NORTHEAST REGIONAL CONSERVATION NEED GRANT PROGRESS REPORT ABSTRACT

Grant Number: 2007-06

Grant Title: An interactive, GIS-based application to estimate continuous, unimpacted daily streamflow at ungaged locations in the Connecticut River Basin

Grant Receipt: U.S. Geological Survey

Grant Contact Name: Stacey A. Archfield

Progress Report Abstract

This proposal is intended to address Priority RCN Topic 3: Development of Instream Flow Standards, Guidelines, and Policies though the development of a seamless, multi-state GIS-based point-and-click application that will allow users to identify a stream reach of interest in the Connecticut River basin and obtain estimated continuous daily, unregulated or "natural" streamflow at the selected location. The application spans the entire Connecticut River basin, including the states of Connecticut, Massachusetts, New Hampshire and Vermont. This work expands on a method developed for Massachusetts to estimate daily streamflows at ungaged locations. The project is divided into two tasks: 1) the refinement of the methods to include gages in the northern portion of the Connecticut River Basin, and 2) the development of a seamless, multi-state point-and-click GIS application to interactively estimate streamflow at ungaged locations in the Connecticut River Basin. To date, all project work has been completed. The development of the multi-state tool is complete and in final beta testing before being released as a publically-available, USGS-hosted website. The software tool and user manual has been published on the publically-available website: http://webdmamrl.er.usgs.gov/s1/sarch/ctrtool/index.html. The last remaining task is to submit the completed manuscript for publication. We anticipate the manuscript will be submitted for publication by December 2011 to the journal *Environmental Modeling and Software*.

NORTHEAST REGIONAL CONSERVATION NEED GRANT QUARTERLY REPORT

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Were planned goals/objectives achieved last quarter? No.

Regional Conservation Need Addressed: Priority RCN Topic 3: Development of Instream Flow Standards, Guidelines, and Policies

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)
Project Objectives: Develop an interactive point-and-click GIS application to estimate continuous, daily unimpacted streamflow at any ungaged location in the Connecticut River basin.

Planned Accomplishments	Actual Accomplishments
-> Complete draft report and submit report to journal for publication -> Publish software tool on publically-available USGS-hosted website	-> Software tool has been published on publically-available USGS-hosted website -> Draft report is approximately 80 percent complete

Difficulties Encountered: The completed draft for the final publication is taking longer than expected because of other priorities. Additionally, since the last report, the non-federal partner for this project has asked us to look into revising the method to improve estimates of high streamflow values. We were able to make a modification to the method to improve streamflow estimates, which now needs to be incorporated into the draft report. This will be completed by the end of the next quarter.

Activities Anticipated Next Quarter:

- Complete draft report and submit report to journal for publication

Costs:

Are you within the approved budget plan? Yes.
Are you within approved budget categories? Yes.

Signature:
Date: 11/08/11