

APPENDIX C

Summary of New York Rivers United (NYRU) Report: “Review of Potential Dam Removal and Mitigation Opportunities in New York’s Great Lakes Basin” April 25, 2006

Introduction

This study is part of an ongoing effort to restore the Great Lakes ecosystem. In 1987, the governments of Canada and the United States signed the Great Lakes Water Quality Agreement which includes the development of Lakewide Management Plans (LaMPs) for each of the five Great Lakes. LaMPs provide a systematic and comprehensive ecosystem approach to restoring the Great Lakes. Restoring access to vital fish spawning habitat is one necessary step to achieve the goal of natural sustaining fish populations in the Great Lakes.

The objective of this study was to identify potential dam removal/barrier mitigation opportunities in New York’s Great Lakes Basin to help restore the connection between Great Lakes fish and upstream tributary spawning habitats. The Project assessed the current needs and opportunities associated with using selective dam removal and other alternative barrier mitigation methods to restore or allow upstream fish passage along rivers in New York State's Great Lakes Basin. The project developed a list of dams that could be removed or mitigated to improve upstream fish passage.

This report identifies first and second barrier dams on New York’s Lake Ontario basin tributaries where dam removals, fish ladder construction or other mitigation activities could potentially increase upstream spawning habit for important native fish and sport fish. The report can be located on GLNPO’s website or by contacting NYRU.

Evaluation Approach

The scope of this evaluation included first and selected second barrier dams of NYS Great Lake’s basin. This evaluation did not include dams regulated under the Federal Energy Regulation Commission (FERC) except in those instances where removal of an identified high priority dam, downstream of a FERC dam, would change the range of fish passage issues that would need to be considered by the FERC relicensing process. Fish passage issues associated with FERC regulated dams are addressed in detail as part of periodic relicensing negotiations.

The evaluation process consisted of five stages:

- Identifying dams to be reviewed based on a list developed by Cornell University Hydroecology and Conservation Mapping Model and NYSDEC Dam Safety database.

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- Visiting the dams in the field to qualitatively assess dam structural conditions and ecological settings.
- Completing the New York State Dam Mitigation Assessment Tool work sheet (Appendix A).
- Consulting with NYSDEC fishery managers on which dammed tributaries have the greatest potential for increased spawning habitat for native fish species and sport fish.
- Developing a list of high priority dams and final recommendations

This project began with the list of first and second barriers generated by the Cornell University Hydroecology and Conservation Mapping model. The goal is to develop and demonstrate a modeling and geographic information system that can be applied to the Great Lakes Region to indicate the locations of areas with the greatest need for hydroecological restoration and the most substantial community capacity for implementing conservation programs. Hydrologic and habitat mapping is being conducted to identify land areas and stream segments associated with highly altered streamflows, degraded habitats, and fragmented stream courses. These locations would then be identified on a large scale (coastal watersheds of New York's Great Lakes) geographic information system (GIS) for targeting restoration actions. A list of dams was generated and provided for NYRU to assess. For more information please visit the following website. <http://hydroeco.cfe.cornell.edu/>.

Using NYSDEC Dam Safety database to locate the dams, each of the dams was then visited to conduct a visual evaluation to determine their usefulness, potential structural deficiencies, the amount of land erosion along and around the barrier, the amount of debris collecting behind the dam, the amount of stagnant water impounded and any safety issues, such as exposed intake structures. A qualitative ranking of “Low,” “Medium,” or “High” was given to each dam to describe its physical condition with “high” being those in the worst condition and/or abandoned.

This information was used to complete the Dam Mitigation Site Assessment Tool for NYS worksheet in Appendix A for each of the dams. The physical condition of a dam is one factor to consider when identifying removal candidates since there is likely to be less resistance to removing an abandoned, deteriorating dam as opposed to one in good condition providing a needed service to a community.

The New York State Dam Mitigation Assessment Tool worksheet used in this project was developed by a group of Federal, State and non-governmental partners. This worksheet is used as a “Criteria” screening tool to evaluate potential barrier mitigation sites as part of a Strategy for Stream Professionals to use in New York State.

The identification of dam sites for projects that could be considered as a high priority for removal or mitigation relied heavily on NYSDEC Great Lakes Regional Fisheries Managers’ expert knowledge of the type of migratory fish present in these tributaries and the availability of spawning habitat above these barriers. NYRU staff met with NYSDEC

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fishery managers to discuss key fishery issues related to each dam within their area of responsibility.

USEPA Region 2 and NYSDEC staff familiar with Great Lakes fish and sediment contaminant issues were also consulted to determine if any contaminated sediment issues were associated with identified high priority dams.

The final list of dams identified as a high priority for future evaluations meet the following criteria:

- located on tributaries that support important native species and/or sport fish;
- no longer serve a useful purpose;
- show signs of physical deterioration;
- no contaminated sediment issues above the dam;
- further review supported by NYSDEC fishery managers

Advice and Recommendations

As with all projects, data can need correcting and must be verified in the field. There were some cases where the locations of certain dams were mis-identified from a few feet to several miles. Generally, through simple deduction, the correct location was established. NYRU used this method to find dams that were not properly registered in the database or were no longer in existence.

Locating Dams:

- Compare location information in the database to the NYRU data
 - o Human error is the biggest culprit.
- Locate the nearest town and check with the municipal building for location of the dam
 - o For the most part this worked. However, NYRU found that many towns were unaware that there was a dam in their vicinity and very surprised when presented with photographs and location once located.
- Look into the local Historical Society for location of abandoned dams
 - o Usually retired residents with historical interest can be found here. These folks are extremely helpful and knowledgeable about their own neck of the woods.
- Speak with the local residents
 - o Dams change owners and names over the years. Original dam names are often forgotten and replaced with a more common name known by the locals.

Data Collection:

- When contacting sources for information, make the purpose of your inquiry and your affiliation clear from the onset.
- Take several pictures

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- When trying to remember several dams and their surrounding area pictures are the best source.
- Take plenty of notes
 - Local historical buffs can give you valuable historical information.
 - Local residents can provide current activities happening with the dam such as flooding, erosion and general consensus of what the town would like to see happen to the dam.
- Whenever possible get current dam owner information from local municipalities
 - Over the course of the years, dam ownership changes hands when land is sold. Sometimes, new landowners are unaware they are the owners of a dam. Getting the current information at the local municipal building will save the confusion later on.

Conclusion

NYRU report “REVIEW OF POTENTIAL DAM REMOVAL AND MITIGATION OPPORTUNITIES IN NEW YORK’S GREAT LAKE’S BASIN,” April 25, 2006, was reviewed by several agencies and has been a catalyst for many new projects. Reports such as this one are needed to identify and locate problem watersheds with dams that are no longer serving their useful purpose, in disrepair, and/or abandoned. The need to restore connectivity between the tributaries and the Great Lakes is a viable and necessary effort to restore sediment transport, nutrients, habitat for riverine species, water temperature, flows and fish passage to the Great Lakes.

Lake Ontario Dam Priority Map

DEFICIENCY KEY

-  Low Priority
-  Medium Priority
-  High Priority



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