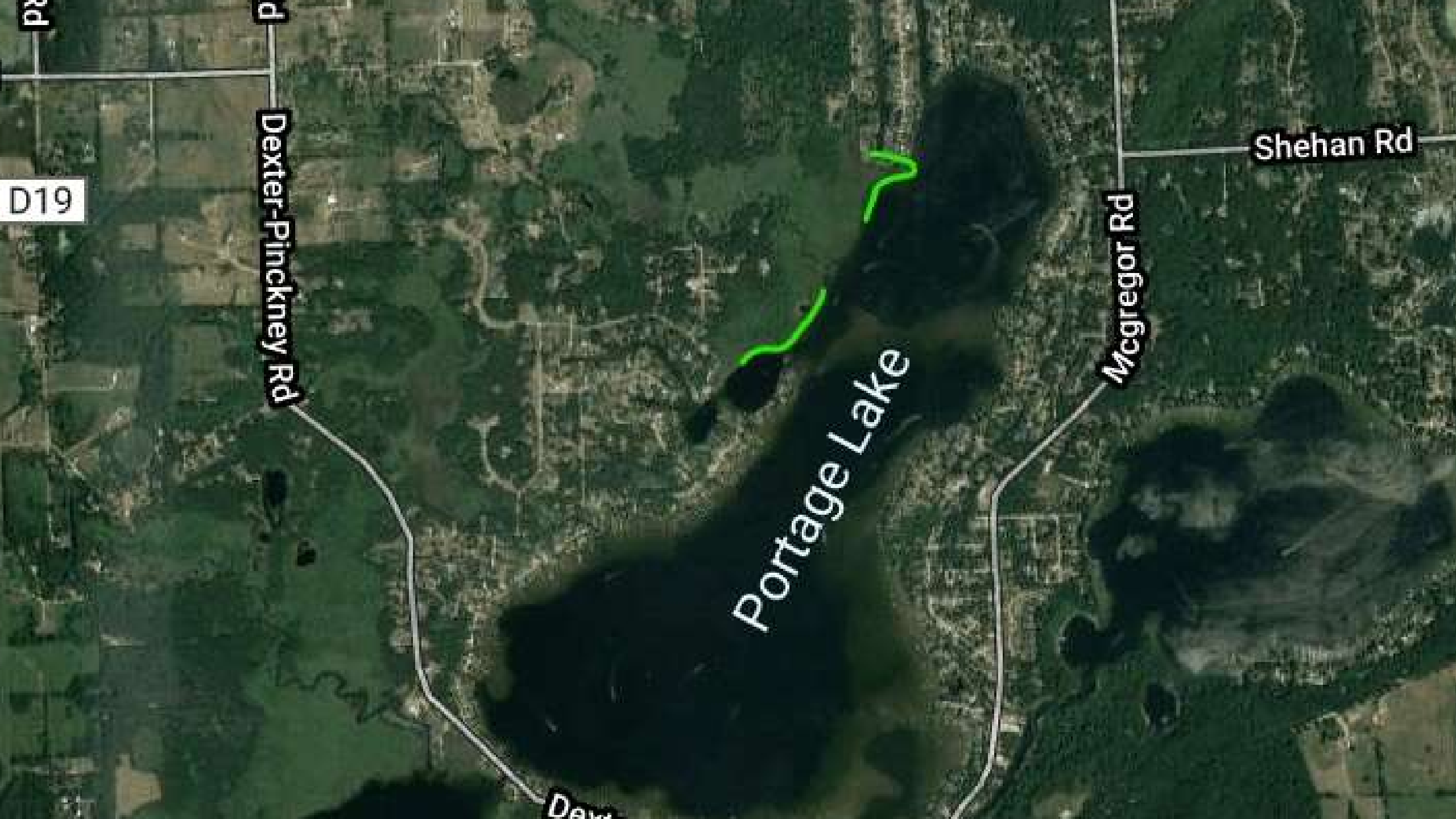


The Portage Lake Experience

Craig Kivi
Natural Shorelines Forever
www.naturalshorelines.com

WHAT IS IT?



Dexter-Pinckney Rd

Mcgregor Rd

Shehan Rd

Portage Lake

D19

Dawson Rd

2,700' of natural shoreline

11 acres of wetlands

GOALS:

- 1. Slow Erosion**
- 2. Greatly enhance habitat**

GOAL 1

Slow Erosion



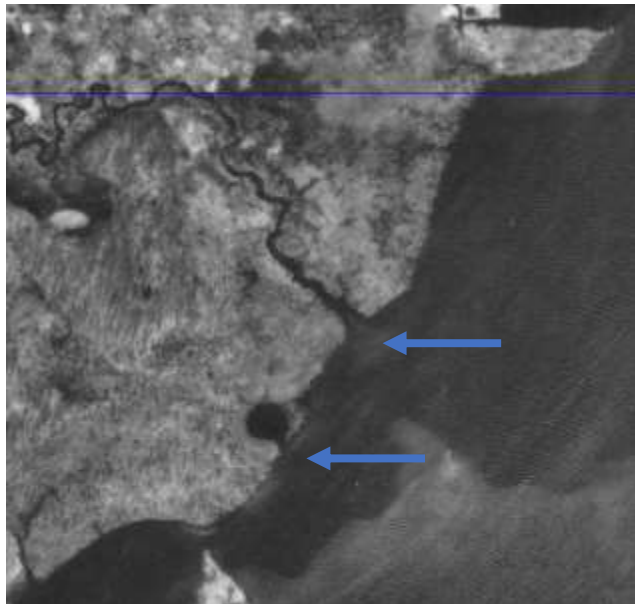
Showing a
chunk eroded
from
shoreline



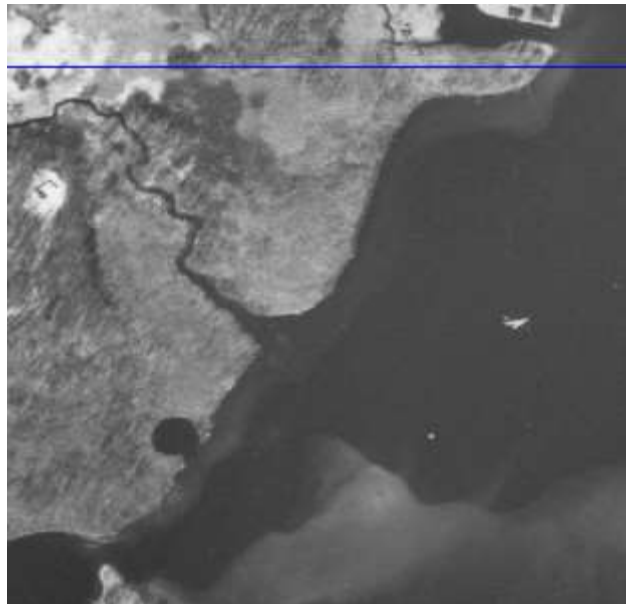
Showing a much larger section
dislodged from shoreline
following year



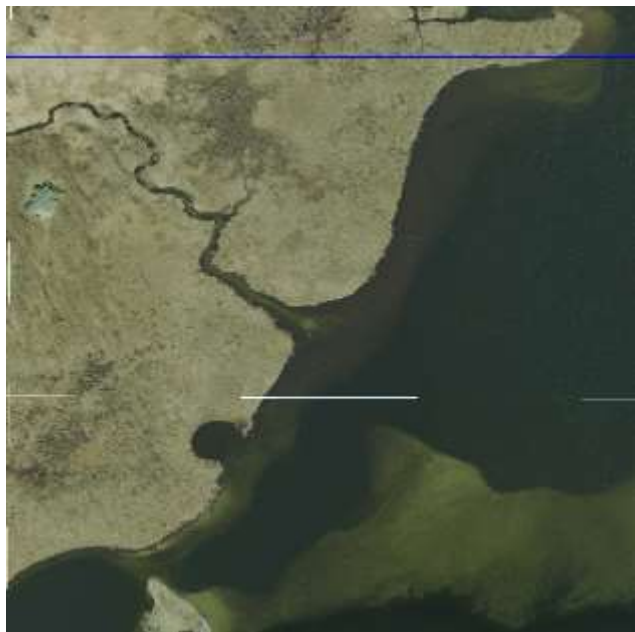
1985



2000, 15 YEARS LATER



2010, 10 YEARS LATER



2015, 5 YEARS LATER





OVER 50,000 LBS. OF NATURAL MATERIAL

- WHOLE TREES
- ROOTED STUMPS
- 3,000 LB LOGS

- TRANSPORTED ACROSS THE ICE

- SOLIDLY ATTACHED TO SHORE









GOAL 2

GREATLY ENHANCE HABITAT













WHO DID THE WORK?

NATURAL SHORELINES FOREVER, 501(c)(3)

MICHIGAN STATE UNIVERSITY

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

MICHIGAN NATURAL SHORELINE PARTNERSHIP

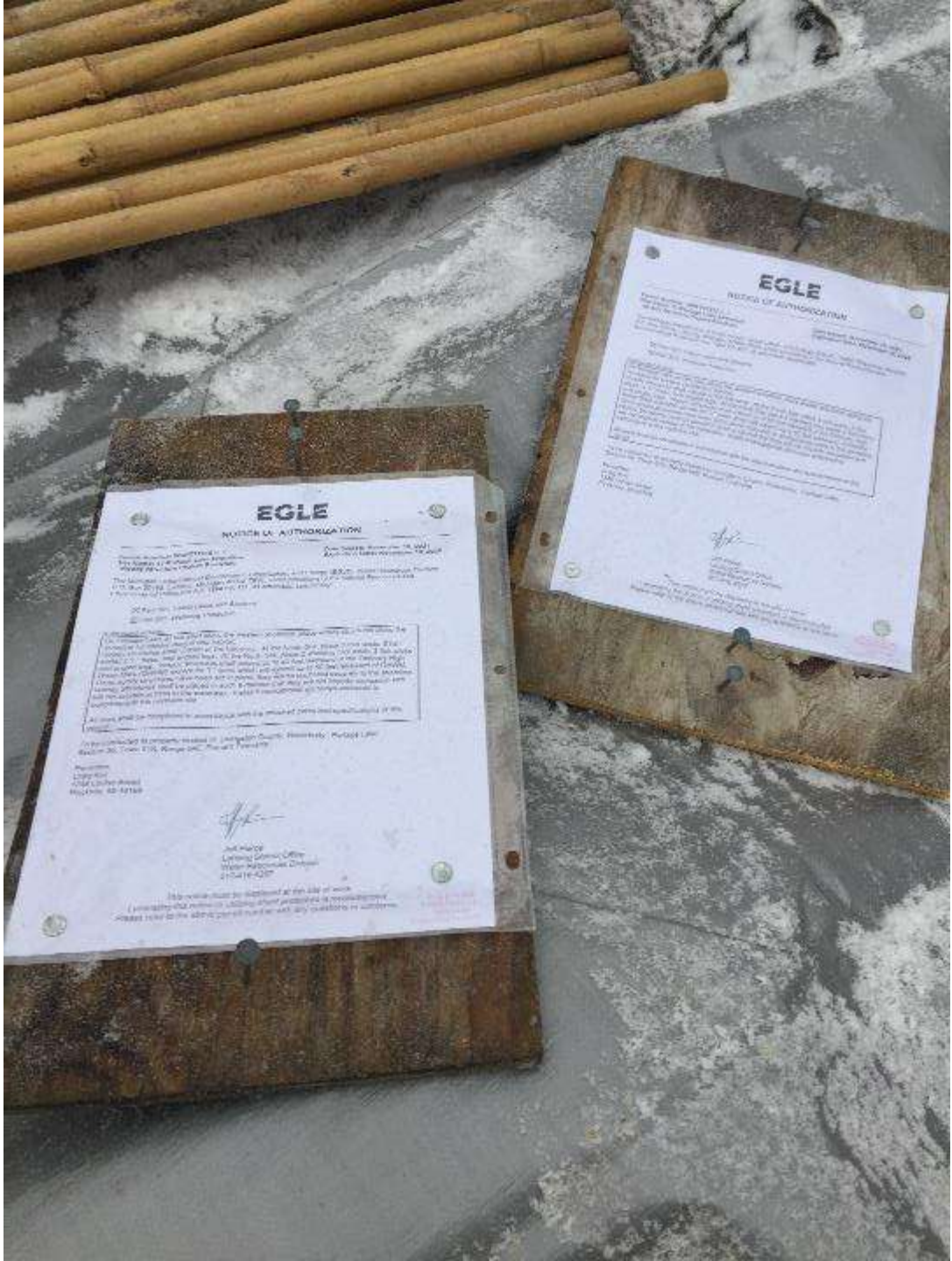
PORTAGE YACHT CLUB AND MIDWEST SAILING

PRIVATE LABOR, PRIVATELY FUNDED









EGLE
NOTICE OF AUTHORIZATION

Consolidated Water Management District
1175 West 20th Street, Suite 1000, Denver, CO 80202
Phone: 303.733.1000
Fax: 303.733.1001
www.cwmwd.com

The following is a copy of the original authorization for the proposed project. The project is located at the intersection of 11th Street and 1st Avenue, Denver, CO 80202.

The project is a proposed construction project for the intersection of 11th Street and 1st Avenue, Denver, CO 80202. The project is located at the intersection of 11th Street and 1st Avenue, Denver, CO 80202.

All work shall be completed by the date specified in the notice of authorization. The project is a proposed construction project for the intersection of 11th Street and 1st Avenue, Denver, CO 80202.

For more information, please contact the project manager at the address listed below. The project is a proposed construction project for the intersection of 11th Street and 1st Avenue, Denver, CO 80202.

Project Manager
11th Street
Denver, CO 80202

[Signature]
Project Manager
11th Street
Denver, CO 80202

This notice shall be posted at the site of work. The project is a proposed construction project for the intersection of 11th Street and 1st Avenue, Denver, CO 80202.

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The Portage Lake Experience

RESULTS

GOALS:

1. Slow Erosion – too early...

2. Greatly enhance habitat


WOW !!







Showing plants
that were not
here prior to
installation

A photograph of a pond with water lilies and fallen logs. The water is dark green and reflects the surrounding trees and sky. In the foreground, a water lily stem with two white flowers and several green buds is in focus. The background shows a dense forest of green trees and a large fallen log lying across the water.

Showing plants
that were not
here prior to
installation

Showing plants
that were not
here prior to
installation







Showing logs
that turtles can
bask on that
were not here
prior to
installation

Showing
branches for
Eastern kingbird
to hunt insects
from

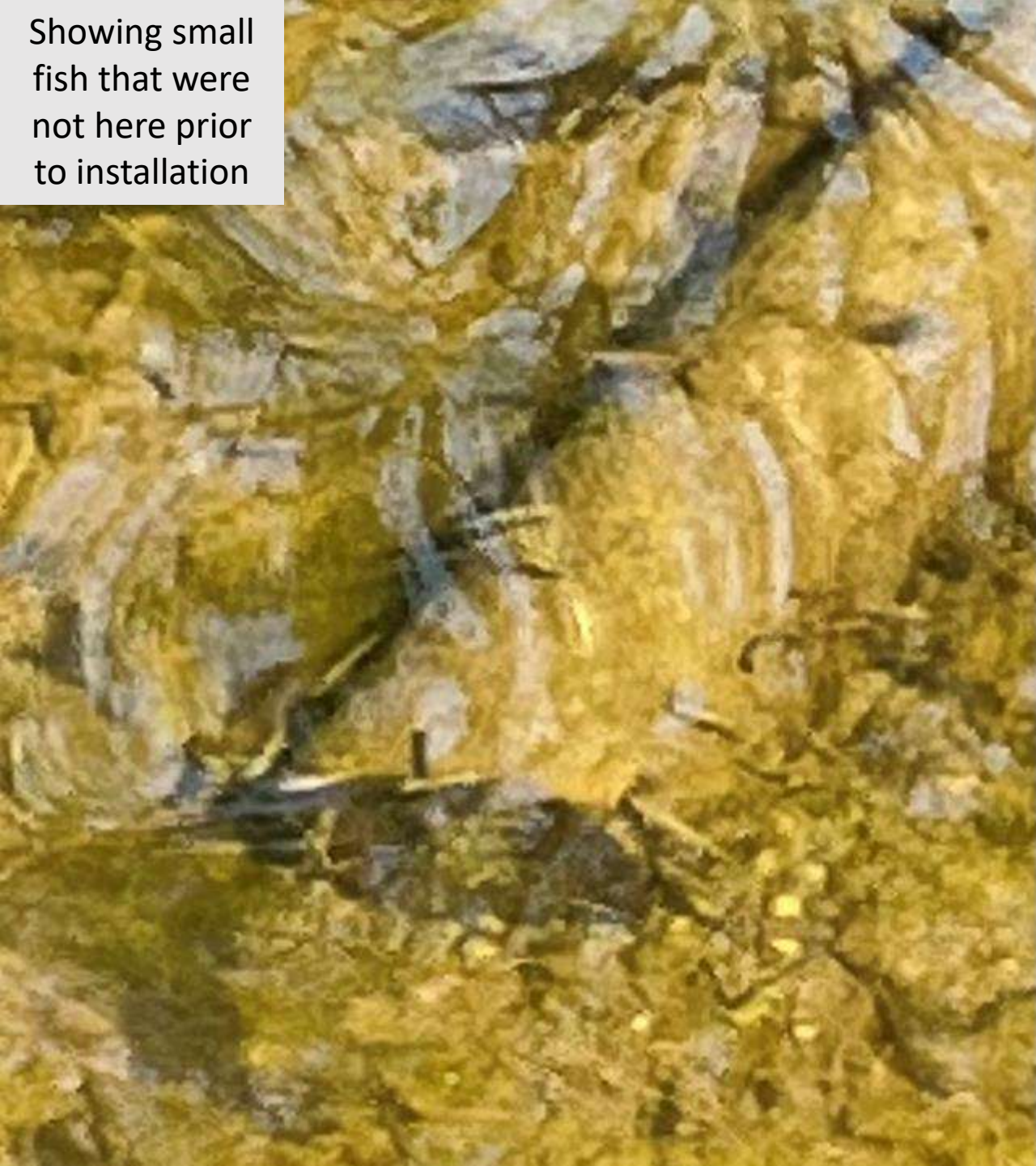








Showing small fish that were not here prior to installation



Showing fish
spawning bed
that was not
here prior to
installation





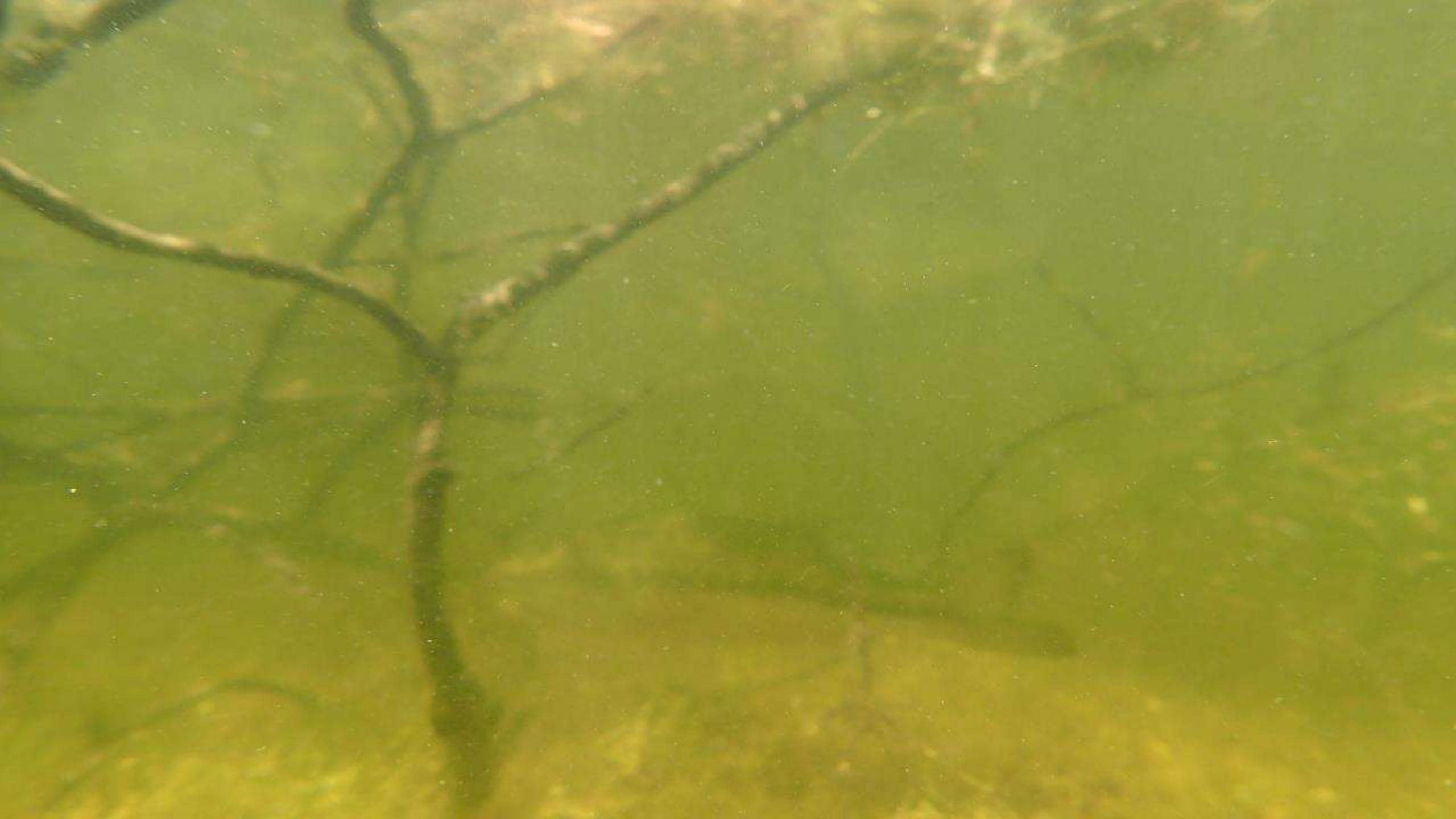












“Improving Near Shore Habitat for
People, Plants and Animals”

**HABITAT AND HUMANS
TOGETHER**



Continuing the work on other properties.

Fish sticks aren't just for large projects and properties.



NOTICE OF AUTHORIZATION

Permit Number: WRP035539 v. 1
Site Name: 47-11110 Algonquin Dr-Pinckney

Date Issued: November 1, 2022
Expiration Date: November 1, 2027

The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958, under provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; specifically:

Part 301, Inland Lakes and Streams.

Authorized activity:

Install two (2) woody structures for shoreline erosion control and fish habitat. Each woody structure shall consist of three (3) 14-foot tree tops/limbs, will be 6 feet in width, and extend up to 12 feet waterward of the OHWM into Portage Lake. Once woody structures have been set in place, they will be anchored securely to the shoreline. Woody structures shall be placed in such a manner that they will not impede navigation and will not impede access to the waterway.

To be conducted at property located in: Livingston County, Waterbody: Portage Lake
Section 31, Town 01N, Range 05E, Hamburg Township

Permittee:
Craig Kivi, Natural Shorelines Forever
1248 Loise
Pinckney, MI 48169

Matthew Rogers
Lansing District Office
Water Resources Division
517-388-6869

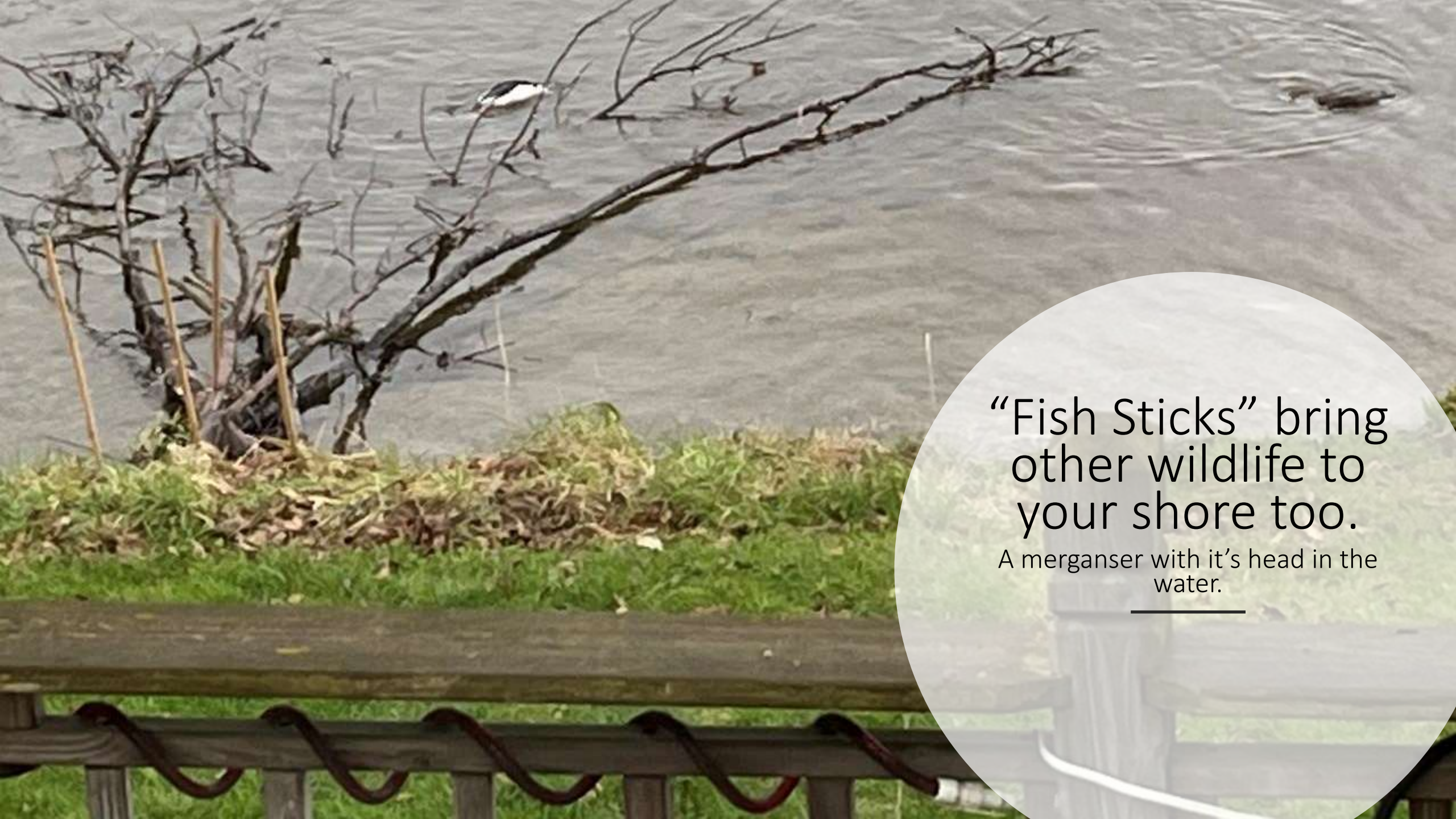
This notice must be displayed at the site of work.
Laminating this notice or utilizing sheet protectors is recommended.
Please refer to the above permit number with any questions or concerns.

EGLE
WRP035539 v1.0
Approved
Issued On:11/01/2022
Expires On:11/01/2027



Fish Sticks
bring other
wildlife to your
shore too.





“Fish Sticks” bring
other wildlife to
your shore too.

A merganser with it's head in the
water.



And fish too

LESSONS LEARNED PDF!

CONFERENCE
DOWNLOAD