



CHINA LAKE ASSOCIATION

Newsletter

Spring 1994

PRESIDENT'S REPORT

This past year has been quite eventful for the China Lake Association with regard to the restoration of China Lake. The most important news has to be the decision not to perform an alum treatment on China Lake. The reason for this decision is three fold: lack of federal money, lack of state money, and perhaps most significantly, the poor results obtained in Three Mile Pond following the 1989 alum treatment there. The directors of the China Lake Association began to have concerns about an alum treatment in early 1993 upon learning about the reappearance of algae blooms in Three Mile Pond. The decision was made at that time to re-evaluate carefully the effectiveness of an alum treatment. Through 1993, additional negative factors arose. We realized that funding would be delayed or perhaps unavailable. The final blow to the alum treatment was the State of Maine Department of Environmental Protection decision not to recommend an alum treatment based on the factors described.

While the cancellation of the alum treatment is a blow to the lake restoration, it does not doom the return of clean water. On the positive side, the phosphorus level in the lake has declined for the last three years. Additionally, China had relatively good water quality last summer at a time when a number of other lakes experienced very poor water quality. The intent of an alum treatment was to reduce rapidly the internal phosphorus in the lake. At this point, we will continue to work on reducing the external sources of phosphorus to the lake and hope this too will bring a continued improvement in the water quality.

In addition to the work on lake restoration, the Association has worked on strengthening our organization. We have applied for and hope to obtain tax-exempt status, we have continued to fund educational programs in the China schools, and once again, we will be sponsoring Lakefest.

Lakefest will be held on Saturday, July 30th at the China Middle School. We anticipate having live entertainment, a barbecue, and lake related displays. As in the past, Lakefest will be the backdrop for the annual meeting. We continue to need people to work on association projects and serve on the board of directors.

No President's Report would be complete without acknowledging the tremendous work done by George Lord in this past year. George, working for the Town of China as the Lake Restoration Director, has been successful in obtaining \$250,000 in grant money to do erosion control work on highways in the lake's watershed, further reducing phosphorus input to China Lake.

I would like to thank all of the directors of the association for their dedicated service and remind the members at large that membership renewal is critical to the continued function of the China Lake Association.

Respectfully,

Dave Landry
President

EDUCATIONAL OUTREACH

By Loel Kline

The China Lake Association has sponsored a Maine Audubon workshop this spring called *Wonderful Wetlands* for the entire third grade of the China Primary School. Early in May the class journeyed to Orono where the students discovered how wetlands function in a watershed to slow down, hold and purify water. They also learned about the value and significance of wetlands as a habitat for a variety of animals. The excursion was enthusiastically enjoyed by both teachers and students. The teachers came away with "heads full of ideas for incorporating wetlands studies into our science units" and the students enjoyed a new interest in making conservation posters and poems.

Once again the C.L.A. will be offering scholarships to China Middle School sixth, seventh, and eighth grade students to attend the Maine Conservation School in Bryant Pond. Participants are chosen through an essay contest held at the school in late May. The Conservation School offers a week of environmental awareness, exploration and fun. Field studies cover topics such as soils, wildlife, aquatic systems, and forests.

These two educational outreach programs are funded and made possible by your membership and support of the China Lake Association. Our goal is to help students and our community appreciate our fragile environment and the delicate balance of nature.

EURASIAN WATERMILFOIL: A THREAT TO OUR LAKES

By Carol Thibodeau

Eurasian watermilfoil is a nuisance aquatic plant that currently infests a number of New England lakes. Although it has not yet been found in China Lake, it has the potential of being introduced here.

This plant is known for its rapid growth and spread which can lead to significant problems within a lake. Commonly found in shallow bays and along the shoreline, milfoil forms dense weed beds that can seriously impair the recreational use of a lake, reduce the availability of fish spawning grounds, outcompete beneficial native plants and otherwise alter a lake's natural environment. Once milfoil has infested a lake there is no known way to eradicate it.

Because Eurasian milfoil is an introduced species to this continent, it has no natural controls to keep it in check. Therefore, it has the potential to completely infest lakes.

Eurasian milfoil can reach the surface in up to twenty feet of water, growing up from the bottom each year from a fibrous root system. Milfoil grows and spreads extremely quickly forming dense surface mats. Unlike most aquatic plants which are usually associated with particular water qualities, Eurasian milfoil will grow readily in many types of lakes, as well as on almost any lake bottom.

Eurasian milfoil reproduces almost exclusively by the breaking off of fragments which can then drift away, sink, develop roots, and grow into new plants. A fragment just a few inches long is capable of starting a new plant. This fragmentation occurs both naturally and as a result of human activity. Within a lake, wind and waves may break plants loose, allowing them to drift into new locations and root. Boating activity through dense milfoil beds also contributes to the fragmenting and spread of milfoil plants.

WHAT YOU CAN DO TO HELP PREVENT MILFOIL GROWTH

To stop the further spread of this nuisance plant, it is imperative that the boating public remove all plant fragments from their boats before putting in or leaving a lake's access area.

REMOVE ALL PLANT FRAGMENTS FROM:

BE SURE YOUR BOAT IS FREE OF ALL PLANT FRAGMENTS BEFORE LAUNCHING.

DISPOSE OF PLANTS ON HIGH, DRY GROUND WHERE THERE IS NO DANGER OF THEM WASHING INTO ANY WATER BODY.

IF YOU THINK YOU HAVE FOUND AN OCCURRENCE OF EURASIAN WATER MILFOIL, CONTACT GEORGE LORD, LAKE RESTORATION PROJECT MANAGER, CHINA TOWN OFFICE AT 445-2014.

BROWN TROUT FISHERY IN CHINA LAKE NEW BROWN TROUT STUDY

by David Preston

A new study of brown trout is due to be launched in China Lake, according to Peter Bourque, Director of Fisheries and Hatcheries for the State of Maine. The history of brown trout in China Lake dates back to the 1930's when these fish were first stocked here, along with experimental stockings of rainbow trout and even Chinook (pacific) salmon. In the 1960's and 1970's, brown trout stocking was abandoned in favor of stocking togue (lake trout) and landlocked salmon, more locally popular. Unfortunately, as water quality declined in the 1980's, the salmon and togue (which require cleaner, more oxygenated water) did not fare as well, so the decision was made to switch back to stocking brown trout, which can handle poorer water quality and competition from other fish. China Lake has very good fishing for warm-water species such as small-mouth bass, white perch and pickerel, but these fish will compete with trout and salmon.

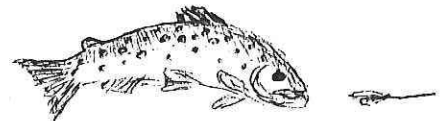
There is limited natural spawning of trout in China Lake's few feeder brooks, but the lake receives an annual brown trout stocking of about

3,900 fish, or one fish per acre of water. Most trout in China are caught in winter through the ice or in spring, after ice-out, by trolling. Annual surveys reveal that roughly 250 trout are kept each winter by fishermen during the ice-fishing season, with an average size of 16.1 inches. (This is an increase from the 15 inch average size prior to initiation of a 14 inch minimum length limit on brown trout in China in 1988.) About half of the trout caught are released alive (see box for catch and release methods). Brown trout can grow to unbelievable size, as evidenced by an 8+ pounder caught last year in China Lake!

The State of Maine currently has limited facilities for hatching and rearing brown trout; New Gloucester has Maine's only brown trout hatchery, and Palermo rears them. The current practice is to stock so-called spring yearlings (trout of 6-8 inches, born the previous fall) into rivers, and fall yearlings (with an extra 6 months of hatchery growth to 10-12 inches) into lakes. What biologists would like to do is manipulate the rearing process to grow trout to a larger size faster, so

they can be stocked in the spring. This would theoretically allow "two crops" of trout per year from the hatchery. The Department of Fish and Wildlife, with the cooperation of Unity College, plans to do creel surveys and live-trapping of fish to see how the new trout will grow and survive in China Lake, Togus Pond and Salmon/McGraw Pond. If you see funny-looking bouys marking trap-nets next to the shore this year, you will know why they are there!

This year's endless winter has finally loosened its grip on China Lake with ice-out on April 20. Spring fever to some of us doesn't mean just daffodils, but the hope of big fish hitting our flies or bait. As we anglers say, "tight lines"!



CATCH AND RELEASE TIPS

Most fishermen these days release some or all of their catch, so the fish may live to be caught again. Here are some hints to help insure your catch survives:

1. Whenever possible, barbless hooks should be used; single pointed hooks on artificial lures or flies cause less injury than multiple, treble hooks or bait.
2. Try to keep the fish in the water and handle gently, quickly unhooking the fish. Trout are particularly sensitive to freezing on a cold winter day.
3. If the fish has swallowed the hook, simply cutting the leader as close as possible is best.
4. Sometimes it is necessary to revive an exhausted fish by holding it underwater and gently moving it back and forth before releasing it.

THE CHINA LAKE RESTORATION PROJECT

Where Do We Go From Here?

By George W. Lord, Lake Restoration Project Director

In 1989, the China Lake Restoration Project was outlined and presented to the United States Environmental Protection Agency (USEPA) in the form of an application from the Maine Department of Environmental Protection (MDEP) for funding under the national Clean Lakes Program. The methodology of the project differed from that of previous grant applications in that it proposed extensive reduction and prevention of nutrient loading from runoff to China Lake from its watershed before undertaking an in-lake treatment with aluminum salts, or alum. The MDEP's rationale for proposing that runoff control be accomplished prior to in-lake treatment was based on their knowledge that reduction of external loading of phosphorus from China Lake's thirty-two square mile watershed would extend the effective life of the alum treatment.

Accordingly, the people of China accepted the USEPA grant, with the challenge that it offered, and implemented what has now become a nationally recognized watershed management program. With assistance from additional sources, including the U. S. Department of Education, the Maine Department of Transportation (MDOT), the National Science Foundation, the Kennebec County Soil and Water Conservation District, the U.S. Soil Conservation Service, the Kennebec County Sheriff's Office, the China Lake Association and many others, we have made a significant reduction in phosphorus pollution to our lake. In fact, the data from our lake water quality sampling program indicates that China Lake has already begun a trend in improvement, due solely to our watershed protection measures.

During the last few years, as state and federal budgets have been tightened, funding for lake restoration programs has been drastically reduced. Concurrently, the cost of the proposed alum treatment for China Lake has increased significantly. As a result of our present financial situation, the recent algae bloom in Three Mile Pond despite its alum treatment, and the apparent improvement in China Lake due to our watershed efforts to date, the MDEP has recently decided not to proceed with the alum treatment. Roy Bouchard, our MDEP lakes biologist for many years, explained this decision in a recent memo:

"This was a difficult decision, especially in light of the excellent effort of the local supporters and the hopes we all placed in the chance for an effective treatment. Since 1988, times have changed, however. We have had more experience with aluminum treatments which raised questions concerning the potential for success and there has not been sufficient research at the national level to evaluate these treatments. There are fiscal restraints which have significantly delayed the project and now make it even more difficult to justify, given the costs to other environmental protection efforts. Watershed protection has become our first priority over expensive "in-lake" restoration techniques. Protecting watersheds protects almost all aspects of lake quality, including habitat, water quality, and the economy which depends on them. There remains significant work to be done in the China Lake watershed and we want to continue supporting these efforts."

Looking ahead, for as long as funding permits, we are continuing our watershed program, concentrating for the next two years on highway related runoff along Lakeview Drive and Route 32 North. This part of the project was made possible through a grant from the Federal Highway Administration, administered through MDOT.

The conclusion which we have drawn from all of these developments is that protecting the watershed, the original source of China Lake's phosphorus loading, is the only proven long term effective method of improving water quality. There appears to be no reliable "quick fix" to lake eutrophication. In order for our lake to continue to improve, we must create an active and perpetual watershed management program. Toward this end, we have recently been discussing a joint program with people from nearby watersheds as well as with staff of the Kennebec Water District. Hopefully, together we will be able to continue the momentum of this important initiative and, as a result, regain the economic and environmental benefits of a clear and healthy China Lake.

CHINA CONSERVATION CORPS 1994

By George W. Lord, Lake Restoration Project Director

This summer, for the fourth year, a team of six hard working local high school students known as the China Conservation Corps will devote their summer to protection and improvement of China Lake. As seasonal employees of the Town of China assigned to the China Lake Restoration Project, they are given theoretical training and practical experience in watershed management planning, lake ecology, land use and erosion control practices.

While gaining valuable knowledge and skills, these young people identify existing erosion sources in the lake watershed, help design remedial actions, seek the landowner's cooperation in the project, estimate time and materials for project completion and then perform the actual labor. To date, they have controlled erosion and reduced phosphorus loading to the lake at scores of locations along the shore and upland within our watershed area.

For the next two years, an entirely new complement of Conservation Corps members will be concentrating on controlling erosion and runoff from more than one hundred sites associated with Lakeview Drive and Route 32 North. Their labor, as well as the equipment and materials used, will be funded entirely by a \$250,000 grant from the Federal Highway Administration and the Maine Department of Transportation. This year's Corps includes Crew Leader Scott Gallant, members Lexie Pitney, Jason York, Nathan White, Sarah Batteese, and Jason Finley, with Jacob Rodrigue and Jessica Chappell as alternates.

As the first local youth conservation program of its kind in Maine, and perhaps the nation, the China Conservation Corps is setting a fine example for lake watershed management programs. While making significant reductions in nutrient loading to our lake, they are also learning and sharing with all of us the environmental and economic values of stewardship of our natural resources.

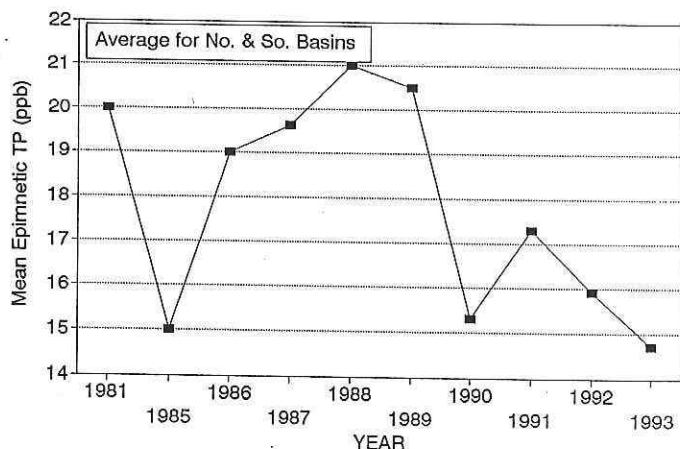
LAKEFEST 1994

The China Lake Association, in conjunction with the South China American Legion, will once again be sponsoring Lakefest. Remember the great chicken barbecue and live music last year? Well, we have more of that plus great exhibits and warm dry weather on order for this year. As in the past Lakefest will be the forum for the annual meeting of the Lake Association.

Lakefest will be held on the grounds of the China Middle School on Saturday, July 30 from 4:00 to 8:00 p.m. Our T-Shirt team has been working overtime to come up with a great design for this year. Also, the lake exhibits will update the public on the condition of China Lake. Mark your calendars now for Lakefest 1994!

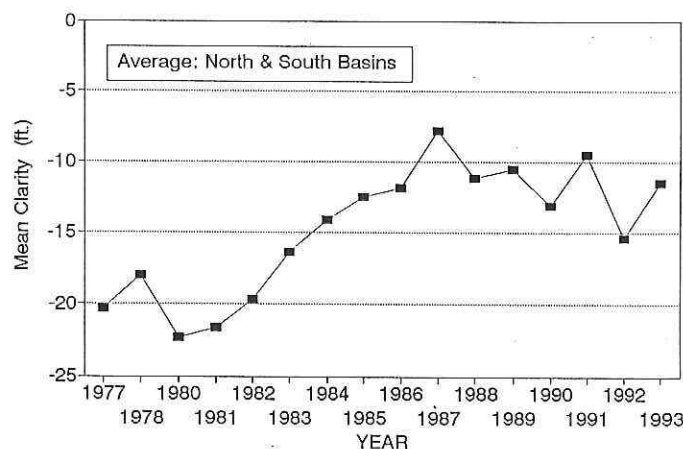
CHINA LAKE PHOSPHORUS

Average Values : 1981-1993



CHINA LAKE TRANSPARENCY

Average Values : 1977-1993



The graphs above provide average values for the two basins in the eastern region of China Lake. As you can see, average phosphorus concentrations have dropped off in 1990-1993, although it has not shown up as a radical change in transparency. This is partially due to the fact that phosphorus levels are still high enough to trigger algae growth. As there is a significant year-to-year variation for both phosphorus and transparency, we cannot yet ascribe a true "trend" to the data. However, the graphs do show an improvement and this is a good sign. *Provided by Roy Bouchard, DEP-DEA*

MEMBERSHIP FORM

China Lake Association

Please renew my annual membership. I ☐ would/ ☐ would not like a China Lake Association decal.

Name(s) _____

_____ Annual Family Membership: \$20

Address: _____

If you are able to give more:

City, ST, Zip: _____

_____ Friend: \$30

_____ Patron: \$50

Phone: _____ Date: _____

_____ Sponsor: \$100

_____ Benefactor: \$500 or more \$ _____

Please make check payable to **China Lake Association** and mail to P.O. Box 215, China, ME 04926.
Thank you very much for your contribution!

It's time to renew your membership!

POSTER CONTEST

The China Lake Association will be sponsoring a poster contest for local school children. The theme of the contest is "For Your Lake's Sake". Children will draw a poster reflecting things that can be done to protect and improve the lake. Entry information will be available through the schools and at the China Town Office later this spring. Winners will be announced at Lakefest and prizes in a number of age categories will be awarded.

China Lake Association

President	David Landry
Treasurer	Andre Boutin
Secretary	David Preston

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