



CHINA LAKE ASSOCIATION

Newsletter

Volume 19, Issue 1

Summer 2006

China Lake Association Board of Directors

President
David Landry

Treasurer
Bruce Daniels

Secretary
David Preston

Clerk
Jamie Pitney

Directors
Martha Hicks
Marie Michaud
Irma Simon
Augie Velten
Jon Van Bourg
Joann Austin
Bob O'Connor
Nancy Woodbrey

Presidents Report

The people of China have been given a great gift by Colby College in the form of a comprehensive lake assessment. The Colby Environmental Assessment Team (CEAT) performed an extensive professional quality assessment of China Lake this past fall. A study of this breath would have cost several hundred thousand dollars. This is just the type of study the China Selectmen were contemplating several years ago when there was much controversy over water levels but felt the cost was out of reach for the town financially. Well we now have a tremendous road map for future work in the China watershed. First the surprising news, there were no surprises! The CEAT study showed remarkably similar results to a DEP study from 1994 and then a repeat analysis by the state in 2001. What were the findings?

-Phosphorus release from deep water sediments is the most significant driver of the summer algae bloom.

-Erosion in the watershed is still a significant source of phosphorus i.e.... camp roads, fields, highways, and shorefront development

-An expensive chemical treatment of the lake would be needed to end the seasonal algae blooms

- Again, there is no evidence to support the call by some to lower lake water levels.

The Colby report is a good news bad news report. The good news is the work that has been done in the watershed is the type of work that needs to be done and be continued. Simple strategies such as keeping lake levels high enough in the summer so that water is available to flush out algae laden water in the fall can be a useful tool in managing water quality. The bad news in the CEAT study is an expensive chemical treatment of the lake sediments would most likely be needed to end the seasonal algae blooms. Jonathan VanBourg of the Kennebec Water District estimated the cost of such a treatment to be about \$6,000,000, well beyond anyone's ability to fund.

There is much more information on this topic in the Newsletter. The Lake Association hopes to have hard copies of this report available later this summer.

Colby College Report

Students in the Colby College Biology Department under the direction of Drs. David Firmage and Russell Cole performed a comprehensive 5 month study of China Lake in the summer and fall of 2005. The Colby College Environmental Assessment Team (CEAT) has done comprehensive studies of other lakes in the Central Maine area in past years. The study of China Lake used modern satellite mapping with GPS data sites and complex computer analysis to provide a in depth look at the current water quality, the causes of the ongoing algae blooms and suggestions for future work.

The CEAT found that it is the

Mark your calendar!

China Lake Association Annual Meeting

Thursday, July 20, 7:00 p.m.
China Middle School Library

Agenda

1. Colby College, "Water quality in China Lake"
2. China Lake restoration report
3. Election of Directors
4. Election of Officers
5. Other Business
6. Adjourn

From front Page

Colby College Lake Study

phosphorus released from deep water sediments during the summer that drives the annual algae blooms in China Lake. This conclusion is in agreement with past work done by the Department of Environmental Protection. The phosphorus in lake sediments has accumulated from decades of soil runoff, septic waste, roadway erosion, and the decayed remains of past algae blooms. Not all lakes release phosphorus from the sediments and it is these 2246 kilograms (4941 pounds) of phosphorus from the China Lake sediments that tip the balance. All external sources of phosphorus, i.e., roadway, lawns, shorefront development, agricultural runoff etc. contributes 54% of the total load at 2597kg (5713 pounds).

To end algae blooms in the lake the annual load to the lake from all sources would have to be reduced by 1000kg (2200 pounds) of phosphorus per year. This will be almost impossible to do by looking at only external sources of phosphorus. As an example, if phosphorus coming from all shorefront development, all roadways, and all septic systems were reduced by 50% (a near impossible task) this would reduce phosphorus to the lake by only 374 kg (822 pounds) still not enough to stop the blooms! Dr Firmage noted that the shorefront riprap, camproad improvements, and buffer strip projects have all helped but the work is overwhelmed by the

phosphorus coming from the sediments during the late summer algae blooms. There was conflicting opinions as to whether the water quality was stable or whether a slow decline was in place. There was agreement that doing everything possible to control phosphorus levels is important since it is possible for the algae blooms to become much worse with smelly scum accumulating around the shore as it did in the early 1980's making the lake unpleasant to be near.

The CEAT discussed a number of methods to stop phosphorus release from the sediment; most notable is an alum treatment. Alum is a liquid compound that is spread across the lake surface from large barges. The Alum settles to the bottom and seals the phosphorus so that it cannot be released into the water column. The State and the China Lake Association explored an alum treatment of China Lake in the early 1990's but funding was an issue. Today the estimated cost would be \$6,000,000. Continued work in the watershed is still useful in slowing the rise in lake phosphorus and includes many of the projects already in place.

One very interesting point the CEAT made was water level manipulation can play a role in reducing phosphorus levels. Flushing phosphorus laden water from the lake in the fall can reduce phosphorus levels. This would

From front Page

Presidents Report

Milfoil is still a concern to all those around Central Maine. With the Messolonskee Lake boat landing heavily infested with milfoil and still open for public use it is only a matter of time before this plant makes it's way into more lakes. With China being a shallow lake, milfoil would have a devastating effect. The China Lake Association is trying to put together boat inspections at the town landing for this summer.

There is talk about repealing the Phosphorus Control Ordinance here in China . While the ordinance may need some modification to make it more usable, throwing the ordinance out would eliminate one of the most effective tools we have in the fight against runoff into the lake. I would urge all of you to reject this action. The town is in the process of surveying septic systems in the shore land zone.

**“Failed septic systems
account for 6-8% of
the phosphorus load to
the lake ”**

The Colby study estimates failed septic systems account for 6-8% of the phosphorus load to the lake. The lake association directors supports the town's efforts even though it will mean a number of lake property owners will have to spend considerable money to replace older septic systems.

The China Lake Association is always looking for volunteers to help with our projects. Give one of the directors a call to learn more. For those that don't have the time to volunteer, monetary donations help us keep the work going around the lake. What is an appropriate amount to donate. If you are a property owner on the lake I think \$100 would be a good level to consider. The money will be well spent on lake related projects.

Lake tours

As part of China Community Days, the China Lake Association will once again be offering tours of the lake. Last year lake association volunteers took almost 100 people out on boat tours of the lake. Many of the people taking the tours had lived in China for many years but had never been on the lake! It was a fun day and will be fun again this year.

We will need volunteers with boats. While pontoon boats are the best for the tour any type of larger boat can be used. The tours start at 1pm and end at 5pm, one does not need to commit to the whole afternoon. If you can help out

with the tours call Nancy Woodbrey at 872-2614. We can use the help. If you are interested in taking a boat tour of the lake show up at the town boat launch at the head of China Lake on Saturday August 5th between 1 and 5pm. The tours are free. If you have small children try and borrow appropriate sized life jackets

David Landry



China Lake Restoration Report

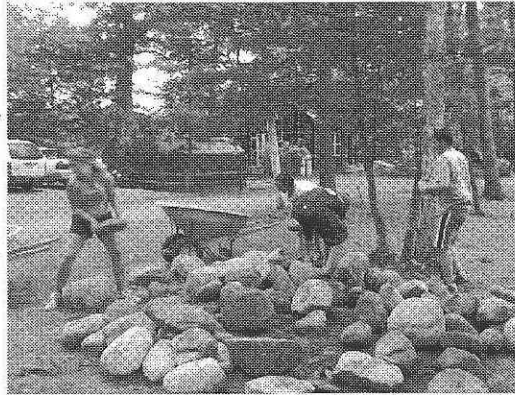
Reb Manthey

During the summer of 2005, the Conservation Corps worked throughout the watersheds of all 4 of the CRLA's lakes, stabilizing sites where soil is eroding. (Remember that soil is the biggest pollutant in our lakes.)

During 2005, they worked on 13 sites around China Lake, including placing rip-rap stone on 8 shorefronts, planting vegetation on 4 sites, and attempting to repair a collapsing retaining wall.

In 2006, the Corps is made up of 8 local high-school students under the direction of Peter Wilkens, Corps Supervisor with 2 year's experience working on the Corps. Reb Manthey, Executive Director of the CRLA continues to oversee the Corps, and help out on some sites.

The Corps started work on June 26, and will work through late August. So far this year (2 weeks into the season) they have planted vegetation on one site, and placed



China Lake Conservation Corps

rip-rap stone at 3 sites. If you have a site which is appropriate for the Corps- such as areas that need to be planted with trees and shrubs, or where soil is being washed away by rainwater or waves- call the CRLA at 968-3158, and we will visit the site, make recommendations, help obtain necessary permits, and schedule the Corps for work. As usual, Corps labor is free to the landowner, who pays only for permitting fees and the materials used to fix the site.

Colby College Lake Study continued

involve maintaining summer water levels high enough so that when the phosphorus is released from the sediments and a bloom is underway water can be rapidly released from the lake. The more water that can be released the more phosphorus is eliminated. The CEAT labels this strategy viable but "politically risky" because of all the public debate over water levels. Direct shorefront erosion from current water level management was not felt to be major issue in regards to lake water quality.

The CEAT provides a useful guide for future work and provides a more complete understanding of water quality issues and the impact of in lake and watershed sources of phosphorus. The full report is available online at: <http://www.colby.edu/biology/B1493/B1493.html>. The lake association hopes to have print copies of the 230 page report available at town libraries and the town office by mid-July. Kirsten Ness of the Colby College Biology Department will

be the featured speaker at the China Lake Association Annual Meeting Thursday July 20th at 7 pm in the library of the China Middle School



Farm Help

The China Lake Association contributed money to help rebuild a manure pit on the Michaud Farm on the Neck Road. The previous pit had dirt sides and gave way in 2005 during heavy rains sending liquid manure down into a low lying field. Nick Michaud approached the lake association for some help with the project which has definite benefits to lake residents since the farm is near a wetland draining into the lake. The new manure pit has reinforced concrete sides and will provide a secure place for the liquid manure. This is a concrete example (sorry) of your donations being used to benefit

the lake. Currently a failed manure pit off Cobbossee Lake is causing serious concerns about water quality there.



Nick and the Michaud family work many long hours producing organic milk and keeping hundreds of acres in pastureland and forest adding to the rural charm of our town.



China Lake Association
P.O. Box 6215,
China Village, ME. 04926.

Prsrt-std.
 U.S. Postage
PAID
 Waterville, ME
 Permit No. 26

RESIDENT

Milfoil

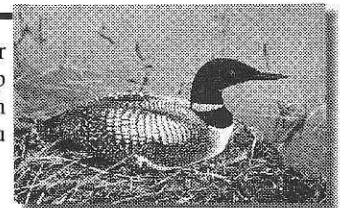
Invasive plants such as milfoil continue to be a threat to China Lake. At the present time there is no evidence that any invasive plants such as milfoil has entered China Lake, but that may be more good luck than anything else. With boats coming to the China area from Messalonskee Lake which is heavily infested with milfoil it may be only a matter of time before our luck runs out. A State survey revealed milfoil on 40% of the boats leaving one of the launch sites on Messalonskee Lake. Anyone bringing a boat to China Lake from other areas should thoroughly inspect the boat for plant fragments before launching. A single plant fragment can lead to a lake wide infestation. Having friends or relatives bringing a boat the China Lake from out of state, ask them to clean the boat thoroughly before launching in China lake. China lake would be particularly hard hit by invasive water plants since the lake is shallow making a large percentage of the lake area susceptible to the water plants.

The lake association is formulating a plan for boat inspections at the public launch sites, if you would like to help please call Dave Preston @ 968-2565

Shorefront Property Owners Wanted

At the March China Town Meeting residents voted to spend money for a new town wide property assessment. In last summer's newsletter it was noted that the State of Maine mandates town property valuations reflect current value. When property valuations are significantly below market value a reassessment is many time done. Any reassessment of shorefront property values will undoubtedly raise the property taxes for those on the lake and drop taxes for those off of the lake. The town wide reassessment will likely start in 2007 and when it will be reflected in our tax bills is uncertain.

China Resident Bob O'Connor is looking for volunteers to help with the annual Loon count on July 16, starting at 7 am. If you are interested please, call 445-4140



Membership renewals are due! Pleases use the form below if you have not yet sent yours in.

Membership Form

China Lake Association

Please renew my annual membership
 I am a new member

China Lake Association
Annual Meeting
 Thursday, July 20

China Middle School Library

Name(s) _____

Annual Family Membership: \$25

Address: _____

Friend: \$35

City, State, Zip: _____

Patron: \$50

Sponsor: \$100

Benefactor: \$500

Phone: _____ Date: _____

Other: _____

Please make check payable to **China Lake Association** and Mail to PO Box 6215, China Village, ME. 04926