

THE MANAGEMENT PLAN

Citizens Advisory Committee

The Upper Saranac Lake Management Plan was developed by the Upper Saranac Lake Citizens Advisory Committee (CAC). The group was formed in January 1996 as a means to maximize public input into the plan development process.

The CAC contained representation of a number of interests on the Lake including the Franklin County Water Quality Coordinating Committee, the Towns of Santa Clara and Harrietstown, the Saranac Lake Fish and Game Club, the USLA, Holmes & Associates, the Wawbeek Inn, Adirondack Council, Franklin County Federation of Fish and Game Clubs and the Lake Champlain Chapter of Trout Unlimited. In addition, members of the Franklin County Legislature, the Franklin County Highway Department, the Saranac Lake District Office of the State Department of Health (DOH), the Tupper Lake Chamber of Commerce, Fish Creek Ponds and Adirondack Challenges were on the mailing list for the Committee to be kept apprized of their activities and in some cases the organizations attended a meeting.

The Purpose of the Plan

The Plan addressed issues associated with water quality raised in the State of the Lake Report for Upper Saranac Lake. The Plan went beyond that to cover a wide range of activities and uses on the lake for future planning purposes. The plan contains options to improve the lake which in many cases are dependent on funding and in some cases on regulatory changes.

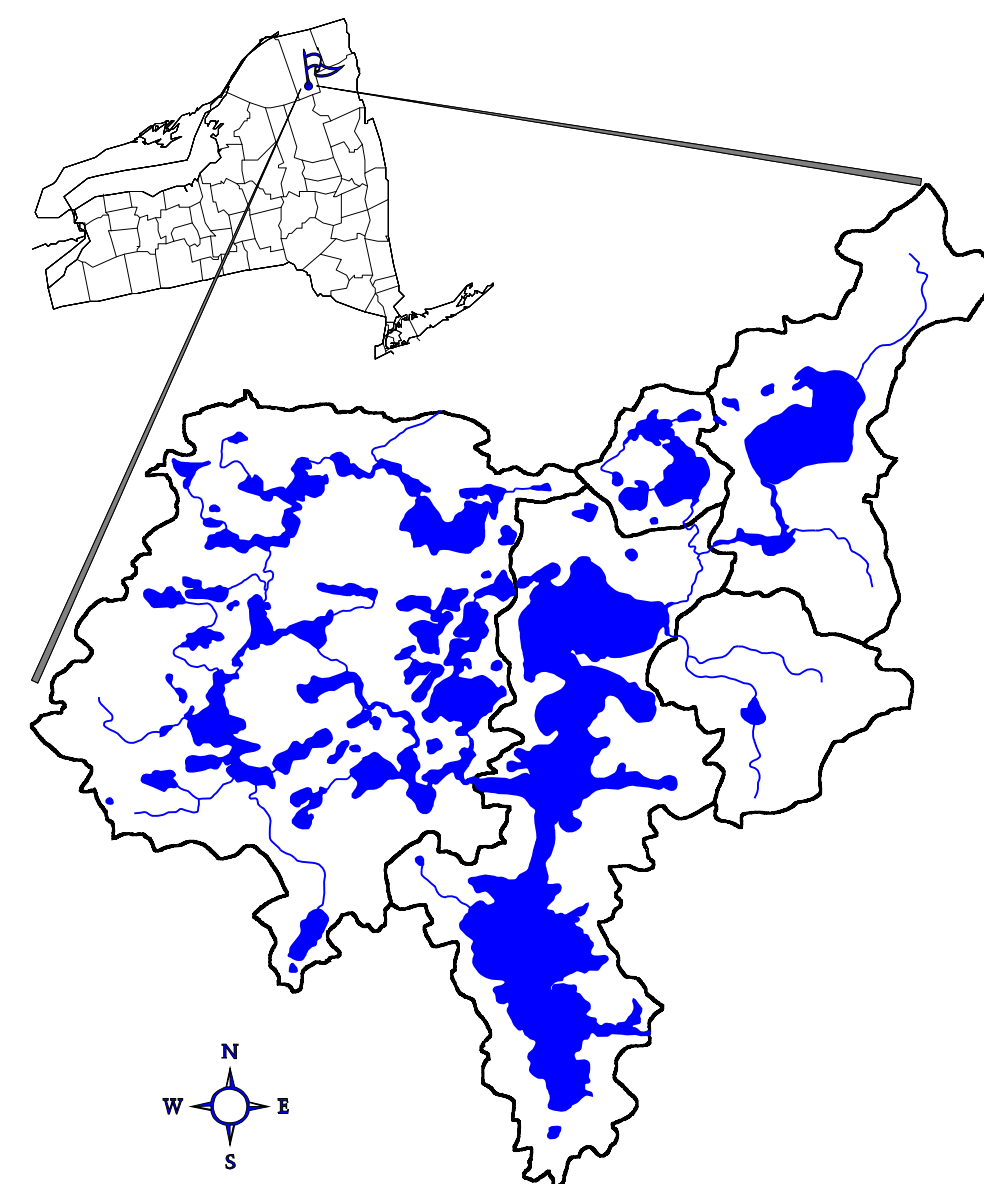
The members of the CAC have agreed to these recommendations pending appropriate resources to carry them out. The document is organized by issue area and associated recommendations. The recommendations for each issue are listed in priority order along with estimated costs.

The Plan was officially endorsed in 1999 by the Towns of Harrietstown and Santa Clara and by the NYS DEC.

Citizen Advisory Committee Members

Bob Brower, *Franklin County Water Quality Coordinating Committee*; Michael DeAngelo, *Town of Harrietstown*; Don Burgey, *Town of Santa Clara*; Terry Doly, *Lake Champlain Chapter of Trout Unlimited*; Henry Douglas, *Saranac Lake Fish and Game Club*; George Farrell, *Saranac Lake Fish and Game Club*; Pat Farrell, *Saranac Lake Fish and Game Club*; Dr. Richard Handler, *Upper Saranac Lake Association*; Nancy Howard, *The Wawbeek on Upper Saranac Lake*; Brian McDonnell, *Adirondack Challenges*; Joe Moore, *Adirondack Council*; Lee Robert, *Franklin County Federation of Sportsmen*; Molly Sheren, *Upper Saranac Lake Association*; Nellie Staves, *Franklin County Federation of Sportsmen*; Bill Wellman, *Lake Champlain Chapter of Trout Unlimited*

Upper Saranac Lake, NY



State of the Lake and Management Plan Summary

Process to Implement the Management Plan

Issue: A process needs to be put in place to implement recommendations adopted in the Management Plan. There are several options to accomplish this which should be explored based on availability of funding.

Recommendations: Establish an **Implementing Body** that will facilitate plan implementation.

- Continue work of Upper Saranac Lake Citizen Advisory Committee - This is a volunteer approach to implement the management plan where the group continues to meet to review, facilitate, report on and advise on implementation of the plan. *[Estimated cost \$1,000 per year]*
- Develop a Lake Protection District for taxing purposes in accordance with Section 5A of County Law or through the State Legislature. It should include a salaried lake manager, staff and budget to carry out the recommendations in the Lake Management Plan. The body should include representation from the towns and advise other regulatory agencies about the lake. *[Estimated cost \$100,000 per year]*

OR

- Hire a Lake Manager to facilitate, monitor and report on implementation of the recommendations in the management plan. *[Estimated cost \$10,000 to \$20,000 per year]*

Regional Planning and Zoning

Issue: Protecting Upper Saranac Lake requires cooperation and coordination between local and state government, the public and private sector, non-governmental/non-profit groups, residents, and visitors. With the numerous players involved in the watershed, the challenge is to reach a consensus on a system of management and protection and coordinate its application across all jurisdictions and all levels of government within the watershed community so that there is consistency in regulations, programs and enforcement. A consensus-based, collaborative approach will strengthen the outcomes of decisions by facilitating a dialogue among multiple interested parties.

A regional organization such as the Upper Saranac Lake Association (USLA) could be of assistance in helping to ensure that there is a watershed approach to planning and ensuring that recommendations of the Plan are carried out equitably. It would also be helpful if there was technical and financial assistance for watershed management at the local level. This would be useful to address issues such as shoreline protection, soil erosion, sediment control, wetland conservation, on-site septic system troubleshooting, funding to hire watershed association staff and pursue specific identified needs and to assist local and regional planning agencies evaluate and respond to development trends and estimate future impacts of these trends on water quality.

Recommendations:

- Form a committee which includes representatives from the towns of Harrietstown and Santa Clara, the USLA, as well as representation of the scientific community. The committee will provide timely communications between the towns and the Lake Association and provide information on the best methods to carry out recommendations in the Management Plan. The focus of the Committee would be on protecting the natural beauty and quality of the Upper Saranac Lake Watershed. *[For implementation by the Towns of Santa Clara and Harrietstown, USLA and AAII][No cost]*
- Establish zoned Lake Districts in the towns of Santa Clara and Harrietstown with the goal of consistent and, where necessary, stricter government regulation of land use around the lake. *[For implementation by the towns of Harrietstown and Santa Clara][Estimated cost \$5,000]*

OR

- Consider forming a single local government jurisdiction to oversee land use in the watershed which would involve reorganization of town lines to create a common jurisdiction for the lakeshore and possibly the entire watershed. *[For implementation by affected residents][Estimated cost \$5,000]*
- Seek out sources of technical and financial assistance to assist with implementation of the Management Plan. *[For implementation by the Implementing Body][Estimated cost \$5,000]*
- Develop a program to facilitate information exchange among various groups, organizations and governmental offices involved in the watershed. *[For implementation by the Implementing Body][No cost]*

Agency Compliance with Laws and Rules

Issue: There is a perception that government agencies function and relate to each other differently as compared to how the laws are applied to the public.

Recommendation:

- Ensure compliance with government and state agencies with all laws and statutes without favored treatment and enforcement of those laws and statutes as vigorously on government and state agencies as is applied to private citizens and businesses. *[For implementation by all applicable government agencies][No cost]*

Water Quality Management

Issue: During 1989 and 1990, Upper Saranac Lake experienced serious lakewide algae blooms. The water quality of the lake has improved somewhat since that time. Improvements made from both "point" and "non-point" sources of pollution may have contributed to the improvement of the lake water quality. A "point" source of pollution is defined as a discharge from a discrete, identifiable location such as a pipe. A "non-point" source is an area wide source or many sources distributed diffusely which cumulatively contribute to environmental degradation.

Nutrient loading to a lake can be a critical problem because excessive nutrients such as phosphorus and nitrogen accelerate eutrophication, the aging process of a lake which leads to increased algae blooms and accelerated plant growth. The accelerated plant growth will also contribute to decreased oxygen levels and a loss of habitat for cold water fish such as trout and salmon.

Phosphorus was found to be the important nutrient for algae and plant growth in Upper Saranac Lake. Historically, based on core samples, the average phosphorus levels in the lake were around 10 ppb. The State of the Lake Report reported average phosphorus concentrations of 12.0-13.6 ppb, with the highest concentrations in the north basin and the lowest concentrations in the south basin.

Many sources may have contributed to this modest increase in phosphorus concentrations in the lake including permitted wastewater discharges and on-site septic systems, lawn care and farming activities, the fish hatchery, clear cutting, hotels, releases from accumulated sediments in the lake bottom, as well as direct rain and snow. The following chart illustrates the management issues associated with the various sources of phosphorus to the lake.

Phosphorus Source/Component	Annual TP Load (kg/yr)	Magnitude	Confidence in Estimate	Availability	Seasonality	Treatability	Technology
Charge in Storage	8	Small	Good	-	Yes	?	Water level regulation
Adirondack Fish Hatchery	59	Medium	Excellent	Medium	Some	Medium	Advanced treatment
Rebate from Dec/Boron Sediments	147	Medium	Good	High	Yes	Medium	Alum, sodium aluminate, coagulation
Unpaved Area	213	Medium	Fair	Low	Some	Low	Best Management Practices (BMPs)
Direct Precipitation to Lake Surface	302	Large	Good	Medium	No	None	-
Permitted Discharges and On-site systems	292	Large	Fair	High	Yes	Medium	Advanced treatment, shift to partial or full sub-surface discharge, better operation & maintenance
Measured Loads of Legal Tributaries	1156	Very Large	Good	Low	Some	Low	BMPs
Sediment Trap Deposition (1887)	2000	Very Large	Good	Medium	Yes	?	Food web modification

Phosphorus and dissolved oxygen management goals

NYS Code of Rules and Regulations Part 703 provides that phosphorus discharges are not allowed "in amounts that will result in growths of algae that will impair the waters for their best uses." The Management Plan set a management goal for phosphorus of 12 parts per billion. This level was set to assure widespread satisfaction of the water quality by citizens using the lake. A more stringent goal to return the lake to its historic levels would preclude existing uses of the lake and could not be obtained without removing all existing development. A less stringent goal would result in deteriorated water quality.

The bottom waters in Upper Saranac Lake are a trout water and the lake is managed as a trout fishery. The loss of hypolimnetic oxygen in the North Basin restricts the coldwater fisheries habitat and causes a release of phosphorus from the sediments. Therefore the management goal for oxygen levels in the North Basin is 6.5 milligrams/liter or greater, based on EPA guidance adopted in 1986.

Recommendations:

- Provide for ongoing lake monitoring in order to assess the effectiveness of the phosphorus reduction strategies and to see that other physical parameters are being maintained. Monitor key indicators of environmental quality in the Upper Saranac Lake watershed and use these data to: 1) document environmental change, 2) predict the effects of management actions on the Upper Saranac Lake ecosystems, and 3) guide changes in management actions over time. *[For implementation by the Implementing Body, DEC and USLA][Estimated cost \$5,000-\$10,000 per year]*
- Require Best Available Technology for all nutrient discharges from permitted facilities, as outlined in Sections 301 and 304 of the Clean Water Act. *[For implementation by DEC][No cost]*
- Establish guidelines for fertilizer use within the watershed of Upper Saranac Lake based on appropriate soil testing results and other pertinent factors. *[For implementation by Cornell Coop. Extension][No cost]*
- Develop a storm water management program for the watershed using the Lake George model ordinance. Towns should incorporate this program into local zoning law. *[For implementation by the Towns of Santa Clara and Harrietstown][Estimated cost \$5,000]*
- Take corrective action when water quality standards are not met. Upper Saranac Lake is currently classified under DEC regulations as "AA" and most of its tributaries have "AA(T)" standards. *[For implementation by DEC][No cost]*
- Do not allow animal carcasses, including those placed as part of a scientific study, to remain on the frozen lake for more than one week during the winter to ensure that the carcasses do not become entrapped in the ice. A raised feeding station and an alternative location should be considered for carcasses used as part of a scientific study that must remain on the lake longer than one week. In addition, no refuse or human waste will be deposited in/on the lake. Use procedures contained in Chapter 1 of the State Sanitary Code, Part 8, to address any nuisances which may affect public health. *[For implementation by local health officer][No cost]*

Wastewater Management

Issue: Wastewater management is an important part of water quality management for the watershed. Proper wastewater management minimizes the amount of phosphorus from controllable, human sources that ultimately impact the lake and its surrounding watershed. Also, sewage needs to be treated to protect human health, including Giardia problems. Problems may also arise from drinking untreated or unfiltered lake water.

Under statewide standards and regulations, DOH establishes the standards for household septic systems, whereas DEC regulates systems which involve more than 1,000 gallons of wastewater a day. APA may also be involved under certain circumstances. Towns can also adopt standards for septic systems which are more stringent than state standards.

Recommendations:

- Seek legislation to prohibit new point source discharges and increases in existing discharges into the surface waters of the Upper Saranac Lake watershed by changing the classification of the lake to AA(S). This change should only be made if existing discharges can be grandfathered. *[For implementation by any interested group or citizen][No cost]*
- Bring all residential on-site septic systems in the watershed into compliance with state and local requirements. Inspect septic systems every three years and pump them if needed. Have a licensed engineer inspect these systems and require that they be brought up to current code whenever a property is sold, there is a change in ownership, there is an expansion to a property, or the property is converted from seasonal to year-round use. *[For implementation by the Towns of Harrietstown and Santa Clara, Franklin County, DOH and APA][Estimated cost \$20,000 for inspection and \$3,000 to \$5,000 per system].*
- Insure that all SPDES permitted facilities within the basin are in compliance the terms and conditions of their permits. *[For implementation by DEC][No cost]*
- Require holders of SPDES permits for surface discharges in the watershed to monitor and report flow and phosphorus concentrations. Require holders of SPDES permits for subsurface discharges in excess of 30,000 gallons per day to monitor phosphorus under 6 NYCRR 702.20. Require phosphorus monitoring with a frequency adequate to determine annual load. *[For implementation by DEC][No cost]*
- Do a study to determine the level of phosphorus discharged from all subsurface SPDES discharges not covered in #4 and add conditions to subsurface SPDES permits to allow for this study. *[For implementation the Implementing Body and DEC][Estimated cost \$15,000 to \$20,000 per year]*
- Provide applicants for building permits with the current town/village/city septic system code and the current NYS DOH, NYS DEC and APA septic system codes/requirements. *[For implementation by the Code Enforcement Unit of the Towns of Harrietstown and Santa Clara and the Village of Saranac Lake][Estimated cost \$2,000]*
- Continue to update the inventory of SPDES permits for the watershed. *[For implementation by DEC and the Implementing Body][No cost]*

Protecting Endangered and Important Species

Issue: An important part of the management plan are provisions to protect endangered and threatened species and species of special concern in the watershed. This should include measures to maintain, enhance, restore and protect habitat quality, quantity and diversity necessary to support the living resources of the watershed.

Recommendations:

- Investigate the feasibility and environmental impact of a system to add hypolimnetic oxygen in the North Basin. Install the system if it is found to be feasible and environmentally safe. *[For implementation by the Implementing Body][Estimated cost \$550,000 plus \$20,000 to \$50,000 per year to operate]*
- Contact the Natural Heritage Program about endangered/threatened species in the watershed. *[For implementation by the Implementing Body][No cost]*
- Conduct a study/inventory of all wildlife - including indigenous, introduced and threatened - and make recommendations to address these species and associated issues. *[For implementation by the Implementing Body][Estimated cost \$5,000-\$15,000]*
- Discuss fisheries management issues such as fish stocking in Upper Saranac Lake and other bodies of water in its watershed. Fisheries management issues, including stocking practices are continuously reviewed by DEC Fisheries staff and discussed with the Franklin County Sportsmen Federation. *[For implementation by DEC and the Implementing Body][No cost]*
- Complete an up-to-date and standardized inventory of wetlands in the Upper Saranac Lake Watershed. *[For implementation by the Adirondack Park Agency][Estimated cost \$100,000]*
- Review current criteria for wetlands mitigation programs and make recommendations on this as appropriate. *[For implementation by the Implementing Body and the Adirondack Park Agency][No cost]*

Non-Native Species

Issue: Non-native aquatic plants and animals that become established in Upper Saranac Lake would pose serious threats to native fish and wildlife, and impede recreational activities. There are currently several non-native species of plants and animals within the watershed of Upper Saranac Lake. These species entered Upper Saranac Lake and its surrounding watershed as a result of human activities. Some of these species pose a threat to native fish, while others can substantially change the Upper Saranac Lake ecosystem. Some species can even cause economic hardship and loss of recreational enjoyment.

Eurasian water milfoil is already found in Upper Saranac Lake. Other non-native species such as purple loosestrife and alewives are found within the Upper Saranac Lake watershed. Other non-native species are potentially problematic due to their close proximity to the lake and its watershed. Zebra mussels, the European rudd, the round goby, and the Eurasian ruffe are all found in lakes that are within a days drive of Upper Saranac Lake.

Recommendations:

- Conduct basic research on the populations and spread of non-native species in Upper Saranac Lake. *[For implementation by the Implementing Body][Estimated cost \$25,000]*
- Develop and implement a plan for controlling, eliminating or preventing non-native species in Upper Saranac Lake with the help of local and State agencies and the public. *[For implementation by the Implementing Body with help from DEC][Estimated cost \$5,000 to develop the plan and \$20,000 to \$30,000 for implementation]*
- Provide public education to help slow or stop the spread of non-native species. This could be accomplished through better use of signs at public boat launches and development and implementation of outreach programs about non-native species. *[For implementation by DEC, USLA and the Implementing Body][Estimated cost \$5,000]*
- Review Lake Champlain Basin Program central repository of information for nuisance non-native aquatic species of concern to the Upper Saranac Lake Watershed. *[For implementation by the Implementing Body] [Estimated cost \$1,000]*

Agriculture and Silviculture

Issue: Currently there is no mechanism that would require best management practices (BMP's) for agriculture or silviculture in the watershed.

Recommendations:

- Encourage voluntary compliance by timber harvesters with DEC Best Management Practices and timber harvesting guidelines as well as the "Forest Practice Standards" adopted by the New York State Forest Practice Board. *[For implementation by DEC and the Implementing Body][No cost]*
- Encourage farmers, golf course owners, and other major applicators of nutrients and pesticides to prepare nutrient and pesticide management plans for their operations to ensure that they are applying the appropriate amount of fertilizers to their croplands and that the application will not have a significant adverse effect on the environment. *[For implementation by the Franklin County Soil and Water Conservation District and the Natural Resources Conservation Service][No cost]*

Educational Programs

Issue: There are a wide variety of users of the watershed, therefore informational materials need to be developed and distributed which are appropriate to and accessible to these various users.

Recommendations:

- Develop a public education and information program which emphasizes recreational user ethics, boating safety, wise use of resources and proper waste disposal. *[For implementation by the Implementing Body][Estimated cost \$5,000 to \$15,000]*
- Develop appropriate media for different classes of lake users (includes this Summary of the State of the Lake Report and Management Plan). Examples include:
 - Long time lakeshore residents -- pamphlet
 - New lakeshore residents -- pamphlet
 - Campers and boaters -- signage
 - Renters -- flyers*[For implementation by Implementing Body][Estimated cost \$5,000 to \$15,000]*
- Review the residential and user surveys conducted by the CAC for information needs which should be incorporated in any education program for the lake. *[For implementation by Implementing Body][No cost]*
- A kiosk should be situated at all major entrances to the watershed providing appropriate information for users. *[For implementation jointly by the towns, Franklin County, the County Water Quality Coordinating Committee, Chamber of Commerce offices, DEC and the Implementing Body][Estimated cost \$5,000 to \$15,000]*

Recreation

Issue: The natural beauty and water quality of the Upper Saranac Lake Watershed attracts many recreational users. Recreation needs to be appropriately managed so that everyone will have a high quality experience. According to a 1996 survey by Holmes and Associates, the total number of people around Upper Saranac Lake during peak use on an August weekend is approximately 6,300 lake residents and users. This number is almost equally divided among three broad categories: homeowners and guests, state campground patrons and other users (i.e. summer camps, resorts, private campgrounds and boats).

Recommendations:

- Establish a law enforcement position to enforce regulations associated with recreational activity on the lake. *[For implementation by the Implementing Body][Estimated cost \$50,000 per year]*
- Create better methods of enforcement of existing laws. *[For implementation by the USLA, County Sheriff, DEC and the State Police][No cost]*
- Encourage marina operators to comply with recommendations in the DEC Marina Management Booklet. *[For implementation by DEC and the Implementing Body][No cost]*
- Create speed limits for safe boat operation. *[For implementation by the Towns of Harrietstown and Santa Clara][No cost]*
- Mandate a 10 mph speed limit for Back Bay to increase safety and reduce conflicts between swimmers, boaters and other activities in the Bay. *[For implementation by the Towns of Harrietstown and Santa Clara][No cost]*
- Maintain the public boat launch and parking area on a frequency needed to ensure cleanliness of grounds and latrines, particularly on busy weekends. *[For implementation by DEC and volunteers][Estimated cost is zero to \$5,000]*
- Require a permit from the Implementing Body to run special events on Upper Saranac Lake. *[For implementation by Implementing Body][No cost]*
- Identify public camping opportunities with maps and signage. *[For implementation by DEC and the appropriate Chambers of Commerce][Estimated cost \$5,000 to \$15,000]*
- Require appropriate reflective devices on boat houses and docks that protrude out into navigable waters for safety purposes. *[For implementation by the Implementing Body][No cost]*
- Check the placement of navigational aids, light beacons, buoys, etc., every two weeks and be available on call for reported problems, as is currently done. *[For implementation by DEC][No cost]*
- Establish noise criteria for the lake. *[For implementation the Towns of Harrietstown and Santa Clara][No cost]*

Additional Studies

Issue: Ongoing monitoring and study are important for managing a water resource such as Upper Saranac Lake. There are a number of issues and concerns that should be addressed through additional studies.

Recommendations for additional studies:

- [for implementation by the Implementing Body]*
- A refined estimate of phosphorus loading from septic systems, permitted discharges, bottom sediments, and nearshore sediments. *[Estimated cost \$20,000 each]*
 - Conduct research on the populations and spread of non-native species in Upper Saranac Lake. Map the extent of Eurasian milfoil in waterbodies within the watershed, particularly those waterbodies that are connected via navigable waters. *[Estimated cost \$25,000]*
 - Conduct a monitoring program in order to assess the effectiveness of phosphorus reduction strategies and to see that other physical parameters are being maintained. *[Estimated cost \$5,000 to \$10,000]*
 - Conduct a monitoring program to identify the water quality in other bodies of water in the Upper Saranac Lake watershed. *[Estimated cost \$10,000 to \$15,000]*
 - Catalog non-point sources of pollution throughout the watershed. *[Estimated cost \$5,000]*
 - Identify the number and location of properties that draw domestic water from the lake. *[No cost]*
 - Do a cultural resource inventory of the watershed including submerged areas. *[Estimated cost \$30,000 to \$100,000]*
 - Do a study to determine the level of phosphorus discharged from SPDES subsurface permits discharging less than 30,000 gallons per day and add conditions to subsurface SPDES permits to allow for this study. *[Estimated cost \$15,000 to \$20,000 per year]*