Waterworks

Spring 1989 Volume 5 Number 2

Focus On Cayuga Lake

Tompkins County Aquatic Vegetation Control Program

Cayuga Lake, one of New York's famed Finger Lakes, is an important part of the special character of Ithaca and Tompkins County. The southern shoreline and waters support multiple and divergent uses: several marinas, the Farmer's Market, a bird sanctuary, a golf course, and an enormously popular park coexist with two wastewater treatment facilities. The lake also serves as a primary or backup water supply for virtually all of the neighboring municipalities. Water quality is therefore a vital regional issue.

The planning departments of the City of Ithaca and Tompkins County, recognizing the need for protection of water resources, have joined other Central New York counties in the Aquatic Vegetation Control Program (AVCP). The AVCP is a state-funded program for water quality restoration and protection, administered through the Department of Environmental Conservation. Tompkins County and the City of Ithaca have focused on the southern end of Cayuga Lake, while other counties in the lake watershed have concentrated on other sections of the lake. One of the goals of the AVCP is to integrate all of these efforts into an overall Lake Management Plan. For the southern end of Cayuga Lake, the issues we have addressed include: (1) are the aquatic weeds increasing? (2) is eurasian water milfoil (Myriophyllum spicatum) increasing in dominance? and (3) where do the nutrients and sediment inputs originate?

Are the aquatic weeds increasing?

We are fortunate to have reliable historical surveys in the south end of the lake. We visited the sites of the earlier surveys and took quantitative samples of the species composition (what plants are there) and biomass (in what quantity). Results show that the number of species in the south end of the lake decreased dramatically between 1929 and 1970, but appears to have remained constant between 1970 and 1987-1988. The biomass of plants has decreased significantly since 1970 (Figure 1). We are compiling historical records of activities such as construction, dredging and filling, and start-up of major wastewater disposal facilities in the southern end to help us understand these important changes in the plant population. Catastrophic events such as Hurricane Agnes in 1972 may also have played a major role in altering the plant population.

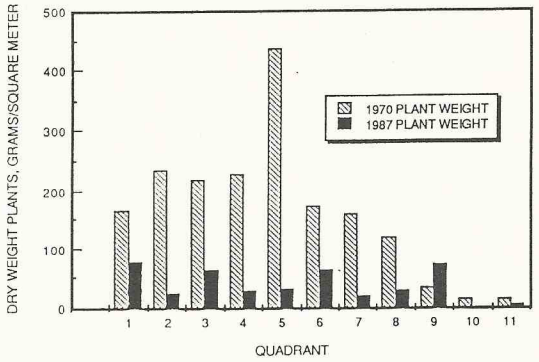

FIGURE 1. BIOMASS OF AQUATIC PLANTS, SOUTH END OF CAYUGA LAKE

(continued on page 8)

On the Local Scene. . .

Melody Lake

Melody Lake is a 48 acre lake located 1 mile east of the Village of Willet in southeastern Cortland County. There are 95 summer residences and 2 year-round residences around the lake. In 1980, the dam at Melody Lake was inspected by the Dam Safety Section of the NYS Department of Environmental Conservation (DEC). Since the Village of Willet is directly downstream, the dam was found to be unsafe, mainly due to an inadequate and deteriorated spillway and the lack of an operable drain. Under DEC Law Article 15, if repairs were not made, the dam may be breached by the state with the cost being billed back to the owners.

Our Association hired the services of a local engineer who recommended that we install two 12"x220' drains and construct a 60'x110' earthern spillway. Although these recommendations were approved by the DEC, we didn't act on them since they involved the clearing of private property against the owner's wishes and project funding wasn't available at the time.

The Association then formed a special committee to search for less expensive repair alternatives. Several unsuccessful attempts were made to raise funds through community activities such as flea markets and chicken barbecues. Government grants were unavailable since Melody Lake is 100% private. A Park District was considered but not formed since property owners would not be paying an equal share. It was finally decided that if we could get a $600 donation from each property owner, we would have enough money to complete the repairs. Since more than half of the property owners were not association members, we knew that collecting this money from some people would be difficult.

In 1986, the Dam Committee recommended to DEC that the auxiliary spillway be incorporated into the existing dam by increasing the size of the primary spillway. This would eliminate the cost and further maintenance of an earthern spillway. A shorter route for the drains was suggested, thereby decreasing the cost of these drains by 40%. This would also eliminate the need to cross over any private property. Both of these suggestions were approved by DEC and construction began in the spring of 1987.

The first step was to install the drains and lower the lake water level by 50%. This allowed us to inspect the dam. Using volunteer labor from around the lake, the walkway, piers and concrete cap were removed. We then increased the spillway capacity by removing stone from both ends of the dam. This stone was placed along the downstream toe of the dam to give it greater stability and lessen the possibility of sliding.

Once again, funds were running low and we still had 28 property owners that refused to pay anything towards the repairs. The Dam Committee requested the help of the DEC Legal Staff and the NYS Attorney General's Office. With their assistance, we were able to find a similar case in which the NYS Court of Appeals, the highest court in NYS, ruled that under some circumstances, when there is knowledge that an association exists to provide facilities and services to property owners, the purchase of property may manifest acceptance of conditions of ownership, among them, payment for the services offered. This implied contract includes the obligation to pay a proportionate share of the full

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Do You Have Questions For The Scientific Advisory Board?

During the Friday night discussion at the Scientific Conference in June, members of the Scientific Advisory Board will address questions which have been submitted by FOLA members. Questions about water quality or watershed management issues should be submitted in writing before May 15th.

Members are also encouraged to submit suggestions on ways to improve the Federation services. Please let us know how we can enhance our organization to better suit your needs.

Questions and suggestions should be sent to Dr. R. Warren Fint, SAB Chairman, Great Lakes Program, 207 Jarvis Hall, Buffalo, New York 14260. To enable the Scientific Advisory Board to adequately address your lake issues, please include background information about your lake.

cost of maintaining facilities and services. A local lawyer was hired to send a letter to these 28 owners informing them of this decision. They were also informed that we had retained his services to pursue legal action to collect the money owed. Within a short period of time, 15 of the 28 had paid their $600.

In the fall of 1987, a concrete cap and piers were poured on our new expanded spillway.

On March 22, 1987, summons' were served on the 13 property owners that still refused to pay their share. Within a couple of weeks, 7 had started making payments or had paid in full.

Throughout the summer of 1988, volunteers from around the lake rebuilt the walkway over the dam and poured a concrete cap on the stone buttress at the downstream toe of the dam.

On September 13, 1988, our repairs were inspected by DEC. In a letter to Association President Harry Shanahan we were told that "visual inspection of the recently completed reconstruction work, found the structure to be in satisfactory condition and in compliance with applicable dam safety criteria". The letter goes on to say "You and your association are to be complimented for a job well done".

Altogether, this 8 year project cost us $59,541.19. This would have been much more if it weren't for our hard-working volunteers who donated more than 2,500 manhours of their time. It's been an uphill climb all the way but thanks to these volunteers, this project is behind us. We are now waiting for the courts to decide on the 6 owners that still have not paid. Our association membership has grown to 75-80% of the property owners. Melody Lake is, once again, a place to relax and enjoy life.

If your association needs information or assistance with a similar problem, feel free to contact Robert Rosati, Chairman, Melody Lake Dam Committee, P.O. Box 62, Willet, NY 13863 or call (607) 863-4425.

By: Robert Rosati
Chairman,
Melody Lake Dam Committee

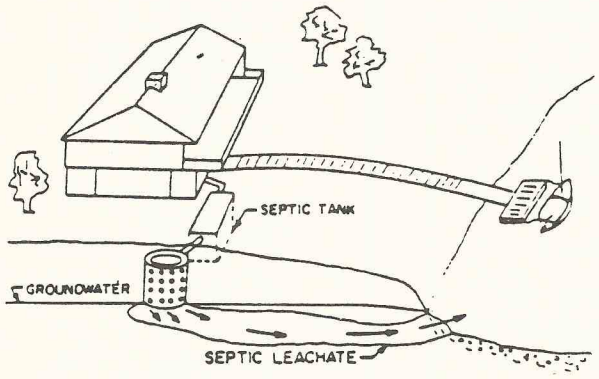
Cuba Lake's Experience

Using An Innovative Technology To Detect Septic Tank Failures

For several years residents of Cuba Lake, located in southwestern New York State, have been increasingly concerned about the potential for lake water quality problems. A major concern is the phosphorus contribution of on-lot sanitary systems, i.e., septic tanks. In recent years, scientific studies have supported the theory that elevated phosphorus concentrations promote the growth of nuisance forms of aquatic vegetation and accelerate the aging of lakes. The input of bacteria-laden wastewater also poses a health hazard to those pursuing body contact recreation, since improperly treated wastewater often contains potentially disease-causing viruses and bacteria. This is a common problem in many lakes and ponds throughout the country.

In May of 1988, the Cuba Lake Commission contracted with ECOSCIENCE, of Moscow, Pennsylvania, to conduct a septic leachate survey of the lake in an effort to determine the significance of this problem. The purpose of this survey was to pinpoint septic leachate plumes emanating from malfunctioning septic tanks. In late August, 1988, the entire six mile shoreline was intensively scanned using a newly developed septic leachate detector system.

Nitrates and phosphates are prime constituents of domestic waste water. Septic systems of improper design, and those set too close to the lake, lead to contamination of groundwater. This groundwater eventually reaches the lake, where it adds to the reserves of available nutrients.



Malfunctioning or overloaded septic systems on porous soils may leak poorly-treated effluent into the groundwater, and eventually pollute the water of nearby lakes.

The nutrient contribution of septic systems at Cuba Lake, and most rural lakes for that matter, may be significant due to their density and proximity to the water's edge. In addition, the drainage basin topography may limit the efficacy of this method of wastewater treatment in many areas of the lake where the slope is excessive and there is little or no area for siting of adequate absorption fields.

Cuba Lake Commissioners were suspicious that septic systems may have been one of the culprits responsible for increasing lake fertility. The main problem, however, was pinpointing exactly which systems were malfunctioning. In the past, technology to accomplish this task was not available. The recent development and improvement of septic leachate detection instrumentation provided an answer to this dilemma.

The Septic Leachate Detector utilized by ECOSCIENCE is a sophisticated, portable field unit capable of scanning extensive shoreline areas in a relatively short period of time and in a cost-effective manner. The system consists of a subsurface probe, water intake pump, analog computer, and a graphic strip recorder. The detector is designed to continuously monitor and document relative increased in fluorescence and conductivity. Both parameters are normal constituents of septic leachate.

The Survey Begins

Calibration of the unit was conducted before the survey began, using a two percent solution of secondarily treated sewage treatment plant effluent and five liters of representative lake water. Secondarily treated wastewater effluent is used because its conductive and fluorescence properties are similar to that of typical septic tank effluent. Lake water serves as a background "yardstick" by which increases in conductivity and fluorescence are measured. The unit is recalibrated and checked for accuracy several times a day.

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Getting Ready For Water Quality Monitoring

O.K., the ice is out and you are beginning to think about a new season of enjoyment on your lake. But what about The Citizens' Statewide Lake Assessment Program (CSLAP)! Are you ready?

In 1988, fifty three lakes across New York State participated in CSLAP. Volunteers at all of these lake communities realize the importance of maintaining consistency and reliability in the methods used to collect and process the water quality samples. As we approach a new sampling season it might be time for CSLAP coordinators to look at some aspects of the job and to see where some shoring up would help.

Tuscarora Lake, located in Madison County, was one of the original lakes to participate in CSLAP. Prior to our involvement, we had spent two years participating in a monitoring program which was started with the assistance of the Freshwater Institute at Rensselaer Polytechnic Institute (RPI). Fortunately, the data and testing procedures were compatible with CSLAP. We have been monitoring water quality for quite a while and there is no lack of interest or support from our lake association. Sure, some of the players have changed over time -- but that is the way a team operates.

In 1988, a total of ten lakes in Madison County were able to participate in CSLAP through funds granted either by the State or through The Aquatic Vegetation Control Program. I was asked to help coordinate these lake associations with the water quality monitoring process. Involvement in this project starts way before the sampling season begins and we have found that education and communication are key ingredients for a stable program.

As chairman of the Tuscarora Lake Water Quality Committee and coordinator for Madison County lakes, allow me to share some ideas I think worked. You may find that some of these ideas are applicable in your setting.

Of considerable importance is communication with the membership. Let people know what you are doing. Don't make things exclusive. Brief reports of activities -- both past and upcoming -- at the association meetings keep lake association members informed about the project.

Communication through association newsletters allows you to reach those people who do not attend meetings.

It is recommended to have at least one CSLAP primary team and one secondary team on hand for sample collection. Our lake has evolved to three teams, each responsible for a month or 5 weeks of sampling. Any need for a substitute because of appointments, weddings, etc. can be covered because there are trained people to step in.

As chairperson or coordinator, your role need not be as sampler. Recruitment of new volunteers when or before the need arises is important. Training can be on-the-job with a knowledgeable crew. Communication with, and education of the association membership will likely result in a list of volunteers waiting to be involved.

A different crew can become involved when special projects are added to CSLAP. After the first year of testing, lakes communities have an opportunity to participate in either recording dissolved oxygen/temperature profiles, monitoring precipitation levels, or sampling of aquatic vegetation. These new undertakings are an opportunity for broader participation. Let more people into the act -- broaden your base. It may take more coordination but it is worth the effort.

(continued on page 11)

PROGRAM ANNOUNCEMENT

The Federation of Lake Associations would like to introduce a new **Information Management Service** which is now available to our members. This program is designed to enhance the level of communication between lake associations, to provide increased coordination between water resource organizations throughout the State, and to provide a convenient opportunity for people to collect information about water resource topics. The Federation has the capacity for convenient access to information on New York State surface water resources and lake management issues. If FOLA members would like to request information through the Information Management Service or if you have information to provide, please contact Anne B. Saltman, IMS Program Coordinator, 2175 Ten Eyck Avenue, Cazenovia, New York, 13035 (315) 655-2236.

FILMS, SLIDES AND VIDEOS FOR YOUR LAKE ASSOCIATION MEETINGS

If you are looking for a change at your next lake association meeting, why not try a 16mm film or video about water resources and lake management? The Film Library at the **NYS Department of Environmental Conservation** has a wide variety of videos and films available to the public, such as The Adirondacks - The Land Nobody Knows, America's Wetlands, Legacy for a Loon, and A Trout Stream in Winter.

The Film Loan Library is funded by **Return A Gift To Wildlife**, the state's voluntary income tax form donation program. In keeping with Gift to Wildlife's educational goals, these films and videos promote public awareness, understanding and appreciation of our fish and wildlife resources. For more information, write to Tim Minch at the DEC Film Loan Library, 50 Wolf Road, Room 516, Albany, NY 12233-4501.

Nonpoint Source Pollution: An Introduction is a new 15-minute slide-tape/video presentation that discusses the nonpoint source pollution problem in New York State from a non-technical perspective. It is useful to anyone who is interested in learning more about water pollution, including farmers, sportsmen, local officials, government agencies, and members of conservation associations, citizen's groups, and lake associations. To borrow a copy of this slide/tape or video, contact your county Soil and Water Conservation District office or Department of Environmental Conservation regional office. This is a good educational opportunity for your community and there is no rental fee.

Videos, films, or slide-tape sets may also be available to the public at college libraries. The **State University of New York** (SUNY) libraries, for example, have a good selection of topics on water resources, natural history, resource management planning and ecology. Catalogs are available by calling or writing a SUNY library.

If your lake community is currently researching wastewater treatment alternatives, you may find the **EPA National Small Flows Clearinghouse** very helpful. This organization gathers and distributes information about small community wastewater systems. In addition to offering an excellent collection of educational brochures, handbooks, and manuals, the Clearinghouse also rents and sells educational videos and films to lake communities and environmental groups. These programs explain the basic concepts of alternative wastewater collection and treatment technologies and the factors to consider when planning, managing or upgrading wastewater treatment systems. To learn more about Small Flows Clearinghouse, call their toll-free telephone number 1-800-624-8301.

COMPUTER BULLETIN BOARD SERVICE

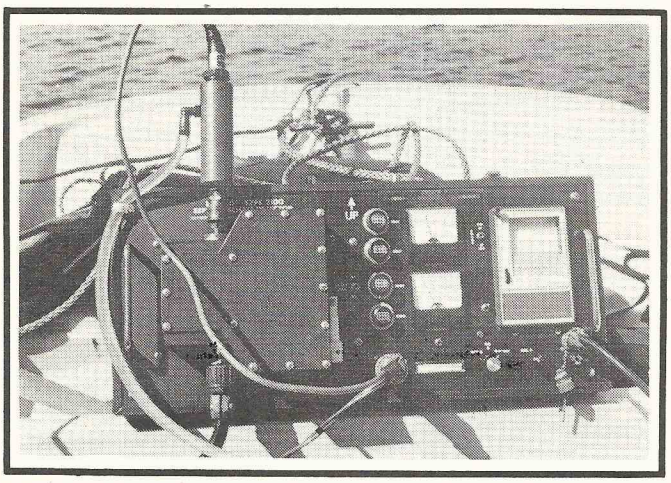
The EPA National Small Flows Clearinghouse has recently provided convenient access to a variety of environmental information through a computer bulletin board service (BBS). State and local officials, engineering firms, outreach agencies, and others nationwide are now calling BBS for information about a variety of topics, including research in wastewater management, updates of Environmental Protection Agency programs, new Clearinghouse services, new products from industry, and scheduled conferences and seminars. The BBS's toll-free number is 1-800-544-1936. Use of the bulletin board is free; however, a user must have a personal computer and a modem to access the service.

QUESTIONS ABOUT YOUR DRINKING WATER?

Try the Safe Drinking Water Hotline at 1-800-426-4791, Monday through Friday from 8:30 AM to 4:30 PM. The primary function of the U.S. Environmental Protection Agency's Safe Drinking Water Hotline is to assist the public with the understanding of the regulations and programs developed in response to the Safe Drinking Water Act Amendments of 1986. The Hotline provides clarification of drinking water regulations, explanations of EPA policies and guidelines, updates on the status of regulations and policies, and information on the availability of technical publications, guidance documents, and information public education materials.

CUBA LAKE *(continued from page 4)*

The survey team, consisting of an experienced biologist and two field technicians, moved forward at a very slow walking pace. During this time, lake water was continuously drawn from just above the sediment-water interface and passed through the analyzer unit which was secured in their boat. As lake water was drawn through the detector, separate conductivity (inorganic) and fluorescence (organic) signals were generated, depending on the relative increases in each parameter. The joint signals were then sent to the analog computer, which compared them against the background signals to which the instrument was originally calibrated. In addition, simultaneous increases were evident to the survey team on the pollution index meter. Wherever significantly elevated readings were recorded, a numbered lake study marker was placed on the shore, adjacent to the identified plume location. Photographs were also taken for future reference.



In order to maintain quality assurance, all water samples were collected on the final day of the survey and immediately transported to the Alfred Analytical Laboratory, located in Alfred, New York. All samples were analyzed for ortho phosphate, total phosphate, nitrate-nitrogen, ammonia-nitrogen, chloride, fecal bacteria, fecal streptococcus bacteria and MBAS (detergents).

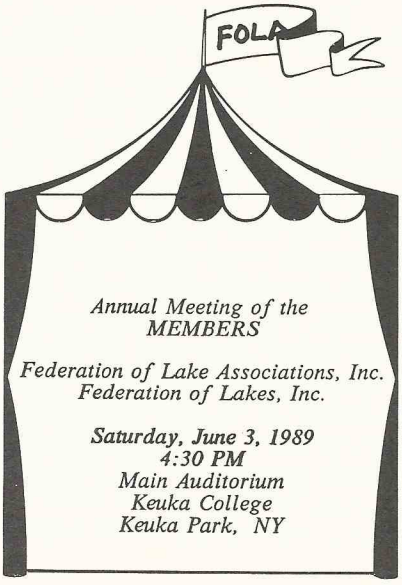
Startling Results

During the course of this investigation, eighty-nine stations around the lake exhibited elevated channel readings of organic compounds, inorganic compounds, or both. The Cuba Lake Commissioners then instructed ECOSCIENCE to sample thirty-seven of the sites with the highest readings for further analysis in the laboratory. Background samples were also collected from three additional stations.

Laboratory analysis of these sites revealed the presence of fecal contamination, and suspiciously high total phosphorous, ammonia nitrogen, and chloride levels. These parameters are all indicative of wastewater loading.

In view of the study findings, the Cuba Lake Commissioners are now able to seek immediate assistance from the two local county health departments involved with the enforcement of violated sanitary codes at specific locations, which could only have been pinpointed by the survey. Perhaps more importantly, since basin topography and a number of other factors combine to limit the effectiveness of on-lot sanitary systems as a waste disposal method at Cuba Lake, officials now have the ammunition they needed to request local, state and federal assistance in developing a comprehensive wastewater disposal method for the lake.

By: Susan C. Langdon
ECOSCIENCE



CAYUGA LAKE (continued from page 1)

Is eurasian water milfoil increasing in dominance?

Again, we could return to earlier surveys for comparison. Even though there have been changes in each quadrant (sampling location), the overall percent contribution of water milfoil to the total plant biomass has not changed in a consistant manner since 1970 (Figure 2). This is an encouraging result. At least in the southern end of Cayuga Lake, this nuisance plant is not "taking over". These results point out the complexity of the issues in aquatic weed control. Ecosystem level interactions of factors such as light penetration and nutrient availability may ultimately determine the fate of the different plant species in a particular lake system. One cannot state simply that eurasian water milfoil, once introduced to a lake, will be at a competitive advantage to the other vegetation. During the spring and summer of 1989, we plan to conduct several in-lake experiments to test the importance of light as a controlling variable in milfoil success.

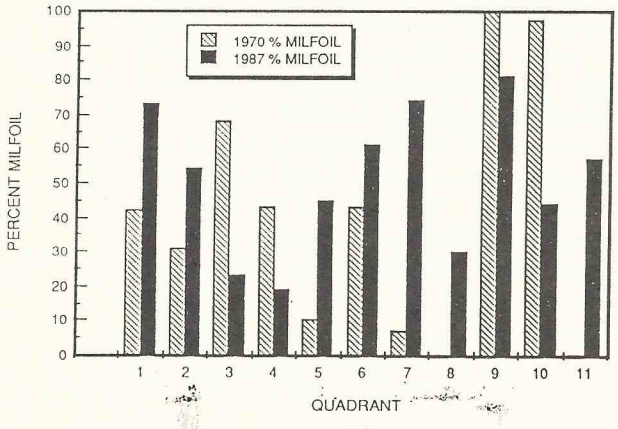


FIGURE 2. PERCENT CONTRIBUTION OF EURASIAN WATER MILFOIL TO PLANT BIOMASS

Where do the nutrients and sediment come from?

By monitoring the concentrations of total soluble phosphorus, nitrate nitrogen, and suspended solids and the streamflow in four major tributaries to the south end of the lake, we were able to estimate the annual load to the lake. The four major tributaries we monitored included Fall Creek, Six Mile Creek, Cascadilla Creek and the Cayuga Inlet. Ultimately, we will relate the nutrient and sediment loads to land uses and environmental factors in the watersheds using a Geographical Information System as an important tool. Our results to date indicate that Fall Creek is the major source of soluble phosphorus and nitrate to the lake. Three tributaries, Fall Creek, Six Mile Creek, and the Inlet, deliver comparable loads of sediment to the lake.

High streamflows in the springtime from rain on frozen ground and melting snows deliver much of the soluble phosphorus and sediment to the lake (Figures 3 and 4). The timing of these inputs may be helping to keep weed populations low by influencing light availability at critical macrophyte growth stages. Sediment reduces light availability directly, and soluble phosphorus indirectly, through stimulation of algae blooms.

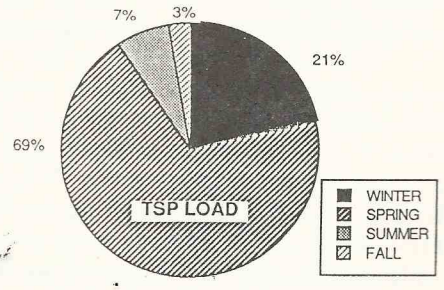


FIGURE 3. SEASONAL TOTAL SOLUBLE PHOSPHORUS INPUTS

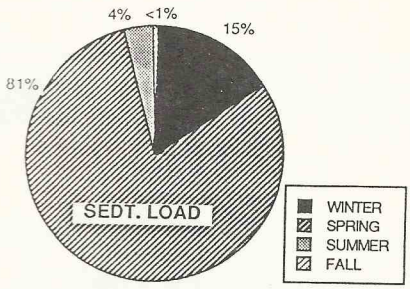


FIGURE 4. SEASONAL SEDIMENT INPUTS

Continuing Activities

Tompkins County Planning Department will continue to investigate regional water quality issues through the AVCP. Many of our future directions have been noted above, such as investigating the causes of the changes in southern Cayuga Lake plant populations, clarifying the role of light as a limiting factor for weed growth, and correlating watershed activities with nutrient and sediment loading to the lake. We are also planning to have aerial photographs of Cayuga Lake taken in conjunction with our field surveys, so that we can calibrate the photographic images with in-lake data. The Aquatic Vegetation Control Program has deepened our understanding of lake and watershed processes throughout the region.

By: Elizabeth C. Moran, Ph.D.
Project Manager, Tompkins County AVCP
Senior Environmental Scientist,
Stearns & Wheler, Engineers and Scientists

Annual Meeting of the
BOARD OF DIRECTORS
Federation of Lake Associations, Inc.
Federation of Lakes, Inc.

Friday, June 2, 6:00 PM
Dormitory Conference Room
Keuka College
Keuka Park, New York

There are many organizations throughout New York State that assist in water resources funding, research, and education. In each issue of ***Waterworks*** *we hope to provide an overview of one of these groups.*

Highlight on. . .

The Lake George Park Commission

In 1961, the New York State Legislature established Lake George Park. The same law established a commission, known as the Lake George Park Commission, to oversee management of the unique resources of this area. The Park consists of the bed, waters, islands and shore of Lake George and essentially all the land which drains into the lake. The watershed, approximately 300 square miles, is defined by boundaries set forth in the law.

The Lake George Park Commission has a wide variety of responsibilities. The powers and duties of the Commission include:

Environmental Protection: To assist property owners in forming special districts to control stormwater or protect significant environmental areas; to establish zones where commercial use of property is prohibited, restricted, or controlled; and to aid and assist individuals and groups in acquiring real property or interests or rights in real property to preserve open space and natural scenic beauty.
Water Quality: To work with appropriate state agencies and local governments and, after public hearings, adopt rules and regulations governing wastewater management, stream corridor protection, tree clearing, advertising signs, stormwater management, lake safety, wharfs, moorings and marinas, speed and sound of vessels, and recreational activities on the lake.
Enforcement: To appoint patrolmen who are designated peace officers; to operate the Lake George Park Commission Boat Patrol; to identify and abate pollution of the lake from any source; and to hold hearings, subpoena witnesses and issue orders to enforce provisions of the Lake George Law.

Protecting Lake George's water quality will be a major focus as the Commission undertakes the next round of rulemaking and public hearings, early this Summer. The rulemaking will address the following areas:

Wastewater Disposal Regulations: These will be proposed to apply to both new and existing systems in a uniform, park-wide approach to better sewage management. The funding of the administration and the manner of enforcement will be important elements of public debate.
Stormwater Management Requirements: A technical group has been working hard throughout the Fall and Winter on new regulations. As with wastewater, controls on new development and approaches for the existing development are included.
"Recreational Uses": This term applies to special lake activities. The Commission is required by law to develop rules and regulations governing these uses. The Commissions's first rulemaking put a moratorium on new commercial recreational uses.
Stream Corridor Protection and Tree Clearing Controls: These are also water quality protection measures which the Commission is required to take up. The Commission hopes to overcome budget and staff limitations so that these rules and regulations will be included in the rulemaking.

PUBLICATIONS

If you need help with watershed zoning regulations, you may want to send for a copy of a comprehensive reference manual called "Planning and Development Reference Guide MARCH 1988" It contains descriptions and practical guidelines for the administration of local regulations, including zoning variances, site plan review, subdivision controls, and other elements administered at the local level. It was written as a cooperative effort between the Adirondack Park Agency and the New York Planning Federation. The manual is available for $10.00 from the New York Planning Federation, 301 South Allen Street, Albany, New York 12208 (phone 518-489-8116)

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The EPA has recently published a document which may be helpful to people who are addressing nonpoint source pollution control within the lake community. The publication is called "Interfacing Nonpoint Source Programs with the Conservation Reserve: Guidance for Water Quality Managers." For a free copy, write to Jim Meek, Nonpoint Source Branch, WH-585, U.S. Environmental Protection Agency, Washington, D.C. 20460.

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The NYS DEC has recently published anotherdocument which could be helpful to lake communitites. "Who's Who of Nonpoint Source Pollution Control" provides a directory of agencies and organizations in New York State that are involved in seeking solutions to this complex problem. Contact your regional DEC office for a copy.

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When you dispose of paint thinner, disinfectants and other household chemicals by pouring them outside or down the sink drain, the toxic material could seep down to your groundwater supply and eventually contaminate your drinking or lake water. A new Cooperative Extension Fact Sheet called, "Disposal of Household Hazardous Waste" tells how to dispose of the chemicals you use daily without harming the environment. This important publication is available at Cornell University Distribution, 7 Research Park, Ithaca, 14850. Your local Cooperative Extension office may also have copies available.

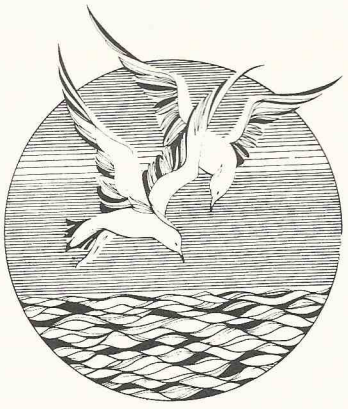
CALENDAR OF EVENTS

May 18-19, 1989
Enhancing the States' Lake and Wetland Management Programs, Blackstone Hotel, Chicago. Contact Bob Kirscher, Northeastern Illinois Planning Commission, 400 W. Madison Street, Chicago, Illinois 60606 or call (312) 454-0400.

June 2-4, 1989
Federation of Lake Associations, Inc. annual conference, Keuka Park, New York. Co-sponsorship by the Water Resources Board of the Finger Lakes Association, Inc. and the Keuka Lake Association, Inc. For more information call (315) 536-4411, ext. 276.

November 7-11, 1989
Multiple-Use Management of Lakes and Reservoirs, North American Lake Management Society 9th Annual International Symposium, Stouffer Hotel, Austin, Texas. Contact NALMS office (202) 466-8550.

December 11-12, 1989
National Symposium on Nonpoint Water Quality Concerns: Legal and Regulatory Aspects. New Orleans Marriott; sponsored by the American Society of Agricultural Engineers. Contact Donald Pfost (314) 882-2731.



CALL FOR PAPERS

North American Lake Management Society 9th Annual International Symposium, November 7-11, 1989, Austin Texas. Multiple-Use Management of Lakes and Reservoirs. Abstracts should be submitted by June 1, 1989. For further information write to NALMS, P.O. Box 217, Merrifield, VA 22116, or call (202) 466-8550.

CSLAP (continued from page 5)

So, with the new season approaching, here are a few specific things to do if they were not done in the fall.

- Have the equipment inspected and inventoried. List any items in need of repair or replacement. Communicate your needs to Scott Kisbaugh or Anne Saltman, your DEC/FOLA coordinators.
- Recheck your volunteer samplers to assure the 15 weeks are covered. Ask again if they noted any problems with the system.
- Collect your 1988 CSLAP records and file them in a convenient place.
- Communicate with your association president so that she or he knows that CSLAP is taken care of and is not an additional burden on the president's office.
- Check to see that your association's membership in the Federation of Lake Associations is paid up. This is a requirement for participation in CSLAP.
- Review the annual CSLAP report prepared by DEC. Condense the information and share relevant information with the lake association members. Share or circulate copies, when available. The 1988 annual report should be available in early summer.
- Plan to attend or at least see that your association is represented at the annual FOLA conference which will be held at Keuka College on June 2-4. This is an opportunity to hear important presentations on water quality and lake management issues and to meet people with similar interests. Attendance is well worth the time, effort and expense. Communication and education is a two way street.

The long range focus of The Citizens' Statewide Lake Assessment Program is to develop usable watershed management plans based on several years of sound data. Water quality is a result or indication of what is happening on the land surrounding your lake. May your continued participation in CSLAP be enjoyable and fruitful.

By: G. Earl Hay, Chairman, Tuscarora Lake Water Quality Committee

The Federation of Lake Associations

We are a coalition of organizations dedicated to the preservation and restoration of all lakes, ponds and rivers throughout New York State. We welcome and encourage the memberships of lake associations, property owner groups, fish and game clubs, corporations and individuals. The Federation is incorporated under two mirror organizations with the same officers and board of directors.

The Federation of Lake Associations, Inc. purposes are:

* to provide a clearinghouse of environmental information and expertise in all matters pertaining to lake management.
* to promote by education the wise use and appreciation of the lakes in New York State.
* to provide a pool of technical knowledge and expertise to advise and assist member associations and individuals.
* to establish liaison with other environmental groups and agencies.
* to provide a coordinating structure for lake-related research projects.

The Federation of Lakes, Inc. purposes are:

* to monitor and report to members on legislation and administrative actions affecting the waters of New York State.
* to support and lobby for legislation and admistrative actions which promote the sound management of the waters of New York State.

MEMBERSHIP CATERGORIES

Associations with up to 99 members ..... $30.00/yr.
Associations with 100 to 199 members ..... $50.00/yr.
Associations with 200 or more members ..... $100.00/yr.
Individual ..... $15.00/yr. Corporate ..... $100.00/yr.
Additional Copies of ***Waterworks*** ..... $.50 each

Membership dues over $5.00 are tax deductible contributions to the Federation of Lake Associations and will be used for educational, scientific and public information activities of the Federation.

APPLICATION FOR MEMBERSHIP

THE FEDERATION OF LAKE ASSOCIATIONS, INC., 273 HOLLYWOOD AVE., ROCHESTER, NY 14618

Type of Membership (please check) ☐ Association ☐ Individual ☐ Corporate

Association Name: _____

Assoc. Address: Street _____ City _____ State _____ Zip _____ County _____

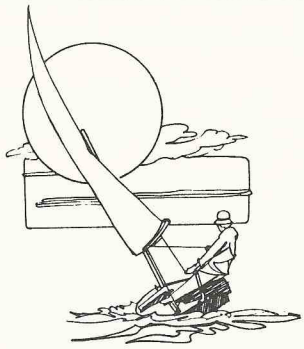
President/Contact Person: _____

Summer Address _____ Winter Address _____

Summer Phone ( ) _____ Winter Phone ( ) _____

Total number of newsletters requested of each issue: _____ ($.50 each)

FEDERATION OF LAKE ASSOCIATIONS, INC.
ANNUAL CONFERENCE



COMPREHENSIVE LAKE MANAGEMENT
How To Get Things Done

Co-Sponsored by The
Water Resources Board of
The Finger Lakes Association, Inc.
and The Keuka Lake Association, Inc.

June 2-4, 1989
Keuka College, Keuka Park, New York

Friday June 2:

5:00 PM Registration
6:00 PM FOLA Board of Directors Meeting
8:00 PM Brainstorming Session
Open forum to address questions submitted by members from a write-in campaign. Questions will be addressed by The FOLA Scientific Advisory Board members.

Saturday June 3:

7:30 AM Breakfast
8:00 AM Registration
9:00 AM to 5:00 PM POSTER SESSION. Results of DEC Grass Carp Investigation: Third Year of Study.
Mr. Patrick Festa & Mr. Edward Woltmann, Bureau of Fisheries, NY DEC, Albany, NY.
Commercial Exhibitors will be at their booths demonstrating their products.
9:00 AM PLENARY SESSION: NON-POINT SOURCES OF POLLUTION INTRODUCTION - NY Non-Point Source Pollution Control Strategies: An Overview.
Mr. Allan Tedrow, Chief, Groundwater Management Section, NY DEC, Albany, NY.
9:30 AM STREAM CORRIDOR MANAGEMENT
Mr. William Morton, Assoc. Environmental Analyst, Bureau of Water Quality Management, NY DEC, Albany, NY.
10:00 AM STORMWATER MANAGEMENT: PERSPECTIVE FROM THE STATE OF MARYLAND
Mr. Robert Kort, Maryland Dept. of Environment Sediment & Storm Water Adm., Baltimore, MD.
10:30 AM BREAK
11:00 AM AGRICULTURAL RUNOFF AND IMPACT ON LAKE BASIN WATER QUALITY.
Mr. Stu Klausner, Extension Agronomist, Soil Science, Cornell University, Ithaca, NY.
11:30 AM SELF-HELP APPROACH TO SOLVING WASTEWATER PROBLEMS.
Ms. Diane Perley, Chief, Self-Help Support Section, Bureau of Technical Services, Division of Construction Management, NY DEC, Albany, NY.
12:00 PM LUNCH
LUNCHEON KEYNOTE SPEAKER - Mr. Daniel Barolo, P.E., Director, Division of Water, NY DEC, Albany, NY.
Comprehensive Lake Management: Guidance From NY DEC.
1:30 PM HOW TO BEGIN SOLVING THE NON-POINT POLLUTION PROBLEMS IN SMALL LAKES.
Introduction - Mr. William Morton, NY DEC.
1:40 PM WORKSHOP: CASE EXAMPLES, ORDINANCES, AND/OR TOOLS
Identity of tools that address non-point pollution and demonstration of how to put these tools into action.
Mr. Robert Kort - Sediment & Storm Water.
Ms. Diane Perley - Waste Water Management.
2:45 PM BREAK
3:15 PM BOQUET RIVER CASE HISTORY.
Ms. Anita Deming, Director, Boquet River Assoc., Inc., Elizabethtown, NY.
3:45 PM DESCRIPTION of SEQR.
Mr. Jack Nasca, Assoc., Environmental Analyst, Bureau of Environmental Analysis, Div. Regulatory Affairs, NY DEC, Albany, NY.
4:30 PM Annual Meeting of FOLA Membership
5:15 PM Cocktail Hour and Dinner.
7:30 PM KEYNOTE ADDRESS:
Mr. Paul Dodd, State Conservationist,
Soil Conservation Service, Syracuse, NY.

Sunday June 4:

7:30 AM Breakfast
9:00 AM MYTHS vs. FACTS REGARDING LAKE CHANGES & THE HEALTH OF LAKES.
Dr. John Peverly, Dept. of Agronomy, Cornell University, Ithaca, NY.
9:30 AM AN INTRODUCTION TO ACID RAIN
Dr. Kenneth Mantai, Biology Dept., SUNY College, Fredonia, NY.
10:00 AM PUBLIC ACCESS AND USER CONFLICTS FROM AN ANGLERS PERSPECTIVE
Mr. Michael Gann, Inland Fishers Section, NY DEC, Albany, NY.
10:30 AM BREAK
10:45 AM CASE HISTORY OF WATERSHED MANAGEMENT USING MAP OVERLAYS
Ms. Margaret Wooster, Seven Creeks Watershed, Erie & Niagar Counties Regional Planning Board, and Ms. Lynda Schneekloth, School of Architecture & Environmental Design, SUNY at Buffalo, Amherst, NY.
11:15 AM HUMAN HEALTH ASPECTS OF CONCERN FOR WATER QUALITY IN SMALL LAKES.
Dr. Nancy Kim, Div. Environmental Health Assessment, NY Dept. Health, Albany, NY.
11:45 AM Conference Conclusion.

The Federation of Lake Associations, Inc.
273 Hollywood Avenue
Rochester, New York 14618