Benefits of Trees in the Water Along Shorelines

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1. QUIZ?
2. Why is wood, in the form of trees in the near shore area, important to fish and wildlife?
3. Examples and photos
4. Example of natural recruitment of trees to the water
5. Briefly touch on the importance of submerged and emergent vegetation aquatic vegetation
6. What not to do and permit requirements.
7. Photos of the Sand Lake Project
8. A few details of the Sand Lake Project (if time permits)

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The Quiz

- What did lakes look like before development?
- Do you believe that there were lots of fish before development?
- Was there an abundance of wildlife?
- What is structure?
- Why is structure important?

Why Are Large Pieces of Wood in the Water Important?

- Primary production (periphyton)
- Invertebrate production (fish food)
- Cover for fish (juvenile and adult life stages)
- Spawning habitat
- Protects shoreline from erosion
- Promotes growth of submergent aquatic vegetation

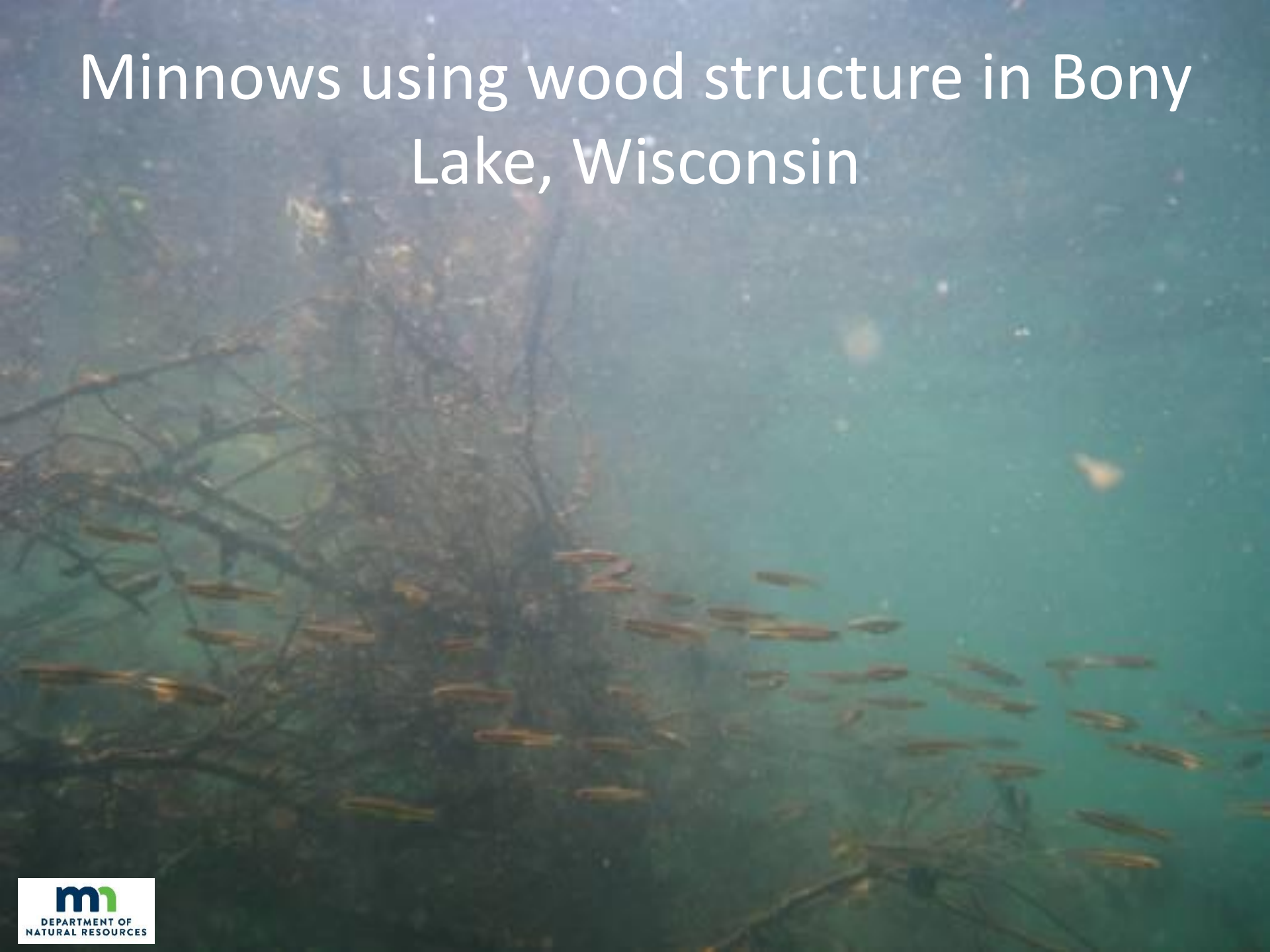
Photo courtesy of Vermont Dept. of Environmental Conservation

Fish species found in one submerged white pine in Katherine Lake, Wisconsin

- Black crappie
- Smallmouth bass
- Largemouth bass
- Walleye
- Muskellunge
- Rock bass
- Bluegill
- Pumpkinseed
- Mottle sculpin
- Logperch
- Johnny darter
- Yellow perch
- White sucker
- Cyprinids (minnow species)

M. Bozek

Minnows using wood structure in Bony Lake, Wisconsin



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Bluegill
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Linder photography

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Largemouth Bass

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Northern Pike

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Smallmouth Bass

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WIDNR

Walleye

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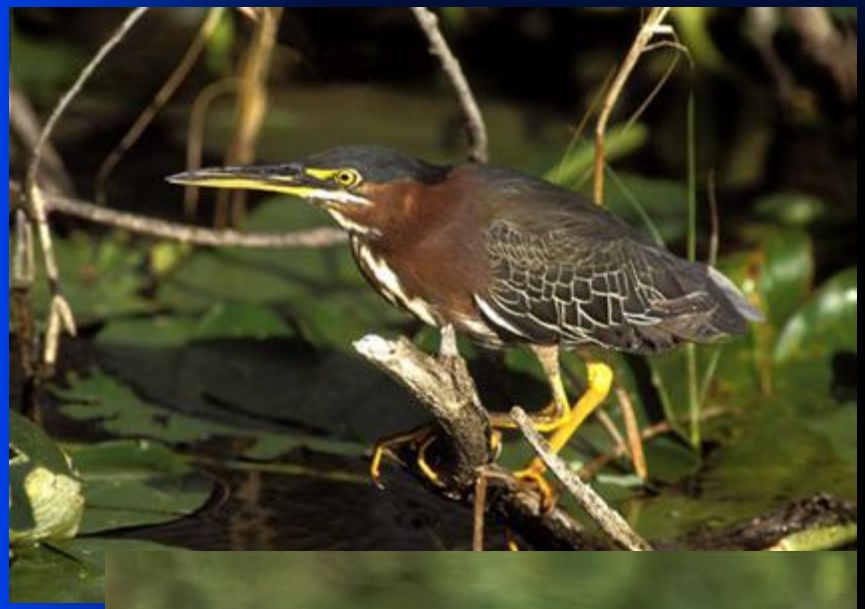
Important For Many Species of Wildlife



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Some Examples of Wildlife That Use Trees in the Water Along the Shoreline

1. Numerous species of aquatic and terrestrial insects
2. Mink
3. Otter
4. Muskrats
5. Painted Turtles
6. Snapping Turtles
7. Frogs
8. Green Herons
9. Egrets
10. Great Blue Herons
11. Cedar Waxwings
12. Eastern Kingbirds
13. Yellow Rumped Warblers
14. Wood Ducks and Mallards
15. Several other species. Any additional personal observations?

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Stonefly and Mayfly Nymphs

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Caddis Fly Cases

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Another Species of Caddis Fly Nymph

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Caddis, May, and Stonefly Adults

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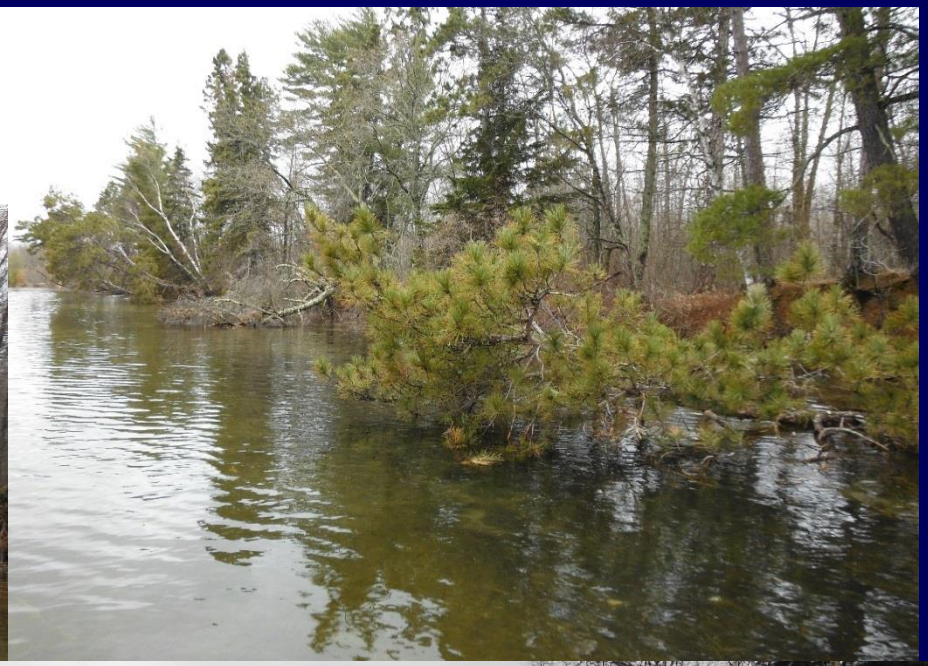
Lake Thirteen, Cass County
Natural recruitment of trees into the lake.



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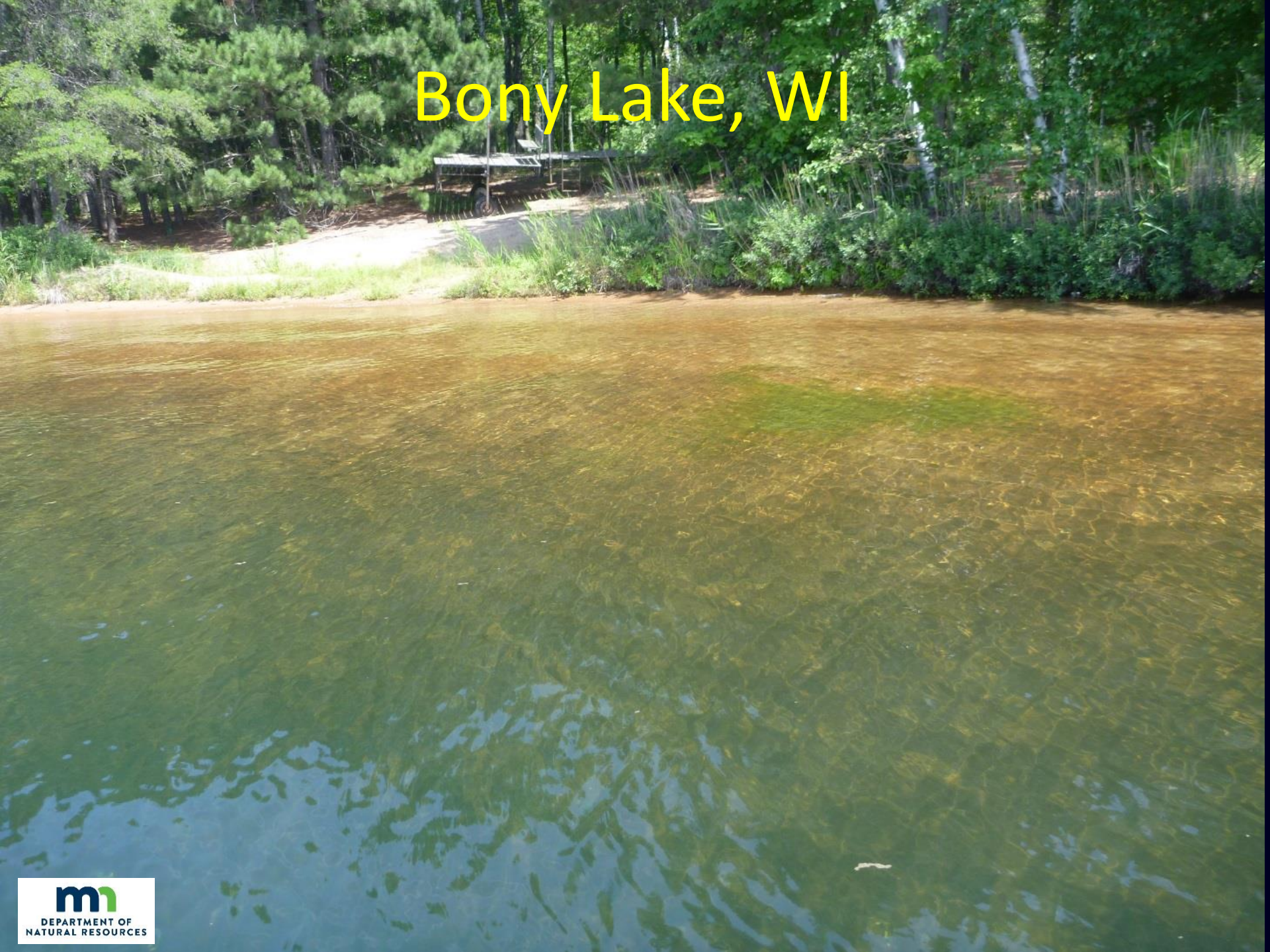

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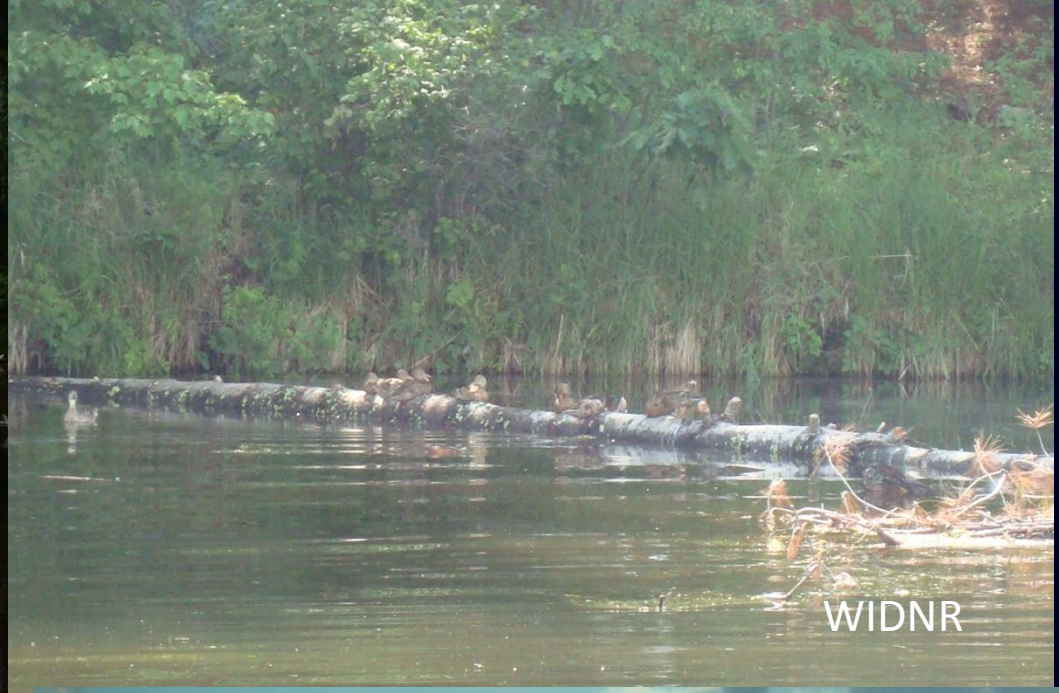

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Bony Lake, WI
Photo MNDNR
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Typical Sand Lake Shoreline
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Sand Lake Photos

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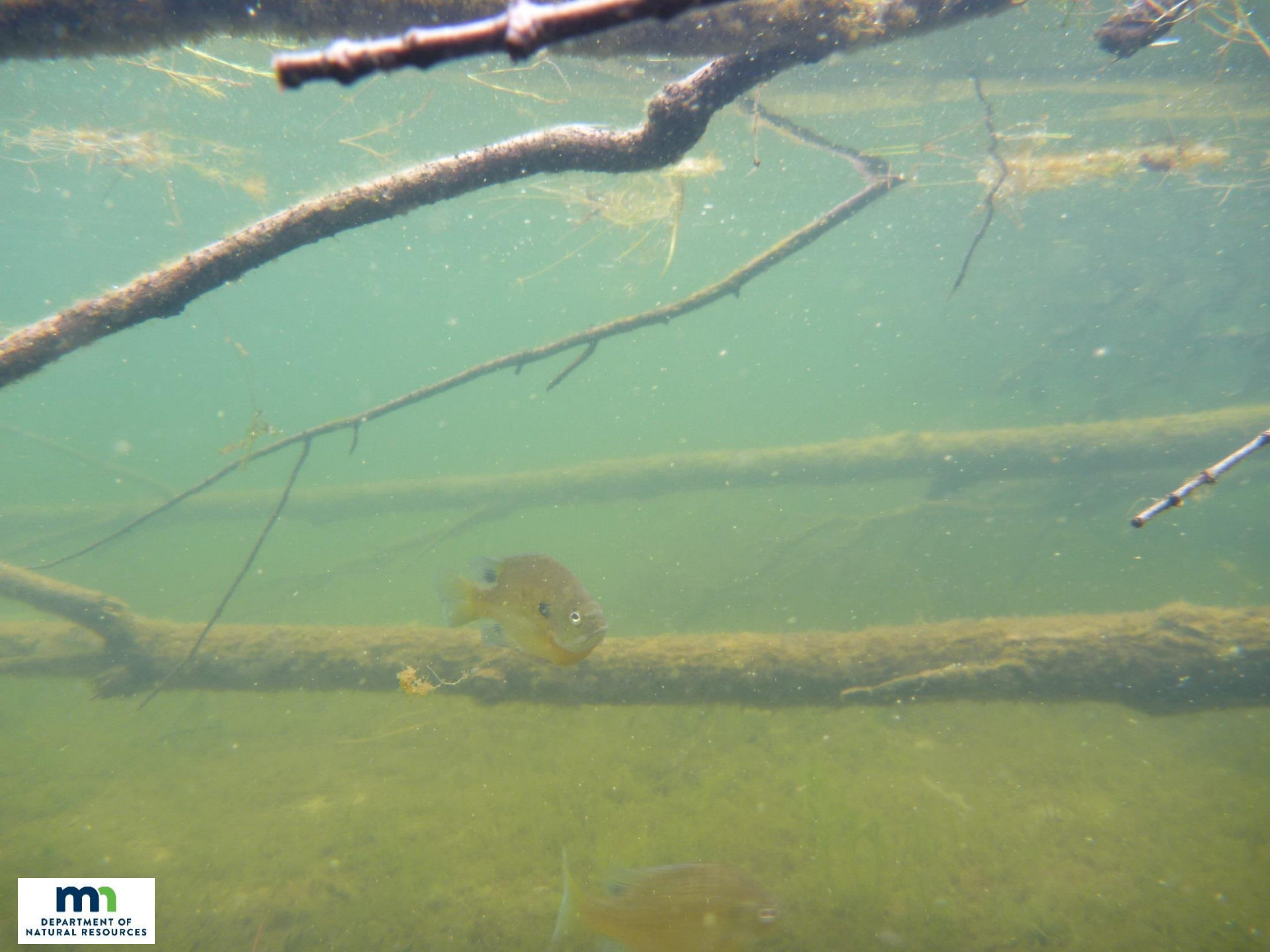
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Aquatic Vegetation

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Linder photography


Linder photography


Linder photography

What Can We Do?

Better Shoreline Stewardship:

Maintain or restore shoreline vegetation

Maintain native beds of aquatic plants

Leave or add the trees into the lake

From: Steve Carpenter's presentation to the Wisconsin Lakes Convention, Green Bay, 16 April 2004

Photo: Greg Sass

Sand Lake Project

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What the project was not:

- Not artificial fish cribs
- Not a Christmas tree project
- No cutting or felling of trees along shore or in riparian zone (unless beaver damaged or a hazard)
- No steel rebar
- No permanent cables

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COMMUNICATION, PARTICIPATION, and PATIENCE

- Encouraged participation in all lake survey activities
- Open dialogue. Main questions focused on improvement of the fishery. Discussion started in 2006
- Shared survey results promptly
- Asked open ended questions about fish, fish habitat, and angling: Got folks thinking
- Encouraged observation
- Discussed ideas
- Researched and shared information
- Tour of a completed project in northern Wisconsin

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2011

- Lake Association backed the project and took the lead
- DNR Fisheries provided technical assistance.
- DNR Fisheries applied for and secured a DOW permit for the project
- Funding for the project through DNR Shoreland Habitat Program.

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Commitment

- Lake Association registered as a State Vendor
- Entered into a STATE OF MINNESOTA GRANT AGREEMENT
- Obtained permission and LAND OWNER AGREEMENTS for sites where complexes were to be constructed

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Project Completion

- February 2012 (90) trees distributed at 6 sites along shoreline.
- February 2014 (75) trees. Four new complexes on southern shoreline. About 20 trees were added to complexes placed in 2012.

Project Costs

- 2012 - $5,250 plus in-kind contributions
- 2014 - $11,000 plus in-kind contributions

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The Big Question

How much Complex Wood Habitat (CWH) needs to be restored before we see measurable improvements of fish abundance, recruitment, and growth?

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Contacts

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- Larry Refsland - Sand Lake Association of Woodrow Township. 218-234-3000

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QUESTIONS?

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