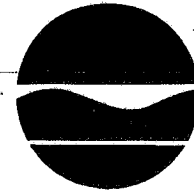


New York State Department of Environmental Conservation
Public Affairs and Education
Route 86, P.O. Box 296
Ray Brook, New York 12977-0296

L. Strait

(518) 897-1211
(518) 897-1394 FAX
e-mail: emlowe@gw.dec.state.ny.us



John P. Cahill
Commissioner

FEB 10 1999

MEMORANDUM

To: Stuart A. Buchanan, Region 5 Director
From: Betsy Lowe, Citizen Participation Specialist *Betsy J.*
Subject: Final Management Plan for Upper Saranac Lake
Date: February 8, 1999

Attached for DEC review and transmission to the U.S. Environmental Protection Agency is a copy of the Final Management Plan developed by the Citizen Advisory Committee for the Upper Saranac Lake Diagnostic/Feasibility Study. This document also contains a copy of the Committee's responses to public comments raised at the July 15, 1998 Public Meeting and those received in writing following the meeting. I have also attached a copy of a letter dated December 22, 1998 from Michael J. Adams, Supervisor, Town of Santa Clara conceptually approving the plan with a couple of caveats as well as a resolution with conceptual support of the plan from the Town of Harrietstown which was adopted on January 28, 1999.

The Committee was formed in 1996 and held their first meeting February 13, 1996. The Committee met a total of six times that year. At those meetings it reviewed the workplan and sampling progress for the State of the Lake Report and conducted a residential and user survey of people's attitudes about water related lake issues. This is included as Attachment C of the Final State of the Lake Report. The Committee also met eleven times in 1997 and eight times in 1998. During 1998, the Committee hosted a public meeting on the Draft Management Plan and Final State of the Lake Report for Upper Saranac Lake. A copy of the draft Management Plan and the public meeting announcement was mailed prior to the public meeting to approximately 800 addresses in the watershed included on the Upper Saranac Lake Association mailing list. Between 1996 and 1998 the Committee also periodically issued press releases to invite the public to participate on the CAC and to advise them about key milestones in the development of the State of the Lake Report and Management Plan.

The Committee plans to meet periodically, perhaps quarterly, to discuss activities associated with implementation of the management plan. The Town of Santa Clara has also submitted a grant proposal, on behalf of the CAC, in response to a watershed planning RFP issued by the Division of Water for funding to implement some of the recommendations in the Plan.

cc: Upper Saranac Lake Citizen Advisory Committee

ALAN SHEREN
TOWN JUSTICE

CAROLYN HICKOK, TOWN CLERK

EVERETT L. SOCHIA

ROBERT E. HICKOK
HIGHWAY SUPERINTENDENT

TOWN OF SANTA CLARA

DONALD MCKIBBEN

ERNEST SCHMIDT

DOUGLAS TICHENOR
ASSESSOR

MICHAEL ADAMS, SUPERVISOR

BOX 32, STAR ROUTE

DONALD BURGEY

COUNCILMEN

SARANAC LAKE, NEW YORK 12983

SHARON KENT
CODE ENFORCEMENT OFFICER

December 22, 1998

Betsy Lowe
New York State Department of Environmental Conservation
P.O. Box 86
Ray Brook, NY 12977

Dear Ms Lowe:

The Town of Santa Clara conceptually approves of the management plan for Upper Saranac Lake dated 10/28/98. The volunteers are to be commended for their efforts and the quality of the study.

Overall, the plan has many very good points and suggestions. Any item that is not specifically mentioned below is conceptually approved of by the entire Town Board. The following items are not supported by the Town Board, due to a lack of board consensus, impossibility of implementation or enforcement and/or the Board's opinion that it would not have any significant impact:

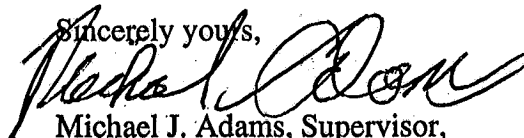
Single Local Government Jurisdiction
Noise Criteria

It should be noted that the Town is 100% in favor of changing the lake's rating to AA special. All SPEDES permits should be phased out within three (3) years. All wastewater discharges to surface or subsurface waters should be required to meet "same water in - same water out" standards. Existing SPEDES permit holders who have obvious obnoxious and odiferous discharges should have enough sense, morality and environmental concern to correct and clean up their discharges, without regard to permit compliance standards being overly generous.

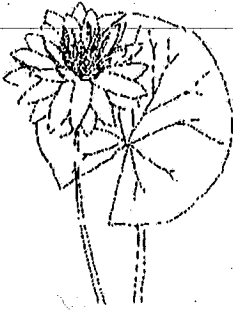
The NYSDEC comment that SPEDES permit holders are a small contributing factor to Phosphorus and Nitrogen loading is a very disturbing statement. All manageable sources should be controlled and not allowed to contribute to the loading by natural sources over which there is no control.

The Town of Santa Clara is already working on numerous of the targeted concerns and will pursue implementation of rules and regulations to address these areas.

Sincerely yours,



Michael J. Adams, Supervisor,
Town of Santa Clara



ADIRONDACK AQUATIC INSTITUTE AT PAUL SMITH'S COLLEGE

P.O. Box 244, Paul Smiths, New York 12970-03244

Tel: 518 327-6214, Fax: 518 327-6331

email: aal@paulsmiths.edu --- world wide web: <http://www.paulsmiths.edu/aal/>

To:
Betsy Lowe, NYS DEC Public Affairs

Fax Number : 897-1394

From : Michael R. Martin

Date : 2/4/99

Time : 9:37:44 AM

Number of Pages: 3

Subject :
FW: Harriestown USL Resolution

Betsy:

What shall I do with the original?

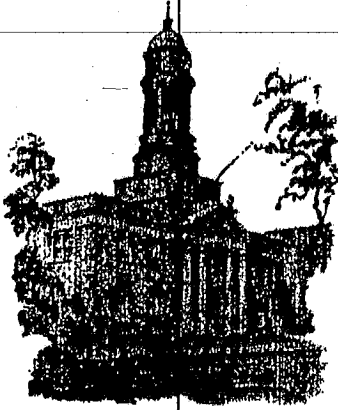
Michael

to understand, preserve and protect the aquatic resources of the Adirondacks through research and education

FEB-04-1999 09:29

PAUL SMITH'S COLLEGE

P.01



TOWN OF HARRIETSTOWN

FRANKLIN COUNTY, N.Y.

30 MAIN STREET

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GEORGE F. RICE

COUNCILMEN

LARRY L. MILLER

BARRY S. DEFURIA

GREGORY A. MACE

JACQUES DEVATTOS

TOWN CLERK AND RECEIVER OF TAXES

PATRICIA A. GILLMETT

SUPERINTENDENT OF HIGHWAYS

ORIG DONALDSON

RESOLUTION # 5 OF 1999 IN SUPPORT OF THE UPPER SARANAC LAKE MANAGEMENT PLAN

On motion of Councilman Miller, seconded by Councilman DeFuria, the following resolution was

ADOPTED

5 AYES

0 NAYS

RESOLVED that the Harrietstown Town Board accepts and approves the basic concept of the final draft of the Upper Saranac Lake Management Plan.

FEB-04-1999 09:30

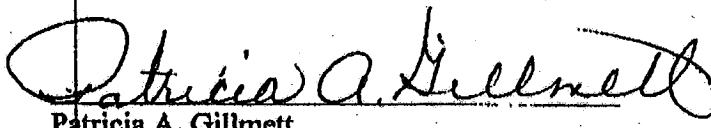
PAUL SMITH'S COLLEGE

P.02

CERTIFICATION**STATE OF NEW YORK
COUNTY OF FRANKLIN
TOWN OF HARRIETSTOWN**

This is to certify that I, the undersigned, Clerk of the Town of Harrietstown, have compared the foregoing copy of Resolution No. 5 of 1999 with the original now on file in this office and which was passed by said Board on the 28th day of January, 1999, a majority of all the members elected to the Board voting in favor thereof, and that the same is a correct and true transcript of such original Resolution and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and the official seal of the
TOWN OF HARRIETSTOWN this 2nd day of February, 1999.



Patricia A. Gillmett
Clerk of the Town of Harrietstown

Seal



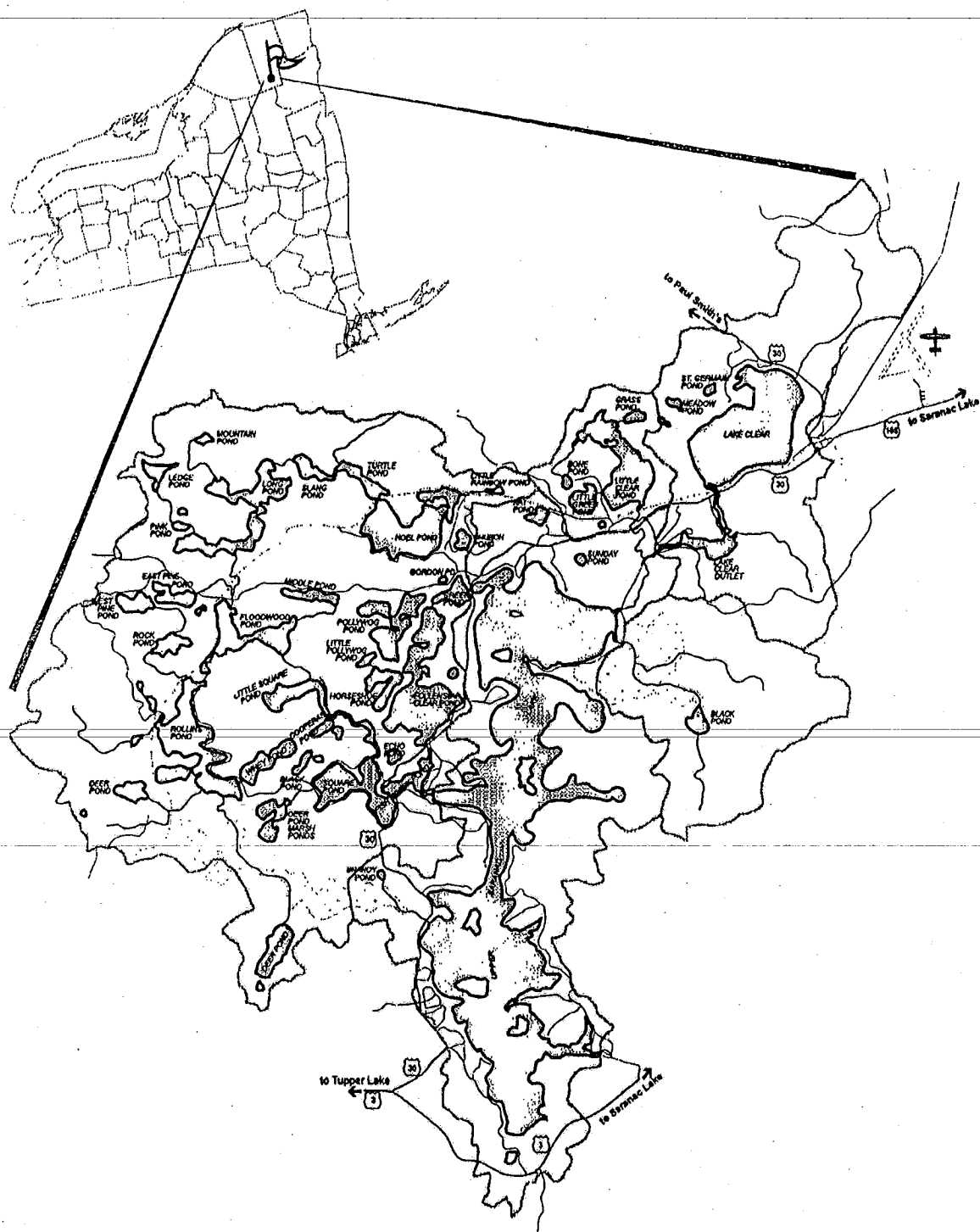
MANAGEMENT PLAN FOR UPPER SARANAC LAKE

Prepared by the Citizen Advisory Committee for the
Upper Saranac Lake Diagnostic/Feasibility Study
October 28, 1998

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Upper Saranac Lake Watershed Map

Figure 1.

BACKGROUND

Purpose of Management Plan

This Management Plan was developed by the Upper Saranac Lake Citizens Advisory Committee (CAC). The group was formed in January 1996 cooperatively by the New York State Department of Environmental Conservation (DEC) and Adirondack Aquatic Institute (AAI) who is acting as a consultant for the Upper Saranac Lake Association (USLA).

The CAC contains 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. Holmes & Associates, the Adirondack Park Agency (APA), AAI and DEC, although not official members of the CAC, provided technical and administrative support. 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 apprised of their activities and in some cases the organizations attended a meeting.

The Plan addresses issues associated with water quality raised in the State of the Lake Report for Upper Saranac Lake (dated February, 1998) and also goes 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.

Overview of Watershed

Upper Saranac Lake is a 1,912 hectare (4,725 acre) body of water located in southern Franklin County, NY, roughly midway between the towns of Tupper Lake and Saranac Lake (see map, figure 1, page 2). Upper Saranac Lake and its watershed form the headwaters of the Saranac River, one of the main tributaries to Lake Champlain. The outlet of Upper Saranac Lake drains into Middle and Lower Saranac Lakes. The lake is a highly utilized recreational resource in the Adirondacks, providing a wide variety of water-related activities such as swimming, fishing, water skiing, and boating. Upper Saranac Lake also supports both a warm water and cold water fishery and is equally valued for its exceptional aesthetic value. The user population of the lake includes large numbers of non-residents and local citizens because of a number of large summer camps around the lake. Upper Saranac Lake is also a popular destination for recreational canoeists and is considered a prime destination for recreational activities in the region.

Population density within the Upper Saranac Lake watershed is characterized as "low density" by the U.S. Census Bureau (1990). Forty-six percent of the lake's 19,580 hectare (48,383 acre)

watershed is classified as either wild, forested, conservation lands or public parks. An additional twenty-one percent of the watershed consists of lakes and ponds. Residential development comprises about seventeen percent of the watershed.

Approximately forty-six percent of the shoreline is in State ownership. Primary camping areas on this State land include Buck Island, Square Bay, Green Island, Indian Point, Picnic Rock and Saginaw Bay. Major access points to Upper Saranac Lake are Bartlett Carry, Fish Creek and Rollins Pond State Campgrounds, the DEC Fishing Access Site at Indian Carry, the DEC Boat Launch at Saranac Inn, and the Weller Pond Carry. The area is also served by a private boat livery. Young Life Village and Eagle Island Girl Scout Camp provide access for large, organized groups from their properties on the lake.

The Saranac Lake chain, including Upper, Middle and Lower Saranac Lakes, is extremely valuable to the local, regional and state economies. Restoring and preserving good water quality in Upper Saranac Lake will protect Middle and Lower Saranac Lakes as well. These lakes provide exceptional recreational opportunities, hence the public at large, the business community and the local, county and state governments will benefit from the implementation of a sound lake and watershed management plan for Upper Saranac Lake.

Lake Classification and standards

The Upper Saranac Lake has been classified as AA which means that the best uses of the lake are:

- * a source of water supply for drinking, culinary or food processing purposes;
- * primary and secondary contact recreation,
- * fishing,
- * the waters shall also be suitable for fish propagation, and
- * the waters, if subjected to approved disinfection treatment, with additional treatment if necessary to remove naturally present impurities, meet or will meet DOH drinking water standards and are or will be considered safe and satisfactory for drinking water purposes.

Based on research in the State Department of Health Water Pollution Control Recommended Classifications and Assignment of Standards for Lake Champlain Drainage Basin, September 1954, Upper Saranac Lake was recommended to be classified as AA Special. The reason for this was, "Water is freely used (by individuals) from the various ponds and lakes of the headwaters of the Saranac River, including Upper Saranac Lake, Middle Saranac Lake, Lower Saranac Lake, especially where there are vacation cabins and cottages." However, the lake was classified as AA in DEC final use classifications and has remained that way.

Most of the tributaries are classified as AA(T). The "T" designation is for trout waters and the dissolved oxygen specification for trout waters shall apply thereto.

Previous Studies

Studies of the lake to document water quality date back to 1929. Studies in 1971 and 1981 were completed to investigate possible water quality problems and a decline in the lake's fishery. The lake was listed on DEC's Priority Water Problems list in 1991 due to use impairment from high phosphorus levels, algal blooms and low dissolved oxygen levels. In response to a noted decline in water quality, the USLA began funding an annual monitoring program in 1989. Following lake-wide blooms of bluegreen bacteria in the winter of 1989 and throughout the summer and fall of 1990, DEC conducted a joint study with the Microcosmic Environmental Research Institute from Paul Smith's College, precursor to AAI. Annual monitoring funded by the USLA continued through 1994.

In 1996, DEC and AAI, acting as a consultant for the USLA, jointly began a large study of Upper Saranac Lake funded by the U.S. Environmental Protection Agency (EPA) Clean Lakes Program. The study was called a diagnostic-feasibility study. A major purpose was to measure phosphorus loading to the lake from its major tributaries and other major sources, and to develop a phosphorus model for Upper Saranac Lake. The model is used to recommend phosphorus load reductions where possible in this Management Plan. The diagnostic study is also known as the State of the Lake Report and was completed in February 1998. This Management Plan is the feasibility portion of the study.

A. PROCESS TO IMPLEMENT THE MANAGEMENT PLAN

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

Recommendations: Listed below are recommendations which should be explored to implement the management plan. *[The following recommendations are for review and implementation by the Citizens Advisory Committee for the Diagnostic/Feasibility Study for Upper Saranac Lake]*

1. 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]
- 2a. 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
- 2b. Hire a Lake Manager - This could be done at the local or county level or by a group like the USLA. This person would be hired to facilitate, monitor and report on implementation

of the recommendations in the management plan. The USLA has a Lake Manager in place now who possibly could take on these additional duties. The Lake Manager would work for the Committee recommended in section B, recommendation number 1.
[Estimated cost \$10,000 to \$20,000 per year]

B. REGIONAL PLANNING AND ZONING

Issue: After many years of exhaustive work involving local citizens, the Town of Santa Clara presented a zoning law to the APA for their approval during the Spring of 1997. The zoning law is now awaiting Town Board review of comments from the APA for incorporation into the zoning law/plan. The town of Harrietstown has had a zoning law in effect since approximately 1972. The two towns share a Code Enforcement Officer to enforce local zoning laws.

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:

1. Form a committee which includes representatives from the towns of Harrietstown and Santa Clara, the USLA, as well as representation of the scientific community to help keep the towns abreast of the needs of the lake, i.e. carrying capacity, aesthetics, water quality issues, as well as general concerns. The focus of the Committee would be on what is needed to protect the natural beauty and quality of the Upper Saranac Lake Watershed. 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.

[For implementation by the Towns of Santa Clara and Harrietstown, the Upper Saranac Lake Association and the Adirondack Aquatic Institute][No cost]

- 2a. Establish zoned Lake Districts in the towns of Santa Clara and Harrieststown with their own special regulations pertinent to the needs of the lake, with the goal of consistent and, where necessary, stricter government regulation of land use around the lake.
[For implementation by the towns of Harrieststown and Santa Clara][Estimated cost \$5,000]
- OR
- 2b. 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]
3. Seek out sources of technical and financial assistance to assist with implementation of the Management Plan.
[For implementation by the Implementation Body adopted under "A"] [Estimated cost \$5,000]
4. Develop a program to facilitate information exchange among various groups, organizations and governmental offices involved in the watershed.
[For implementation by the Implementation Body adopted under "A"] [No cost]

C. 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 based on scientific data collected before and after this episode. 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.

According to the State of the Lake Report for Upper Saranac Lake, phosphorus is the limiting nutrient for algae and plant growth. According to the State of the Lake Report,

"nitrogen levels in the lake are low and phosphorus concentrations are moderate. The three (3) lake basins exhibited similar average epilimnetic concentrations of total phosphorus (12.0-13.6 parts per billion (ppb)) with the highest concentrations in the north basin and the lowest concentrations in the south basin. The lake is

phosphorus-limited, with an average N:P ratio of 19 to 25 during the period of the study.”

Historically, based on core samples, the average phosphorus levels were around 10 ppb.

Many sources may have contributed to this modest increase in phosphorous 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 annual phosphorus budget for the lake, taken from the State of the Lake Report, is illustrated in figure 2 (page 9). A table depicting management issues associated with these phosphorus inputs is shown in figure 3 (page 10). The annual budget illustrates phosphorus inputs and outputs from the lake. The major inputs are from permitted discharges and on-site systems (292 kilograms of phosphorus per year, Kg P/yr), 213 Kg P/yr from ungauged areas, 1156 Kg P/yr from gauged tributaries (this includes 59 Kg P/yr from the Adirondack fish hatchery) and 302 Kg P/yr from direct rain and snow. [For more information about this budget, see Chapter nine of the State of the Lake Report for Upper Saranac Lake dated February 1998.]

Phosphorus and dissolved oxygen management goals

As required under Section 303 (C) of the Federal Clean Water act, current 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.” For the purposes of this plan, the management goal for phosphorus is 12 parts per billion. This level has been set to assure widespread satisfaction of the water quality by citizens using the lake. A goal which is more stringent, 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. However, if all properties along the lake were lived in and utilized year round and all the land was developed to its highest potential, phosphorus levels would greatly increase.

For dissolved oxygen, since in the summertime the bottom waters in Upper Saranac Lake are a trout water and the management goal for the Lake is for a trout fishery, the lake should be managed as an AA(T) waterbody even though it is classified AA. The EPA published new criteria for dissolved oxygen in 1986. Their guidelines for dissolved oxygen concentrations for adult life stages of fish are 5.0 mg/L for warm-water species and 6.5 mg/L for cold-water species. [Source: U.S. EPA. 1986. Ambient Water Quality Criteria for Dissolved Oxygen. Criteria and Standards Division. U.S. Environmental Protection Agency. Washington, D.C. EPA 440/5-86-003].

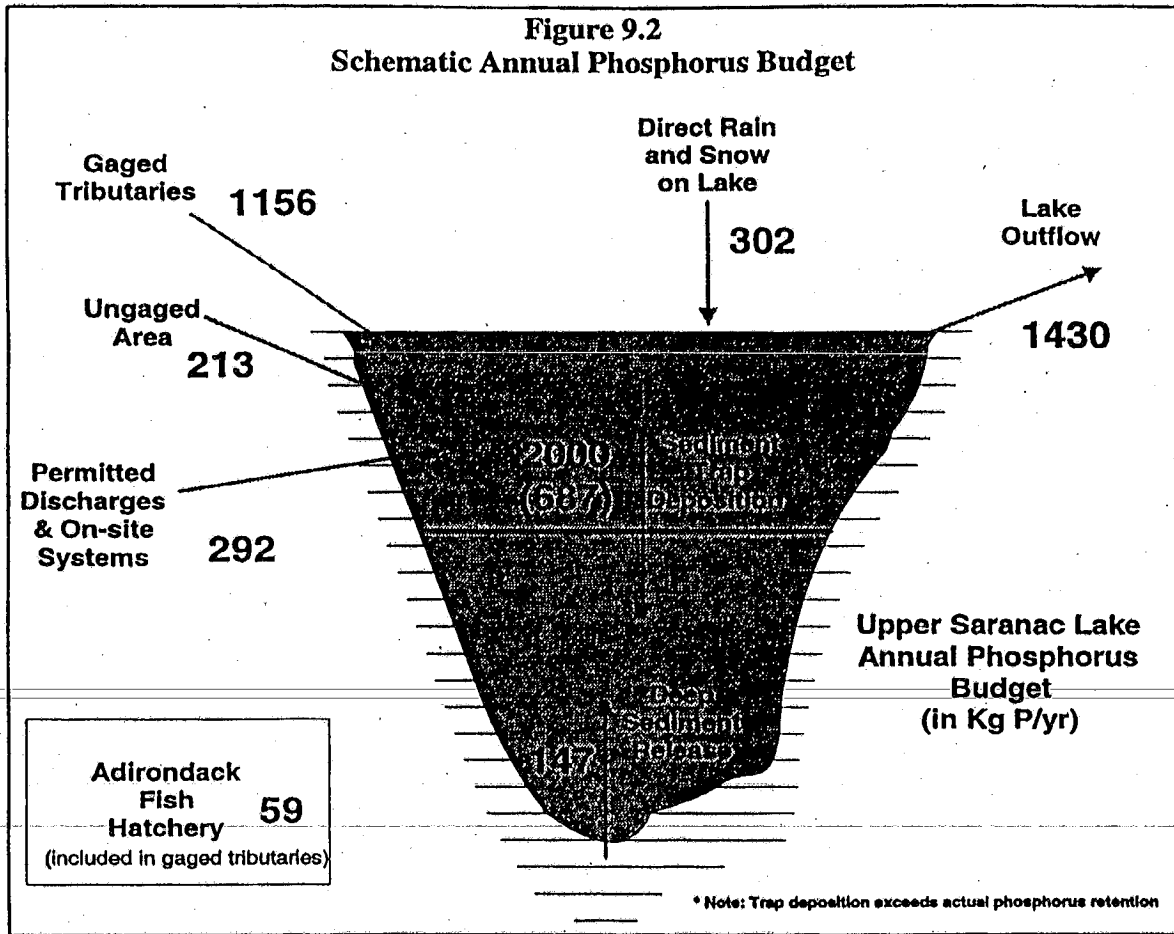


Figure 2.

PHOSPHORUS MANAGEMENT ISSUES

<i>Phosphorus Budget Component</i>	<i>Annual TP Load (Kg/yr)</i>	<i>Magnitude</i>	<i>Confidence in Estimate</i>	<i>Availability</i>	<i>Seasonality</i>	<i>Treatability</i>	<i>Technology</i>
<i>Change in Storage</i>	8	<i>Small</i>	<i>Good</i>	-	<i>Yes</i>	<i>?</i>	<i>Water level regulation</i>
<i>Adirondack Fish Hatchery</i>	59	<i>Medium</i>	<i>Excellent</i>	<i>Medium</i>	<i>Some</i>	<i>Medium</i>	<i>Advanced treatment</i>
<i>Release from Deep Bottom Sediments</i>	147	<i>Medium</i>	<i>Good</i>	<i>High</i>	<i>Yes</i>	<i>Medium</i>	<i>Alum, sodium aluminate, oxygenation</i>
<i>Ungaged Area</i>	213	<i>Medium</i>	<i>Fair</i>	<i>Low</i>	<i>Some</i>	<i>Low</i>	<i>Best Management Practices (BMPs)</i>
<i>Direct Precipitation to Lake Surface</i>	302	<i>Large</i>	<i>Good</i>	<i>Medium</i>	<i>No</i>	<i>None</i>	-
<i>Permitted Discharges and On-site systems</i>	292	<i>Large</i>	<i>Fair</i>	<i>High</i>	<i>Yes</i>	<i>Medium</i>	<i>Advanced treatment, shift to partial or full subsurface/land discharge, better operation & maintenance</i>
<i>Measured Loads of Gaged Tributaries</i>	1156	<i>Very Large</i>	<i>Good</i>	<i>Low</i>	<i>Some</i>	<i>Low</i>	<i>BMPs</i>
<i>Sediment Trap Deposition</i>	2000 (687)	<i>Very Large</i>	<i>Good</i>	<i>Medium</i>	<i>Yes</i>	<i>?</i>	<i>Food web modification</i>

Figure 3.

Recommendations:

1. Provide for ongoing lake water quality 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 the data assembled 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 Implementation Body adopted under "A", DEC and USLA,]
[Estimated cost \$5,000-\$10,000 per year]
2. 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]
3. 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 Cooperative Extension][No cost]
4. 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]
5. 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]
6. 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/or 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]

NOTE: See the recommendations under issue "C - Wastewater Management Issues." Those recommendations also address excessive nutrient enrichment.

D. 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:

1. 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 an AA(S) (per Environmental Conservation Law Section 17-1709). This change should only be made if existing discharges can be grandfathered.
[For implementation by any interested group or citizen][No cost]
2. 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].
3. Insure that all SPDES permitted facilities within the basin are in compliance all the terms and conditions of their permits as required by the Environmental Conservation Law.
[For implementation by DEC][No cost]
4. Holders of State Pollution Discharge Elimination System (SPDES) permits for surface discharges in the watershed shall be required to monitor and report phosphorus concentrations and flow. Holders of SPDES permits for subsurface discharges in excess of 30,000 gallons per day should be required to monitor phosphorus as can be required under 6 New York Codes of Rules and Regulations 702.20. Phosphorus monitoring shall be required with a frequency adequate to determine annual load.
[For implementation by DEC][No cost]
5. 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 by the Implementing Body adopted under "A" and DEC][Estimated cost \$15,000 to \$20,000 per year]

6. 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. This would make it easier for owners of wastewater systems to be in compliance.
[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]
7. Continue to update the inventory of State Pollution Discharge Elimination System (SPDES) permits for the watershed and include this in the Management Plan document.
[For implementation by DEC and the Implementation Body adopted under "A"] [No cost]

NOTE: These recommendations also address excessive nutrient enrichment and apply to section "B. Water Quality Management Issues."

E. PROTECTING ENDANGERED AND IMPORTANT SPECIES

Issue: An important part of the management plan for Upper Saranac Lake should include provisions to protect endangered, threatened, 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 Upper Saranac Lake Watershed. Also, 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 of this document is for oxygen levels in the North Basin to be 6.5 milligrams/liter or greater, based on EPA guidance adopted in 1986.

Fisheries Management

The fish community of Upper Saranac Lake has had few changes since the lake was first surveyed in 1929. However, it is known that many nonnative gamefish were introduced prior to 1929 and had a profound impact on the native fish community. The Table in Figure 4 on page 14 lists the current and historic status of the fish species known to inhabit Upper Saranac Lake.

DEC manages Upper Saranac Lake as a two-story fishery. A total of 31,000 lake trout, rainbow trout and brown trout are stocked annually to enhance the Coldwater fishery. Smallmouth bass and northern pike are the major warmwater gamefish. Yellow perch, rainbow smelt, and brown bullhead are other species popular with anglers. Rough estimates of angler use and expenditures for the lake indicate a range of 62,000 \pm 14,240 days/year and \$337,000-487,000 in 1988 dollars contributed to the local economy. (For more information, see Chapter 5, section 5.2.4.4 of the February 1998 State of the Lake Report for Upper Saranac Lake.)

Fish Species of Upper Saranac Lake

Common Name	Scientific Name	Status in 1994	Present in 1929
Brown bullhead	<i>Ameiurus nebulosus</i>	Common	Yes
Brown trout	<i>Salmo trutta</i>	Stocked	No*
Fallfish	<i>Semotilus corporalis</i>	Common	No
Golden shiner	<i>Notemigonus crysoleucas</i>	Probably present	Yes
Lake trout	<i>Salvelinus namaycush</i>	Common	Yes
Lake whitefish	<i>Coregonus clupeaformis</i>	Rare	Yes
Landlocked Atlantic Salmon	<i>Salmo salar</i>	Formerly stocked, uncommon	Yes
Largemouth bass	<i>Micropterus salmoides</i>	Probably present	No
Longnose sucker	<i>Catostomus catostomus</i>	Probably extirpated	Yes
Northern pike	<i>Esox lucius</i>	Common	Yes
Pumpkinseed	<i>Lepomis gibbosus</i>	Common	Yes
Rainbow smelt	<i>Osmerus mordax</i>	Common	Yes
Rainbow trout	<i>Oncorhynchus mykiss</i>	Stocked	Yes
Smallmouth bass	<i>Micropterus dolomieu</i>	Common	Yes
White sucker	<i>Catostomus commersoni</i>	Abundant	Yes
Yellow perch	<i>Perca flavescens</i>	Abundant	Yes

* but stocked previously

Figure 4.

Recommendations:

- Investigate the feasibility and environmental impact of a system to add hypolimnetic oxygen in the North Basin. The study should review the pros and cons of such a system. Install the system if it is found to be feasible and environmentally safe.
[For implementation by the Implementing Body adopted under "A"] [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 Implementation Body adopted under "A"] [No cost]

3. Conduct an ongoing study/inventory of all wildlife - including those that are indigenous, introduced and threatened - and make recommendations to address these species and associated issues.
[For implementation by the Implementation Body adopted under "A"] [Estimated cost \$5,000-\$15,000]
4. Discuss fisheries management issues such as fish stocking in Upper Saranac Lake and other bodies of water in its watershed with the implementing body for the Management Plan. 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 adopted under "A"] [No cost]
5. 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]
6. Review current criteria for wetlands mitigation programs and make recommendations on this as appropriate.
[For implementation by the Implementing Body adopted under "A" and the Adirondack Park Agency] [No cost]

F. NON-NATIVE SPECIES

Issue: Nonnative aquatic plants and animals that become established in Upper Saranac Lake can pose serious threats to native fish and wildlife, and impede recreational activities. In some cases, they can have substantial ecological and economic impacts.

There are currently several non-native species of plants and animals within the watershed of Upper Saranac Lake. Scientists believe that most non-native species journeyed to the Great Lakes in the ballast water that ships take on for stability. Most of the species originate in the Black and Caspian Seas and they are discharged when transatlantic freighters reach port in the Great Lakes. These species enter Upper Saranac Lake and its surrounding watershed as a result of human activities. Non-native aquatic plants and animals can become a serious problem for Upper Saranac Lake and its surrounding watershed. 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. Finally, other non-native species can be potential problems due to their close proximity. 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.

NON-NATIVE PLANTS AND ANIMALS ALREADY WITHIN THE WATERS OF UPPER SARANAC LAKE

Eurasian Milfoil: This appeared in New York State in 1882 and it is now found in 34 lakes in the Lake Champlain Basin including Upper Saranac Lake. It now exists in many areas of the Lake but especially in the middle basin. It has little to no food value for wildlife and its dense mats can interfere with recreational activities on Upper Saranac Lake. It is a submersed, rooted perennial with long branched stems that can grow over ten feet long. It forms a mat at or near the surface. It can grow in up to 30 feet of water. It reproduces by fragmentation and the fragments can be carried by wind and waves, currents, boats, and even animals. It can form a dense canopy that suppresses native plant species and interferes with recreation. It can be controlled by diver harvesting and benthic mats. If allowed to grow unchecked, control becomes costly, requiring annual mechanical harvesting or chemical applications.

NON-NATIVE PLANTS AND ANIMALS ALREADY IN THE WATERSHED AND SURROUNDING AREA OF UPPER SARANAC LAKE

Purple Loosestrife: This was brought to America in 1860 for ornamental purposes and is now found in wetlands across the United States. This aggressive plant crowds out native vegetation and creates dense single species stands. Purple loosestrife is a perennial that grows rapidly and blooms in July and August with a purple color with numerous flowers on a long spike. It can grow up to ten feet tall and one plant can produce up to 300,000 seeds. Seeds are dispersed by wind, water, humans and animals. It is found along the Saranac River.

Alewife: A fish that resembles a shad in shape and color but is 10 to 12 inches long. Alewives are found in the Great Lakes and were thought to be a good food source for trout and salmon. They were stocked in Green Pond which is in the Upper Saranac Lake watershed which is separated from Upper Saranac Lake by State Route 30. The alewife is now thought to be an unhealthy food source for salmon and could make these fish unhealthy if they get into Upper Saranac Lake by animal or human transport across State Route 30. Alewives also displace smelt and native fish.

NON-NATIVE PLANTS AND ANIMALS THAT ARE POTENTIAL FUTURE PROBLEMS DUE TO THEIR CLOSE PROXIMITY

Curly Pondweed: This is not native to North America, but it is now found in most of the United States. It is a submersed perennial with flattened, branched, reddish-brown stems. It reproduces by seed and fragmentation, and it generally grows from early spring through early summer. It can become thick enough to suppress native plant species and it can interfere with recreational activities.

Round Goby: The round goby is an aggressive bottom dwelling fish. First discovered in the St. Claire River near Detroit in 1990, the Goby has rapidly spread to many areas of the Great Lakes. By 1995, it had spread through all five lakes. This is an incredibly fast distribution, most non-native exotic species take as long as twenty-five years to emerge in all the Great Lakes. Once established, populations of round goby increase very rapidly. The round goby can displace native fish, eat their eggs and young, and take over their habitat.

Eurasian Ruffe: The Eurasian ruffe is a perch like fish that was first reported in western Lake Superior in 1986. It has rapidly spread to the whole Lake and many of its surrounding rivers. The ruffe may compete with native fish for food and habitat. It will prey on perch, whitefish and smelt eggs and it could threaten sport fishing in Upper Saranac Lake because smelt are a significant food source for trout and salmon.

European Rudd: A fish that is often sold as a bait fish and is found in Lake Champlain. It is known to be an aggressive fish that will displace trout and salmon from their habitat. It will also eat much of the same food as trout and salmon and it will displace them from a lake in time.

Zebra Mussels: The Eurasian zebra mussel was discovered in north America in 1988 and it has spread throughout the United States and it is found in Lake Champlain. This striped thumb nail sized mussel thrive on phytoplankton outcompeting all native species for food. They cement themselves to submerged hard surfaces and they can cause an economic hardship to an area including loss of recreation.

Water Chestnut: The water chestnut is an aquatic plant native to Asia and Europe and is rapidly spreading north in Lake Champlain. It was first introduced to New York State in 1884 for its ornamental appearance. It then began to spread northward from the Hudson River to southern Lake Champlain in the 1940's. Since it was first documented in Lake Champlain, the water chestnut has reached nuisance proportions on several occasions. This species forms dense mats which can alter aquatic habitat and interfere with recreational activities. This nuisance aquatic has already infested wetlands, beaches and critical environmental areas in many parts of the South Lake and spread to other water bodies in Vermont and New York. It can have devastating effects on shallow waters associated with campgrounds, marinas and public beach areas and affect fishing and hunting activities. Water chestnuts also compete with other more valuable waterfowl plants.

Recommendations:

1. Conduct basic research on the populations and spread of non-native species in Upper Saranac Lake. There is a lack of knowledge concerning the presence and extent of non-native aquatic species in Upper Saranac Lake and its watershed. There is also little known about their impact on native species.
[For implementation by the Implementing Body adopted under "A"] [Estimated cost \$25,000]
2. 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. Consider using current or new technologies for controlling non-native species as well as public education and involvement in spread prevention and control of nuisance nonnative aquatic species.
[For implementation by the Implementing Body adopted under "A" with help from DEC] [Estimated cost \$5,000 to develop the plan and \$20,000 to \$30,000 for implementation]

3. 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 adopted under "A"] [Estimated cost \$5,000]
4. Review central repository of information, to be prepared by the Lake Champlain Basin Program, for nuisance nonnative aquatic species of concern to the Upper Saranac Lake Watershed. Creation of this repository for the Lake Champlain Basin is referenced in the Lake Champlain Basin Pollution Prevention, Control and Restoration Plan, "Opportunities for Action," dated October 1996, p. 42.
[For implementation by the Implementing Body adopted under "A"] [Estimated cost \$1,000]

G. AGRICULTURE AND SILVICULTURE

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

Forestry is regulated to some extent by APA laws associated with clearcutting and vegetative cutting along shorelines. DEC does not require BMP's in silviculture, however it has voluntary timber harvesting guidelines which are often incorporated in private timber harvesting contracts. A state pollution discharge elimination system (SPDES) stormwater permit might also be required for these operations. Also, in order to receive Forest Tax Law abatements under Section 480a of the Real Property Tax Law, a timber management plan must be developed and approved by DEC.

Agricultural land located within an Agricultural District, approved by the State Department of Agriculture and Markets, provides the landowner with a certain level of protection referred to as the "right-to-farm" law. This means that no local law may be passed that limits normal farming operations and the farmer enjoys protection from nuisance suits. The active farmland in the watershed is part of an Agricultural District. In addition, landowners are encouraged to follow nutrient and pesticide management planning which involves soil testing for nutrients and balancing fertilizer recommendations to crop needs.

Recommendations:

1. 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 adopted under "A"] [No cost]
2. Assist farmers, as well as golf course owners and other major applicators of nutrients and pesticides, to voluntarily prepare nutrient and pesticide management plans for their agricultural 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]

H. 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 the "Upper Saranac Lake Issues Survey, 1996 Key Findings from Questionnaire Surveys of Upper Saranac Lake Residents and Visitors during the Summer of 1996," 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: Depending on the implementing body that is established for the Management Plan under Section "A", different mechanisms will be needed to implement these recommendations. These recommendations can be implemented through changes in town ordinances, state or county laws or through voluntary measures involving public education and outreach.

1. Establish a law enforcement position to enforce regulations associated with recreational activity on the lake.
[For implementation by the Implementing Body adopted under "A"] [Estimated cost \$50,000 per year]
2. Create better methods of enforcement of existing laws.
[For implementation by the USLA, County Sheriff, DEC and the State Police][No cost]
3. Encourage marina operators to comply with recommendations in the DEC Marina Management Booklet.
[For implementation by DEC and the Implementing Body adopted under "A"] [No cost]
4. Create speed limits for safe boat operation.
[For implementation by the Towns of Harrietstown and Santa Clara][No cost]
5. 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]
6. 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]

7. Require a permit from the implementing body for the Upper Saranac Lake Management Plan to run special events on Upper Saranac Lake.
*[For implementation by Implementation Body adopted under "A"]**[No cost]*
8. Identify camping opportunities for the public with maps and signage.
*[For implementation by DEC and the appropriate Chambers of Commerce]**[Estimated cost \$5,000 to \$15,000]*
9. Require appropriate reflective devices on boat houses and docks that protrude out into navigable waters for safety purposes.
*[For implementation by the Implementing Body adopted under "A"]**[No cost]*
10. 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]*
11. Establish noise criteria for the lake.
*[For implementation the Towns of Harrietstown and Santa Clara]**[No cost]*

I. LOCAL AND STATE AGENCY COMPLIANCE WITH LAWS AND RULES

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

Recommendation:

1. Ensure compliance of 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]*

J. EDUCATION 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:

1. 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 adopted under "A"]**[Estimated cost \$5,000 to \$15,000]*
2. Develop appropriate media for different classes of lake users (this includes printing of a

summary of the State of the Lake Report and Management Plan for Upper Saranac Lake):

Long time lakeshore residents --	pamphlet
New lakeshore residents --	pamphlet
Campers and boaters --	signage
Renters --	flyers

[For implementation by Implementing Body adopted under "A"] [Estimated cost \$5,000 to \$15,000]

3. The results of the residential and user surveys conducted by the CAC should be reviewed for information needs which should be incorporated in any education program for the lake.
[For implementation by Implementing Body adopted under "A"] [No cost]
4. 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 adopted under "A"] [Estimated cost \$5,000 to \$15,000]

K. 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:

[The following nine recommendations are for implementation by the Implementing Body adopted under "A"]

1. A refined estimate of the phosphorus loading from septic systems, permitted discharges, bottom sediments and nearshore sediments.
[Estimated cost \$20,000 each]
2. Conduct research on the populations and spread of non-native species in Upper Saranac Lake. In particular, map the extent of Eurasian milfoil in waterbodies within the watershed, particularly in those waterbodies that are connected via navigable waters.
[Estimated cost \$25,000]
3. Conduct a monitoring program in order to assess the effectiveness of the phosphorus reduction strategies and to see that other physical parameters are being maintained.
[Estimated cost \$5,000 to \$10,000]
4. 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]

5. Catalog non-point sources of pollution throughout the watershed.
[Estimated cost \$5,000]
6. Identify the number and location of properties that draw domestic water from the lake.
[No cost]
7. Do a cultural resource inventory of the watershed including submerged areas..
[Estimated cost \$30,000 to \$100,000]
8. 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]

L. APPROVALS

The following individuals on the CAC approve of this management plan. It is recognized that many of the recommendations in this Plan are dependent on funding and in some cases legislative changes, which the CAC has no direct control over.

Citizen Advisory Committee Members:

Michael DeAngelo, Town of Harrietstown
Bob Brower, Franklin County Water Quality Coordinating Committee
Don Burgey, Town of Santa Clara
Terry Doty, 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 - Chair of Environmental Committee
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 - Treasurer
Nellie Staves, Franklin County Federation of Sportsmen
Bill Wellman, Lake Champlain Chapter of Trout Unlimited

Technical and administrative support was provided by:

Tim Holmes, Holmes and Associates
Susan Kennedy, NYS Department of Health
Michael Martin, Adirondack Aquatic Institute
Karen Roy, Adirondack Park Agency
Jay Bloomfield, Gena Gallinger, Betsy Lowe, Jim Sutherland and Rob Bonham (DEC)

Appendix A: RESPONSES TO PUBLIC COMMENTS ON DRAFT MANAGEMENT PLAN AND FINAL STATE OF THE LAKE REPORT FOR UPPER SARANAC LAKE

Public Comments raised at July 15, 1998 Public Meeting:

- **Comment 1:** Does the "21% surface water" in table on page 36 of the State of the Lake Report include just open areas?

Response: The 21% figure represents that total area of ponds and the lake, but does not include wetlands.

- **Comment 2:** What is the impact of the significant rainfall over the past 5 or 6 weeks on phosphorus concentrations in the Lake?

Response: The present water quality is not covered in the Report. Rainfall could either increase or decrease the phosphorus levels. Weather has a big impact on water quality every year.

- **Comment 3:** What is the range of phosphorus levels in the lake over the past few years?

Response: The past few years the lake has been approximately 12 to 15 ppb. See section 10.3 on page 229 and 230 of the State of the Lake Report. No significant changes in phosphorus levels have occurred over the past few years, although they are lower than they were when the algae bloom occurred in prior years.

- **Comment 4:** Question about phosphorus levels in the bottom of the lake and affect of sediment deposition over time in terms of filling up the lake.

Response: The phosphorus levels are higher at the bottom of the lake than the surface. This is covered in Chapter 5 and the nutrient budget is discussed in Chapter 9 of the State of the Lake Report. Regarding sediments filling the lake, every lake fills in slowly due to the natural aging process. It can take tens of thousands of years in lakes with no human impacts.

- **Comment 5:** Is the lack of oxygen only a factor in the deeper pockets of the lake?

Response: Yes, monitoring set up for those areas show oxygen deprivation occurs in the deeper portions of each Basin.

- **Comment 6:** Questions about how the management goal of 12 ppb for phosphorus was determined.

Response: 12 was picked as a reasonable level, it is about what the levels are now in the South Basin and is a little better than what the North Basin is now. If the target is set too

low, everyone would have to abandon their houses, and if set too high, more damage of the lake could occur. There could be more development in the South Basin causing more phosphorus. Also the hatchery has improved/lessened its phosphorus discharges greatly from 6 to 8 years ago, which is helping to improve phosphorus levels in the North Basin.

- **Comment 7:** Concern about potential water quality degradation in localized areas.

Response: Unfortunately the standard way to monitor is in the center of the lake. The center may have much better water quality than some of the shallow bays.

- **Comment 8:** Question about how Lake Protection District would work, bottom of p. 5. What would boundaries be? Section 284 of Town Law allows overlapping districts?

Response: It could include parts of Harrietstown and Santa Clara. It could also include other water bodies in system of lakes with similar problems or could just be within a town. The boundaries will be determined by the public body implementing the plan and would involve a public process. The Citizen Advisory Committee recognizes that a single jurisdiction is not necessary for a Lake Protection District.

- **Comment 9:** Why should the local community pay for something that benefits a much larger area?

Response: The suggestion to consolidate town lines or to develop a lake protection district to manage the watershed can be viewed as a measure to save money. There is also some understanding that those of us that live in the watershed have contributed to the problems.

- **Comment 10:** Committee did a great job, what is process from here? Many recommendations are conceptual in nature and not as detailed as we might like to see. How do you get endorsement from towns?

Response: Committee will review comments and incorporate them as appropriate. The Plan will be forwarded to DEC by September 1 and then DEC will review and forward it to EPA. Under EPA funding, there is an obligation to give EPA a report to justify the grant. DEC will have to decide if it wants to endorse all aspects of the Plan. The Plan is not a binding document. Adoption of the Plan sets the stage for grant money.

- **Comment 11:** Concern about recommendation "C.6." associated with using carcasses on the ice for scientific study. The existing scientific study utilizing animal carcasses on the ice in the winter for monitoring active eagle nests on Upper Saranac Lake is above reproach. There are two active eagle nests on the lake right now due in part to this program. These eagles are monitored over a five to six week period between February and April. The carcasses used for this are not left behind or frozen into the ice but are totally consumed. A comment letter on this topic from Peter Nye, DEC Endangered Species Unit will be forthcoming (see Comment 21).

Response: Management Plan allows for legitimate scientific study with proper cleanup.

- **Comment 12:** The impact of the hatchery on Little Clear Stream is not addressed in the Plan. It used to be a nice canoeable stream and now it is quite grown up with vegetation, perhaps from phosphorus.

Response: This was not covered by the study. This was a study of the Lake and not the tributaries.

- **Comment 13:** What happened to the crayfish and fresh water clams that used to be in the lake in recent years?

Response: This was not covered by the study.

- **Comment 14:** On page 4 of the Background section of the Management Plan, one of the primary camping areas referred to on State land being "Birch Island" should read "Buck Island." There is no public camping on Birch Island.

Response: Comment noted. This will be changed in Final Plan.

- **Comment 15:** Who will implement the Plan when it is finally approved/adopted?

Response: The Plan is final when submitted to EPA. Each recommendation identifies who the responsible party is to implement the recommendation. This is a conceptual plan, need to get as many as possible to buy into it so that it is more likely it will be carried forward. This is a conceptual Plan and we are on the right track if people can overall buy into this. Many of the recommendations would still have to go through a formal review process, particularly if it requires a permit or requires approval from a particular governing body. The Plan tries to identify cost and who would have to take the lead in implementing recommendations. Recommendations will require additional formal review as each is being worked on for implementation.

- **Comment 16:** Comment that individual is impressed with the work of the group and all the issues it looked at. This Management Plan is a living document, not set in stone. None of this is concrete. The Citizen Advisory Committee is an open process. Public comments on the Plan are needed. People need to stay involved in the process.

Response: Comment noted.

Additional Comments received in writing

- **Comment 17:** Letter received from Betty Howard of Tupper Lake dated 7/22/98 congratulating the CAC "on their thorough study and recommending that most of the suggested plans be employed." She is "particularly interested in all the recommendations re continued study of water quality and implementation of corrective actions, also basic

research on non native species in the Lake.” She also “urges establishing an official to enforce safety measures re boating usage.”

Response: Comments noted.

- **Comment 18:** Comment letter received from Karen M. Roy of the Adirondack Park Agency dated July 29, 1998 which stated that even though she participated on the Committee when the Management Plan was being developed, she cannot give approval to the Plan and its specific recommendations, many of which cover areas beyond her expertise, such as legal and administrative issues. Her participation was solely as staff support and ultimately, only the Adirondack Park Agency members upon review and consideration could approve the Management Plan.

Response: Comment noted and will be incorporated in the Management Plan.

- **Comment 19:** E-mail sent by Theresa Faber of the US EPA to Betsy Lowe at DEC dated 7/7/98 suggesting that some mention of the Lake Champlain Management Plan should be made up-front in the Management Plan, particularly as a funding source. However, she recognized that the watershed which includes Upper Saranac Lake that drains into Lake Champlain already meets the phosphorus goals in the Lake Champlain Management Plan.

Response: The Saranac Lakes are not included in the priority list in the Lake Champlain Management Plan.

- **Comment 20:** Comment letter received from David Powell dated August 30, 1998 supporting recommendation regarding removing non-native species from boats coming from non-watershed areas.

Response: Comment noted.

- **Comment 21:** Comment letter received from Peter Nye, Endangered Species Unit Leader, NYSDEC dated August 21, 1998 expressing concern about recommendation regarding animal carcasses being left on the lake (recommendation #6, Section C Water Quality Management). Concern about whether this is targeted at the bald eagle baiting/capture program DEC has been conducting at one location on the lake for the past 5 years or so. This program utilizes a volunteer/cooperator and involves baiting one site with a deer carcass for about 10 weeks each winter. Since the program began, 2 pairs of adult eagles have begun breeding very close to this site and also now regularly utilize this bait station, very likely helping ameliorate otherwise normal winter food stress conditions for these pairs and also probably allowing them to remain close to their breeding site during the winter. Throughout the project, very few deer are used and are changed regularly. The wording should be revised to support judicious use of carcasses for legitimate scientific study. This project is an important component of population monitoring and research in this area. He also suggested that the bald eagle, as a state and nationally listed endangered and threatened species, should be better identified and discussed in the draft plan, since at least two nesting pairs and many wintering and migrant

eagles are known to be using Upper Saranac Lake. Would like to continue to operate with the following conditions: no more than two deer carcasses are on the ice at any one time, there is regular changing of the carcasses once spent (usually this is within one week or less), and all available remains are removed once they are consumed or are no longer in use. In all cases, the ice is completely cleaned up each spring prior to ice-out and the amount of remains/organic matter that may then enter the water is negligible. The program is proposed to continue for at least the next seven years.

Response: Comment noted. Management Plan allows for legitimate scientific study with proper cleanup as described by Peter Nye.

Comments received in memorandum dated July 31 from Stuart A. Buchanan, DEC Region 5 Director, to the Upper Saranac Lake Citizens Advisory Committee

- **Comment 22:** The Plan should clarify that DEC staff participated on the CAC to provide administrative and technical support. They should not be considered members of the CAC in terms of official Department endorsement of the Plan.

Response: Comment noted. The same applies to Michael Martin of Adirondack Aquatic Institute.

- **Comment 23:** While it is laudable to set a management goal of 12 parts per billion, some additional scientific justification/analysis for this should be added to the Plan. The analysis by Holmes and Associates of the user survey of Upper Saranac Lake showed a fairly widespread lack of satisfaction with water quality. However, there is nothing in the Plan that supports the idea that a reduction in the ambient phosphorus concentration of less than 2 parts per billion would result in widespread user satisfaction. In addition, it should be cited in the Plan that the Department's statewide phosphorus guidance value for ponded waters is 20 parts per billion. Before changing this guidance value, DEC is awaiting completion of the US Environmental Protection Agency's national nutrient proposal which will include phosphorus and nitrogen criteria by ecological regions across the state.

Response: The Department's state wide phosphorus guidance value for ponded waters will be cited in the Plan. Regarding the Management Goal of 12, EPA has mandated that numeric phosphorus standards be created for all bodies of water. Within the same state, regional standards will differ and within each region there will be different standards for different bodies of water and perhaps even different standards within each body of water. The 20 ppb is an initial and temporary statewide standard to be replaced by specific standards appropriate for individual regions and bodies of water and individual locations within these bodies. Current data show that the natural and currently prevailing levels of phosphorus in Adirondack lakes are substantially lower than 20 ppb. DEC has also set numeric standards for many areas in Lake Champlain significantly lower than 20 ppb.

Further, while we await the US EPA study, this Committee is responsible for creating a Management Plan with target levels of water quality. In providing technical advise to this Committee, Dr. Jay Bloomfield has warned us that if the lake increases from its present 13-14 ppb to 17 ppb it will result in significant deterioration of water quality. Since there is so much data on the Lake, it is possible to select a standard.

- **Comment 24:** The goal portion of the Management Plan talks about managing the water as if it were classified as AA(T). DEC does not have any legal justification to do this without a change in the Environmental Conservation Law.

Response: The management goal of this plan is to have trout fishery. To do this the EPA says oxygen should not be below 6.5 ppb. Reclassifying the lake as an AA(T) would do this. See additional comments below regarding AA Special designation under Comment 22.

- **Comment 25:** As much as we might like to, the Department cannot guarantee a commitment for ongoing monitoring of the Lake. This is dependent on available funding and also the need to utilize available resources for other major lakes in the region that have not had the level of study that Upper Saranac Lake has had.

Response: Comment noted.

- **Comment 26:** It appears that the recommendation regarding animal carcasses on the lake should be moved to the section on "Protecting Endangered and Important Species Section." In addition, the Department annually monitors bald eagle activity on Upper Saranac Lake using animal carcasses to attract the birds. This is an extremely important monitoring activity for this species. We are establishing guidelines for this program in order to address concerns of area residents.

Response: Comment noted. The Committee's preference is to leave the recommendation where it is because of human waste and refuse issues. We agree that monitoring of endangered species is important.

- **Comment 27:** The Plan recommends that the Lake be reclassified to AA Special which would prohibit all discharges into the lake. This recommendation would have to be implemented by an act of the Legislature to amend the ECL. If this is made retroactive, it would prohibit existing discharges into the Lake. The Committee should be aware that there are several establishments on the lake who currently have SPDES permits which would no longer be allowed under this provision. There would be a significant/prohibitive cost to replace these systems with groundwater systems, with little benefit to the overall quality of the Lake.

Response: The Committee does not intend that the designation be made retroactive. This will be noted in the Management Plan.

- **Comment 28:** The Plan should clarify under recommendation 4 in the wastewater management section that monitoring of all surface water discharges is currently being conducted. It should also be clarified that monitoring of subsurface discharges of more than 30,000 g.p.d. is not required by section 702.21, rather this section allows a waiver from groundwater standards if the discharge is less than 30,000 gallons per day. Monitoring can be required of subsurface dischargers under section 702.20.

Response: Comment noted. This citation will be changed in the Management Plan.

- **Comment 29:** DEC has reservations about the recommendation to investigate under SEQRA a system to add hypolimnetic oxygen in the North Basin and designing and installing such a system. There are many aspects to this which may not be desirable including its potential to increase the possibility of large-scale algae blooms, the noise and disturbance along the lakeshore from the system, the long term operation of such a system to break-down the nutrients on the lake bottom, the large cost versus benefit of such a system, among other concerns.

Response: Comment noted.

- **Comment 30:** DEC does not feel that equipping public boat launches with cleaning stations is an effective way to address non-native species for several reasons. 1) Such stations will not prevent the introduction of species with small or microscopic dispersal stages (water milfoil, zebra mussels and pondweed) from entering the water at other locations including canoes launched from front yards, to any device that might contain small amounts of water or provide an attachment surface including sail boards and water toys. 2) These stations would require boiling water and perhaps chlorine to be effective which would be difficult to administer and enforce. 3) Efforts should instead focus on public awareness of the general problem of nonnative introductions, removal of obvious plant debris from boats (especially water chestnut that has no microscopic dispersal stages), and the interdiction of nonnative fishes that are actively and knowingly transported by water users (i.e. fish species).

Response: The Committee will delete this recommendation in light of recommendation 2 in this section which states "consider using current or new technologies for controlling non-native species as well as public education and involvement in spread prevention and control of nuisance aquatic species."