

Library Reference 2.4

Objectives and structure of the Ambient Monitoring Program.

AMP Program Objective	Monitoring and Assessment	Comments
Quantify external loading.	Monitor streams and point sources for flow, nutrients, solids, indicator bacteria, metals, and salts. Calculate load.	Regular (biweekly) tributary sampling supplemented with storm and high flow event monitoring.
Assess compliance and trends in lake water quality..	<p><u>Physical characteristics:</u> temperature, light penetration, water clarity, turbidity</p> <p><u>Chemical characteristics:</u> nutrients, salts, dissolved oxygen, ammonia, pH, metals.</p> <p><u>Biological characteristics:</u> chlorophyll-<i>a</i> and phaeophytin, phytoplankton, zooplankton, indicator bacteria. <i>Additional biological parameters are summarized below.</i></p> <p><u>Trophic status:</u> phosphorus, chlorophyll-<i>a</i>, Secchi disk transparency, dissolved oxygen, phytoplankton community</p>	<p>Profiles through water column, supplemented by buoy with sondes at fixed depths.</p> <p>Water quality monitoring buoy at deepest location (profile sampling).</p> <p>Biweekly monitoring (open water season), monthly winter sampling, as possible.</p> <p>Water clarity and indicator bacteria monitoring at nearshore stations: suitability for water contact recreation.</p>
Determine tributary water quality, biota, and habitat conditions.	<p><u>Water quality:</u> Annual program for flow, nutrients, solids, bacteria, metals, salts, oxygen-demanding material, and carbon fractions.</p> <p><u>Habitat and biota:</u> Every 2 years starting in 2000: monitor stream macroinvertebrate community.</p> <p><u>Stream mapping:</u> based on the Natural Resources Conservation Service Visual Assessment Protocol 1998 (baseline assessment in 2000 and 2002, to be repeated in 2008 and 2012). Additional evaluation of stream segments possible following improvements and/or major hydrologic events.</p>	Stream mapping and habitat assessment (including macroinvertebrates) limited to the three CSO-affected tributaries. Water quality monitoring occurs in all tributaries and inflows.
Assess the biological community in Onondaga Lake.	<p><u>Fish community:</u> annual assessment of nests, larval fishes, juveniles, adults using multiple sampling gears and techniques.</p> <p><u>Macrophytes:</u> annual aerial photography for percent cover of littoral zone (limited ground truthing). Detailed field survey every 5 years starting in 2000.</p> <p><u>Littoral macroinvertebrates:</u> every 5 years, community structure and abundance.</p> <p><u>Zebra mussels:</u> habitat mapping and sampling at reference locations (lake and river)</p>	<p>Focus on metrics of community structure, food web dynamics.</p> <p>Biological sampling of littoral zone, sediment texture analysis.</p> <p>TRWQM and OLWQM Support (Zebra Mussels)</p>