



# CHINA LAKE ASSOCIATION

Newsletter

Winter 1999

## PRESIDENT'S REPORT

The China Lake Association (CLA) has wrapped up another busy year working to improve water quality. Our most ambitious project to date, *The Year of the Camp Road*, was finished up in 1998. While this was envisioned as a one year project, the Association actually worked on the fire roads around the lake from the winter of 1996 until last fall.

During this project all of the fire roads around China Lake were surveyed, assessments were made regarding soil runoff into the lake, and landowners and road users were contacted. On each of the sites repairs were aimed at providing a longer term solution than the routine road grading had done. Financial assistance and engineering help came from the Kennebec Water District with Reb Manthey of the China Region Lakes Alliance (CRLA) helping to coordinate the project. Work was done on 12 roads with \$5500 contributed by the China Lake Association in the cost sharing agreements with road users. We are very proud of this project since I believe it is unique in the State of Maine in its scope and accomplishment.

Education has always been important to the Association and in June of 1998 the CLA helped to coordinate a fifth grade study day on the waters of China Lake. Seventy students were transported in a small flotilla of boats and were able to participate in water quality monitoring, observe shore stabilization projects, and tour the Kennebec Water District Treatment facility. This year a fishery project is in the works that will trace the life cycle of salmon and look at the water quality issues in China Lake that have resulted in the loss of the salmon population here.

One of the most enthusiastically received projects we have ever done is the China Lake Map. With the generous help of Tim Thurston of the Department of Conservation, the Lake Association produced a wonderful laminated lake map with accurate hazard markings. On the reverse side of the map a range of educational material was provided including helpful hints on water quality preservation. To date 350 maps have been sold or distributed. This project is an example of a motivated state employee, Tim Thurston, seeing a need for an updated lake map and using his talents and computer generated mapping resources to create the original print ready version of the map. Thank you, Tim!

China Lake Association is planning another full year with 1999 beginning *The Year of the Buffer Strip*. The buffer strip is the all important vegetated area abutting the shore front that helps to stop soil and phosphorus runoff into the lake. Many people have converted their buffer strips into lawns which is the least effective type of buffer. We will be surveying shore front properties, making recommendations and then sharing the cost of improvements, tree planting and landscaping in the buffer strips.

One of the most significant successes that the Lake Association has had a part in is the China Region Lakes Alliance. Founded under the guidance of George Lord in 1994 the Alliance has provided technical support and coordinated all of the shore front work in the lake region since that time. Under the current leadership of Reb Manthey the CRLA has received word that it has been awarded a \$98,000 federal grant that will allow lake restoration to continue. The Town of China continues to recognize the importance of ongoing lake work and has again budgeted money for lake work in 1999. This is a tremendous commitment on the towns part and is unique in the state. Sadly few towns in Maine commit money to water quality despite the fact that shore front properties generate millions of dollars in property taxes. I would like to thank all of the citizens of the Town of China that have made China Lake and its water quality a priority.

Respectfully,

David Landry  
President, China Lake Association

## The Year of the Buffer Strip

The China Lake Association, in conjunction with the China Region Lakes Alliance and the Maine Department of Environmental Protection, has declared 1999 "The Year of the Buffer Strip."

A buffer strip is an area of vegetation that filters runoff water, protecting lakes and streams from pollutants such as nutrients or soil that could be washed into them. Buffers range from native, wild vegetation to perfectly manicured gardens. All help to protect and improve water quality by lessening the amount of phosphorous and other nutrients reaching the lake. The buffer plants use them instead.

The purpose of the Year of the Buffer Strip is to establish these vegetated buffers along shorefronts and other areas. The Lakes Alliance would like to create demonstration buffer strips on the shoreline property of China Lake, Three Mile Pond and Webber Pond.

We will need 1 to 5 volunteers from each lake to allow us to plant a demonstration buffer strip along their shoreland edge to replace existing "lawns to the water." We would like the public to be allowed to look closely at these sites to see the possibilities.

If you want to establish a buffer, but do not want to be used as a demonstration site, we can still help. We have plant lists available, and will soon have sample planting plans, lists of local nurseries, and other information available. Cost-share money will be available to help pay for the cost of the project. The China Lake Association will be encouraging improvements and providing assistance for buffer strip projects on China Lake. If you are interested in having your shorefront evaluated or want more information, please contact the China Region Lakes Alliance at 445-5021 or David Landry, president of the China Lake Association at 968-2856.

## Thank You Bassmasters

Many people know that China Lake is great Bass fishing and that a number of tournaments are held here every year. Did you know that the East Basin boat landing is kept clean by a member of the Central Maine Bassmasters as part of a community project? Wayne Morey, Conservation Officer for the Bassmasters has been doing his part to keep the lake beautiful by doing trash duty at the boat landing. This job is no small task; Wayne says he empties the 50 gallon trash can twice a week. In addition, he tries to pick up the debris that does not make it into the barrel. Anyone that drives by that busy landing site can imagine what it would look like if Wayne was not out there doing this very valuable community service. This is another fine example how the many users of China Lake can work together for the benefit of all. Thank you, Wayne!

### Protect Water Quality By Planting A Buffer Strip

Soil and nutrients that are carried by runoff into a lake or stream can harm the quality of the water. Plants remove sediment, nutrients and other pollutants, so one way to lessen pollution is to plant a vegetated buffer strip.

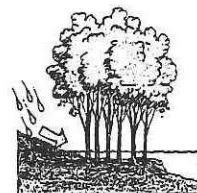
Buffers need to be placed between people and the water. We need to filter runoff from our buildings, roads and driveways. Although lawn is better than bare areas, it is not the best type of growth to have near the lake. It is better to have a variety of plant types and sizes, which will protect the soil and water in a variety of ways. A buffer strip can be as manicured or as wild as you wish. The important thing is to minimize the amount of bare earth and lawn. A healthy buffer strip is evidence of wise land management.

#### The Benefits of Buffer Strips:

**Store Water:** Soils and duff absorb runoff water, which is later released at a slower rate into ground water and surface water.



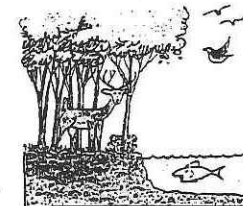
**Reduce Floods and Erosion:** Buffers slow streamwater flow, reducing the likelihood of downstream flooding. They also filter water and help hold soil in place. Roots catch sediments, and take up water and nutrients for use by plants.



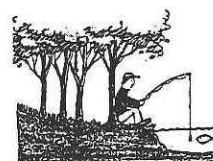
**Trap Nutrients:** Studies show that buffers trap and retain significant amounts of nutrients in runoff. More than 80% of nitrogen and phosphorus can be kept out of surface waters.



**Home for Wildlife:** Buffers are home to many animals and birds, which find food, cover, and relief from temperature extremes. Fish need buffers for sustained water supply, cool water, aquatic vegetation, and streambank shelters.



**A Place For People, Too:** Buffers produce an abundance of cool shade, natural beauty, wildlife viewing, and ample water for fishing and recreation.





## China Fifth Graders Spend a "Day on the Lake"

Last June, China Middle School teacher Anita Smith coordinated with the China Lake Association and the Kennebec Water District to provide an educational field trip for the fifth grade class. The group of about eighty students was divided into two so that each student spent half the day on the lake and the other half at the Water District Treatment Facility in North Vassalboro.

Each of the five boats which transported the students around the lake had a water quality expert on board. Included among them were Reb Manthey, director of the China Region Lakes Alliance, Intern Wanda Bowen from Unity College, Jeremy Martin, and Jonathan Van Bourg, Alan Chamberlain and Emil Nicol from the Kennebec Water District. The students had a hands on learning experience as they took secchi disk readings, measured oxygen levels at various depths as well as engaged in discussion about the disappearance of salmon in China Lake.

At the Kennebec Water District the students were given a tour of the facility and shown how the water is treated for drinking. They also learned about the cause of the algae blooms in the lake and discussed strategies for helping to alleviate the problem.

We would like to thank Pam and Art Gagnon, Tom and Martha Hicks, Tim Hanlon, Frank Green, Marie and Tom Michaud for generously donating their time and/or boats for the event. The experience was so successful the teachers would like to do it again. If you can give your time or your boat for a day this spring, please contact Anita Smith at China Middle School or Janet Preston at 968-2565.



## China Middle School 7th Grade Project Aided by CLA

Mary Dunn and the China Middle School 7th grade students are getting ready to watch salmon eggs hatch. Thanks to a program by The Atlantic Salmon Federation and partial funding by The China Lake Association, Mary has received 100 salmon eggs as well as a large tank for hatching them. This tank is installed in her classroom, and Mary is using it to teach her students about marine biology, math, and conservation. The students are addressing such issues as calculating water temperature, determining the gestation period of salmon eggs, monitoring the growth of the salmon fry, and where to release the baby salmon next May.

Not only are the students learning about salmon, they are also learning about why there are no salmon in China Lake. Most students were not aware that until the early 1980's, China was one of the best lakes in Maine for landlocked salmon fishing. Then suddenly, all the salmon died. What happened to them? The 7th graders are discovering the serious effects of pollution on the lake and how it killed the salmon population. They are also finding out why even today they cannot take the salmon they hatch in their classroom and release them into China Lake. The students are alarmed at the fact the China Lake is still too polluted to support salmon, and they are determined to do something about it. They have undertaken a special civics project to work on improving the quality of the water in China Lake, so some day a future 7th grade class will be able to release their salmon fry into life-supporting waters here in China.

## Watershed Survey To Be Conducted Volunteer Help Needed

The China Lake Association (CLA) and the China Region Lakes Alliance (CRLA) will be conducting a watershed survey of the land area that drains into China Lake. We will be trying to locate sources of phosphorous and sediment that are harming water quality. The watershed is 32 square miles, and extends into China, Vassalboro and Albion.

The goals of this survey are to locate pollution sources, make recommendations of ways to repair them, work with landowners to find solutions, and protect the water quality of China Lake. The information WILL NOT be used for enforcement actions. Rather, the survey is a follow-up to a volunteer survey done 10 years ago at the start of the restoration project. The information gathered will help guide future projects affecting the lake.

Our survey focuses on finding sites where soil erosion is taking place. Soil is the most important pollutant in China Lake, because of the nutrients attached to it which act as as fertilizer for algae growth, and the particles which can cover over areas needed by plants and animals. Soil can be carried by water from the far reaches of the watershed to China Lake, so we even need be concerned about areas away from the shoreline.

We are looking for a good number of volunteers to attend a training session on **Saturday, April 10 from 10 am to 3 pm**. The morning part of this session will teach volunteers about the connections between water quality and land use, and look at slides showing typical problem sites. The afternoon session will be a field trip to look at sites and learn to fill out forms. We are hoping for rain that day so we will be able to spot erosion more easily.

If you wish to help us find the sources that are polluting China lake, please meet in the library of the China Middle School at 10 am on Saturday, April 10. There will be a lunch break around noon. You should wear boots for the afternoon session so we can go play in the mud. For more information, please call Reb Manthey at 445-5021.

## China Region Lakes Alliance News

In May of 1998, George Lord resigned as Director of the China Region Lakes Alliance. Reb Manthey, who had been working with George, was the natural choice to fill his shoes. She is committed to continuing the important work in the watersheds of China Lake, Webber Pond and Three Mile Pond. Under her leadership, the China Region Lakes Alliance accomplished plenty in 1998.

### Conservation Corps

Under the direction of Josh Ferran, the Conservation Corps completed work on 24 projects:

- \* 19 shoreline stabilization projects completed using rip-rap stone
- \* 1 shoreline stabilization project completed using fiber-rolls
- \* set up temporary erosion controls on 4 sites

In addition, Josh also worked to identify pollution sources, made landowner contacts, planned and designed repairs, prepared state and local permits, planned and supervised Corps work. Assisting Josh were Jason York, Project Coordinator, and Wanda Bowden, Intern from Unity College. Thanks go to them all for a great job.

### Water Quality Issues

Water quality was monitored and technical assistance provided to landowners, contractors, and others. Designs were provided for road repairs, runoff controls, culvert replacements, and erosion site repairs. In addition, CRLA worked with Maritimes and Northeast to minimize potential water quality impacts of their proposed pipeline. Other accomplishments during 1998 include working with the State and various lake groups training people to find and repair erosion problems, assisting towns in reviewing proposed projects, hosting tours and workshops, and creating publications that are now being distributed throughout Maine. In short, the China Region Lakes Alliance continues to be a leader in water quality protection and restoration.

## CRLA Projects for 1999

Continue water quality monitoring, technical assistance, outreach, erosion control.

Conservation Corps

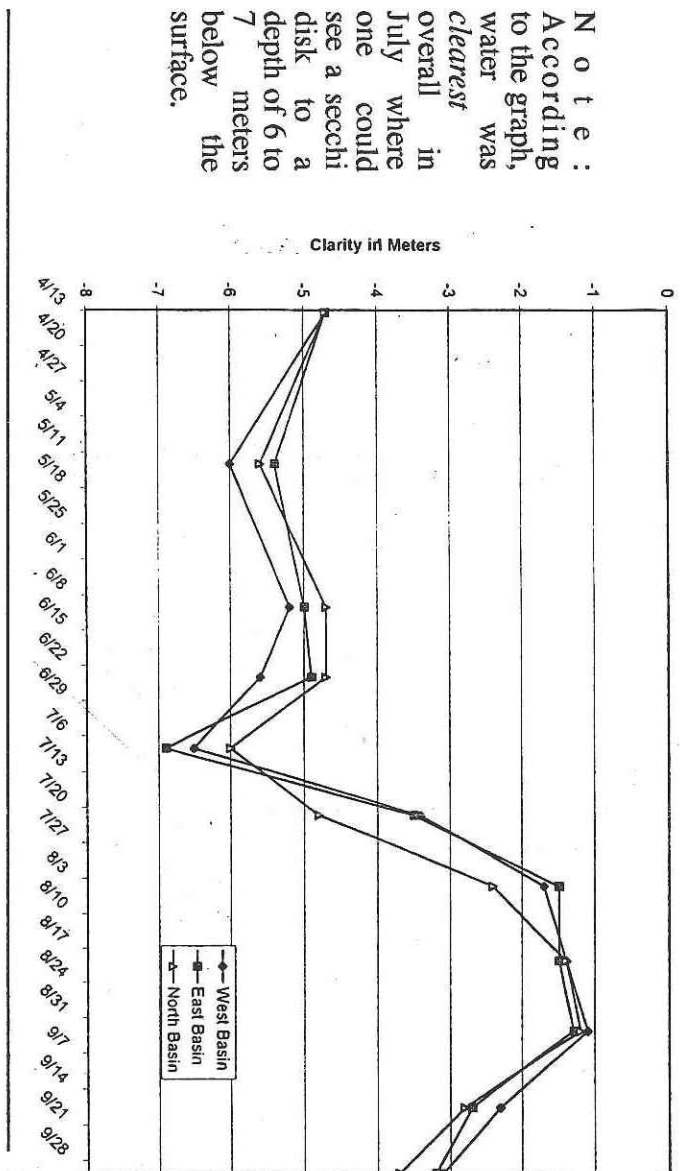
The Year of the Buffer Strip (see article p.2)

Watershed Survey - Volunteers needed! (see article p.4)

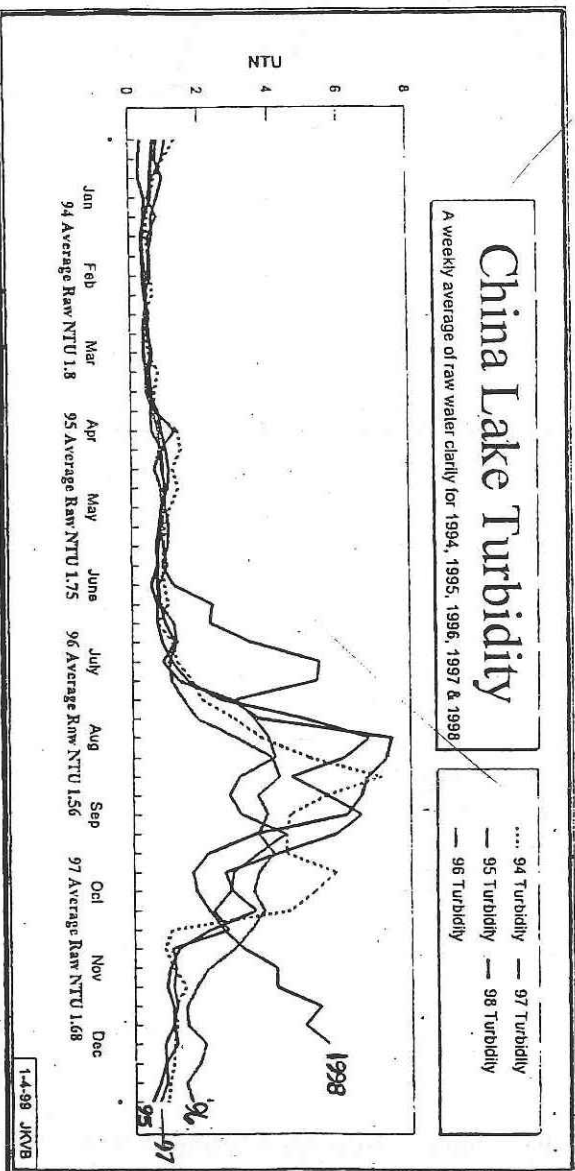
# China Lake Water Quality - 1998

## China Lake Water Clarity 1998

*Taken from a report by Roy Bouchard,  
Department of Environmental Protection*



Water quality in China Lake is monitored by staff of the Kennebec Water District in cooperation with the Volunteer Lake Monitoring Program. 1998 water clarity in all three basins of the lake was better than the previous year, but similar to 1996. However, the good early season clarity was replaced by a significant bloom starting in early August and continuing through mid September. Phosphorus levels, which fuel this algal productivity, followed a typical pattern. Early season levels were similar to other years at around 13-16 ppb (parts per billion), in all three basins. Concentrations increased slightly during the summer, in large part due to sediment release of phosphorus under low oxygen conditions. Deep water phosphorus concentrations reached into the 40+ ppb range by September.



The one anomaly in this year's conditions appeared in KWD's water intake turbidity in Nov-Dec of this year. There appeared to be a significant secondary bloom of blue green algae after the fall mixing (overturn) took place. This may have been prompted in part by the unusually warm air and surface water temperatures at that time. In general, there have been no signs of significant changes in the water quality of China Lake over the last two years. However, over the last 11 years, there appears to have been an overall slight improvement in the average clarity during the summer months despite the recurrence of bloom conditions during at least part of each summer.



China Lake Association  
P.O. Box 215  
China, ME 04926

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