetland restoration opportunities in Rhode Island. From the start, the project was viewed as a multi-phase process. The primary objective of Phase I was to develop a technical framework, or methodology, for identification of freshwater wetland restoration opportunities and for prioritization of restoration projects.

Wetland restoration programs in other states and regions were critically evaluated to determine what components might be applicable in Rhode Island. In addition, a literature review to determine the restorability of specific wetland functions and wetland types was completed.

Techniques for identifying potential restoration opportunities were selected from a comprehensive list of options. All relevant RIGIS datasets (FEMA floodplain maps, wetlands data, soils data), all relevant hard-copy data sources (aerial photography), identification techniques of restoration programs in other states, and other sources of information (digital orthophotography) were considered. Development of restoration site nomination forms and guidelines for identifying restoration opportunities in the field allowed stakeholders to contribute to the site identification process. These guidelines and forms were presented to watershed groups and mailed to individual stakeholders in the Woonasquatucket and Queens watersheds.

Prioritization techniques have been developed to rank restoration opportunities that have been identified in the test areas. The prioritization criteria and techniques are based on the best science available and evaluation of prioritization methods in other states. Individual sites have been assigned to one of several priority categories based on their ability to perform specific functions.

Phase II

I. Introduction

The primary objective of Phase II is to apply the basic methodology devised in Phase I to the development of a freshwater wetland restoration plan for the entire Woonasquatucket River Watershed. This will serve as a prototype for the development of freshwater wetland restoration strategies in other watersheds in the State. Phase I methods will be refined to incorporate new technologies, data sources, and increased stakeholder input. Specifics of restoration plans will be made readily accessible to agencies, municipalities, watershed associations, and other stakeholders.

II. Identification and Prioritization

The Woonasquatucket River Watershed contains a variety of freshwater wetland restoration opportunities. Based on Phase I investigations, it is apparent that filling of wetlands and removal of adjacent upland vegetation are major categories of impacts within this watershed. During Phase II a complete identification of restoration opportunities within the entire basin will be completed. Identification techniques tested during Phase I will be reviewed and modified before basin-wide application, and input from stakeholders will be taken into account. The identification protocol will be applied in the office; this will be followed by landowner research and contact, and field verification of potential restoration sites.

Prioritization criteria and techniques developed in Phase I will be evaluated and then applied to produce a prioritized list of confirmed restoration opportunities for the entire watershed. Application of the protocol will most likely involve collection of field data, as well as data from RIGIS coverages, aerial photographs, and digital orthophotography.

III. Feasibility Study

A certain number of sites will be selected for detailed feasibility analyses. Restoration feasibility at each of the selected sites will be based on both ecological considerations and practical constraints such as estimated cost, and potential permitting hurdles. A comprehensive chart of feasibility issues for all of the selected sites will be created. Special efforts will be made to clearly identify the steps necessary for re-creation of a viable, functioning wetland in each case.

IV. Wetland Restoration Plan

The results will be integrated to produce a comprehensive restoration plan ready for implementation. Specific sites will be recommended for restoration based on the results of the prioritization and feasibility studies. Rationale for recommending certain sites will include proximity to other recommended sites and proximity to sites nominated by other restoration projects in the watershed. Potential funding sources to encourage restoration initiatives will also be identified. Reviews and comments regarding this plan will be solicited from stakeholders and personnel from other watershed restoration projects prior to the final draft.

V. Web Site

Specifics of this restoration plan will be made readily accessible to agencies, municipalities, watershed associations, and other stakeholders. We will create a web site containing a map of confirmed restoration sites and associated information for each site. Basic data would include location, nature of the impact, original wetland type, potentially restorable functions, and priority level. Links to other web pages containing information about restoration funding would also be included.

VI. Collaboration

Input from the Woonasquatucket Watershed stakeholders will be solicited; specifically, (1) comments on prioritization criteria developed in Phase 1, (2) nominations of restoration sites at the outset of Phase II, (3) selection of sites for feasibility studies, and (4) comments on a draft copy of the restoration plan.

DEM's Office of Strategic Planning and Policy is initiating a project funded by the U.S. Forest Service to identify riparian areas in the Woonasquatucket Watershed for reforestation. We will share information with this project, and we will coordinate our efforts with OSP&P so as to minimize conflicts and maximize potential benefits for both projects.

The National Oceanic and Atmospheric Administration has recently awarded DEM, the Coastal Resources Management Council, and Save The Bay a grant to develop the Rhode Island Coastal Habitat Restoration Plan and Information System. As part of this project, coastal habitats in need of restoration will be prioritized and a web site will be developed. We will pursue opportunities to coordinate database development, where appropriate. Links will be provided between our web sites.

VII. Schedule

Phase II will extend over an 18-month period ending on December 31, 2001.

VIII. Contacts

For questions or more information about this project please contact:

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