

A wide-angle photograph of the Whitney Point Dam and Reservoir. The dam is a large concrete structure with a spillway, situated on a grassy hillside. The reservoir is a large body of blue water, surrounded by lush green hills and forests. The sky is blue with scattered white clouds. The text is overlaid on the top half of the image.

Whitney Point Adaptive Management Plan

Flow Augmentation for Low Flow Events

**June 30, 2009
Water Quality Advisory
Committee Meeting**

Background



- Whitney Point Reservoir
 - USACE reservoir created in 1942 for flood control
 - Located in Broome County, NY
 - Provides a variety of recreational activities; 1,200 acre lake
- Since 1996, SRBC has been working with the USACE and NYSDEC to implement a restoration project for Whitney Point Reservoir that allows for low flow releases from the reservoir.
 - Project began in 2008

Project Objectives

- Maintaining Whitney Point Reservoir at a year-round pool level – 8,500 acre-feet of total storage will be available to augment downstream flows
 - Otselic, Tioughnioga, Chenango, and Susquehanna Rivers
- Monitor annually and during trigger low flow conditions to document the benefits of additional flow to the system.



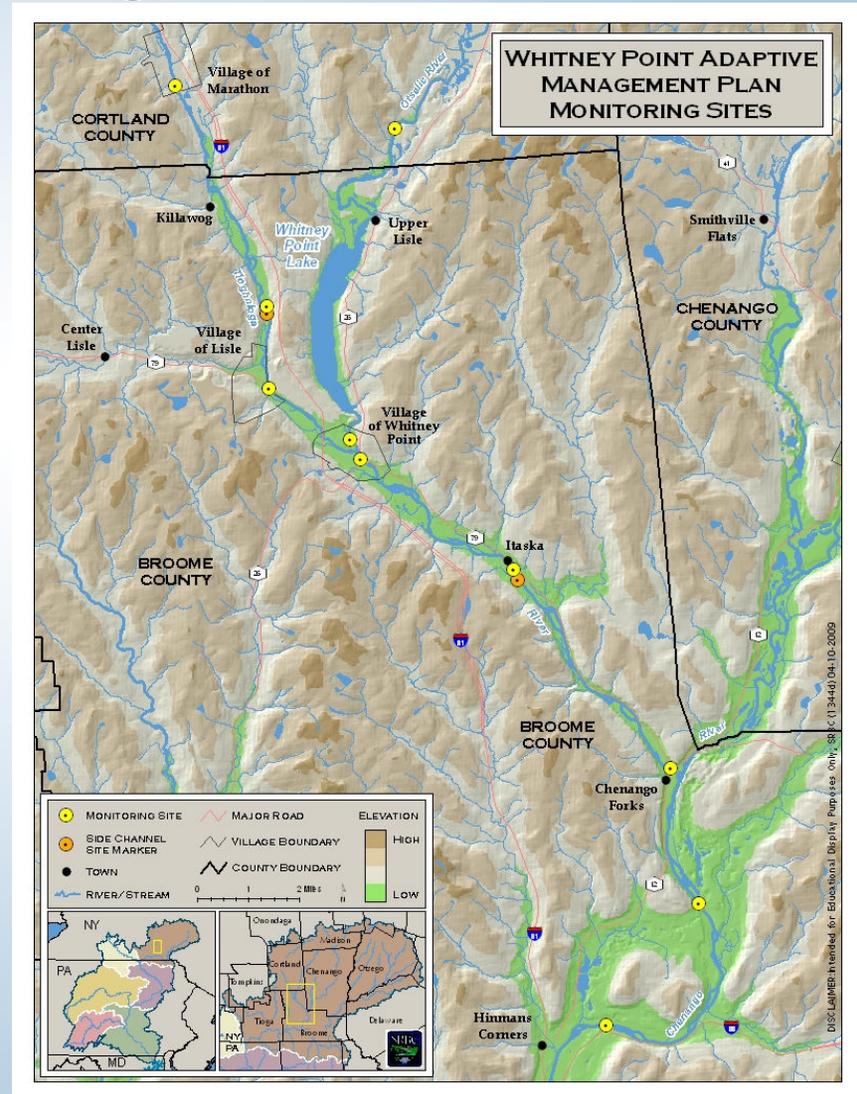
Monitoring

- Adaptive Management Plan: monitoring plan to be re-evaluated each year to ensure that it is meeting the project goals
- The monitoring will provide information to:
 - Assess the chemical and biological conditions of Whitney Point Lake and the surrounding watersheds
 - Document changes in stream quality over various flow regimes
 - Assess fish and macroinvertebrate usage of riverine side channel/backwater habitats
 - Assess submerged aquatic vegetation growth in the lake



2008 Monitoring Activities

- Baseline sampling at varying flow regimes
- 10 instream sites and 2 side channel sites
 - Water quality, macroinvertebrates, fish, stream discharge, and habitat assessments
- Lake sampling in August
 - Water quality, macroinvertebrates, submerged aquatic vegetation



Instream Results

- Water quality was very good overall, with only a couple sites having slightly elevated nutrient levels.
- Macroinvertebrate communities were all rated as nonimpaired or slightly impaired except for the site directly downstream on the dam.
- Fish diversity was generally high, with good populations of game fish such as smallmouth bass, rock bass, and walleye.



- The side channel areas provide excellent habitat for a variety of minnows and darters as well as young of the year smallmouth bass.
- As flows decreased in August and October, the loss of habitat in the side channels was very evident. (i.e., undercut banks and root wads were no longer under water, shallower pools, riffles were more exposed)



Lake Results

- Lake sampling
 - Very eutrophic lake; high total phosphorus, high chlorophyll a, low water clarity
 - SAV – targeted recreational areas; ranged from very dense to sparse vegetation
 - Macros; poor results last year, trying again in 2009



Plan for the Future

- Sampling every June for next 4 years as a baseline
- During low flow events, there are trigger flows at two USGS stream gages
 - 700 cfs on the Susquehanna at Waverly
 - 150 cfs on the Chenango River near Chenango Forks
- Releases will be made from the lake to supplement instream flows at a 50-100 cfs release rate
- Sampling before, during, and after a low flow release
- Monitor lake conditions after a release



A scenic landscape featuring a wide river in the foreground, a forested hillside in the middle ground, and a cloudy sky. The word "QUESTIONS?" is overlaid in the center in a large, bold, black serif font. The river flows from the left towards the right, with a rocky shoreline in the lower-left corner. The forest on the hills shows some autumnal colors, including reds and oranges, mixed with green. The sky is filled with large, white and grey clouds, with a small patch of blue visible on the right side.

QUESTIONS?