The Waterbody Inventory and Priority Waterbodies List

In order to fulfill certain requirements of the Federal Clean Water Act, the New York State Department of Environmental Conservation (NYSDEC) must provide regular, periodic assessments of the quality of the water resources in the state, and their ability to support specific uses. These assessments reflect monitoring and water quality information drawn from a number of programs and sources, both within and outside NYSDEC. This information has been compiled by NYSDEC Division of Water and merged into an inventory database of all waterbodies in New York State. The database is used to record current water quality information, characterize known and/or suspected water quality problems and issues, and track progress toward their resolution. This inventory of water quality information is the division's Waterbody Inventory/Priority Waterbodies List (WI/PWL).

In addition to providing a baseline assessment of water quality, the Waterbody Inventory/Priority Waterbodies List supports program management within the Division of Water in other ways. For example:

A Focus for Division Program Activities
Because of limited resources, various division programs (monitoring, compliance, restoration and protection activities, grant funding, etc) need to address those specific water quality issues – both statewide problems (e.g., stormwater, toxic/contaminated sediment) and site/waterbody-specific concerns – where program efforts will have the greatest impact.

A Consistent and Objective Inventory
WI/PWL assessments of water quality problems and issues are used in the development of program-specific priority ranking/scoring systems and efforts.

A Record of Water Quality History
Because the WI/PWL provides information for specific waterbodies, staff can easily respond to questions – from both within and outside the division (including the public) – concerning what is known about the water quality of specific rivers, lakes and watersheds.

A Measure of Progress
The WI/PWL also aids in the tracking of progress by division programs and other efforts toward improving the water resources of the state.

Comprehensive Assessment Strategy

The Waterbody Inventory/Priority Waterbodies List is a key component of the Division of Water's larger *Comprehensive Assessment Strategy*. This strategy is designed to integrate a variety of division activities into a more coordinated and comprehensive water quality program. The specific goals of the *Comprehensive Assessment Strategy* are to provide a:

- thorough (appropriate to available resources) monitoring of state waters;
- complete evaluation and consideration of all available monitoring data;
- comprehensive assessment of the quality of all waters in the state; and
- coordinated approach to improving and protecting these water resources.

Implementation of the *Comprehensive Assessment Strategy* relies on a rotating drainage basin approach. This approach focuses water quality monitoring and assessment activities on a portion of the state for a designated period of time, and then turns attention to other parts of the state. New York State's use of the rotating basin approach enables the updating of the WI/PWL in two or three of its seventeen drainage basins (about 20% of the state) each year. This schedule allows for a comprehensive reassessment of the water quality throughout the entire state over a five-year cycle (see Figure 1).

Statewide Waters Monitoring Program

Prior to the updating of the WI/PWL, the division conducts a two-year monitoring effort in the targeted drainage basins. These basin studies – conducted within the Division of Water's Statewide Waters Monitoring Program – involve a variety of sampling activities conducted by the division, other NYSDEC programs, and water quality partners outside NYSDEC.

The first year of these basin studies focuses on the review of existing water quality information and the incorporation of monitoring efforts being conducted by other basin/watershed partners. Division monitoring activities in the first year are generally limited to *biological screening*. Biological screening relies on the use of resident biological communities as indicators of water quality. The primary biological communities are fish, macroinvertebrates (aquatic insects) and algae. Of these, macroinvertebrates have proven the most appropriate for screening water quality at a large number of sites in a reasonable amount of time.

The second year of the basin studies involves more intensive chemical and biological monitoring. This includes water chemistry sampling at selected sites, sediment chemistry/toxicity sampling, multiple site surveys along specific river reaches, and other site- or problem-specific monitoring investigations.

Water Quality Assessments: Updating the WI/PWL

At the conclusion of the monitoring effort in a basin, the water quality data are evaluated to assess the ability of the waterbodies to support specific water uses (water supply, public bathing, aquatic life, secondary recreation, etc). As was the case with the monitoring effort, the evaluation and assessment of data and subsequent updating of WI/PWL information incorporates input from division/department staff and outside partners as well. WI/PWL assessment workshops are conducted for NYSDEC regional staff and watershed partners within each targeted basin, and participants are encouraged to submit assessment worksheets for waterbodies for which they have information. This information – along with Statewide Waters Monitoring Program assessment information – is compiled and distributed to participants for review and comment before the Final WI/PWL Assessment Report is issued.

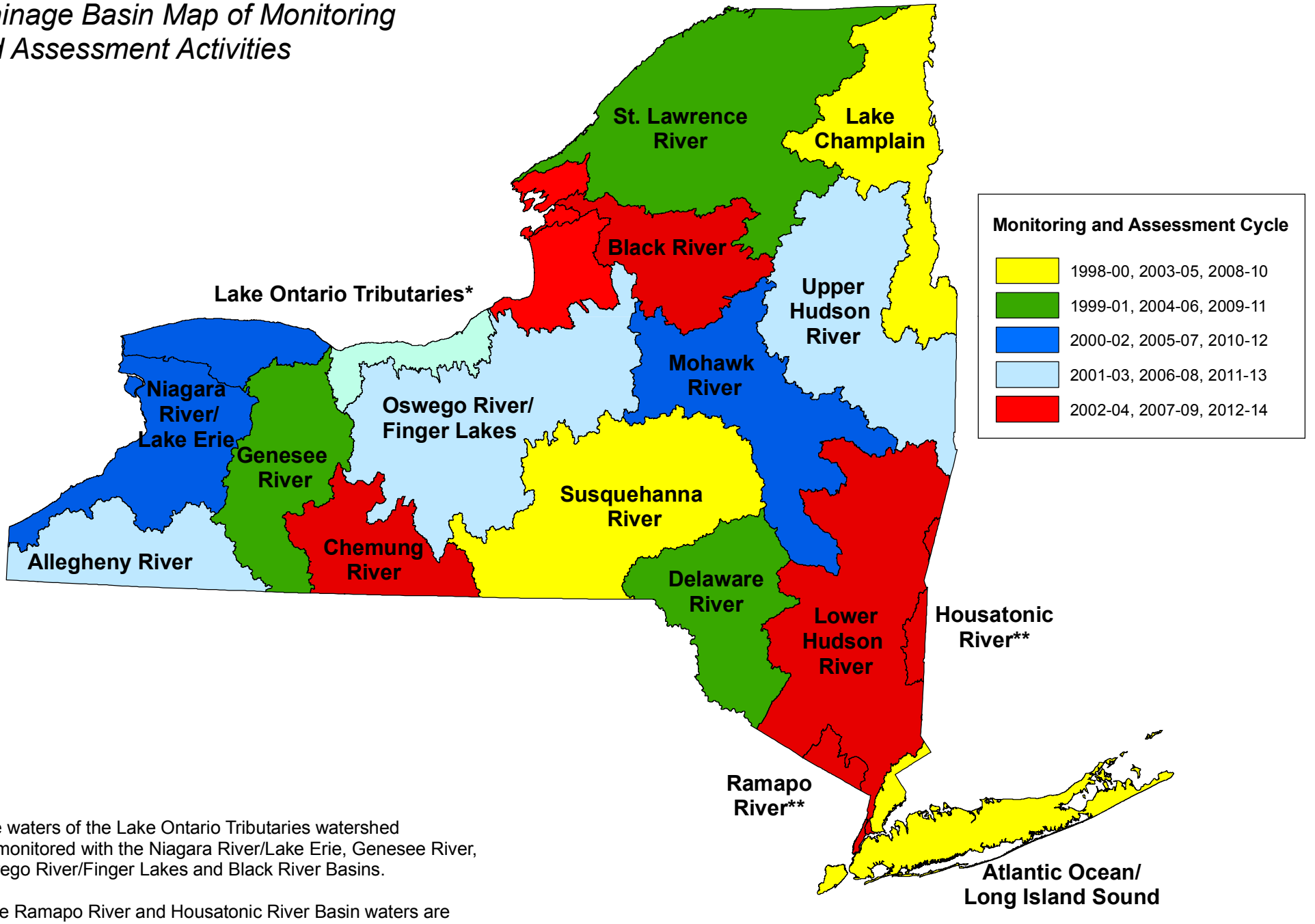
An Expanded *Waterbody Inventory*

Upon its inception in 1983 and through the mid-1990s, the Priority Waterbodies List was limited to recording information for only those waters with known or suspected water quality problems. The expansion of the database to include *all* waters in the state, including those with good and unknown water quality, is a fairly recent effort. However, while this expanded waterbodies database provides more complete water quality information, for program management purposes the division must also be able to cull a subset of "*priority*" waterbodies from the inventory of all waters on which the division should spend resources. In other words, there is a need for both a comprehensive *Waterbody Inventory* of water quality information for all waters in the state and a subset of this inventory that is limited to segments with well documented, potentially resolvable, higher priority problems and issues. This subset of the Waterbody Inventory is the *Priority Waterbodies List*.

Figure 1

Comprehensive Assessment Strategy

Drainage Basin Map of Monitoring and Assessment Activities



*The waters of the Lake Ontario Tributaries watershed are monitored with the Niagara River/Lake Erie, Genesee River, Oswego River/Finger Lakes and Black River Basins.

**The Ramapo River and Housatonic River Basin waters are monitored with the Lower Hudson River basin.

In order to achieve these multiple objectives, segments in the larger comprehensive Waterbody Inventory are segregated into one of six (6) *Water Quality Assessment Categories*. These are outlined below.

WI/PWL Waterbody Assessment Categories

Impaired Waters: These are waterbodies with well documented water quality problems that result in *precluded* or *impaired* uses (waters with *stressed* or *threatened* uses are not included in this category). This category includes *High* and *Medium Resolvability* segments where the Division considers the expenditure of additional resources to improve water quality to be worthwhile given public interest and/or the expectation that a measurable improvement can be achieved; and *Low Resolvability* segments with persistent/intractable problems on which the Division is not likely to spend any significant resources (e.g., segments affected by atmospheric deposition, etc.).

Waters with Minor Impacts: These are waterbodies where less severe water quality impacts are apparent but uses are still considered fully supported. These segments correspond to waters listed as having *stressed* uses.

Threatened Waterbodies: These are waterbodies for which uses are not restricted and no water quality problems exist but where specific land use or other changes in the surrounding watershed are known or strongly suspected of threatening water quality. Also included in this category are waterbodies where the support of a specific and/or distinctive use make the waterbody more susceptible to water quality threats.

Waterbodies with Impacts Needing Verification: These are segments that are thought to have water quality problems or impacts but for which there is not sufficient or definitive documentation. These segments require additional monitoring to determine whether uses are restricted.

Waterbodies Having No Known Impacts: These are segments where monitoring data and information indicate that there are no restrictions to overall uses, although minor impacts to component indicators (such as biological assessments) may be present.

UnAssessed Waterbodies: These are segments where there is insufficient water quality information available to assess the support of designated uses.

Taken together, *Impaired Waters*, *Waters with Minor Impacts* and *Threatened Waterbodies* comprise the Division of Water Priority Waterbodies List (PWL). These segments are the focus of remedial/corrective and resource protection activities by the division and its water quality partners.

***Waterbodies with Impacts Needing Verification, Waterbodies Having No Known Impacts* and *UnAssessed Waterbodies* are tracked on the comprehensive Waterbody Inventory, but are not considered to be included among waters on the Priority Waterbodies List.** For these waters, additional monitoring and assessment activities to document possible or potential future impacts, causes and sources are more appropriate than remedial/corrective action or resource protection efforts.

Maintaining a comprehensive Waterbody Inventory allows division staff to easily respond to questions – from both within and outside NYSDEC – concerning the water quality of specific rivers, lakes and watersheds. By segregating the database in the manner described above, the Division can also identify specific priorities where the coordination of limited resources can most effectively address water quality problems.