



# **China Lake Shoreline and Stream Survey 2003**

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W, Y  
44, 50

# Shorefront and Stream Survey: West Basin 2003

## Introduction

### *Shorefront Survey*

The shorefront and stream survey of the West Basin of China Lake was done on May 27, 28, June 5 and 12<sup>th</sup> to follow up the survey that David Landry of the China Lake Association did in June of 2000. The survey that David Landry did was of the East and North Basins and did not survey any part of the West Basin. The objective of both surveys was to identify sites of erosion and rate them on a scale of minor to severe effect on the lake water quality. Both David Landry and Jenna Richardson were trained and had experience with surveying. All the surveying was done within 15 feet from the shoreline. Binoculars were used where it was hard to see the shoreline. The results of this survey will help the China Region Lakes Alliance (CRLA) identify spots where the conservation corps might do work in the following summers. This survey also identifies how much of the total shorefront is being eroded.

A site was written up and photographed if it included 5 or more linear feet of exposed and eroding soils. The site numbers are a continuation of the East basin shoreline survey, which ended at site 43. The sites were not paced off, so the measure is a "best estimate" and somewhat subjective. It was noted when the site had evidence of previous erosion or was considered "at risk" for future erosion. A high percent of sites in the West Basin showed signs of erosion but were not currently eroding. Each site was given an estimate of the priority to fix it (see priority list). This was based on three factors. First was the amount of exposed soil eroding, second was the accessibility of the site to laborers and third was landowner interest in fixing the sites. All of the land surveyed is owned by the Kennebec Water District. They have a vested interest in fixing any sites that need work. We found that the total currently eroding and "at risk" shorefront was 1,341 feet. This number is much lower than the 3,161 feet of the East Basin. There is 35,180 Feet of total shoreline in the West basin, which means that 3.8% of the entire west basin is currently eroding.

Site 48 was not an eroding site. It was included to show "ice-barging" that sometimes occurs to large rocks. Local residents familiar with this part of the lake report that rocks have been stable for the past 20 years.

At the end of this report the reader will find a prioritized list of projects. This list can guide CLA, The Kennebec Water District, CRLA and the conservation corps for restoration projects.

### *Stream Survey*

On May 26 the day before this survey there was about 3/4 inch of rain. The stream survey was done by finding the entry of the tributary into the lake and then getting out of the boat and walking up the stream 100 to 800 meters. The lake level on the day of the survey was at 3 inches over spillway. Because of spring rains the

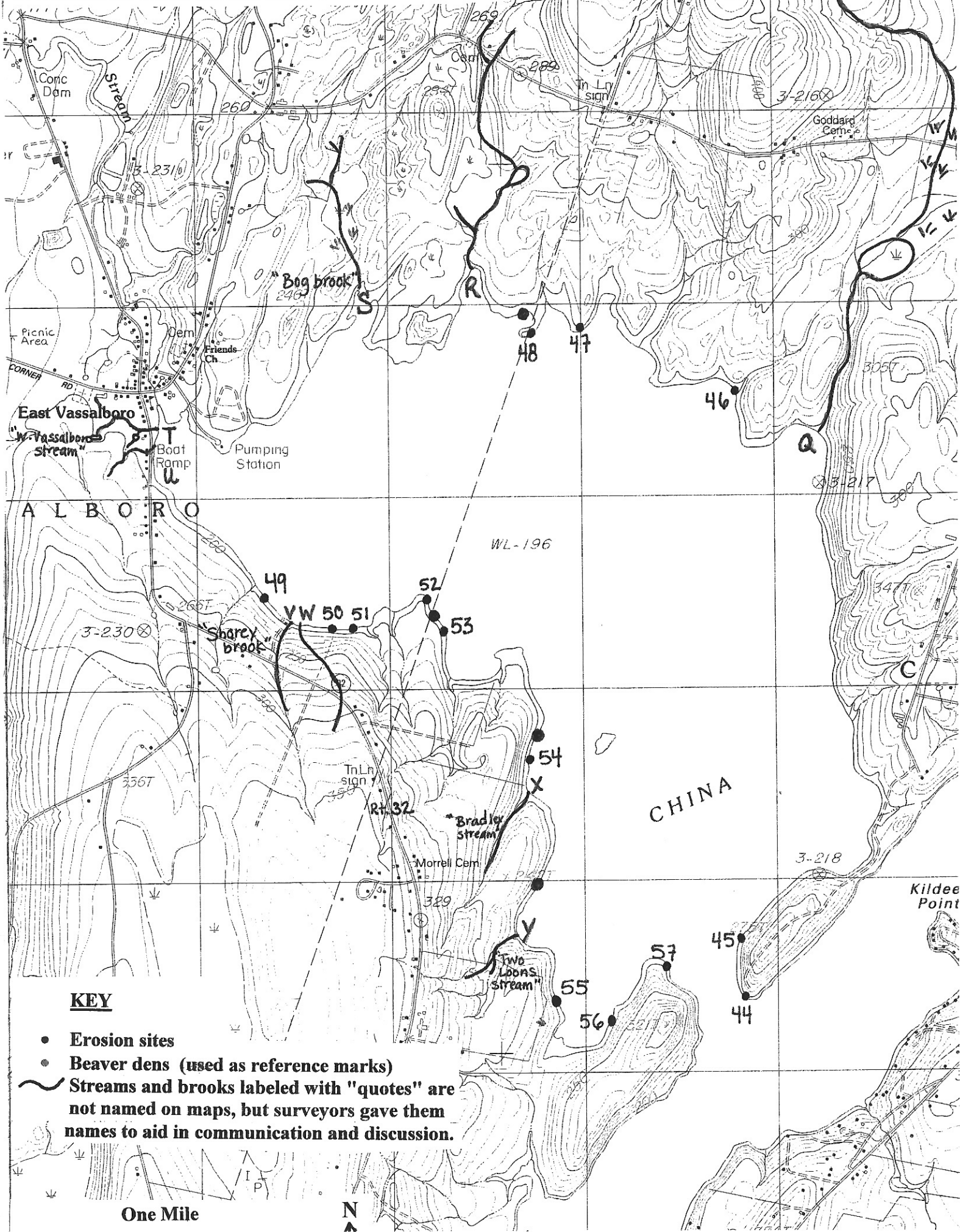
**streams were flowing higher than average. Some of the rivers dry up or only have subsurface flow during the summer. We noted the estimated flow rates for each stream on a scale of low to high. There were 8 streams total that we found in the survey.**

**Although the streams on the north shore of the west basin drain a large area of land, most of it is undisturbed. There is not much development and few roads running through their direct watersheds. These streams were running clear and most likely do not contribute any significant amount of phosphorus to the lake.**

**All the streams and drainage ditches on the south shore of the west basin except the stream labeled "X" contribute noticeable amounts of soil and phosphorus into the lake. Although these streams drain a smaller area of land, it is more developed with roads, houses and agricultural land. The streams on this side of the west basin also have higher flows during large rain storms. This higher velocity could contribute significant amounts of phosphorus from upland erosion and from bank undercutting. Road work and development along Route 32 has the potential to worsen the problems seen in streams V and W, if proper best management practices are not correctly administered. Streams V, W and Y will need further evaluation.**

**Questions and comments can be directed to either the China Lake Association P.O. Box 215 China Village, Me 04926 or the China Region Lakes Alliance 571 Lakeview dr. China , Me 04358.**

# West Basin Shorefront and Stream Survey 2003



## KEY

- Erosion sites
- Beaver dens (used as reference marks)
- ~ Streams and brooks labeled with "quotes" are not named on maps, but surveyors gave them names to aid in communication and discussion.

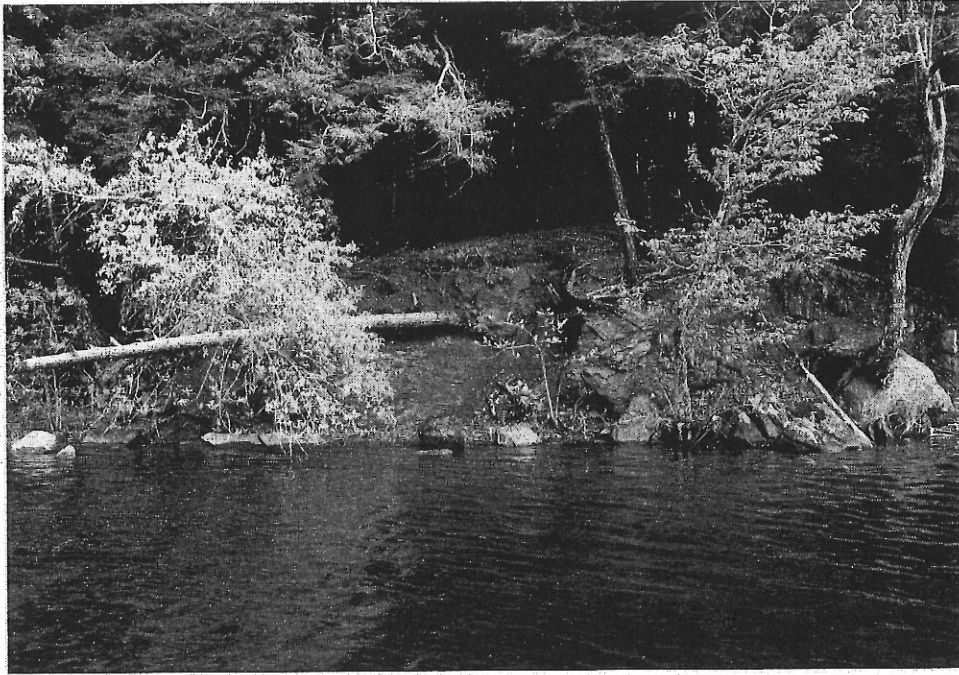
One Mile



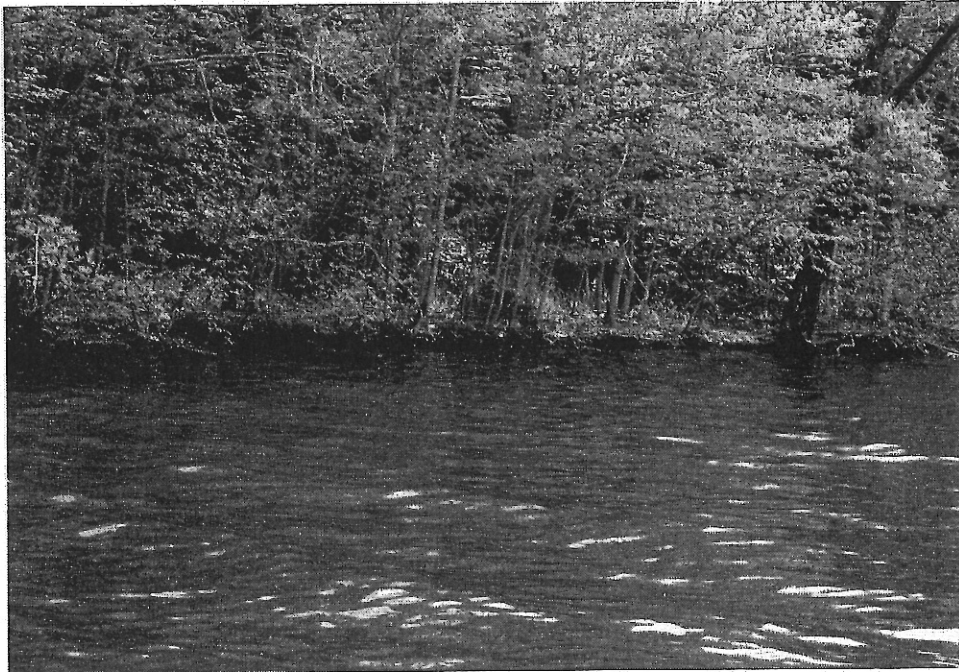
## Shoreline Sites

Site #	Site Description	How many photos?	Linear Feet of erosion
44	Upland erosion just East of KWD beach on North side of the narrows. Very steep slope.	1	10
45	50 Feet of low level erosion, but well vegetated	1	50
46	Very small amount of erosion, potential for much more if the water level is raised, 30 Ft. section	1	30
47	Minor eroding area, 100 ft., soft shore, but not much wave action in cove.	1	100
48	Evidence of past "ice-barging" of rock. No evidence of recent vegetation or soil damage.	2	-
49	150 Ft. of "at risk" area that might erode with higher lake levels	1	150
50	5-6 ft. of bare soil, where tree is being undercut, next to Shorey property	1	6
51	100 ft. of "at risk" area, very low in water with no rip rap barrier, just beyond Shorey Brook	1	100
52	100 ft. of "at risk" area	1	100
53	120 ft. of low shoreline with slight erosion, near beaver dam that is next to Mile Shoal, some dirt coming from under the trees	1	120
54	Steep bank, mostly vegetated, but slightly eroding	1	75
55	350ft. of slumping shoreline, next to the new house in boggy, wetland cove	1	350
56	250 ft. of "at risk" area, no active erosion, but low shoreline	1	250
57	Bank collapsing: 40 ft across with 5 ft. face, upland erosion, severe	1	40

Estimated eroding shorefront noted in survey 1,341 feet with total shorefront in West Basin noted to be 35,180 feet. This means that 3.8 % of total shorefront in the West Basin is eroding.



Site 44



Site 45