WATERWORKS

FEDERATION OF LAKE ASSOCIATIONS

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Formation of a Special District

Funding Weed Control Through Local "Self-Help" Taxation

The residents of the Lake Morraine shore community, needing a more effective means of raising money to pay for weed control, recently undertook the creation of a special tax district under New York's Town Law. The new district has been in place for just over a year, and promises to provide a fair and efficient way of funding important preservation activities. Getting the tax district in place requires careful planning to avoid oversights and duplication of effort -- and a heavy measure of patience. Our experience suggests approaching the project in discrete steps:

FIRST: A committee of interested people, or lake association officers, begins by determining if a water quality control problem exists, and, if so, if a water quality control program is desirable.

SECOND: Having found that there is a need, or that a program is desirable, the committee then needs to decide what program alternatives can meet those needs. These might include harvesting for quick (if only cosmetic) relief, chemical treatment for weeds and algae if a state permit can be obtained, bottom screening as an expensive but effective method, and dredging as a moderately effective means of slowing weed growth. The committee will want to consider non-point pollution sources, making a survey of them and possibly recommending alternative practices. This depends on the cooperation of soil conservation personnel, farmers and others whose activities, literally, spill into the lake, including property owners with septic systems.

Getting the tax district in place requires careful planning to avoid oversights and duplication of effort-- and a heavy measure of patience.

THIRD: Respective costs of the several alternatives, a total program suitable to the lake, and an annualized plan will define the general financial parameters. Generating the needed funds is the next step, and may be by voluntary contributions, voluntary assessment of lake association membership, or formal taxation, or some combination of these approaches.

FOURTH: If the decision is to fund by taxation, a special district must be formed. The very first task is to educate the lake residents and owners who will be subject to the tax as to the aims and value of the water quality control program, and what the special district will mean to them. To avoid oversights or unintentional misrepresentations, it is advisable to consult a lawyer at this stage, and have legal counsel available to assist with succeeding steps. Circulating an "interest indicator" among lakeside residents and land owners can provide a useful tool for the educational process, and if a Notary Public can be recruited, a formal petition can be circulated among affected taxpayers.

FIFTH: Once a general consensus is reached, the boundary of the district can be mapped; fortunately this does not necessarily mean "surveyed." Tax

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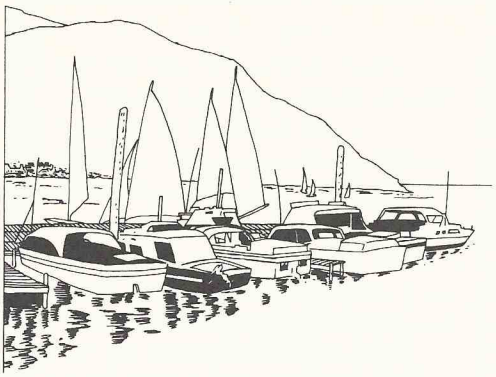


New York State Department Of Environmental Conservation Assistance For Lake Management

This is the second and final section of a talk presented by Mr. Langdon Marsh at the June, 1988 Annual Conference of the New York Federation of Lake Associations, Inc. The first section was printed in the summer issue of **Waterworks.**

...Some functions of government are best carried out at the local level. Land use regulation is one of them. In the case of the Adirondack Park, Freshwater Wetlands and other critical resource programs, provision is made for delegation of responsibility for land use regulation to local governments which prove themselves capable of doing the job.

I encourage you to work with local governments and to use all of the tools that are available to them to help manage lake environments; by this I mean the watershed as a whole not only the area immediately around the lake. Find out whether the local comprehensive plan adequately reflects lake management needs and whether ordinances and local laws adequately back up the plan. Lake associations also can be a major force for ensuring that there is effective coordination between local jurisdictions on a watershed basis, working not only with city, town, or village governments, but also with county and regional agencies.

...Each DEC Regional Office has a Lake Manager who serves as a principal point of contact to provide you with advice and assistance and to coordinate with other DEC staff. These Lake Managers are trained to assist you with comprehensive lake management on a watershed basis and if they are not expert in certain areas, they will know where to get help. They will be familiar with the various programs that are available to help address lake management problems.

...We recently published a technical assistance manual to guide citizens who are involved with stream corridor protection and management. This has a considerable utility for lake management. However, we also soon expect to publish "A Guide to Clean Lakes: A Troubleshooter's Manual" which will be more specific to your interests. By early 1989, we also expect to release a manual on stormwater management.

At the federal level, the Clean Water Act Amendments of 1986 are bringing many changes in how we do business. For the first time, the term "nonpoint source" is defined as any pollution not originating from a pipe or conveyance. I particularly want to call your attention to the fact that the nonpoint source section of the act (Section 319) has not been funded. Nor was the Clean Lakes Program or the Great Lakes Program. All were axed by the Administration. We encourage you to draw the attention of your representatives to the importance of these sections for lake management.

As you know, nonpoint sources include agricultural and construction runoff and urban runoff. In general, pollutants from these sources are the prime producers of excessive nutrients in our lakes. DEC has published a Draft Strategy for Control of Nonpoint Sources. By August, we will submit a statewide nonpoint source assessment report and a nonpoint source control program to EPA. We believe that this program will take us in some new directions and that local governments and landowners will play an important role. Your strong support and involvement are needed.

...I would like to leave you with a quote about lakes from John McPhee's book, *Rising From The Plains,* that points up the fragility of the resource.

Most of the lakes of the world are the resting places of rivers, where rivers seek their way through landscapes that have been roughed up and otherwise left chaotic by moving ice.

Lakes are so ephemeral that they are seldom developed in the geologic record. There are places where rivers bulge, as a temporary consequence of topography. Lakes fill in, drain themselves, or just evaporate and disappear. They don't last.

We will work with you to take better care of our lakes and make them last as long as possible.

by Langdon Marsh
Executive Deputy Commissioner
NYS Department of Environmental Conservation

1988 Citizens' Statewide Lake Assessment Program

Volunteers from 53 lake associations have helped make the 1988 New York Citizens' Statewide Lake Assessment Program (CSLAP) one of the most ambitious and successful in the country. CSLAP has grown in the last three years from 25 lake associations, and has enjoyed the efforts and expertise of nearly 350 volunteers, many of whom have devoted time each week for the last three summers. Participants continue to spark great interest among town residents, lake association members, and concerned local government officials. This unique interaction of government and lake associations, and the continual generation of a large, reliable statewide database has helped make the New York CSLAP a model for other state and federal lay monitoring programs.

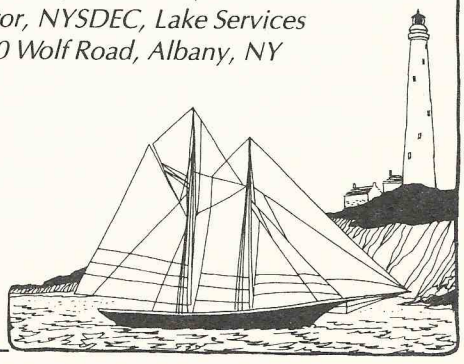
Since its inception in 1986, CSLAP has expanded to include dissolved oxygen testing, aquatic vegetation surveying, and precipitation and lake level monitoring, in addition to standard water quality testing. A preliminary study of acidic precipitation was devised during the 1988 CSLAP. Surveys to determine water quality perceptions, attitudes, and priorities were distributed to lake users and lakefront property owners near the end of the sampling season.

Results from the water quality sampling and special studies will be assessed upon receipt in early winter. Lake associations new to CSLAP will be given a brief water quality and trophic state assessment similar to that completed for lakes previously in the program. Data from the first three years of the program, along with data from other historical and contemporary sources, will be studied in more detail for the original CSLAP member associations. Separate reports for these lakes will, when possible, project a more comprehensive assessment of the water quality trends.

The strength and success of CSLAP is determined, to a large extent, by the dedication of our volunteers. Without their help and strong level of commitment, we would not be able to maintain the consistency and sampling reliability necessary to establish long-term water quality trends. Our thanks and gratitude go to these volunteers from all of us on the DEC and FOLA staff.

by Scott Kishbaugh, Program Coordinator

For more information about CSLAP, contact Dr. John Colgan, President, Federation of Lake Associations, Inc., 273 Hollywood Avenue, Rochester, NY 14618, or Scott Kishbaugh, CSLAP Coordinator, NYSDEC, Lake Services Section, Division of Water, 50 Wolf Road, Albany, NY 12233-0001.



Students Learn An Appreciation For NYS's Aquatic Resources

Adult volunteer anglers and sportsmen of New York State are now participating in an innovative project to teach junior and senior high school students about the State's aquatic resources. This is a joint venture by the DEC Division of Fish and Wildlife, the NYS Conservation Council, and the Cooperative Extension 4-H Natural Resources Program at Cornell University. Educational materials, prepared by the Cornell faculty and DEC staff, will be used by volunteers who have a background and interest in angling and aquatic ecology.

For further information, contact your local county Cooperative Extension office.

Cooperative Efforts To Protect Lake Champlain

On August 23, 1988 New York Governor Mario Cuomo, Vermont Governor Madeleine M. Kunin, and Quebec Premier Robert Bourassa witnessed the signing of an agreement of environmental cooperation for the management of Lake Champlain. This agreement addresses the importance of long-term watershed management planning for protection of the lake. It also signals the beginning of necessary broad-based cooperative efforts to exchange information, conduct research, and engage in long-term planning to protect the lake and watershed resources.

Understanding The Septic System At Your Lake Home

If you live in a lakeside home, special care must be taken to ensure that your septic system is maintained on a regular basis. Leakage can cause nutrients (especially phosphorus and nitrogen) to flow into the lake which can result in a dramatic increase in the amount of water plants and algae. Excessive plant growth from failing systems will decrease recreational uses of the lake, can cause an increase in the rate of lake eutrophication (or aging), can effect the growth and survival of aquatic life in the lake, and can also cause human health problems. By maintaining your septic system on a regular basis, you can preserve the quality of water in your lake and the health of your family, as well as extending the life of your system.

How a Septic System Works:

Septic systems are designed to treat household waste water and to prevent contaminants from reaching your lake and drinking water supply. Waste water is transported from the home to a buried septic tank where mechanical separation and bacterial decomposition of the waste takes place. The heavier solids settle to the bottom of the tank and the floatable waste rises to the top. The liquid waste, containing bacteria, dissolved nutrients and suspended solids, flows into a soil absorption field (drainfield) where it slowly filters through the soil.

Soil Considerations:

The physical and chemical properties of the soil combine with microscopic organisms to decompose the waste before it moves into the lake. The distance and speed by which nutrients from household waste travels is determined by factors such as soil type, the amount and concentration of the waste, the age of the septic system, and the moisture content of the soil.

Unfortunately, septic systems on shoreline properties are often located too close to the lake. The limited space for a sufficient absorption field increases the potential for waste to flow into the lake and drinking water supply. Also, contaminants in soil move faster in moist conditions. The tendency for septic system overflow into a lake is therefore increased by high groundwater levels which are typically found near surface water.

How To Tell If Septic Waste is Reaching Your Lake:

- Excessive weed or algae growth in the lake water in front of your shoreline property.

- An increase in the number of illnesses or infections after swimming in the lake.

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- Sewage odors, moist soil conditions near your absorption field, or surface discharge from your septic system.

- Positive total or fecal coliform test results in your lake water.

- Flourescent coloration of the water along your shoreline following dye tablet testing.

There are also other more remote methods available to detect failing septic systems. These methods, such as aerial infrared photography or the use of a "septic snooper", are occasionally used by a County Planning Department or a local Health Department to detect failing systems on a lake-wide basis.

What Can Cause a Problem With Your Septic System?
- Improper design and construction;

- Poor soil conditions (low permeability) or a high watertable;

- Blockage in your pipes or absorption field;

- Structural damage to the septic tank, pipes, or absorption field;

- Poor maintenance.

How To Prevent Septic Problems From Occurring:
- Pump and maintain your tank on a regular basis.

- Reduce household water usage.

- Redirect the flow of any surface water away from your absorption field.

- Plant a strip of vegetation along the shoreline. The root systems will absorb nutrients from the soil before they have a chance to enter the lake.

- Septic systems for new homes should be placed as far as possible away from the lake. New York State codes and local regulations contain specific distance requirements.

- Keep all cars and heavy equipment off the absorption field.

- Never dispose of toxic materials (paints, varnishes, thinners, etc.) down your drain or toilet. They could pollute the ground and surface water and could kill microorganisms which are necessary for the proper operation of your septic system.

- Do not dispose of inert items (diapers, cooking grease, cat litter, etc.) through your septic system.

- Septic tank additives are not recommened. It is doubtful that they will aid in the decomposition of solids. They could also pose a threat to groundwater supplies and could carry solids to the absorption system.

Where To Go For Additional Information:

For advice on septic system maintenance and repair, or the effects on water quality of failing systems, contact your local Health Department or Cooperative Extension Office.

Welcome New Members

Cayuga Lake Property Owners Assn.
Summit Lake Association
Snyders Lake Improvement Assn.
Lime Lake Cottage Owners Assn.
Burden Lake Improvement Assn.
Mrs. Philip A. Bregy
Timothy M. Taylor
Branting Lake Community Assn.
Michael A. Schmidt

Conference Proceedings

Proceedings are still available from the 1987 Federation of Lake Associations Conference. Topics include: the holistic perspective to understanding lake and watershed interactions, the use of microcomputers as a management tool, the development of water quality programs on a watershed basis, Adirondack Lake shorelines, aquatic vegetation control and water quality monitoring programs in New York State, and methods of obtaining funding for lake management projects.

These proceedings are available for $12.00. Checks should be made payable to the Federation of Lake Associations, Inc. Requests, along with your return address, should be directed to Dr. John Colgan, President, 273 Hollywood Avenue, Rochester, New York 14618.

Acid Rain And New York State Lakes

Acid rain continues to be a problem for Adirondack Lakes. Results from a survey conducted from 1984 to 1986 by the Adirondack Lake Survey Corporation (established in 1983 by the NYSDEC and the Empire State Electric Energy Research Corporation) indicate that up to twenty-six percent of 1,247 Adirondack lakes surveyed exhibited "critical" acidic conditions. These lakes were considered to be too acidic to support reproduction of fish populations.

This past June, New York Governor Mario M. Cuomo and Ohio Governor Richard F. Celeste signed a proposal for a comprehensive national acid rain control strategy that will reduce deposits from sulphur dioxide and nitrogen oxide emissions by nearly 50 percent over the next 10 to 15 years. This marks a successful effort by these two states to achieve a common goal of reducing acid rain.

"Acid rain is one of the most severe challenges facing our environment", Governor Cuomo said. "It affects our resource, our economy and our health. It crosses state and national borders, so it is not a challenge we can solve alone."

Congress is currently considering amendments to the Clean Air Act, including an acid rain control program. Progress in both the House and the Senate have been limited by disagreements over the type of control program that needs to be adopted. Governors Celeste and Cuomo are recommending to Congress that the New York/Ohio proposal be considered as a compromise to the legislative proposals now pending.

"Acid rain is one of the most severe challenges facing our environment."

Long-term water chemistry data is necessary to determine whether the acid rain problem in New York State is getting worse, better, or whether conditions have stabilized. In order to gather this information, a new acid rain program was implemented on a pilot basis during the summer of 1988 by the DEC and the Federation of Lake Associations, Inc. through the Citizens' Statewide Lake Assessment Program. Homeowners from several lake communities have been collecting rain samples and submitting them to the NYS Department of Health for analysis of pH and several other chemical parameters. We hope to continue and expand this program in the coming years.

Contributions Are Always Welcome!

Waterworks is a way for lake associations and individuals throughout New York State to share ideas and experiences. We would like to hear from you! Please put our name on your lake association mailing list so that we can keep informed of your community activities. Better yet, add your input to our newsletter by submitting articles, photographs, artwork, comments, or suggestions for improvement. Send your correspondence to: Editor, **Waterworks** 2175 Ten Eyck Avenue Cazenovia, New York 13035

Fish Advisory

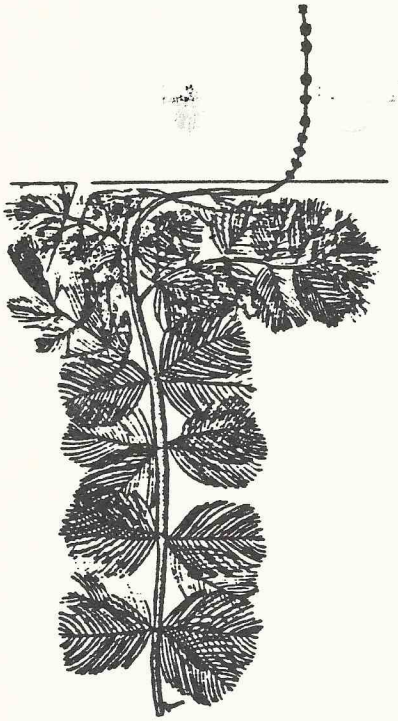
"Eat plenty of fish; it's good for you - Don't eat fish; it could cause cancer".

It's easy to be confused by the mixed messages we hear about fish. Environmental contaminants are found in the fish that inhabit many lakes and streams. Some of these contaminants are mercury, PCBs and dioxin. The level of these chemicals is usually small, but since they stay in the body and accumulate, their effect builds. People who eat large amounts of contaminated fish could be at risk for cancer, birth defects, and problems of the reproductive and nervous systems.

This does not mean that you shouldn't eat fish. A few simple precautions make it possible to enjoy both fish and good health.

- Fish Advisories - Check with your state department of health or natural resources. Many states issue fish advisories that provide detailed information about contaminant levels in the fish from specific lakes and streams. Advisories may also recommend consumption levels that are based on current knowledge of the health problems produced by chemicals sometimes found in fish.
- Catch and release - Let the big ones get away. Organic contaminants build up in fatty fish such as carp and lake trout; mercury builds up in large predators like northern pike and walleye. Panfish (perch, bluegill and crappie) usually have the smallest amounts of contaminants. The buildup of chemicals in your system is based not only on the chemicals in a particular fish, but also on how many of those fish are eaten over time.
- Cleaning and cooking - Trim off fat. It is usually found in the belly, lateral line fatty areas and along the top of the back. Use a cooking method such as baking, broiling or grilling that will allow fat to drain off the fish. As much as 50 percent of PCBs can be removed in this way. Fat removal, however, will have little effect on dioxin and will not reduce mercury.

Reprinted from Facets of Freshwater, Summer, 1988



Look Familiar?

Eurasian watermilfoil (Myriophyllum spicatum) has been the source of concern for many lake communities throughout the State. It is a perennial herb that roots in the lake sediment along the shoreline. The tip of the plant remains just below the water surface until it is ready to flower, at which time is emerges above the water line. In most lakes the plants can be found growing in an area between the shoreline and a depth of 5 meters.

Eurasian watermilfoil is spread within and between lakes primarily by motor boats, water skiers, waterfowl, and weed harvesting equipment. Once established in a lake, the rapid growth of this persistent plant is very difficult to control, making it one of the State's leading lake management problems. Its dominance in a lake environment can choke out other water plants, can effect fish populations by altering habitat characteristics, can accelerate the rate of eutrophication, and can cause endless problems for swimmers and boaters.

Once established in a lake, a careful in-lake and watershed management program can minimize the spread of watermilfoil. Additionally, lake users can reduce its spread by carefully cleaning boats and equipment before moving them to other lakes.

"Self-Help" Taxation

(Continued from Page 1)

maps that define the affected parcels, when cloth backed for durability and to meet the county's filing requirements, will serve the purpose if they include, as does Madison County's tax map, boundary line lengths. A written description of the boundaries, similar to the legal description in a deed, also must be drafted.

SIXTH: Creating the tax district can be done through the mechanism of the Town Law, Article 12 or Article 12A, if the lake is wholly within one Town, or if the Towns that share the lake will coordinate individual districts. Alternatively, the County Law, Article 5, provides the means for creating a tax district where a lake is situated within the jurisdiction of several towns within a county, or adjoining counties.

Each lake's individual circumstances -- number of affected taxpayers and general "political" climate -- will suggest whether the association should proceed via formal notarized petitions or by presentation to the governing legislators (Town Board or County Supervisors) requesting their legislative action. At this point the general outlines of the proposed water quality control program over a several-year period, the method of taxation (per parcel or by assessed value), and a budget should be prepared.

The Lake Moraine committee chose to present their proposal to the Town Board. This was followed by a public hearing, providing the general public with an opportunity to make objections or propose modifications to the new District.

SEVENTH: Once the District is in place, an actual budget is adopted and the tax is determined in consultation between the taxing authority and the administering body -- presumably, the lake association and the Town or the County. The administration of the program and the disbursement of funds is coordinated between the two, cooperatively.

Creating a special tax district will require a commitment of at least twelve months' time, a core committee willing to develop the technical information necessary to define and develop a water quality control program, volunteer time to educate and lobby taxpayers and legislators, and sufficient funds for attorney services, mapping and publishing legal notices. The benefits of assured funding make the effort worthwhile.

by

Elizabeth Buenger Hughes, Attorney

and

Mark Randall, Lake Association Director

Lake Moraine is located in Madison County, about midway between Syracuse and Utica. The lake has a surface area of 249 acres and a maximum depth of 45 feet. The watershed area covers approximately 5,219 acres. There are about 125 shorefront homes and 148 people are members of the lake association.

Tips For Creating A Special District

1. Keep your map costs down by obtaining county assessment maps and having them backed by locality. Generally speaking there is adequate information on those maps to provide the basis for drafting a legal description.

2. Make use of the county's tax records to develop a list of current landowners, by SBL number, lake site, assessed value, and current addresses. If you have a volunteer who will spend a day or two in the county's archives, you can save substantially in not having to hire out the work. Gather your information in the form of a card index, and you'll be equipped to access answers to details about the district as they arise.

3. Well before you actually present your proposal to the Board, and particularly if you anticipate opposition or passive resistance, get a few volunteers to adopt an individual Board Member, and take the time to sit down with the Member as a constituent to point out the benefits of the district, not only to the lakefront owners, but also to the Town through enhancing the tax base.

4. Before you actually attend a Board meeting to request a special district, compile a complete packet of information and review your materials and proposal with the Town attorney. Also, have the members who have adopted a Board member deliver a copy of the same packet to each member and offer to sit down with the Board member to review and explain the materials.

5. If you can manage, offer to pay the expenses of creating the district instead of asking the Town to pick up costs. You'll need to budget $1,000 to $1,500 to complete the project. In addition to your attorney, you'll be buying a cloth-backed maps through a surveyor's office and running a legal ad reciting the description of the proposed district.

A Review Of Manuels For Lake Management

There is an old and active American tradition in popular education of scientific subject matter, and a much more recent body of writings intended to increase the effectiveness of citizens participating in the making of public decisions. Publications on lake management draw on both sources. Two short articles illustrate the difference: my, "The Management of Lakes", in the 1986 Year Book, Science and the Future (Encyclopedia Britannica) updates lake ecology and technology. Because of space constraints, a section on social mechanisms was eliminated. A very fine brief article on the subject is Charles C. Morrison's, "Fundamental Considerations for Comprehensive Lake Management", in **Waterworks,** Winter 1988.4(1).

Six publications have been identified for review, and they should be of interest to all those concerned with lakes.

(1) The Lake in Your Community. Klessig, L.L., N.W. Bouwes, and D.A. Yannggen. 1986. Dept. of Agricultural Journalism, Univ. Wisconsin. Pub. Available from Agricultural Bulletin, Room 245, 30 N. Murray St., Madison, WI 53715. 23 pages. $1.50.

This is the revision of the first manual known to the reviewer, Understanding Lakes and Lake Problems (1972). Its purpose and contents are stated beautifully and can apply to all of the other manuals as well: "...lakes are also fragile. Increasing use of a lake and its shorelines can strain the delicate ecosystem and cause problems...To avoid or reduce these problems, lakes must be managed." The table of contents includes: lake ecosystems, lake problems, what can be done, who can do it, costs of management, benefits of management, and - "for more information see..."

"Lake Ecosystems" is a primer on the origin and characteristics of lakes, "Lake Problems", includes eutrophication, sedimentation, contamination, and acid rain, "What can be done", includes farming, urban areas, highway and utility corridors,

Six publications have been identified for review, and they should be of interest to all those concerned with lakes.

and forestry. The management techniques vary from zoning to boat control and in-lake manipulation by physical and chemical means. Action by individuals and groups are advocated and applicable state laws explained. The lake management plan is particularly favored, much as Morrison has urged for New York recently.

The manual is concisely written with meaningful illustrations. It is a bargain.

(2) Understanding New York Lakes. 1986. Sigried, C.A. N.Y.S. Museum Educational Leaflet 26. Albany, NY 12234. 33 pages. Single copies available on request.

New York's manual suffers badly in comparison with Wisconsin's and it is an embarrassment to this New York reader. In addition, it contains no information about social machinery, and the little on management technique is flawed.

(3) NALMS Management Guide for Lakes and Reservoirs. 1987 (reprint). Moore, M.L., project leader. North American Lake Management Society, 1000 Connecticut Ave., NW, Washington, DC 20036. 54 pages. $6.00.

This manual starts with "The Management Process," before offering, "Working Concepts of Lake Ecology." It is more detailed and comprehensive than the two previous, and its last third section is devoted to, "Management Projects."

The reviewer cannot recommend the publication, particularly at $6.00, although he is a loyal member of NALMS (North American Lake Management Society). Yet, its counseling on human relations reflects a real-world experience: "Keep your options open ... If you begin a crusade for one point of view...you can only harden the opposition." Unfortunately, the manual reader needs state-level information as well as good advice.

As a scientist, the reviewer finds two serious faults with the NALMS guide. First, it has errors which are inexcusable for an organization with a wealth of professional talent. More serious is an ethical question. The tone of the writing is, "go kill weeds," go do this or that. Perhaps unintentionally, the effect is promotional, and it is almost bare of the reservations which our state of knowledge warrants.

NALMS also distributes a slide-tape show for presentations and sells a videotape ($18.00) on lake function and protection. These were prepared by Eben Cheseborough, who played a key role in the formation of the New York Federation at its Lake George meeting.

(4) My Lake, Your Lake. How to protect your lake. 1983. Fogel, P. Big Foot Publishing Co. c/o Phil Fogel, 111 Jewel Drive, Williams Bay, WI 53191. Hard cover $12.95, paper back $8.95. The book may be out of print, but 2000 have been distributed and some will be available.

This one is different. It is the personal views of a past Director of Geneva (WI) Lake Watershed Environmental Protection Agency. Fogel is one of the few individuals with such experience. Along with the typical contents of manuals, the reader will find quotes from Aristotle and Thomas Jefferson, condemnation of asphalt and road salt, and advocacy for recycling.

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What Is Watershed Management?

On the land surface, water that does not evaporate or penetrate into the soil usually drains into ditches, streams, rivers, ponds, or lakes. The area of land from which all water drains to a given point is called a **watershed.** It can be as small as the area draining into a farm pond, or as large as the entire area draining into Lake Ontario. No matter what the size, a watershed is all the land surrounding a certain body of water that drains into that body of water.

Activities on the land surface within the watershed have a direct influence on water quality. Surface runoff and groundwater flow can cause chemicals or nutrients to flow into a lake from the surrounding hillsides, thus affecting water quality. To effectively solve water quality problems in a lake, land-use practices within the watershed often need to be changed. This involves a long-term cooperative effort on the part of homeowners, farmers, industry, town and county boards, and state and federal government officials. Working together to maintain good lake water quality and sharing the benefits of a clean, healthy environment - that's what watershed management is all about.

There are many organizations throughout New York State which assist in water resources funding, research, and education. Through **Waterworks,** *we hope to provide an overview of some of these groups.*

Highlight on...

The Great Lakes Program

The Great Lakes Program (GLP) was established in 1985 to serve as an information clearinghouse and to engage in policy-oriented studies of Great Lakes problems and issues. The GLP attempts to apply the results of research to the problems of society and quality of life. Interpretation of research must be set in a framework that is transmittable to policy makers. Good public policy requires good application of science. The focus of the GLP, therefore, is on the syntheses of science in support of public policy formulation. Significant scientific and technical knowledge on Great Lakes systems is directed at specific policy issues and circumstances in the Great Lakes region. The GLP intends to facilitate this process in a number of ways:

- to pursue and sponsor basic and applied research;
- to enhance the transfer of scientific information to decision-makers;
- to aid in the education and training of scientists and specialists; and
- to promote the infusion of Great Lakes educational materials into primary and secondary school curricula to improve the level of public knowledge.

For further information, contact: Director, Great Lakes Program, 207 Jarvis Hall, SUNY at Buffalo, Buffalo, NY 14260.

Dr. R. Warren Flint was appointed to the position of Associate Director of the Great Lakes Program on February 1, 1988. We are also honored to have Dr. Flint serve as Chairman of the Scientific Advisory Board of the Federation of Lake Associations.

The **Waterworks** staff would like to hear from you! Please include us on your lake association mailing list and send us any newspaper articles on water related issues. Also, let us know of any upcoming water resources events that you would like to share with other members through the new "Calendar of Events" section of our winter **Waterworks** issue. Don't forget: If you would like additional copies of **Waterworks** for your lake association membership, mark the application form found on page eleven and send it to our Rochester office.

Developing a Management Plan

Help For Lake Communities

At The Source: Watershed Planning In The Big Sister Creek Basin is an excellent report, published by Margaret Wooster and Linda Schneekloth, in which the authors discuss the processes involved in developing and implementing a comprehensive water resource management plan. The purpose of the project, located in Erie County, New York, was to help communities in this small Great Lakes drainage sub-basin to devise and implement a land use planning strategy in order to manage and protect their water resources. The primary objective of the study was to establish a procedure that could be utilized by similar communities. Emphasis is placed on the need for communities to take a more active role in land use planning and enforcement strategies.

Copies of this report can be obtained by contacting Judith A. Myers, Great Lakes Program, 207 Jarvis Hall, Buffalo, N.Y. 14260. (716) 636-2088. Refer to Occasional Paper Number 88-6.

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.

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(Continued from Page 9)

There are two other publications which ought to be in the library of staff professionals involved in lake management. They are also needed as a reference by seriously interested non-professionals. They are useful as references; one simply uses the index to find the aspect of interest. The important ideas are well within the grasp of any intelligent reader. Both have been prepared by NALMS and issued as US Environmental Protection Agency documents.

(5) Lake and Reservoir Management. 1984. EPA 440/5/84-001, 604 pages. This is a compilation of symposium papers, so its value is limited, but it contains some significant articles. For example, Wagner and Oglesby (Cornell U.): "The incompatibility of common lake management objectives," is a wise caution.

(6) The Lake and Reservoir Restoration Guidance Manual. 1988. EPA 440/5-88-002, 191 pages and six appendices of 90 pages.

A number of authors participated in the writing, among them some of the best in their fields. The project manager, Kent W. Thornton, did manage to achieve some coherence among the authors, including himself. This is the only one of the writings to reflect the current state of lake science and technology, which may be termed, "the ecosystem viewpoint." The others retain a focus on eutrophication (fertilization) which is a good 15 years out of date. Indeed, the 1972 Wisconsin manual is about as current as recent ones-it even includes acid rain. Science has moved on, and we know that it is the structure of the system and its flux of energy material that must be considered...a fertile lake can be quite healthy.

This writer has prepared considerable introductory material on lake science and management, beginning with the assumption that such writings were needed and would be helpful. Now, he is not so sure. They cannot substitute for the long tedious process of communication between knowledgeable scientists and concerned citizens who are seriously interested in learning before acting.

by Herman S. Forest
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