

Elk River Chain of Lakes Fish Shelters Project

Watershed Protection Plan Implementation Team



Freshwater Summit

October 26, 2012

Steve Young

Fred Sittel

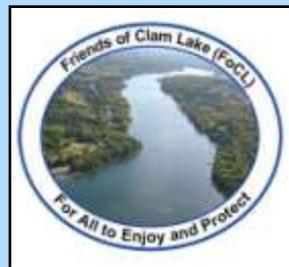
Intermediate Lake Association

Friends of Clam Lake, and

Three Lakes Association

Fish Shelters Project

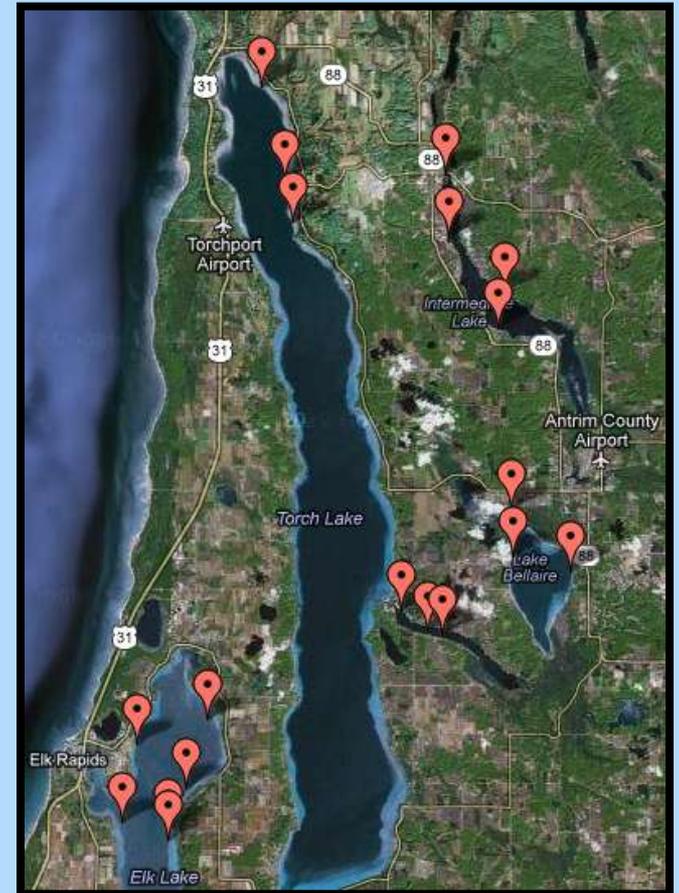
Collaborating Organizations



Fish Shelters Project

Scope and Purpose

- ✓ 82 Permitted locations on five area lakes
- ✓ Three individual structures per location
- ✓ Located in 15 to 20 feet of water
- ✓ Improve sport fishing & provide habitat
- ✓ Compensate for lack of woody debris



**Locations installed
Summer 2012**

Fish Shelters Project

MDEQ Permit Conditions

- ✓ Five year permit issued June 2012**
- ✓ MDNR Fisheries Division biologist support**
- ✓ Riparian owner permission**
- ✓ Minimum 10 foot clearance for boat navigation**
- ✓ Use durable natural materials**

Fish Shelters Project

Structure types

- ✓ **Hardwood slab tree**



- ✓ **Hardwood crate filled with natural brush**



- ✓ **Hardwood stump with root ball**



Fish Shelters Project

Follow Up Data Collection

- ✓ Literature search – B. Pelletier 1977 CMU Masters Thesis
- ✓ Strategy meeting with Heather Hettinger DNR biologist
- ✓ Divers in the water – standardized observation methods



Fish Shelters Project

Initial Observations



- ✓ Small fish on stump & crate
- ✓ Larger fish on hardwood tree
- ✓ Smallmouth bass & rock bass
- ✓ Rapid colonization



Fish Shelters Project

Sample Data Sheet

Site #

T15

Date

8/18/12

Time

9:45

Water Temp

69

Air Temp

68

Weather:

Sunny, light breeze

**Site Description
& Comments:**

**Crayfish on slab tree, around stump, and inside crate
Crate is supporting larger populations of fish**

Slabs have rotated parallel to each other

Crate and slab tree are ~15 ft from each other

Fish Size Range:	0-6"	6-12"	12-18"	18+"
Crate	20+	30+	3	
Tree			2	2
Stump	5	1		

Fish Shelters Project

Financial Considerations

\$75 to \$100 per location (three structures)

Typical Contributions

Volunteer organizers
Volunteer labor
Use of vehicles & trailers
Use of cutting & fastening tools
Rocks for ballast
Coffee sacks
Stumps & brush
Slab wood boards
Cash

Typical Purchases

Dimensioned lumber
Wood dowels
Natural rope
Nails
Drill bits
Concrete
Barge rental

Fish Shelters Project

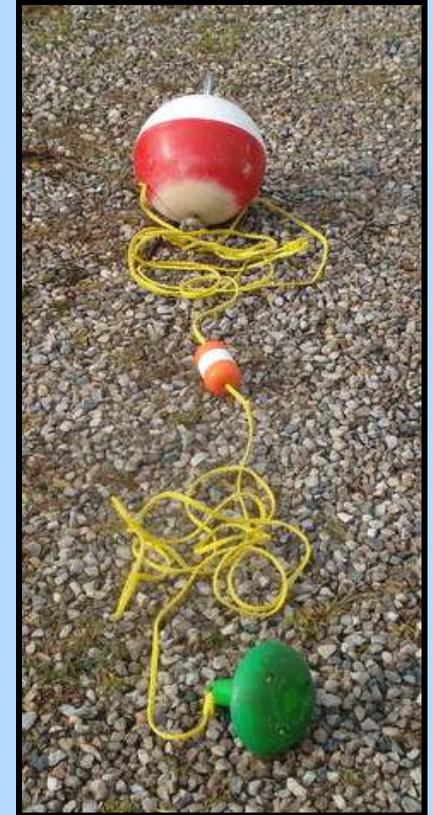
Helpful Hints

- ✓ Request a pre-application meeting with DEQ/DNR
- ✓ Use “green” lumber and store in water
- ✓ Coffee bean shipping bags hold ballast rock
- ✓ Depth indicating location marker buoy
- ✓ Construction jig to help assemble crate sides
- ✓ Space out slab wood on tree using dowels

Fish Shelters Project

Helpful Hints

- ✓ Request a pre-application meeting with DEQ/DNR
- ✓ Use “green” lumber and store in water
- ✓ Coffee bean shipping bags hold ballast rock
- ✓ **Depth indicating location marker buoy**
- ✓ Construction jig to help assemble crate sides
- ✓ Space out slab wood on tree using dowels



Fish Shelters Project

Helpful Hints

- ✓ Request a pre-application meeting with DEQ/DNR
- ✓ Use “green” lumber and store in water
- ✓ Coffee bean shipping bags hold ballast rock
- ✓ Depth indicating location marker buoy
- ✓ **Construction jig to help assemble crate sides**
- ✓ Space out slab wood on tree using dowels



Fish Shelters Project

Helpful Hints

- ✓ Request a pre-application meeting with DEQ/DNR
- ✓ Use “green” lumber and store in water
- ✓ Coffee bean shipping bags hold ballast rock
- ✓ Depth indicating location marker buoy
- ✓ Construction jig to help assemble crate sides
- ✓ Space out slab wood on tree using dowels



Fish Shelters Project

Acknowledgements

- ✓ **Dan Anderson & Joe Kessner for barge deployment**
- ✓ **Starbucks Traverse City for coffee bags**
- ✓ **Lee Folsom, Jim Goetz and Vermeersch Farms for stumps and rock**
- ✓ **Phelps & Red Wing saw mills for slab wood**
- ✓ **Honey Hollow Wood Products for slab wood**
- ✓ **Many volunteer organizers and construction workers**

Fish Shelters Project

Conclusions

- ✓ **Fish shelters are overwhelmingly popular**
- ✓ **Big fish love slab tree**
- ✓ **Smaller fish love the brush filled crate**
- ✓ **Shelters compensate for lack of woody habitat in lakes**

For additional information visit any sponsoring organizations web site

