

An aerial photograph of a river system. In the foreground, a large, dark, slow-moving reservoir is visible. A dam with a spillway is situated in the middle ground, with water cascading over it. To the left of the dam, there is a large, multi-story stone building, possibly a mill or industrial structure. The background shows a residential area with houses and a golf course, surrounded by dense green trees. The sky is clear and bright.

# NEAFWA Aquatic Connectivity

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# Purpose



*This project endeavors to produce a tiered list of dams in the Northeast US based on their potential ecological benefit if remediated for fish passage, and develop a tool that allows managers to re-rank dams at multiple spatial scales*



Montsweag Brook, ME, before Montsweag Dam removal



Montsweag Brook after. Photos by Dan Creek

- Dams and other barriers to the free movement of fish and other aquatic organisms have had a negative impact on the health and viability of these populations for well over a century in the eastern United States.
- Removing or otherwise mitigating dams can improve the health of aquatic ecosystems and allow fish populations to recover.
- Given the financial and organizational obstacles to dam removal projects, it is critical that managers focus their efforts and resources where they can have the greatest ecological impact.

# Methods



- **Data Collection & Preparation**
  - Dams, waterfalls, anadromous fish habitat collected from states & other sources, processed, iteratively reviewed with state contacts
  
- **Metrics calculated in GIS for every dam. Metrics grouped in 5 categories. The Barrier Analysis Tool (BAT), an ArcGIS plug-in developed for this project, was used to calculate many of the metrics.**
  - Connectivity Status
  - Connectivity Improvement
  - Watershed & Local Condition
  - Ecological
  - Size Class
  
- **Ranking**
  - Dams ranked based on the metrics calculated in GIS and weighted based on relative weights developed by workgroup for anadromous fish and resident fish scenarios

# Status & Utility



- 2<sup>nd</sup> draft of results are currently being reviewed by state workgroup participants
- Final results: end of August
- Potential utility of results (as suggested by workgroup participants)
  - Project evaluation
  - Communicating with owners/funders
  - Grant writing
  - Justifying projects during funding allocation
  - Bring attention to new projects that may not have been looked at before
  - Developing basin-level plans
  - Local-level communication
  - Inform advocacy efforts
  - Stimulate proactive action rather than opportunistic removals

