

NORTHEAST REGIONAL CONSERVATION NEEDS GRANT 2012 ABSTRACT

Quarter: (circle one) 2012 1st 2012 2nd 2012 3rd 2012 4th

Grant Number and Title: RCN Grant #2010-2 In-stream Flow Recommendations for the Great Lakes Basin of New York and Pennsylvania

Grant Receipt/Organization: The Nature Conservancy

Grant Project Leader: David Klein

Please provide a short (1-2 paragraphs) abstract that addresses EACH of the following: the objectives of your project, accomplishments to date, future plans and timelines with an estimate for when the project will be completed.

This project will employ the Ecological Limits of Hydrologic Alteration (ELOHA) framework in the Great Lakes drainage of New York and Pennsylvania to develop an objective, spatially explicit process for evaluating the ecological impacts of new withdrawals of water from the tributaries of Lakes Erie, Ontario, and the Upper St. Lawrence River. The goal is to provide the scientific information necessary to support development and implementation of in-stream flow standards for managing the Great Lakes surface and ground-waters of New York and Pennsylvania under the terms of the Great Lakes Compact.

Milestones for the second quarter of 2012 were achieved, including planning and implementation of the second workshop engaging our 25-member Technical Advisory Team to develop and refine hypotheses of ecological response to hydrologic alteration, based on the previously-completed report that documents the flow requirements of carefully selected flow-dependent fish found in the Great Lakes tributaries and nearshore waters. This second workshop also refined the method we will use to classify streams for flow recommendations to avoid cumulative adverse impacts of future and cumulative water withdrawals. We have begun planning the final workshop, which will refine flow recommendations for the streams of different types in the Great Lakes Basin of NY and PA. This project is on schedule to complete a final report in January 2013.

NORTHEAST REGIONAL CONSERVATION NEED GRANT

2012 PROGRESS REPORT

Quarter: (circle one)

2012 1st

2012 2nd

2012 3rd

2012 4th

Grant Number and Title: 2010-02

Grant Receipt/Organization: In-stream Flow Recommendations for the Great Lakes Basin of New York and Pennsylvania

Grant Project Leader: David Klein

Were planned goals/objectives achieved last quarter? This project remains on schedule, and during the 2nd quarter we completed Task 5 of our project narrative by organizing a workshop with our Technical Advisory Team to define hypotheses of ecological response to flow alteration. These hypotheses will be tested either through structured review of scientific literature or through actual data analysis.

Regional Conservation Need Addressed: This project will provide the information necessary to develop and implement science-based in-stream flow standards for managing the waters of the Great Lakes tributaries in New York and Pennsylvania under the terms of the Great Lakes Compact.

Progress Achieved: During the first quarter of 2012, our activities focused on steps 4 and 5 in our project narrative:

Step 4: Characterize and classify baseline and current hydrologic conditions in the Great Lakes tributaries of NY and PA to produce a classification of streams; simulation of baseline conditions; and assessment of flow alteration. As mentioned in our previous quarterly report, the lack of a sufficient number of reference stream gages (gages on streams with lengthy, continuous records in watersheds that can be considered “least disturbed”) in the project area has necessitated use of other methods for stream classification. In preparation for the 2nd workshop, Dr. Jason Taylor adapted existing stream classifications based on temperature, watershed size, and gradient (including the NEAFWA stream typology that several of the members of our Technical Advisory Team helped to develop) to provide maps of stream classes for discussion and refinement during the workshop. The Advisory Team reviewed this classification, and made corrections to it during the workshop, and we will apply this revised classification during the hypothesis testing phase of the current quarter.

Step 5: Organize a flow alteration-ecological response workshop and assemble the relevant experts to refine specific hypotheses of ecological response to flow alteration. Define existing data to test these hypotheses. The hypothesis workshop was organized and held on June 14, 2012, with 21 members of the Technical Advisory Team, and 9 staff from The Nature Conservancy and Cornell University. The workshop addressed two issues: stream classification, and hypotheses of ecological responses to various aspects of altered flows. We now are completing a detailed summary of the workshop.

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)

As detailed above, we have completed steps 4 and 5 in our project narrative, and we are preparing to complete steps 6 and 7 and complete preparations for step 8 (flow recommendations workshop, and preparation of a final report) during the current quarter. We anticipate a 3rd workshop to develop flow recommendations, based on the results of reviewing the hypotheses of flow alteration-ecological response, during the month of October 2012.

During the preceding quarter, several staff from The Nature Conservancy contributed to our progress: Colin

Apse and George Schuler participated in the internal core team that guides our project, assisted in planning the 2nd workshop, and served as facilitators of discussion groups during the workshop. Chapter Director Jim Howe helped plan the workshop and reviewed preparatory materials; he also participated in the workshop. Darran Crabtree (Director of Conservation Programs) helped plan the workshop, and served as a facilitator. David Klein led the team that planned and implemented the workshop, and he and Freshwater Conservation Practitioner Stevie Adams served as note takers during the workshop.

Difficulties Encountered: The AFINCH modeling of stream flows, which simulates the unaltered flows of streams and stream segments within the Great Lakes, including our project area, has been completed. However, this methodology apparently is not appropriate for simulating current, altered flows for the same streams. Consequently, we will need to employ other methods to assess stream-flow alteration and evaluate the accuracy of our hypotheses. Dr. Jason Taylor is now working with colleagues in other states and watersheds to share information for the accomplishment of this step.

Activities Anticipated Next Quarter: We will employ a number of techniques to test the hypotheses refined during the second workshop, and prepare draft flow recommendations based on the results of hypothesis testing. We also will complete a thorough summary of the 2nd workshop (almost complete now) for review by the Technical Advisory Team. We will schedule and organize a final, 3rd workshop, tentatively scheduled for November 2012.

Expected End Date: This project is scheduled to conclude in January 2013 with flow recommendations for the streams of different types in the Great Lakes basin of NY and PA.

Costs:

Funds Expended to Previous to this Report: \$ \$38,970.90

Amount of RCN Funds Requested within this Report: \$ \$10,121.11

Total Approved Budgeted RCN Funds: \$100,000.00

Are you within the approved budget plan? Yes

Are you within approved budget categories? Yes

Signature:



Date: July 30, 2012