



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002NY6B

Title: Demonstration of Integrating Instream Habitat Assessment into Local Watershed Management

Project Type: Research

Focus Categories: Ecology, Conservation, Methods

Keywords: aquatic habitat, stream ecology, methods, ecosystem management, monitoring

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Abstract

Problem: Hydrological and habitat modification has been recognized by the US Environmental Protection Agency (EPA), as one of major contributors of non-point source pollution. It is a strategy of the NYS Nonpoint Source Management Plan (page V-45) to improve water quality and restore instream and riparian habitat as a part of maintenance and operation of existing modified channels . The majority of methods used for instream and riparian habitat restoration are constrained in their capability to quantitatively assess the biological response to water withdrawals, channel modification, pollution, and dam removals. Consequently, local and regional management agencies need watershed management tools with the capacity to predict the biological consequences of hydro-modification and applied restoration measures, while optimizing the level of required technical resources.

Objectives: Our overall goal is to assist communities in building more sophisticated environmental resources protection programs, and to enable communities to look beyond single issues to consider the total ecological health of their landscape.

Our specific objectives are:

1. Implement quantitative instream habitat assessment and modeling as a method of Instream and Riparian Habitat Restoration Management Measures (EPA-Non Point Source pollution task);
2. Incorporate instream habitat protection objectives into watershed management activities by local governments and not-for-profit organizations;
3. Provide quantitative science base on instream habitat for development of management concept;

4. Demonstrate the procedures in selected watershed in NYS;

5. Increase understanding of agency staff and lay public of functioning and value of stream ecosystem;

Methods: We propose here a project to demonstrate the application of a newly developed instream habitat modeling technique (MesoHABSIM) to integrate aquatic habitat management, flood protection and water quality protection. In this process of know-how transfer to the local citizen group and local state agency we will help to provide instream habitat knowledge base for establishing ecological goals for integrated management concept of the watershed.