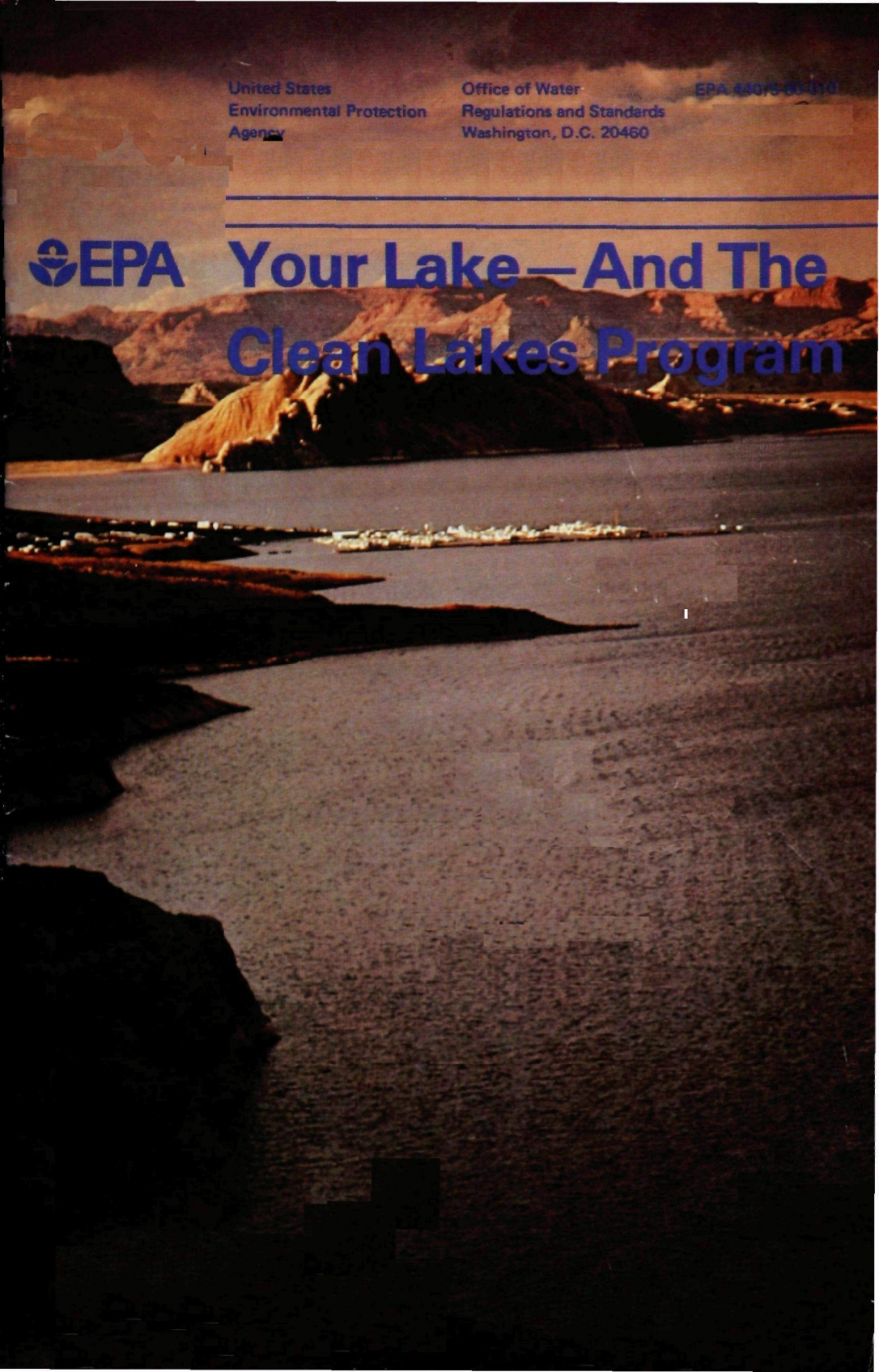
United States
Environmental Protection
Agency

Office of Water
Regulations and Standards
Washington, D.C. 20460

EPA 440/5-80-010

EPA

Your Lake—And The Clean Lakes Program



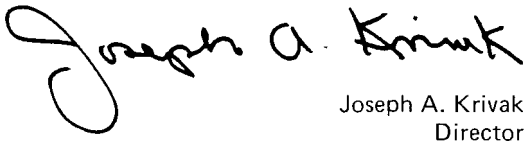
FOREWORD

The Clean Lakes Program is a unique government program. It is a direct, uncomplicated approach to controlling pollution, and it actually returns more dollars than the government puts into it.

Designed to both protect and restore our Nation's lakes, the Clean Lakes Program operates on a cost-sharing basis, split 50/50 between the Federal Government and those concerned with an individual lake. In the 4 years the program has been in operation, it has spent some $60 million and affected over 200 publicly-owned lakes. But the real story is that, according to a recent study, the Federal money is returning more than $8 in benefits per dollar invested in the project.

This booklet was written to tell you how you can use the Clean Lakes Program to either protect or restore your lake. The program is outlined step-by-step, together with an explanation of what you need to do to participate. Regional and State offices are listed with their phone numbers. You will also find a list of EPA Clean Lakes publications that you may find helpful.

If this booklet encourages you to find help for a nearby lake, and if it clarifies the procedure for you, then it will have fullfilled its purpose. And ultimately, the purpose of the Clean Lakes Program itself -- that of restoring this country's lakes to a useful, enjoyable state and of protecting the integrity of all our Nation's lakes.



Joseph A. Krivak
Director
Criteria and Standards Division

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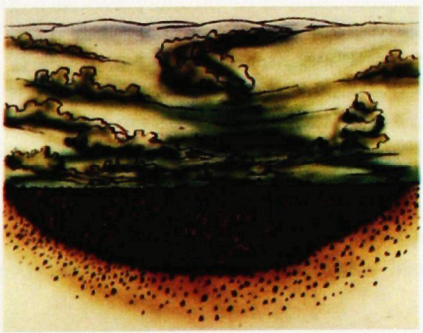
The bass have left your lake, and you can hardly force a boat through the masses of weeds that are taking over. Even in the few open patches of water, you can see down only an inch or two before it becomes dark and murky.

What's happening to the clean water your children used to swim in? Your lake is entering another stage in a natural process, that of eutrophication. It has become rich in dissolved nutrients, principally nitrogen and phosphorus, reducing the supply of oxygen; at the same time, sediments are building up on the bottom. Eventually, as nature takes its course, your lake will fill in, becoming a wetland, maybe even drying up.

Unfortunately, man has unduly hastened this natural evolution. The fertilizers he uses on his crops, the sewage and industrial wastes he sends into



Lakes mature naturally; this eutrophication process is illustrated in sequence from left to right (above) to the final step (left). Watershed runoff (at the top of each picture) carries nutrients and sediments to the lake. Nutrients promote the growth of aquatic weeds and algae which eventually die. This decomposing organic material settles along with the sediments and fills in the lake. Man's activities in the watershed accelerate this process.

the waterways -- these further enrich our lakes, drastically speeding up their life cycle. The National Eutrophication Survey of the mid-1970's studied 800 of our Nation's publicly owned lakes affected by municipal wastewater discharges and found nearly all to be eutrophic. Our 20th century lifestyle has condensed a process that normally takes thousands of years into a few decades.

Does that mean your lake is really dying? That you'd better fish and swim and even move elsewhere? Not necessarily. Man-induced eutrophication can be slowed down and controlled. You don't have to watch your lake silt in and decay -- you can clean it up and make it usable once again. You can protect the good quality of your lake.

You may have heard of various treatments that restore lakes: applications of chemicals, dredging, weed harvesting. But which is best for *your* lake? It may be none of the above -- the solution may be to keep agricultural chemicals from entering the lake.

So how do you find out what will help your lake? Start on page 8 of this booklet with the phone number and address of your regional Environmental Protection Agency office. There you will find a person called the "clean lakes coordinator," who can help you restore your lake.

WHY EPA?

One of EPA's jobs, as spelled out in the Water Pollution Control Act Amendments of 1972 (section 314) is to protect the quality of the country's publicly owned freshwater lakes by controlling sources of pollution affecting them and by restoring lakes which have deteriorated in quality.

To accomplish this, EPA administers the Clean Lakes Program to help you clean up your lake and prevent it from returning to a degraded condition. Each State actually sets up and runs its own program. EPA awards cost-sharing financial assistance to the States; they, in turn, may subcontract the work to the local level. Your State administers the Clean Lakes Program as it affects your lake -- but it can only operate effectively with input from you and from others interested in safeguarding your State's publicly owned lakes.

FINANCIAL ASSISTANCE: HOW IT WORKS

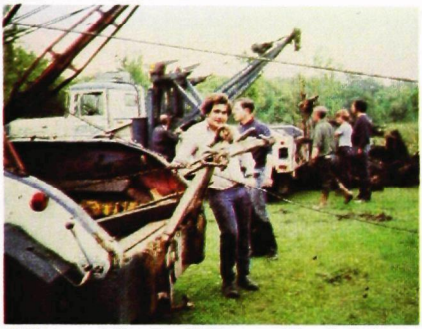
Lakes projects are funded under three mechanisms called cooperative agreements (see the Federal Register, Feb. 5, 1980, Vol. 45, page 7788). It is necessary to understand them if you are to succeed in getting help for your lake.

State Lake Classification Study - the first agreement, which must be completed by Jan. 1, 1982, makes your State eligible for the next two. In this survey, the State classifies by trophic condition all its publicly owned freshwater lakes needing restoration and protection. Then, the State lists these lake projects in order of priority. Funding assistance to complete the survey is available for 70 percent of the cost, to a maximum of $100,000.

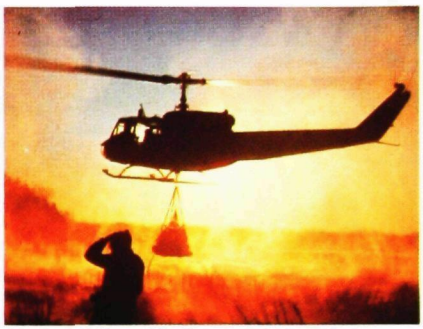
The second agreement -- and the first step in actually restoring your lake -- is the **Phase 1 Diagnostic-Feasibility Study.** This study determines why your lake has problems, evaluates possible solutions, and recommends the most feasible program to protect or restore the lake's quality. Again, funding assistance may go to $100,000 or 70 percent of the cost.

Once the Phase 1 study has been completed, **Phase 2 Implementation**

puts its recommendations into operation. This is not an automatic step; each phase must be agreed upon and approved. Phase 2 awards require a 50 percent non-Federal share -- money or services that must come out of local or State pockets. That doesn't necessarily mean a huge cash outlay; some communities do much of the work with their own equipment, using private citizens and city employees. Scotia, N.Y., solved the costly problem of removing tree stumps from Collins Lake by recruiting local tow truck owners who hooked their rigs to the stumps. While the truckers pulled, community members pushed, and the stumps gave way.



Citizens of Scotia, N.Y., combined their tow trucks with community muscles to pull tree trunks from their lake. They are shown here setting the tow equipment in place.



National Guard helicopters lifted sand bags into place to prevent further erosion at White Clay Lake in Shawano County, Wisconsin.

One of the more interesting aspects of the Clean Lakes Program is that, at a time when many Federal projects are being criticized for excessive costs, the Clean Lakes Program is returning $8.30 per Federal dollar spent -- and that's counting only those benefits that can be measured monetarily. Among them are recreation, property value, flood control, agriculture, public health, and economic development.

For example, the Federal share of restoring Annabessacook Lake in Kennebec County, Maine was $497,906. The benefits projected over a 10-year period (and stated in current monetary values) should be $23,246,100.

THE FIRST STEPS

Now that you have a basic understanding of how the Federal and State Governments can help restore your lake, contact your EPA regional clean lakes coordinator (see page 8).

The first thing to ask him is whether your State has a Clean Lakes Program. Those that currently have programs are listed on pages 9 and 10. The EPA coordinator will give you the name of the State coordinator -- and that's the person you really want to talk to, since your State puts its own lake restoration program together.

If your State does not have a program, you need further advice from the EPA coordinator. He will be able to tell you what your State is doing -- perhaps a program is just beginning. He will also know who to contact on the State level and give you pointers on how to get one started.

If your State does have a program, getting your lake high on the State's priority list is the first challenge. States develop their own criteria for ranking lakes projects. This is a good point for citizen input, for you to point out the factors you believe most important to lake restoration in your State.

But how do you go about getting your lake ranked high on that priority list? Begin with the State coordinator, and then motivate those who represent you. Be sure you have a solid plan of action to work from, with valid evidence and convincing arguments.

Above all, do not assume that because you have followed the steps outlined by the State coordinator and filed an application to restore your lake, it will automatically be treated.

GOALS TO MEET

Beyond getting your lake on your State's priority list, you need to know what makes acceptable applications. National goals have been adopted for managing the Clean Lakes Program.

The specific goal for 1980-85 is to protect at least one lake whose water quality is suitable for contact recreation, or to restore a degraded lake to that condition within 25 miles of every major population center.

You have a chance of approval even if yours is only one of many lakes near a large city: some areas are so populous that a single lake will not meet user demand. Lake restoration will also be given priority away from the big cities, in tourist areas where seasonal populations are high, and in rural areas with a high potential for economic benefits.

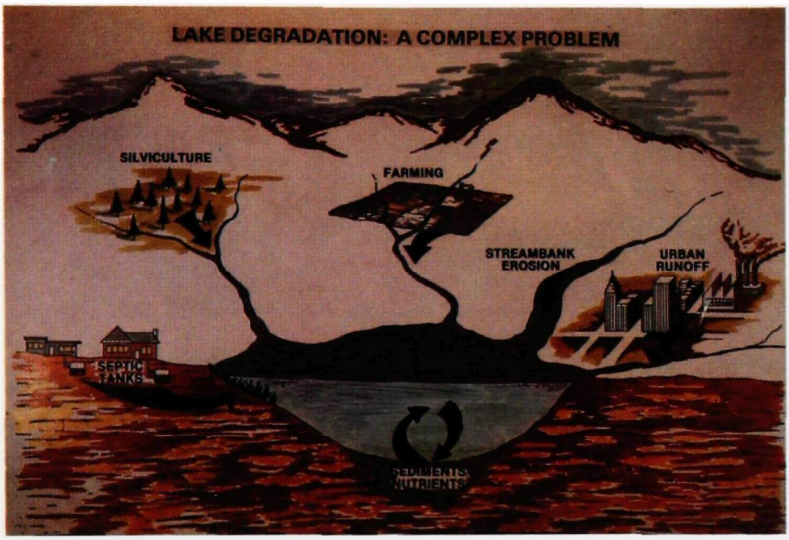
In addition to this goal, EPA hopes to accomplish five objectives during the same period. Projects awarded funds will be those which most completely embody these objectives:

1. **Maximize public benefits.** In Yuba County, Calif., a rooted aquatic plant had so infested Ellis Lake as to make most forms of recreation impossible -- swimming had been banned since 1969. The plant also threatened the $256 million annual rice industry and the State's waterways. Benefits from the $1,625,000 Clean Lakes award include savings to rice-growers of $1 million annually; prevention of the weed's expansion, a potential savings of millions to the State; recreation use-days jumping from zero to 75,000 per year; and an additional 15 acres of usable land, expected to bring the city tax revenues of $35,000 per year.

These are real benefits in great demand by a large group of users -- and that's what EPA is looking for in applications for Clean Lakes funds. EPA also prefers approaches that propose continuing protective measures after the project is completed, to insure long-term benefits. Once in place, pollution controls must stay in place and be regularly monitored if they are to succeed.

2. **Follow integrated program approach.** Because lake pollution comes from a variety of sources -- farms, industry, sewage systems, and so forth -- it can be attacked by a number of Federal, State, and local programs; asking other agencies to help also makes dollar sense. Another Federal agency and two State agencies are involved in a Clean Lakes grant to restore Broadway Lake in Richland County, S.C. The South Carolina Land Resources Conservation Commission will administer the project. The U.S. Department of Agriculture is developing standards and specifications for sediment control and providing technical and financial assistance. EPA has four roles in the project: Stabilizing critically eroding roadbank areas; constructing 19 sediment debris basins; initiating a public education program; and supporting in-lake restoration. The South Carolina Department of Health and Environmental Control is monitoring the water before, during, and after the project is completed.

3. Emphasize watershed management. Because the Clean Lakes Program is concerned primarily with long-term effectiveness, applicants must propose controlling pollutants at their source rather than simply eliminating their symptoms in the lake. No-till farming and manure collection are examples of agriculture practices that keep sediment and excessive nutrients out of streams. Manure storage facilities are being constructed in Maine's Cobbossee Watershed, to alleviate nonpoint agriculture runoff to the lakes. Local dairy and poultry farmers, educated to the relationship between manure management and water quality, are almost all building such facilities. As a bonus, the farmers save on purchases of commercial fertilizer because fewer nutrients are lost from the manure.



Controlling various nonpoint sources of pollution is the key to protecting or restoring a lake. This is the major thrust of the Clean Lakes Program.

Urban areas complying with this objective would probably be more concerned with toxic substances, which at this point are thought to accumulate in lake sediments. Runoff from streets and highways often contains high concentrations of heavy metals and petroleum byproducts, including known toxics. Lake Eola in Orlando, Fla., is using Clean Lakes support to divert stormwater from parking lots and streets away from the lake and into percolation ponds and filtration trenches. Stormwater was the major source of pollution for this lake; controlling the stormwater is expected to reduce pollutants by as much as 85 percent.

4. Develop Federal-State-local partnership. Applications must specify the responsibilities of each of these jurisdictions, emphasizing how they will work together to achieve the end result. Cooperation, not duplication of effort, is the key to successfully restoring your lake.

5. Provide for project evaluation. Keeping track of what's happening in your lake, both during and following the project work, is essential not only for understanding your own lake, but for the developing science of lake restoration. Providing for the collection of such data is important in your application.

Keep these objectives in mind as you prepare your application, particularly for Phase 2 agreements. The Clean Lakes Program is committed to accomplishing them within the 1980-85 period.

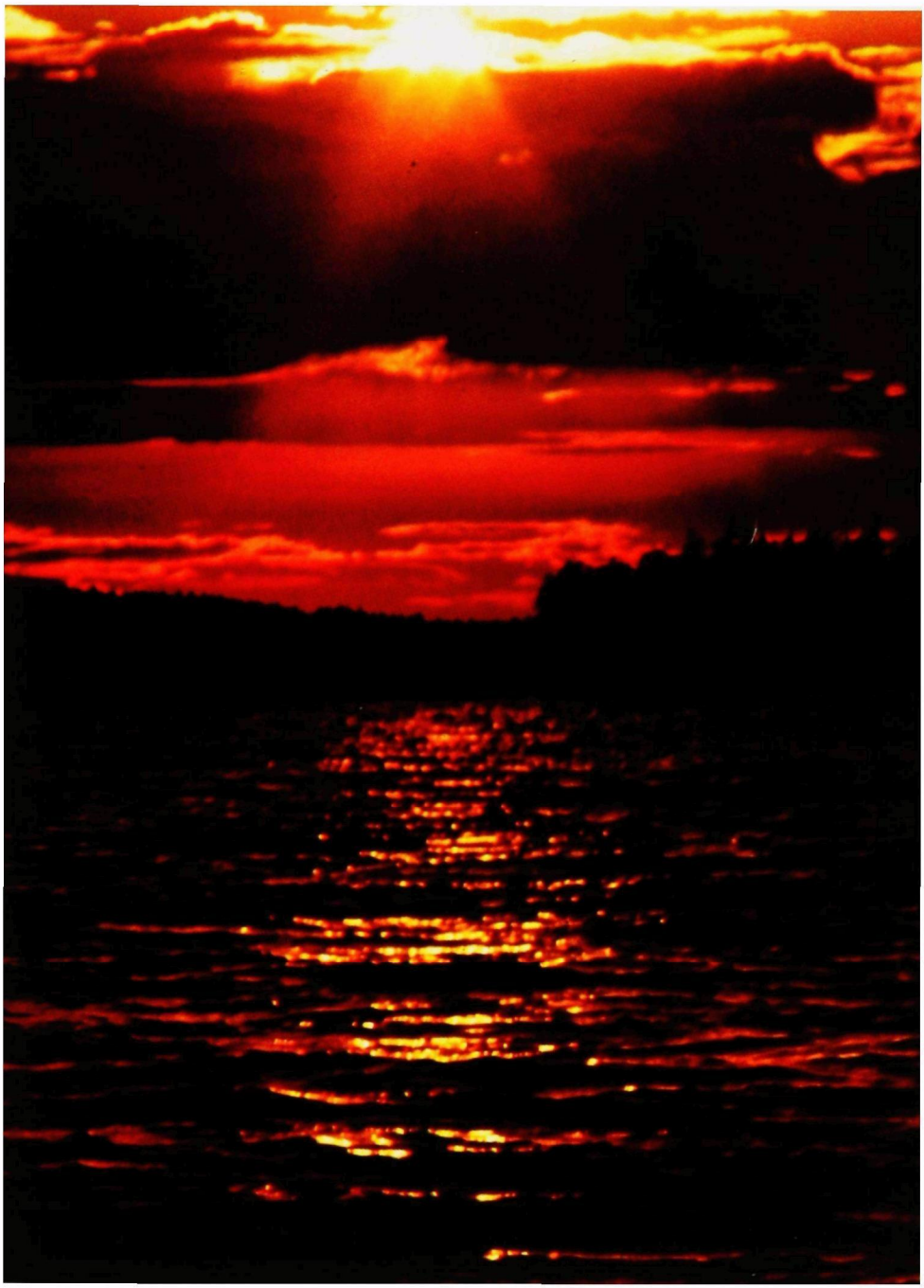
TOMORROW, YOUR LAKE

Since 1976, EPA has awarded $60 million in over 200 projects in 43 States. They include classification grants and 102 awards to study and restore specific lakes. And the projects are succeeding. Lakes are being cleaned and kept that way. Once again, people are swimming in their clean lakes, fishing, and putting a boat into water free of weeds. The monetary benefits of the Clean Lakes projects are currently running at better than $8 per Federal dollar spent -- that's at least $4 per total project dollar.

But perhaps more important than the dollar value of these Clean Lakes projects is a phenomenon a recent study describes as "an improvement in community spirit." Citizens are proud of their projects -- the community of Lake Henry in Blair, Wis., held a dedication ceremony for their restored lake. In other cases, membership in lake associations or related groups has risen dramatically. And the Clean Lakes projects apparently spark interest in other environmental activities; one town that applied for and received State aid for lakeside park improvements now is going for a Housing and Urban Development grant to attack urban problems.

Satisfaction in working to restore their own lakes under Clean Lakes awards seemsto be universal. As one mayor put it, "It's the best money we've ever spent!"

So before you spend it -- or start counting the return on your investment -- talk with your EPA regional clean lakes coordinator. He can be your best help at this point. He will answer your questions, give you advice, and point you in the right direction.



REGIONAL OFFICES

Region 1
JFK Federal Bldg.
Boston, Mass. 02203
617-223-7210
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

Region 2
26 Federal Plaza
New York, N.Y 10007
212-264-2525
New Jersey, New York, Puerto Rico, Virgin Islands

Region 3
6th & Walnut Sts.
Philadelphia, Pa. 19106
215-597-9814
Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia

Region 4
345 Courtland St. N.E.
Atlanta, Ga. 30308
404-881-4727
Alabama, Georgia, Florida, Mississippi, North Carolina, South Carolina, Tennessee, Kentucky

Region 5
230 S. Dearborn
Chicago, Ill. 60604
312-353-2000
Illinois, Indiana, Ohio, Michigan, Wisconsin, Minnesota

Region 6
1201 Elm St.
Dallas, Tex. 75270
214-767-2600
Arkansas, Louisiana, Oklahoma, Texas, New Mexico

Region 7
324 East 11th St.
Kansas City, Mo. 64106
816-374-5493
Iowa, Kansas, Missouri, Nebraska

Region 8
1860 Lincoln St.
Denver, Colo. 80295
303-837-3895
Colorado, Utah, Wyoming, Montana, North Dakota, South Dakota

Region 9
215 Fremont St.
San Francisco, Calif. 94105
415-556-2320
Arizona, California, Hawaii, Nevada, Pacific Islands

Region 10
1200 Sixth Ave.
Seattle, Wash. 98101
206-442-1220
Alaska, Idaho, Oregon, Washington

STATE OFFICES

* Indicates States participating in the Clean Lakes Program.

Alabama Water Improvement Commission
State Office Bldg.
Montgomery, Ala. 36120

Alaska Dep. of Environ. Conservation
Pouch O
Juneau, Alaska 99801

Arizona Dep. of Health Services
17110 W. Adams St.
Phoenix, Ariz. 85007

* Dep. Pollution Control & Ecology
8001 National Drive
Little Rock, Ark. 72209

* State Water Resources Control Board
Sacramento, Calif. 95801

* Colorado Dep. of Health
4210 E. 11th Ave.
Denver, Colo. 80220

* Dep. Environmental Protection
State Office Bldg.
Hartford, Conn. 06115

* Dep. Natural Resources & Environmental Control
PO Box 1401
Dover, Del. 19901

Dep. Environmental Services
5010 Overlook Ave. S.W.
Washington, D.C. 20032

* Dep. Environmental Regulation
2600 Blairstone Road
Tallahassee, Fla. 32301

* Dep. Natural Resources
270 Washington St. SW
Atlanta, Ga. 30334

Idaho Dep. of Health & Welfare
State House
Boise, Idaho 83720

* Illinois EPA
222 Churchill Rd.
Springfield, Ill. 62706

* Indiana State Board of Health
1330 W. Michigan St.
Indianapolis, Ind. 56206

* Dep. Environmental Quality
Henry A. Wallace State Office Bldg.
Des Moines, Iowa 50319

Dep. Health & Environment
Forbes Field 740
Topeka, Kans. 66620

* Dep. Natural Resources & Environmental Protection
Century Plaza-US 127 S
Frankfort, Ky. 40601

* Louisiana Dep. of Natural Resources
PO Drawer FC Univ. Station
Baton Rouge, La. 70803

* Dep. of Environmental Protection
State House
Augusta, Me. 04330

* Water Resources Administration
Tawes State Off. Bldg.
Annapolis, Md. 21301

* Div. Water Pollution Control
110 Tremont St.
Boston, Mass. 02108

* Michigan Dep. of Natural Resources
Steven T. Mason Bldg.
Lansing, Mich. 58926

* Minnesota Pollut. Control Agency
1935 W. County Rd. B-2
Roseville, Minn. 55113

Mississippi Air Water Pollut. Control Commission
PO Box 827
Jackson, Miss. 39205

* Dep. Natural Resources
PO Box 176
Jefferson City, Mo. 65102

* Montana Dep. of Health &
Environmental Science
Capitol Station
Helena, Mont. 59601

* Dep. Environmental Control
PO Box 94877
Lincoln, Neb. 68505

* Div. of Environmental Protection
201 S. Fall St.
Carson City, Nev. 89710

* Water Supply & Pollut.
Control Div.
105 Loudon Rd.
Concord, N.H. 03301

* Dep. of Environmental Protection
PO Box CN-029
Trenton, N.J. 08625

Environmental Improvement Agency
PO Box 968
Santa Fe, N.M. 87503

* Dep. Environmental Conservation
50 Wolf Road
Albany, N.Y 12233

* North Carolina Dep. Natural
Resources Environmental
Management
PO Box 27687
Raleigh, N.C. 27611

North Dakota Dep. of Health
1200 Missouri Ave.
Bismarck, N.D. 58505

* Ohio Enviromental Protection
Agency
361 E. Broad St.
Columbus, Ohio 53216

* Dep. of Pollution Control
PO Box 53504
Oklahoma City, Okla. 73105

* Dep. of Environmental Quality
PO Box 1760
Portland, Ore. 97207

* Dep. of Environmental Resources
PO Box 1467
Harrisburg, Pa. 17120

Puerto Rico Environmental Quality
Board
PO Box 11488
San Juan, P.R. 00916

Rhode Island Dep. Health
State Office Bldg.
Providence, R.I. 02908

* Dep. of Health & Environmental
Control
2600 Bull St.
Columbia, S.C. 29205

* South Dakota Dep. of Water &
Natural Resources
Joe Foss Blvd.
Pierre, S.D. 57501

* Div. Water Quality Control
621 Cordell Hull Bldg.
Nashville, Tenn. 37219

* Texas Water Resources Dep.
PO Box 13087 Capitol Sta.
Austin, Tex. 78711

* Div. of Environmental Health
PO Box 2500
Salt Lake City, Utah 84110

* Environmental Conservation Agency
State Office Bldg.
Montpelier, Vt. 05602

* State Water Control Board
PO Box 11143
Richmond, Va. 23230

* Washington Dep. of Ecology
PO Box 829
Olympia, Wash. 98504

PUBLICATIONS

The following publications may be obtained from your regional EPA office or, in the case of Clean Lakes and Us and Our Nation's Lakes, at minimal cost from the U.S. Government Printing Office.

Clean Lakes and Us. 1979. Prepared by Environ. Resour. Unit, University of Wisconsin-Extension, Madison, for the U.S. Environ. Prot. Agency. EPA 440/5-79-021. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price: $1.20.

Cooperative agreements for protecting and restoring publicly owned freshwater lakes: Final rule. 1980. Federal Register 45 (25):7788 (Feb. 5). (40 CFR Part 35).

Economic Benefits of the Clean Lakes Program. 1980. Prepared by JACA Corp., Fort Washington, Pa., for the U.S. Environ. Prot. Agency.

EPA Clean Lakes Program Guidance Manual. 1980. Off. Water Regulations Standards. U.S. Environ. Prot. Agency, Washington, D.C.

Horwitz, E. 1980. Our Nation's Lakes. Off. Water Regulations Standards. U.S. Environ. Prot. Agency, Washington, D.C.

Lake Restoration. 1979. Proceedings of a national conference, August 22-24, 1978. Minneapolis, Minn. EPA 440/5-79-001. Off. Water Planning Standards. U.S. Environ. Prot. Agency, Washington, D.C.

Reckhow, K.H. 1979. Quantitative Techniques for the Assessment of Lake Quality. EPA 440/5-79-015. Off. Water Planning Standards. U.S. Environ. Prot. Agency, Washington, D.C.

STATE OFFICES (continued)

West Virginia Dep. Natural Resources
1201 Greenbrier St.
Charleston, W.Va. 25311

*Wisconsin Dep. of Natural Resources
PO Box 450
Madison, Wis. 53701

*Dep. of Environmental Quality
Hathaway Blvd.
Cheyenne, Wyo. 82002