

TLYCC 2010 Shoreline Conservation Update

Property Use and Planning Committee

‘PUP’

August 2010

How did this begin?

- 2008 Grand Traverse Watershed Conservancy surveys Torch Lake shoreline and gives TLYCC ‘poor marks’ for not protecting shoreline and using practices that destabilize shoreline
- Board assigns Sallie Foley to form the Property Use and Planning Committee

PUP

- “...a committee to evaluate and plan for the future use and preservation of the property and buildings at TLYCC, including environmental impact of our use. The PUP will make recommendations to the Board based on their evaluation and planning. The PUP will also serve as a committee to educate and raise member awareness on the use and preservation of TLYCC and to fundraise as needed to help meet financial responsibilities related to these goals.”

Members to represent broad spectrum

- Peg Comfort, Alan Hickman, Erica Collins Schulze, Terry Malone, Susan McLean, Rob Nissly, Spencer Powell, Sheila Wicha
- Decision made to contact ‘the experts’

Fall 2008

- Peg Comfort, Mike McDuffie of Site Planning, and Heidi Schaffer of Antrim County Soil Conservation District provide information to PUP and the Board regarding the conditions on our shoreline.
- All agree that we have a problem across the whole property with accelerated erosion due to human use and lack of adequate planting on the point

Terms defined

- *Shoreline*—soil, shrubs, grasses, and trees that grow down to the edge of the rocks. Rocks usually are the last 2-3 feet before the water's edge. The gravel at water's edge—what we think of as our 'rocky beach'—is not considered shoreline.

Terms

- *Soft barriers*—when ice builds up in the winter, it rolls over the top of soft barriers of grasses, small shrubs, and smaller boulder outcroppings. When it recedes, it leaves these areas relatively unaffected by the ice, especially when soil and plant roots hold everything in place. The goal of shoreline preservation is to increase soft barriers as the most effective way to hold a shoreline as much as possible. Winter ice will inevitably move around the gravel. Winter ice moves soft barriers less than it moves gravel.

Description as of Fall 2008

- **3. What is the condition of the shoreline greenbelt at the TLYCC?**
- *TLYCC Point*: no greenbelt, no depth, no diversity—some struggling grasses, a few trees. There is evidence of severe erosion on the north side because more than 10 feet of the stable ground has washed away in the last 10-15 years. We don't have as many grasses or solid ground off our north deck anymore, but instead have more bare rocks—called gravel. The solid shoreline is now about 20 feet off of the deck.

All suggest :

- Stabilize the north shore but think broadly for the whole property—especially the erosion around trees on south shore
- Attempt ‘soft solutions’ first—inviting local nurseries to suggest ways to improve our conservation and stabilize plantings on north and south shorelines
- North shore also helped through use of cocoanut fiber (coir) bundles

Fall 2008

- Invitations for bids are made: Messiah Greenleaf Nursery, Pine Hill Nursery, Cyman Gardens, and Barker Creek
- All tour the point with Sallie Foley
- Messiah Greenleaf and Cyman submit bids

Fall 2008

- In addition, Board asked that Mike McDuffie from Site Planning / Charlevoix come and give us estimates about how to protect the trees at the point.
- Mike is an arborist and professional. He not only gave detailed info about our trees (available at website), he also wrote a personal letter about his dismay about the erosion at the point

Board Meeting December 2008

- Discussion of findings
- Decision that education of TLYCC must come first
- Agreement that PUP would take leadership in educating TLYCC about the shoreline conservation needs
- Discussion of Mike McDuffie's personal letter:

You know that, like all members, I have a personal and sincere interest in the TLYC and Torch Lake. We should remind ourselves that the TLYC resides on one of the most prominent and visible places on the lake. As such, our level of care and stewardship of the lake and the land is advertised to every passerby.

Accordingly, I am compelled to share my dismay regarding shore conditions and the carelessness used dragging hoists around the point. As some might claim, our point suffers occasional ice damage, Most years, though, this natural occurrence causes relatively minor damage. My concern is that the deep scars caused by dragging a hoist over the beach create just the foothold needed to make ice erosion even more severe. My first and simplest recommendation is for the membership to invest in a couple of sets of hoist wheels, making it easier to move them and reduce the depth and severity of the troughs.

As club membership and subsequent traffic has grown, compaction and erosion have become greater concerns. Plantings of beach grass, native groundcovers and other trees and shrubs will help hold soil and prevent erosion. It might even be worthwhile to consider boardwalks or paths to direct foot traffic and thereby reduce compaction and the loss of vegetation. I noted large ruts made by someone driving a pick up truck out past the starting tower. It would seem reasonable to identify places off limits to vehicles.

It has been many years since I have spent much time at the club and I know that it now has probably three times the membership. More people and more activity over our small land area means greater effort and investment of time and money is needed to protect our environment. I propose the notion that it would be appropriate for the TLYC, in such a prominent location and with such rich history of a membership loving and caring for Torch Lake, to be the model of good stewardship.

Board Meeting Dec 2008

- Board decides to move all boat hoists with wheels beginning May 2009 Dock Day
- Board to request Zippers to heavily mulch the maple tree by the tennis court to protect its roots
- Board decides to add a new tree near the swim area
- Board decides to 'rest' the north shore

Mike McDuffie site proposal 2008

- Mike McDuffie of Site Planning asked to do tree work. Mike also submits a site plan in which he points out how boulders could be used as well as planting and maintaining trees.
- At this time, primary concern was to protect the trees along the driveway because they are dying from lack of soil and adequate protection (see website Shoreline study).

RECOMMEND TRIM MAJOR DEAD WOOD FROM 2 BIRCHES

RECOMMEND INJECTION TREATMENT OF 2 SMALL BIRCHES

REMOVE CONCRETE UNDER BEACH

TOWER AND CEDARS

ASH

CONSIDER PLACING BOULDERS FOR MODERATE ICE PROTECTION OF TOWER AND ASH TREE

RECOMMEND REMOVE DEAD BIRCH

Larson Rd

RECOMMEND LOW WALLS TO PROTECT TREE ROOTS ALONG THE SHORE NEAR BOARWALK



PROPOSAL FOR TORCH LAKE YACHT CLUB

Complete summary is available

- PUP writes up document describing everything learned in 2008:

Torch Lake Yacht Club Shoreline Study

- Available at tlycc.com website

May 2009

- Wheels used for moving lifts

Summer 2009

- PUP provides education of membership in following formats:
 - Lunch and Learn with Mike McDuffie
 - Two 'walkabout the point' information sessions with Sallie Foley
 - Sallie Foley meets with Zippers to explain shoreline report
 - Family Night Activity for Junior Yacht Club—
Scavenger Hunt to Identify Trees at the Point

Summer 2009

- Board requests that Antrim County Soil Conservation District choose area to begin conservation
- North shore is chosen
- Recommendation is to try a soft shoreline intervention first

Summer 2009

- 3 demonstration projects are designed by Antrim County Soil Conservation for the North shore
- Cyman and Messiah Greenleaf invited to bid on this site
- Cyman bid is accepted
- See tlycc.com to see the three sites suggested

Summer 2009

- PUP notifies membership
- Permit to do 'soft shoreline project' is obtained
- PUP fundraisers are Erica Schulze, Terry Malone, and Sallie Foley
 - All PUP committee members contribute to the shoreline conservation
 - 22 other TLYCC members do as well, including many Junior Members

Fall 2009

- Site “C” shoreline project around the birch trees is installed
- Mike McDuffie plants red maple clump near swim area
- The Zippers plant tree near north shore
- Mulch is spread around tennis maple
- Winter begins early

December 2009

- Board agrees to plant dune grass around the point
- Board agrees to begin stabilization of south shore (near board walk) with plantings against tennis court fence
- Susan McLean offers to donate plants and do all the planting

Winter 2009

- Roy Nichols with assistance from Ted Whittlesey completes a scale drawing of the point (accurate to 3-4 feet)
- He completes project by hiking around the point in the winter making sure his coordinates are accurate
- Scaled site drawing available at TLYCC.com

Early Spring 2010

- Peg Comfort surveys the installation in March. It came through the winter well.
- April storms take out the entire installation
- Lesson learned: We cannot use 'soft solutions'. They do not hold up against the heavy storms.
- Soil Conservation Estimation at both HayoWentHa point and TLYCC point:
5 feet lost to soil erosion during storm

May 2010

- PUP writes donors and explains that the pilot project did not work (letter on website)
- PUP members Peg Comfort, Alan Hickman, and Terry Malone save and replant all plants
- COIR Bundles are held for the summer
- Of \$2200 invested, approximately \$500 in labor is lost and \$1700 is reused in the plantings and reuse of the coir bundles

May 2010

- Peg Comfort meets with the following agencies to determine ‘what went wrong’:
 - Heidi Schaeffer Antrim County Soil Conservation
 - Jennifer Gelb, Tip of the Mitt
 - Grand Traverse Conservancy
- Agreement that “fetch” is too strong for anything but rock/boulder/in water solutions

What is 'fetch'?

- A. the length of water over which a given wind has blown
- B. a game played between a human and a pet in which the human throws an object for the pet to retrieve
- C. a doppelgänger or double in Irish folklore
- D. a software FTP client for Mac OS X

Memorial Day 2010

- Junior Yacht Club plants 400 shoots of dune grass
- Dune grass grows 18” high and sends down roots 4 feet
- Dune grass can be walked on
- Dune grass holds soil
- All lifts moved with wheels for second year in a row
- Continued decision to rest the north shore

Coir Bundles

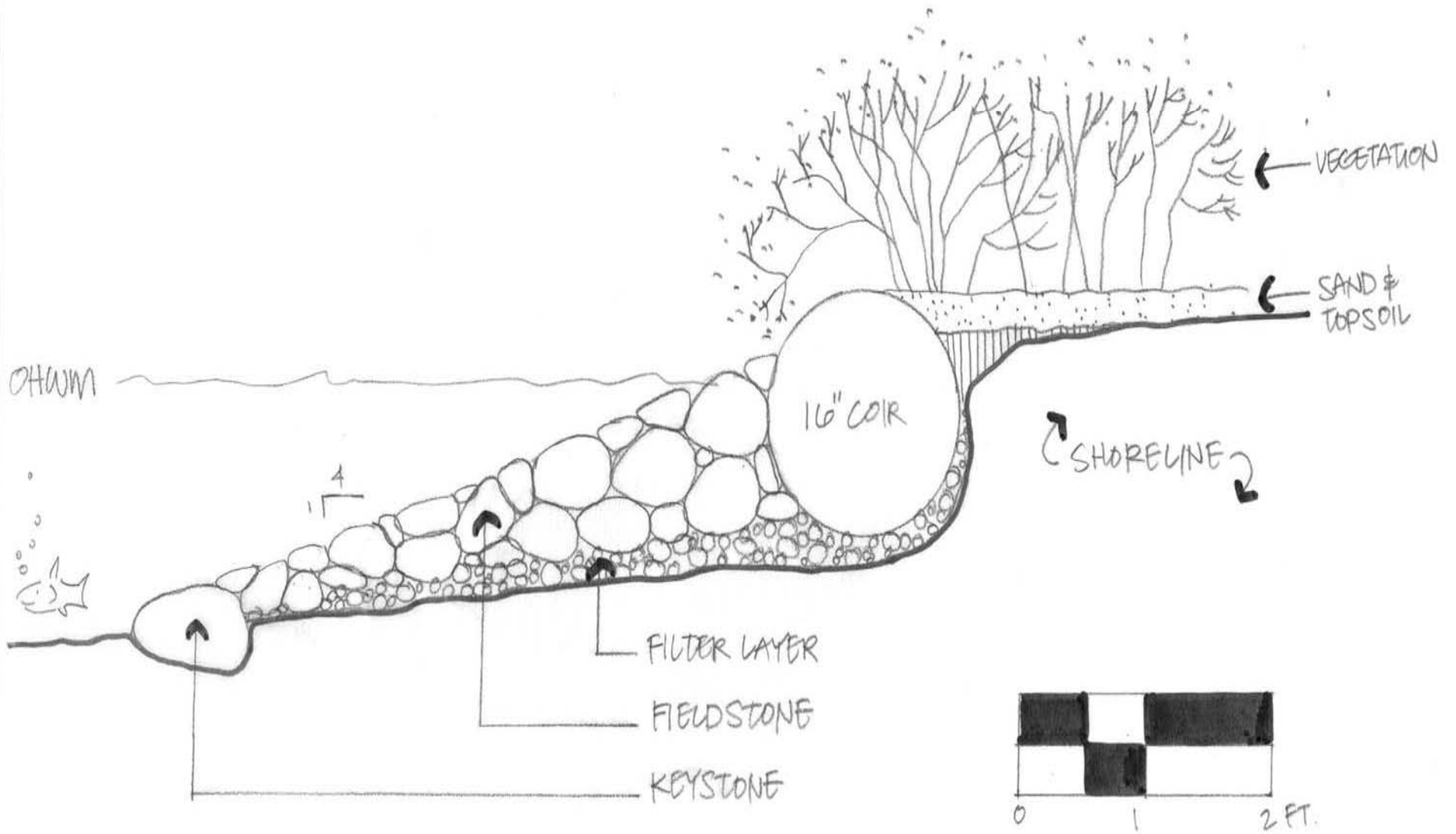
- Coir Bundles hauled into position near birch trees on Memorial Day weekend
- Over the summer, the coir bundles anchored with large augers
- Thank you to Steve Foley, Bill Christensen, Mike McCarthy, Kevin Malone, Spencer Powell



Early summer 2010

- Peg Comfort and Terry Malone of PUP meet with four firms who do site design and engineer 'rock armour' solutions
- Tip of the Mitt—Jennifer Gelb
- Huron Pines—Brad Jensen
- URS—Troy Naperala
- Site Planning—Travor Wood

TOTM



Higgins Lake—Huron Pines



URS

June 17, 2010

RE: Shoreline Erosion Control and Protection at Torch Lake Yacht Club

Thank you for inviting me to visit the Torch Lake Yacht Club's (TLYC) property to observe the shoreline erosion that is taking place and giving URS the opportunity to provide you with an engineering solution. We recommend a combination of vegetative, riprap and geo products as a solution. These materials can be used to develop a design that will minimize bank erosion and stabilize the shoreline while maintaining a natural aesthetic and preserving the desired view sheds. Our estimate to develop a site specific design is \$5,000. For this fee we will:

1. Meet with TLYC representatives to discuss design elements. Specifically, we will discuss several types of shoreline stabilization. The outcome of this meeting will be to select how each section of the shoreline will look. We will develop designs that incorporate the aesthetic values desired by TLYC while also being able to withstand the erosive forces of waves and shoreline current....

Site Planning

- Estimated \$1200 for an initial evaluation and a design suitable for a permit application. He said installation costs between \$60-100 per foot. He measured 190 feet along the north shore, which could potentially be \$19,000.
- Keystone boulders about 5 feet out from shore are necessary, approx 30 degree slope, armoring shoreline
- Permit will cost \$50 and be good for 2 years.
- After the installation is complete, it will not require much maintenance...some repositioning of rocks moved by ice. Can be done by our own members.

Major themes from all

- Long fetch is going to make this a more expensive project
 - We are looking at 190-200 feet of north shore
 - 30 degree angle on the installation
 - ‘Toe in’ (bury) those first large boulders as keystones and then used evenly sized rocks with a very gradual slope to the bank.
 - Put that special liner under everything
 - Additional coir bundles—if used-- will need the kind of anchoring that we are currently using.

Major themes, cont

- PUP suggestions:
 - Use firm with good track record on LARGE bodies of water
 - Use firm who has been doing this a long time
 - Use firm with reasonable cost for design work
 - Firm must be good at follow-through, good at long distance communication, willing to show us other projects with similar 'fetch' or problems

What has happened in Summer 2010

- Coir bundles anchored in place
- Major effort on part of Junior Yacht Club and Junior Members resulted in:
 - Weeding invasive species on point so native grasses can grow
 - Shoveled approx 100 wheelbarrows of pebbles to backfill coir bundles
 - Dove for 4-6 rowboats full of small to medium boulders retrieved from under raft and near Safety First Dock and positioned in front of coir bundles

What is next?

- Send out request for any historic aerial views that might help us see the 'long view'
- Continue to encourage TLYCC members to read material at the websites/ask questions, etc
- JUST NORTH SHORE would be a big project requiring fundraising. Approximately 200 feet at \$100/foot = \$20,000
- Rest of TLYCC property will benefit from further help too

Summary

- The POINT really has 3 parts:
 - a. BEACH- shifts every year
 - Unstable- gravel & sand
 - Moved by wind, waves and ice
 - b. YARD- size is decreasing
 - Unstable- sandy soil with small gravel
 - Plant roots hold soil and build “solid ground”
 - Broken down by human activities: increasing numbers of people walking all over the yard, setting up tents for regattas, sailing school, etc.

c. BANK- north side is eroding

Unstable- eroded by wind, waves & ice

Slope 1-3'

Erosion increased by human activities over the past 15 years:

- * sailing school- hauling boats in & out of the water

- * hauling Bill's boat hoists and other hoists in & out of the water

- * installing swingset encouraged kids to use the beach on the north shore

PUP COMMITTEE

- 1. PUP has members from different age groups.
- 2. PUP has sought advice from experts: engineers, landscape architects, soil erosion specialists, conservation groups.

PUP has tried to use best practices to decrease erosion on the north shore.

- a. Reduce human activities- moved sailing school
- b. Increase plants:
 - * planted dune grass which has long roots and will not detract from the view of the lake.
 - * removed invasive spotted knapweed, which poisons the soil so native plants can not grow.
- c. Installed demonstration project to protect 2 birch trees.

Demo project failed because:

- * it was too small- only 20' instead of 50'
- * it needed more rocks to extend the slope so ice and waves will roll up the gentle slope rather than eroding the bank

CONCLUSION

- The problems are not solved, and we need to do more
 - * * We'd like your ideas.
 - * We need your support to be good stewards of the Point.
- This is what we did and what we have learned and the resulting concerns that remain
- Club members need to consider what the next moves should be
- If you want to get involved to help, have comments or suggestions, let Commodore Art Brereton know of your concern

What will happen if we do nothing?

- No one can predict the storms/future
- Possible that we won't have additional erosion
- Possible that additional erosion will continue, perhaps more slowly
- If nothing is done and erosion continues, eventually other options besides rock armoring may be required. E.g. sea walls



