



China Lake Association

Newsletter

Summer 1997

PRESIDENT'S REPORT

The Lake Association has continued to work on behalf of its members over this past year. The camp road project, water level concerns, floating islands, and ongoing membership re-enrollment are tasks that the directors of The Association have spent time on. I am proud to say that with this lake association's strong support, the China Region Lakes Alliance has had a very successful year and has been able to provide ongoing technical support and manpower for lake related projects here on China Lake.

We are not alone in our efforts to improve water quality. The Kennebec Water District (KWD), under the leadership of Robert Palmer, is not only working to protect the area surrounding the West Basin and doing water quality monitoring, but has generously agreed again this year to help provide funding for Lake Association-directed fire road repair work. Jonathan Van Bourg and Brian Dooley of KWD have helped The Association in innumerable ways on the fire road projects this past year with their technical expertise and I thank them for their efforts. Please see the article on fire roads for more information. The town of China Selectmen have placed \$16,600 in the budget for lake restoration projects in recognition of the need to provide ongoing maintenance to the lake and protect the town's interest in the \$47,000,000 worth of taxable shore front property. This item was voted on and passed at the town meeting on June 24th. Thanks for your support!

As many of you may know there is a petition now before the Board of Environmental Protection to lower the water level in China Lake approximately 30 inches below the levels seen in the spring. This would also result in water levels that are much lower during the summer. The water-level debate has been of interest to The Lake Association for the past three years. During that time we have sponsored two public meetings on the topic of "Water Levels in China Lake", sought the advice of local experts, and polled our members for their opinions on water levels in China Lake. The Board of Directors of the China Lake Association has reviewed the existing board order governing water levels in China Lake, studied the compliance with that order for the period October 1989 - October 1994, and conducted on-lake surveys of erosion damage and rip-rap repair projects. Taking a position regarding water levels and the current request to lower existing levels dramatically is not something the directors of the China Lake Association take lightly. Having taken care and consideration in our deliberations, the Board of Directors of the China Lake Association decided to take the following positions:

- I. We are opposed to the petition request to lower the water level maximum to a new level of two feet below dam Spillway.** A drastic change in water levels as requested will have multiple negative effects:
- * lowering water levels may prevent brown trout from reaching their spawning streams.
 - * the requested water level reduction would leave little or no water in many of the lake's shallow coves by the end of summer.
 - * current boat launching ramps would become unusable.

- II. The Board of Directors of the China Lake Association is uncertain what the exact best water levels should be.**

We say this as acknowledgement that there are many competing factors that need to be considered when setting water levels. We do feel that the current water level guidelines come closer to a "best water level" than those requested by the petitioners.

- III. The Directors of the China Lake Association do have concerns regarding high water levels in winter and early spring.** On occasion, ice damage to stable shore front has been noted. In years with very heavy spring rains, higher than desired water levels have caused problems in erosion prone areas of the lake. We believe that there is room to address our concerns within the current order and that drastic changes in water levels are not needed.

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China Supports Lake Funding

At the recent town meeting on June 24th, the citizens of China voted to continue funding lake restoration projects. The selectmen of China recommended \$16,600 for lake work this year. The municipal officials have always been supportive of lake clean-up and have realized the importance of China Lake to the Town of China. The China Lake Restoration Project has addressed over 100 sites of pollution that contributed to water quality problems. The water quality has improved showing less intense and shorter algae blooms resulting in some improvement in the reputation of China Lake. Ongoing maintenance of the lake and the watershed is needed in a fashion similar to the way the Town of China maintains its other assets. Economic reasons provide the clearest incentives for ongoing lake work and the Town of China's support for this.

Failure to maintain water quality gains could result in decline in shore related property values. What would a 10% decline in assessed shore front value cost the town?

total town valuation\$180,932,300
shore front valuation\$47,042,398 (26% of total valuation)
10% decline in value.....\$42,338,158

**decline in annual revenue at mil rate (.01365) equals
-\$64,213**

There is evidence to suggest that over the past decade property values on China Lake have not kept pace with similar properties in the Belgrade region. If this is true, the Town of China has lost significant tax revenue over the years. Maintaining and improving water quality is a way to protect the town's tax base.

Ongoing effort and funding are needed to maintain and improve upon the gains we have already made. Thank you for your support for keeping China Lake clean.

Year of the Camp Road

The China Lake Association, with the strong support of the Kennebec Water District, is planning to continue fire road repair projects over the summer of 1997 as was done in 1996. The goal of the ongoing project is to reduce runoff into China Lake by looking at culverts, ditches, and roadbeds of the many fire roads around the lake. Many access roads have basic design flaws that increase the yearly maintenance cost and increase soil erosion in China Lake. By offering design help and cost sharing, long term sustainable improvements are sought in the lake access roads.

Selection of projects will again depend on a number of factors: seriousness of runoff and erosion problems, number of projects up for repairs, willingness of local road users to provide partial funding.

In the past, the China Lake Association has worked with Reb Manthey of the China Region Lakes Alliance and Brian Dooley of the Kennebec water District to obtain engineering and cost analyses of the projects. Funding of up to 50% of the road repair cost to a maximum of \$1000 is available per project. One of the major projects finished last year was the reditching, surfacing, and culvert repairs on Fire Road 41. This project could not have been done without the combined efforts of the fire road users, contractor Robin Tobey, the Kennebec Water District, and the China Region Lakes Alliance.

Residents who would like more information can contact one of the following: Reb Manthey, CRLA, at 445-5021; Brian Dooley, KWD, at 923-3358; or David Landry, CLA, at 968-2856.

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The water level issue is a difficult one and great consideration has gone into developing our position. Depending where you live on the lake you may have a different perspective than someone elsewhere on the lake. With our recognition that there are some concerns with water levels at certain times of the year we will work to address those concerns in a reasonable manner.

Without the support of the dues paying members we would not be able to continue The Association's work. As always, we need people interested in taking an active role as a director. Please consider this. See you at the annual meeting on July 24th.

Respectfully,
David Landry, President

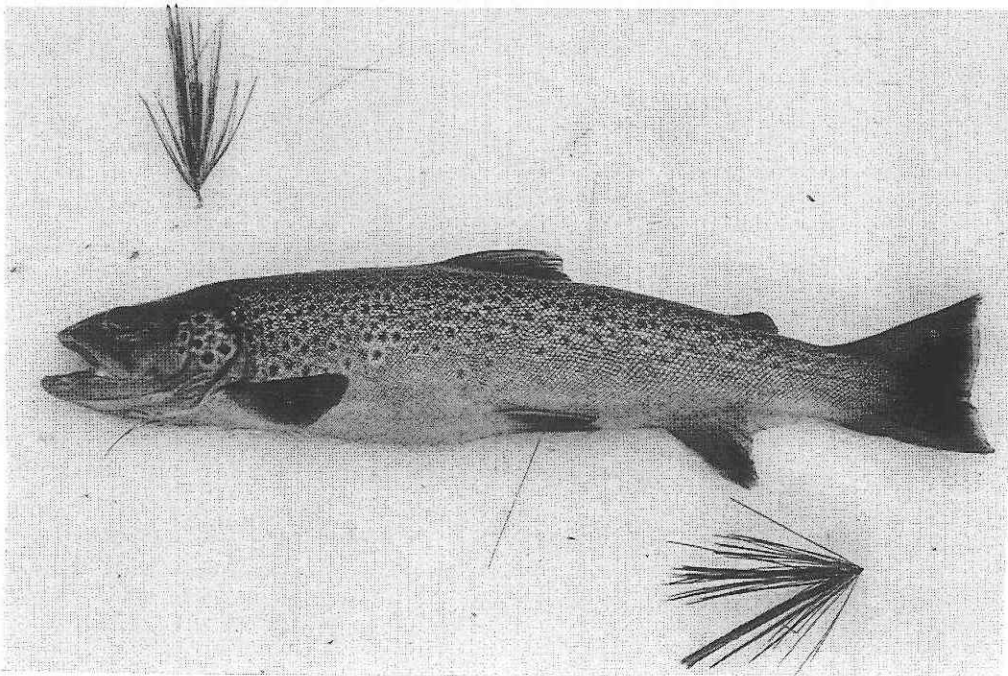
China Lake Fishing Update

by David Preston

For the past three years, China Lake has been the site of a Brown Trout fisheries experiment conducted by the Maine Department of Fisheries and Wildlife. Prior to 1994, brown trout were stocked in the fall, (so-called fall yearlings), which was expensive for the state, as these fish spent an extra six months at the hatchery. Since 1994, the hatchery has been speeding up the growth of their brown trout and stocking them earlier, in the spring, instead. Fisheries biologist Fred Kircheis has been studying these "spring-yearlings" to see if they are surviving as well as the fall-yearling trout. Through a combination of a creel census, carried out in winter by a Unity College student, and live trapping of fish in October and November each year, preliminary results show their experiment seems to be working. The new trout are growing well and providing good sport for knowledgeable fishermen. 3,900 brown trout are stocked in China Lake each year - about 1 per acre - in addition to some natural reproduction in feeder brooks. Most are caught by ice-fishermen or by trolling in spring, and some are whoppers! The average length taken is 16 inches, and last fall a 9-pounder was live-trapped and released unharmed by the biologists!

Brown trout are well suited for China Lake, as they better tolerate competition from bass and perch and somewhat poorer water quality than salmon or lake trout (togue). In former times, China Lake had good populations of salmon and lake trout, but the falloff in dissolved oxygen caused by algae blooms has diminished their habitat. Someday, with continued improvement in water quality, salmon may return to China, according to Mr. Kircheis.

Meanwhile, Maine Guide Dave Barnes among others, thinks the "good old days" of fishing are here and now for bass! According to Mr. Barnes, China Lake has some of the best small mouth and largemouth bass fishing in Maine, a fact that is now attracting 5 bass fishing tournaments each summer (the maximum number allowed by the State). Most of the bass caught in these tournaments are kept in live wells and released unharmed. The remaining 4 tournament dates are: July 6, July 20, Aug 10, and Sept. 27. More information on guided bass fishing or tournaments can be obtained from Mr. Barnes of Weeks Mills.



Catch & Release Reminder

Brown trout caught in China Lake must be at least 14 inches to keep legally. Here are some tips to ensure the fish returned survive to be caught again:

1. Consider pinching your hook barbs flat with pliers. 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.

Tight lines!

China Lake Association Annual Meeting

Thursday, July 24, 1997
7:00 p.m.
China Middle School Library

Refreshments will be served.

What Is Watershed Management Anyway?

by Reb Manthey, CRLA

Do you remember the mid-1980's when China Lake had terrible algae blooms and floating mats of scum? Do you remember when the salmon and togue suddenly disappeared? Do you know what caused these things to happen?

In a healthy lake, (think of those great salmon lakes in Northern Maine), the ecosystem is balanced so that a small amount of nutrients enter the lake from the watershed, (the land area that drains into the lake), a small amount of algae feeds on these nutrients, a lot of little critters feed on the algae, and a fair number of fish feed on the little critters.

Algae are plants, and like all plants they need three nutrients to survive: nitrogen, potassium, and phosphorous. When you fertilize your garden, you add the nutrient that is lacking, increasing the plant growth. In Maine lakes, there is naturally little phosphorous and this limits the amount of algae that can grow. So if we add too much phosphorous, too much algae grows for the critters to eat it all, resulting in algae blooms and mats of scum. When this algae dies, it sinks to the bottom of the lake. As it rots, it uses up the oxygen in the bottom layer of the lake, and the salmon and togue suffocate. The brown trout and bass do not mind because they can live in the upper layer of the lake where there is plenty of oxygen but is too warm for salmon and togue.

Where does this phosphorous come from? When we clear land, smooth the ground, or create areas that water cannot soak into, we increase the amount and speed of rainwater running over the ground. This causes an increase in the amount of dissolved nutrients, and soil particles with nutrients attached, that get into the lake. A much smaller amount of phosphorous comes from failing septic systems overuse of fertilizers on lawns or agricultural lands, use of soaps and detergents, and other sources. Over time, this "non-point source pollution" builds up in the lake and water turns green and scummy.

You can help solve this problem. Look at your property, think about how water flows there, and see if there is evidence of erosion. Muddy or brown water during rain storms could be followed uphill until you find the source. Shorelines could be assessed to see if they are eroding because of waves or from water flowing off the land.

Areas of bare soil should be covered by planting or mulching. This would protect the soil from the force of raindrops, and prevent the soil from being carried away. Grassy areas could be replaced by shrubs or trees. These would take up water that would otherwise run off, and the roots would help hold soil in place. Eroding shorelines could be stabilized with a combination of rocks and vegetation. (Placing stones in the water requires a permit! Get one before starting work!)

By maintaining your property to prevent erosion, you are managing a section of the watershed to improve water quality. The China Region Lakes Alliance is working to protect and improve lake water quality through watershed management and runoff control. If you need more information, or technical assistance on a project, or hand labor for an erosion control project, give us a call at 445-5021.

China Lake Boat Access Improved

In the last two years, both of the public boat launch facilities on China Lake have been upgraded. This work has made launching boats easier, and has decreased the amount of erosion and sedimentation from those sites.

At East Vassalboro, concrete planks were set to stabilize the launch ramp, the parking lot was hot-topped, the shoreline was rip-rapped, and a new outhouse was built. The parking lot at the Historical Society was also redone to serve as overflow parking. Thanks go to Larry and Sons, Inc. of Monmouth, Williams Construction Company of Gardiner and The China Conservation Corps for their work on this site.

At the Head-of-the-Lake Landing, new concrete planks were reset at a steeper slope to facilitate launching during lower water levels. Thank you Kempton Tobey and Son of Palermo for a job well done and thanks to the Department of Conservation for providing the planks. New docks were also built this spring by David Fletcher of China. Thank you, David for a beautiful job!

The work done on these projects was paid for by the towns of Vassalboro and China and by federal and state grants obtained by the China Region Lakes Alliance. Thanks go to George Lord for obtaining these grants and for overseeing these projects!

1997 Maine Lakes Conference Annual Meeting of the Maine Congress of Lake Associations

Saturday, July 12, 1997
8:30 am - 4:30 pm
Central Maine Technical College
1250 Turner St., Auburn, ME
(Please call 445-5021 for more info.)

Water Quality Legislation Highlights

These bills were considered by the recent session of the State Legislature and were debated at various public hearings throughout the State. China Lake has been represented well at these hearings, with testimonies from David Landry, President of the China Lake Association; George Lord, Director of the China Region Lakes Alliance; as well as a group of Betsy Fitzgerald's Erskine Academy students. We thank them all for their effort and commitment!

LD 1730 - Great Ponds Task Force Bill

Establishes "Lakes Heritage Trust Fund" to be administered by the Land and Water Resources Council. This fund allows the state to accept funds from public and private sources for use in protecting, preserving and enhancing the quality and value of Maine's lakes and ponds. Sources of funding to this account include funds from the compensation fee program established by the "Watershed Bill", LD 1217.

Suggests various fees, both new and increased, from boaters and landowners near lakes to be channeled to the trust fund.

Allows for 30% of the Trust Fund revenues to go directly to a Maine DEP Lakes Program.

This bill will be "carried over" to the Second Regular Session next January. The issues of funding and of regulating personal watercraft were the major obstacles.

LD 1455 - Stormwater Management

This is a legislative resolve which allows legislative review of the DEP proposed stormwater management rules under Chapter 500. These rules are for large, new developments in the state. The amounts and quality of stormwater allowed from these new developments would vary according to the nature and condition of the waterbody which receives it.

This bill was passed.

LD 1471 - Threatened Watersheds

This is a legislative resolve which allows legislative review of the DEP proposed rules under Chapter 502. These rules list the areas of the state in which the proposed stormwater rules would apply. The document lists those specific lakes which are known to have existing or imminent water quality problems. China Lake is included on the list.

This bill was passed.

LD 1217 - Comprehensive Watershed Bill

Creates a Compensation Fee Program for new developments subject to Maine's stormwater laws in cases where they cannot meet all of their phosphorus allocation requirements on site. This fee will go onto an account to be used by the state or another responsible organization to reduce phosphorus loading within the watershed.

Allows the Maine DEP to create a comprehensive watershed protection program to protect public waters, including lakes, from nonpoint source pollution.

Creates a statewide Priority Watershed Program to work with local and regional entities and to provide partial support for regional nonpoint source control programs according to their interest, preparedness and need. This program will be overseen by the Board of Environmental Protection.

Proposes a bond issue of \$2,500,000 to fund the Priority Watershed Program for five years.

This bill was passed. The bond issue was deleted and \$500,000 was included in the Governor's bond package. Maine citizens must approve that bond issue in order for the Priority Watershed Program to receive any funding.



Erskine Academy Community Service Day Benefits China Lake

by Jeremy P. Martin, CRLA

On May 30th, Community Service Day at Erskine Academy, fourteen juniors from the school got their hands dirty by working with the China Region Lakes Alliance in addressing erosion control problems along the heavily eroded Stebbins drainage ditch. This was the latest in a series of ongoing cooperative efforts between Erskine Academy and the CRLA, designed to improve water quality in China Lake. Two years ago Erskine students helped in the restoration of vital trout habitat in Jones Brook by stabilizing eroded stream banks.

This May, the Erskine students used coconut fiber rolls and "live stakes" of willows and red osier dogwoods to stabilize almost 80 feet of this undercut and slumping ditch, which has been a source of heavy sedimentation and phosphorus loading into China Lake. The students put in a total of 56 hours on this project. Their time and effort are greatly appreciated by the China Region Lakes Alliance and the community of China. Their volunteer efforts are positively affecting the quality of water in China Lake.



Five Things You Can Do For Your Lake

Walk your camp road. If it washes out after heavy rains, talk to your road neighbors about getting it fixed (see *Year of the Camp Road* on page 2). Call for help with financing and planning! Reb Manthey, 445-5021; Brian Dooley, 923-3358; David Landry 968-2856.

Plant shrubs. If your lawn extends to the lake, or you have some eroding areas, plant shrubs along the lakeshore to absorb dirty runoff to reduce algae blooms.

Check your septic system to see if it is up to code or needs pumping.

Use little or no fertilizer (either chemical or manure) anywhere near the lake.

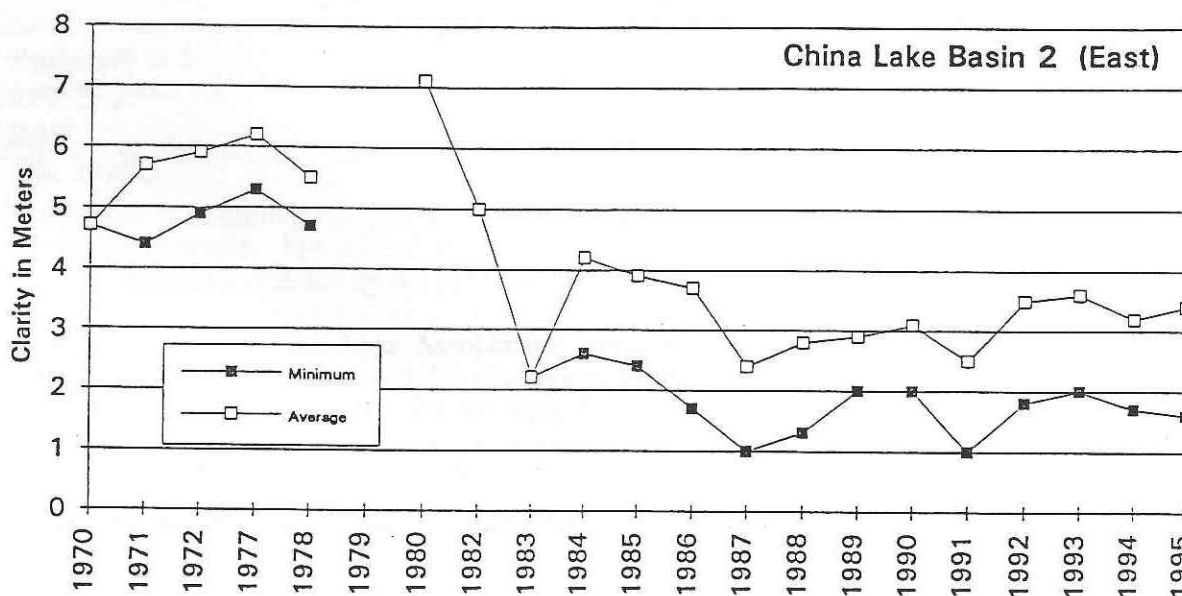
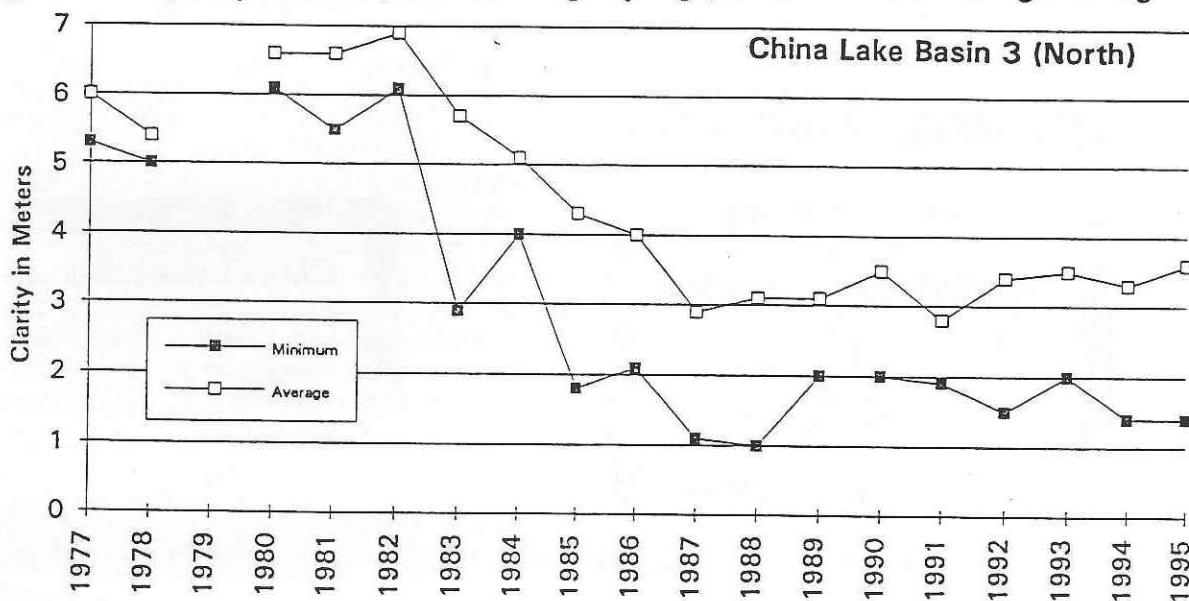
Come to the Annual Meeting of the China Lake Association on Thursday, July 24th at 7 p.m. at the China Middle School Library to stay informed!

China Lake Water Quality Update

In 1996, China Lake water quality was again monitored biweekly by staff of the China Region Lakes Alliance, the Department of Environmental Protection, and the Kennebec Water District. Water clarity, algae, and phosphorus concentration, temperature, pH, and oxygen concentration were some of the variables measured. 1996 began with a significant and prolonged spring rainfall into mid-July which coincided with 4 - 7 meters of water clarity until late July. Tests show a rise in turbidity around the end of August (almost a month later than in 1995) and then a prolonged but mild bloom. From August to October, the average clarity stayed about 2 meters (about 6 feet), without any major algae blooms.

From late August through October, the oxygen concentration below 25 feet was only 1 part per million throughout the lake, which is too low to support fish life. When the lake water stratifies, (or layers out, with warm water on top and cold water below 8 meters), the oxygen gets depleted in the deeper parts of the lake so the fish cannot live there.

The good news is that after a rapid decline in water quality from 1980 - 1987, the decline has stopped with a trend toward improvement over the past 5 years. The graphs below summarize average (white squares) and minimum (black squares) water clarity for 1977 - 1995 in the eastern basins of the lake. (The higher the number, the farther you can see through the water.) As you can see, we have a long way to go, but at least we're moving in the right direction!



MEMBERSHIP FORM

China Lake Association

Please renew my annual membership.

Name(s) _____

____ Annual Family Membership: \$20

Address: _____

____ Friend: \$35

City, ST, Zip: _____

____ Patron: \$50

____ Sponsor: \$100

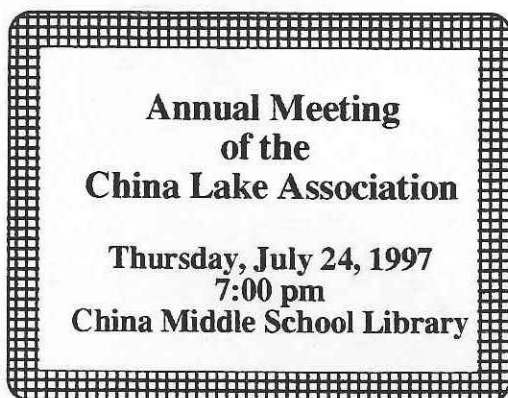
Phone: _____ Date: _____

____ Benefactor: \$500

____ Other: _____

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

It's time to renew your membership!



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