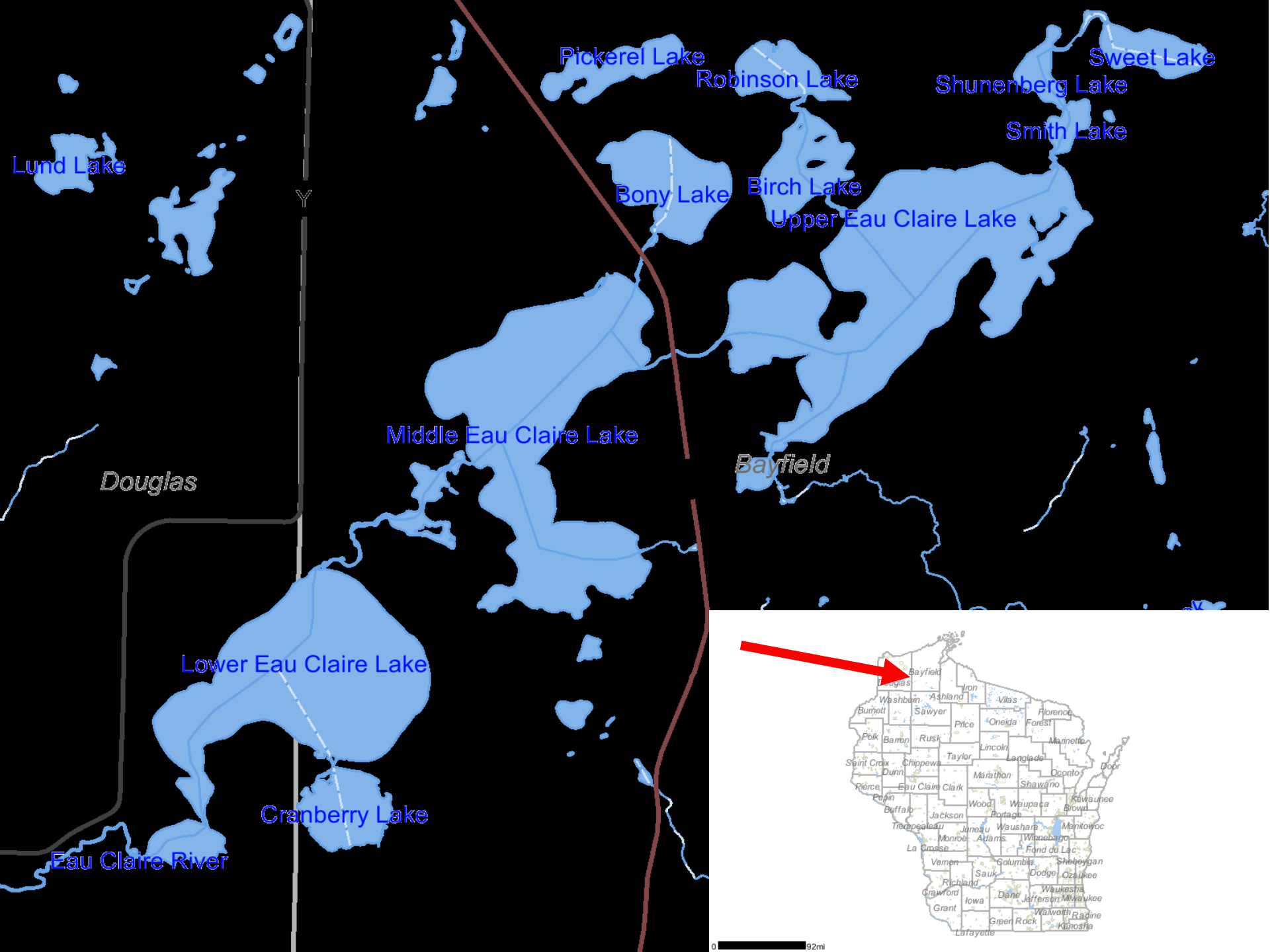




Eau Claire Lakes Fish Sticks Project

Wisconsin Lakes Convention
March 31st, 2010

Scott Toshner
Senior Fisheries Biologist
Inland Waters of Bayfield and Douglas Counties



Indispensible Partners

- Riparian Landowners
- Eau Claire Conservation Club
- Eau Claire Lake Property Owners Assoc.
- Rick Gruel and his crew
- Currilo Logging
- Town of Barnes
- Bayfield County Land and Water Conservation Dept.



Eau Claire
Chain of Lakes

**'Fish Sticks'
Project**

A Cooperative & Pro-active
Habitat Improvement Program
for
Lakeshores and Riparian
Owners

SCOTT TOSHNER
WDNR Fisheries Biologist
Bayfield & Douglas Counties

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Submerged Wood, i.e. “Fish Sticks”

- Not Tree Drops!
- Why fish sticks?
- Permitting/Manual Code Approval Processes
- Logistics
- Accomplishments and what we’ve learned along the way

Shoreline Development and the Effect on Submerged Wood

- Study of northern WI/ Upper Peninsula MI, found undeveloped lakes averaged **894 logs/mi** of Shoreline (Christensen et al. 1996)
- Study of 16 northern WI lakes
 - Undeveloped shoreline on developed lakes averaged **610 logs/mi** of shoreline
 - Developed shoreline on same set of lakes averaged **92 logs/mi** of shoreline (Jennings et al. 1999)

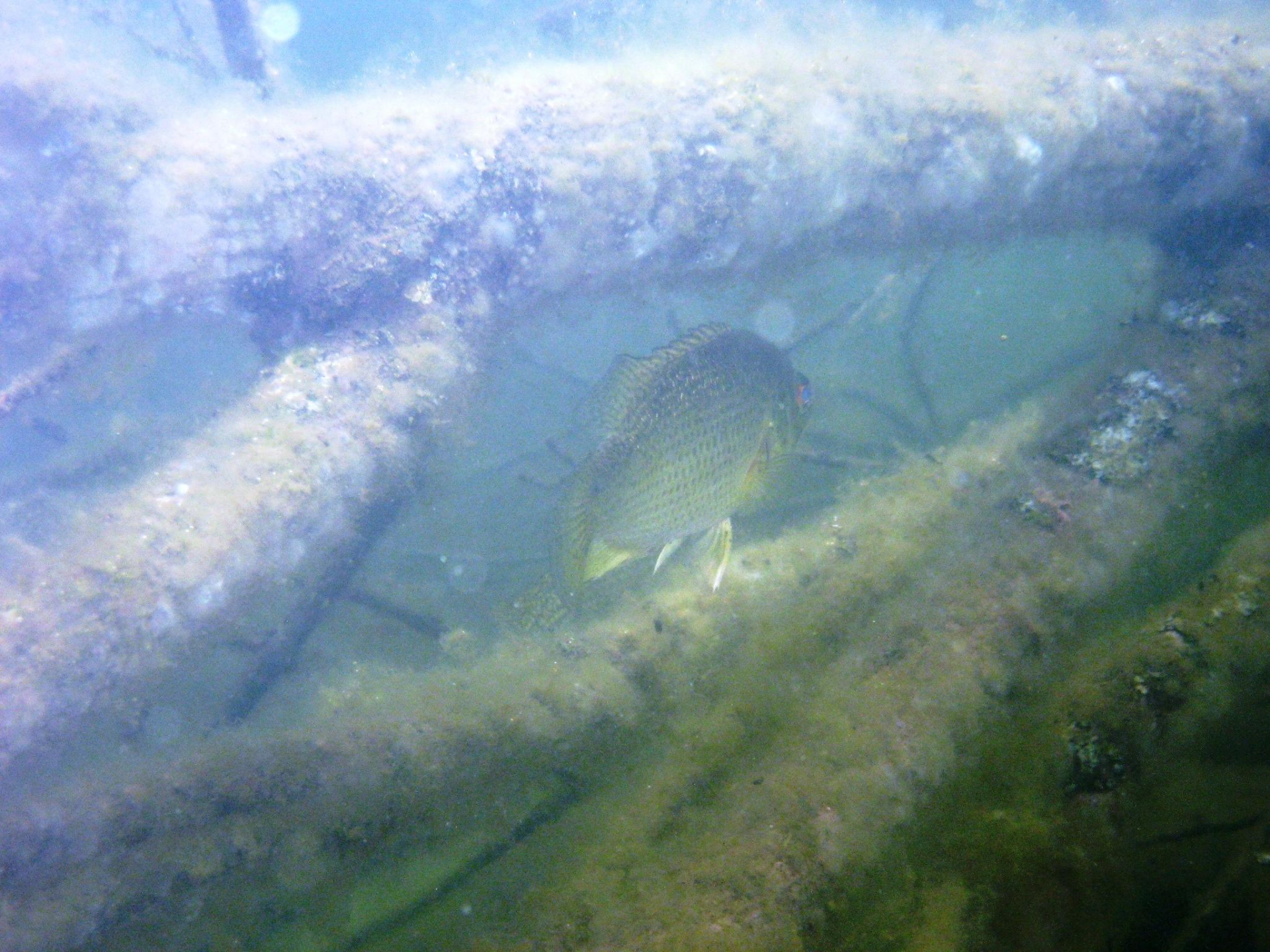
- Study of 16 lakes in western Washington State and southern British Columbia (Francis 2004)
 - Higher the number of houses on shoreline the lower the density of forest and submerged wood



What can be done to restore submerged wood habitat?











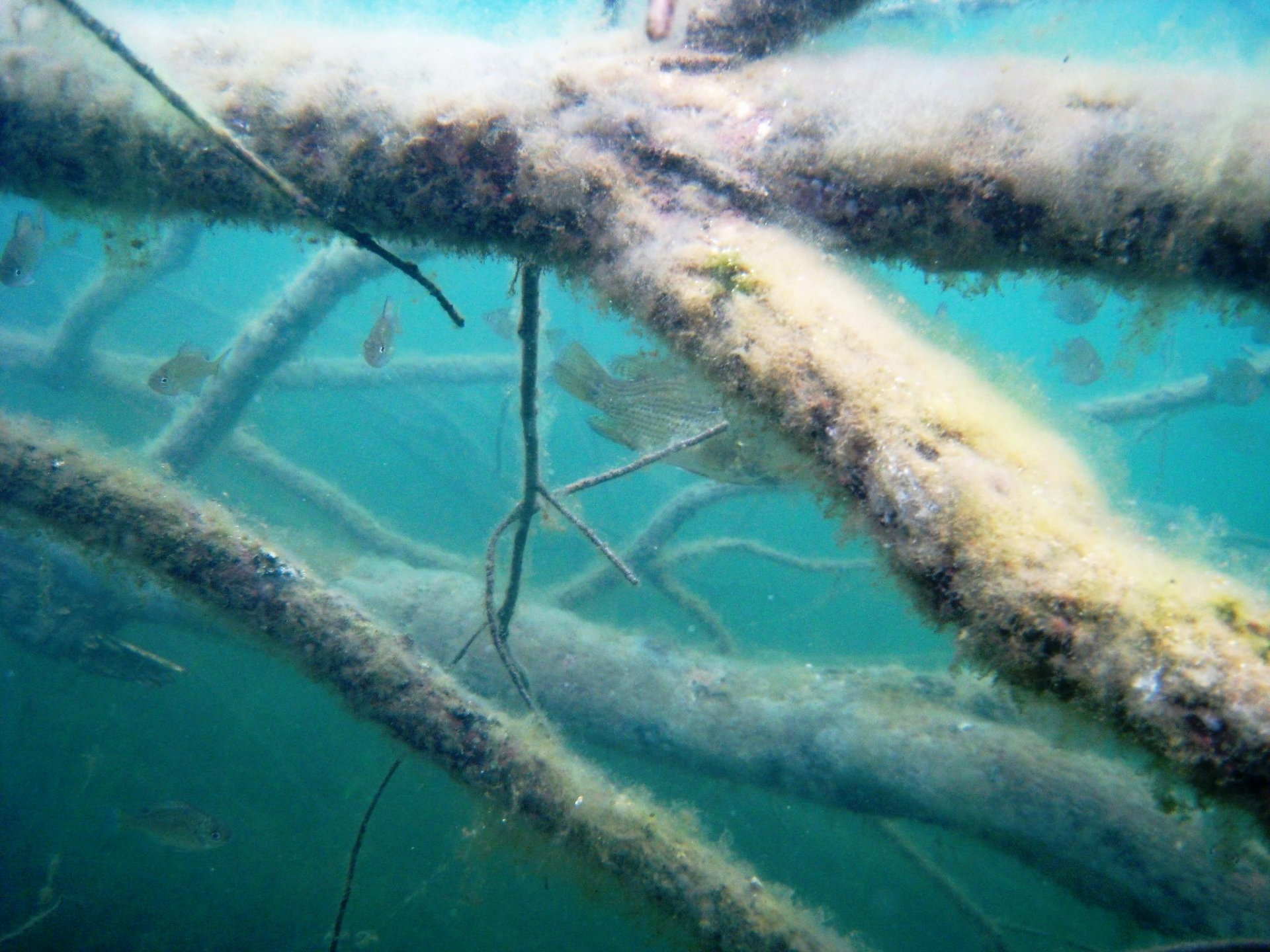
Permitting/Manual Code Approval

- Manual Code Approval
 - Public Access
 - Enough to make it worth it
 - Submitted to Water Reg staff
- Individual Permit
 - No public access
 - Done with LWCD oversight
 - Permit fees waived if using public \$
 - We (DNR) reviewed permits and specified conditions
- General Permit
 - Not an ASNRI water
 - Have to follow guidelines, i.e. tree diameter size, 1 tree every 50 ft, etc.
 - We (DNR) have assisted landowners with paperwork













Installation Logistics

- Equipment
- Configurations
- Anchoring
- Volunteer Involvement
- Contracting
- Ice preparation (ice roads)



Equipment



Water

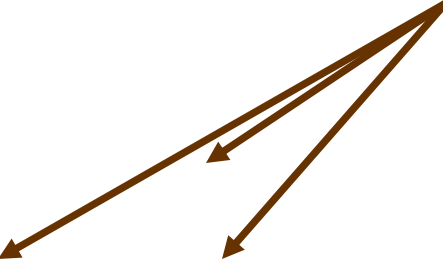
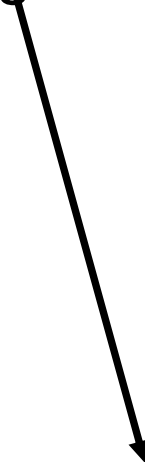
Waters Edge

Rope Ties

Anchors

Land

Configurations



Anchoring





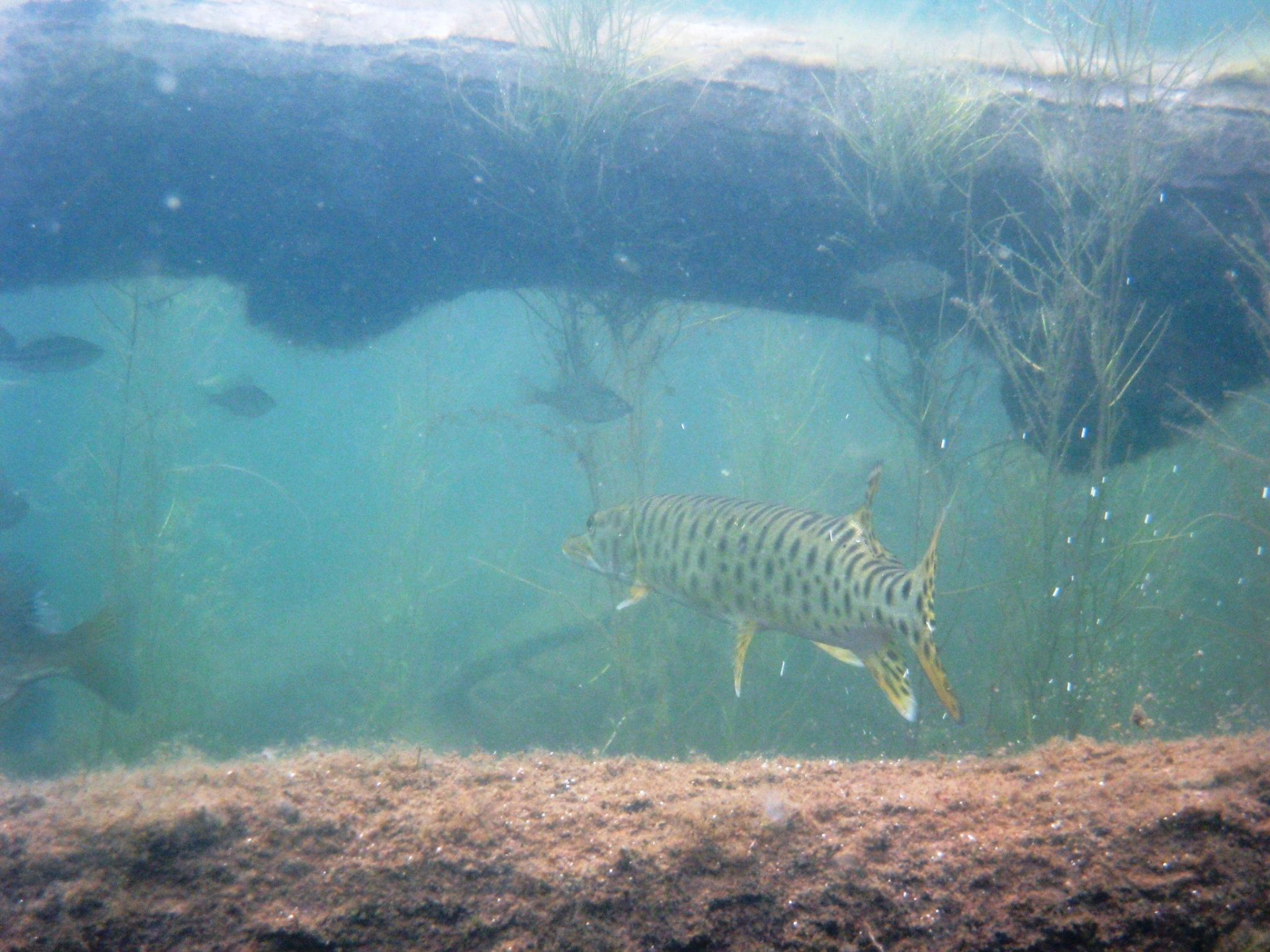
Anchoring



Logistics Step by Step

- **MCA/Permits** (DNR/landowner)
- **Plowing roads** (contractors)
- **Cutting or delivering trees** (volunteers, contractors, DNR, LWCD)
- **Stage trees on ice** (volunteers, contractors, DNR, LWCD)
- **Build complexes** (contractors, DNR, LWCD)
- **Anchor Complexes** (volunteers, contractors, DNR, LWCD)
- **Check at ice out** (DNR, landowner)









Accomplishments

- Bony Lake
 - 395 trees in 2008 and 2009
 - Prior to project 33 logs/mile, as of 2009 there are 146 logs/mi
- Upper Eau Claire Lake
 - 238 trees in 2009 and 2010
- Middle Eau Claire Lake
 - 139 trees in 2009 and 2010
- Lower Eau Claire Lake
 - 20 trees in 2010
- **Total of 792 Trees in 3 years**
- **Very approximate cost of \$25/tree. Includes \$ from conservation club, POA and grants.**

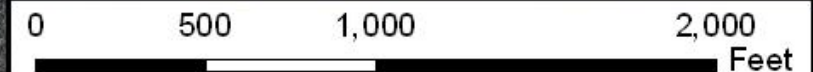


Bony Lake

Bony Lake Woody Habitat

1 Piece of Wood = Minimum of 4" Diameter and 5' Length

-  **Original Wood (89 Pieces)**
-  **LeBreck (90 Pieces)**
-  **Bren & Vergin (158 Pieces)**
-  **Krook, Johnson, & Cornell (121 Pieces)**
-  **Mans (7 Pieces)**
-  **Northern Waters (6 Pieces)**
-  **Pletsch (13 Pieces)**
-  **Parcels**



Bony Lake - 2008



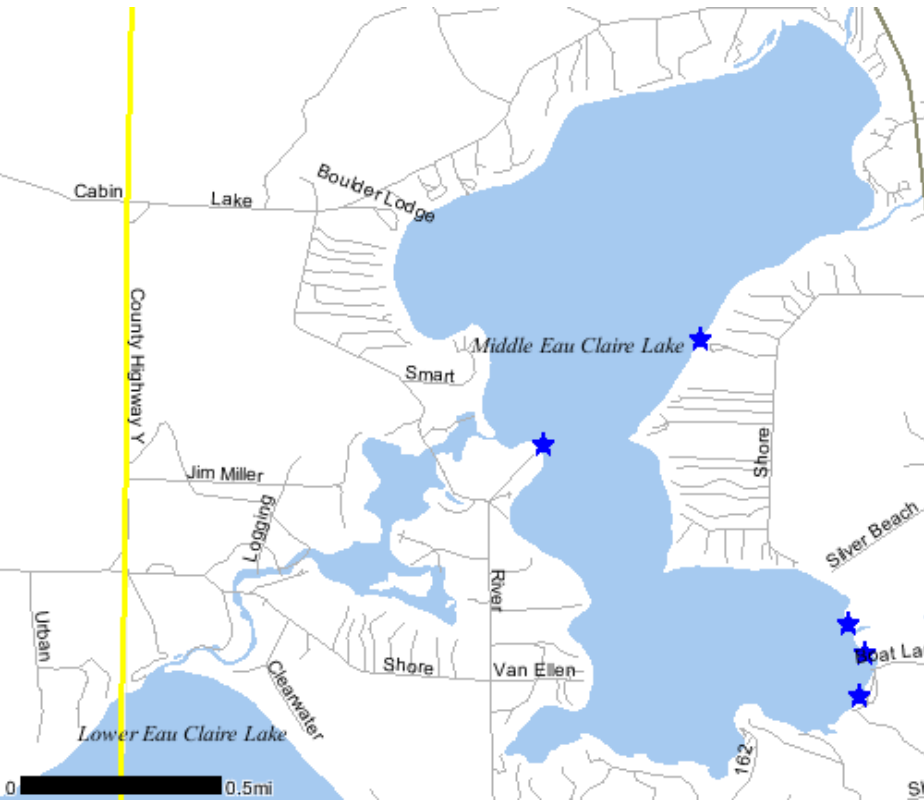
March 2010





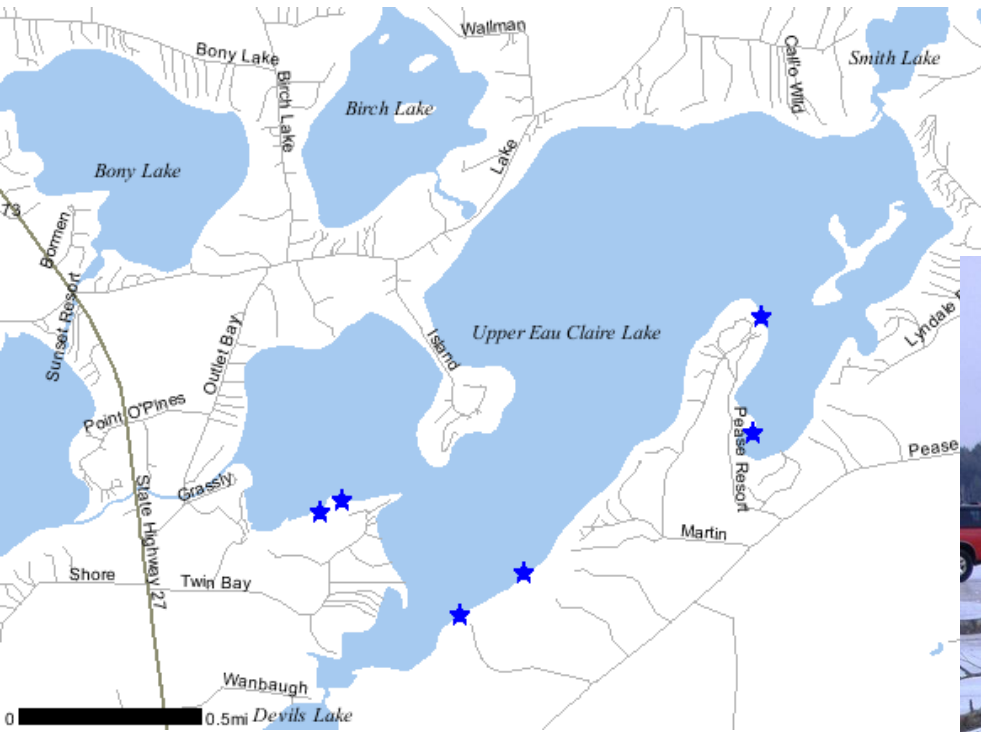


Middle Eau Claire Lake





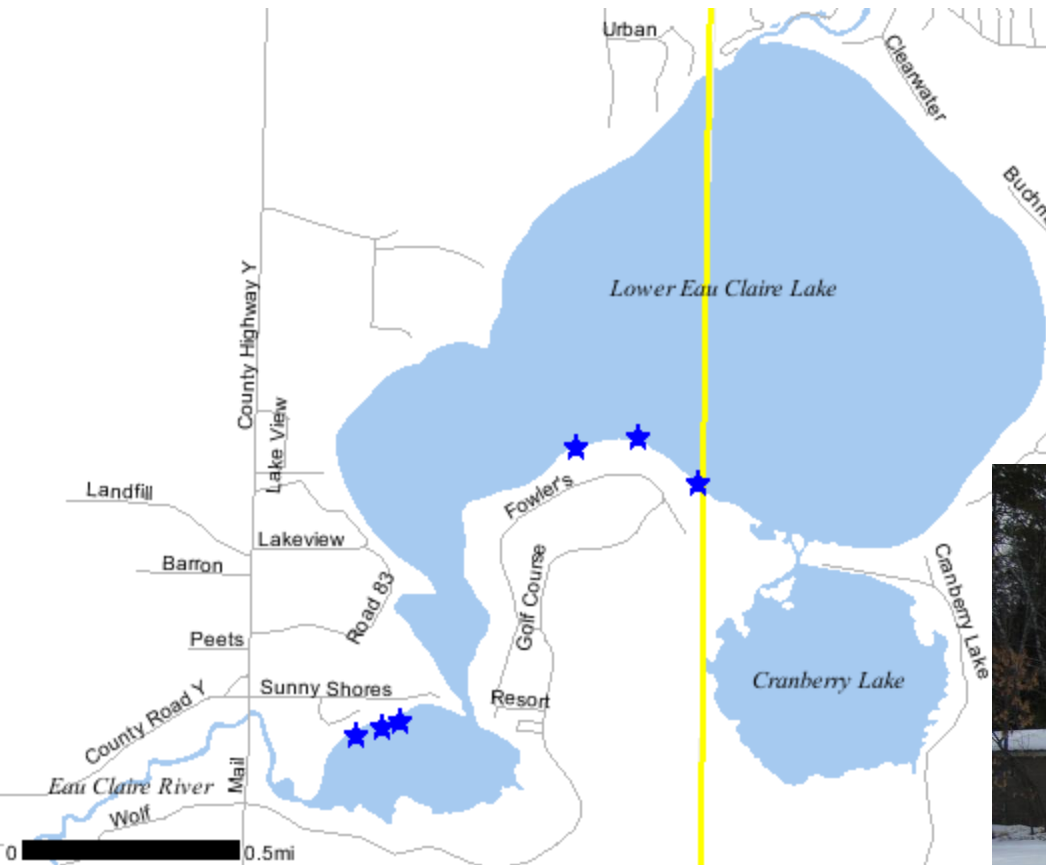
Upper Eau Claire Lake







Lower Eau Claire Lake



Fish sticks attract all
kinds of Wildlife!

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