

Chapter VII: Data Gaps

Compiling watershed-wide information for the State of the Lake and Watershed report has been a challenge because of the inconsistent availability of information for the watershed. Some counties/regions have very comprehensive information on selected topics, while the data may be rare or non-existent in other areas. Key pieces of missing information, called data gaps, are presented below. These data gaps often limited our ability to draw conclusions regarding the status of the lake and its watershed. These data gaps will eventually be prioritized, based on need and practicality, so that the missing information can be compiled when funding becomes available.

Section 1. Economic and Environmental Data Needs

- Economic and census data specific to the watershed boundary
- Economic and environmental impacts from tourism (fisheries, boating, etc.)
- Information on the impact of water quality on economic indicators such as tourism and property tax
- Information about major employers, type of business and location (i.e. a map highlighting particular businesses of interest such as paper mills and timber operations)
- Wetlands and riparian areas that are critical for protecting water quality and floodplains
- Additional data on the Oneida Lake North Shore subwatershed (description of the area and documentation of problems)
- Additional data on septic systems is needed to assess potential environmental and water quality impacts. How many septic systems are failing? What is the impact on the environment and water resources? Additional data is needed from Onondaga, Oswego, and Lewis Counties to determine the limitations for on-site wastewater disposal systems based on soils data. Data is needed to characterize the performance of individual systems and how leachate from septic systems contributes to nitrate, phosphorus, and pathogen levels.
- The percentage of land area devoted to different types of farming operations, and the percentage of land area devoted to different crops, commodities and products. This would be helpful in identifying the source of a particular chemical or other by-product.
- Data on privately owned forestlands, the impact of forestry activities on water quality, and different types of logging operations, commodities, and products.

Section 2. Water Quality and Monitoring Needs

- Water and nutrient budgets for Oneida Lake
- Ecological modeling for the lake and streams
- Research to determine the effectiveness of mitigating measures (Best Management Practices) in reducing sediment and nutrient loading. Before and after monitoring is needed where remedial measures such as streambank stabilization or stormwater controls have been implemented
- Stream stress analysis or a comprehensive study of erosion and sedimentation rates on the watershed tributaries to document, water clarity, to pinpoint the source and cause of the erosion, and to gather additional information on chemical and biological stream data
- Collection of sedimentation rates of organic and inorganic material in Oneida Lake
- Lake shoreline erosions research
- Monitoring of stream and lake pathogens, levels of selected contaminants, and de-icing agents
- Documentation of problem stream crossings on public roads
- An inventory of salt storage areas (open and covered) with a map showing storage locations
- Documentation of impacts on the food web and lake ecology from exotic species
- Comprehensive groundwater monitoring and stakeholder participation in the development of a water resource management plan to protect Oneida's groundwater resources. This long-term plan should recognize the linkages between groundwater, stream and lake waters, and human activities on the land.

Section 3. Program Needs

- Better buy-in and cooperation from watershed agencies and greater cooperation when searching data archives and delivering available data in a timely manor
- Natural resources and environmental policies of the Oneida Indian Nation
- A comprehensive inventory and description of local laws affecting land use regulation and control, non-point source pollution, and water quality

Section 4. Digital Data Collection, Analysis and Mapping Needs

- Better accuracy and alignment of the FIRM floodplain boundary data layer when combined with other layers, such as tributaries
- Detailed digital soils mapping for Onondaga, Lewis, Oswego, and Cortland Counties. Development of a high-resolution digital soils coverage would lead to a better understanding of the physical nature of the watershed along with the role of non-point sources of pollution and the impact of land use on the quality of water in the lake and its tributaries.
- Current digital information, accurate point data, and better access to information for certain DEC-regulated activities
- Accurate land cover/land use mapping. Development of a high-resolution digital land use coverage would lead to a better understanding of the role of non-point sources of pollution and the impact of land use on the quality of water in the lake and its tributaries.
- A basin wide digital elevation model (DEM) to replace the USGS DEMs
- Spatial location and data from identified stream flow and quality gauges
- A complete data layer illustrating all water and sewer infrastructure and service districts
- Accurate and complete State/County/Town parks and recreational areas layer
- Digital agriculture district mapping in all counties within the watershed
- Agreement and mapping of what constitutes “prime agriculture soils” and “highly erodible soils” (USDA/NRCS to define and map)
- Availability of important Census data
- Sufficient metadata for information supplied to the study group. Particularly when fields within a dataset have “codified” data, the metadata should explain the usefulness and meaning of the data. For example, the real property data contains a property class field. Most observers outside the real property / assessment community would have no idea what the significance of this field. However, given the meaning and purpose of this field, one can put the data a meaningful product as we have done in this report.
- Digital data on Federal wetlands - the National Wetlands Inventory for the watershed
- NYS Department of Environmental Conservation data on hazardous spills, oil and gas wells, and underground and aboveground chemical and petroleum bulk storage facilities