



Habitat Restoration in the St. Clair River Area of Concern: Partnering to Restore Fish Spawning Habitat in the Great Lakes Connecting Channels

Mary Bohling – Michigan Sea Grant

St. Clair River BPAC Conference

June 7, 2012

Sarnia, ONT

MICHIGAN STATE
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Mission: Enhance sustainability of Michigan's Great Lakes coasts

Activities: Research, Education and Outreach

Focus Areas:

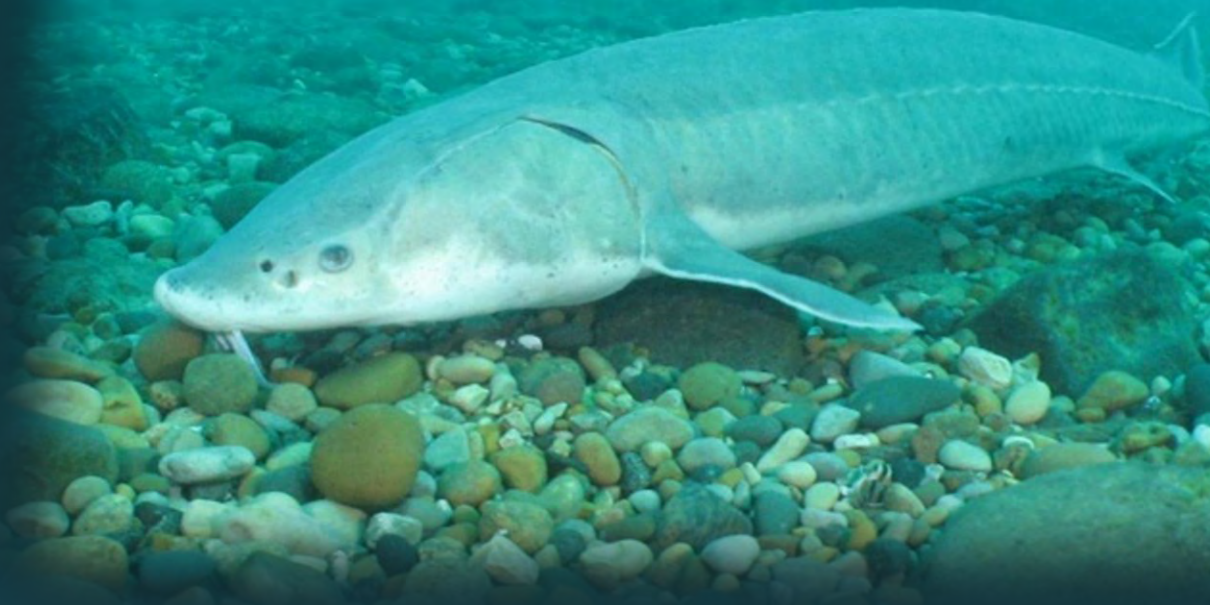
Coastal Ecosystems

Sustainable Development

Fisheries

Coastal Hazards and Climate





Lynn Vaccaro¹, Jennifer Read¹, Bruce Manny², Greg Kennedy², Ed Roseman², Jim Boase³, Mike Thomas⁴, Matthew Childs⁵, Richard Drouin⁶

¹ Michigan Sea Grant

² USGS Great Lakes Science Center

³ US Fish and Wildlife Service

⁴ Michigan Department of Natural Resources

⁵ Essex Region Conservation Authority

⁶ Ontario Ministry of Natural Resources



**HURON-ERIE
CORRIDOR
INITIATIVE**

Sea Grant
Michigan

The Huron Erie Corridor

Historically

- Huge runs of fish spawned in the channel.
- Largest commercial GL fishery in late 1800s.

Today

- Origin of half of the commercial catch of GL fish, \$2 billion/yr.
- More than 65 species of fish, 16 are threatened or endangered.
- Largest remaining population of lake sturgeon in the Great Lakes.



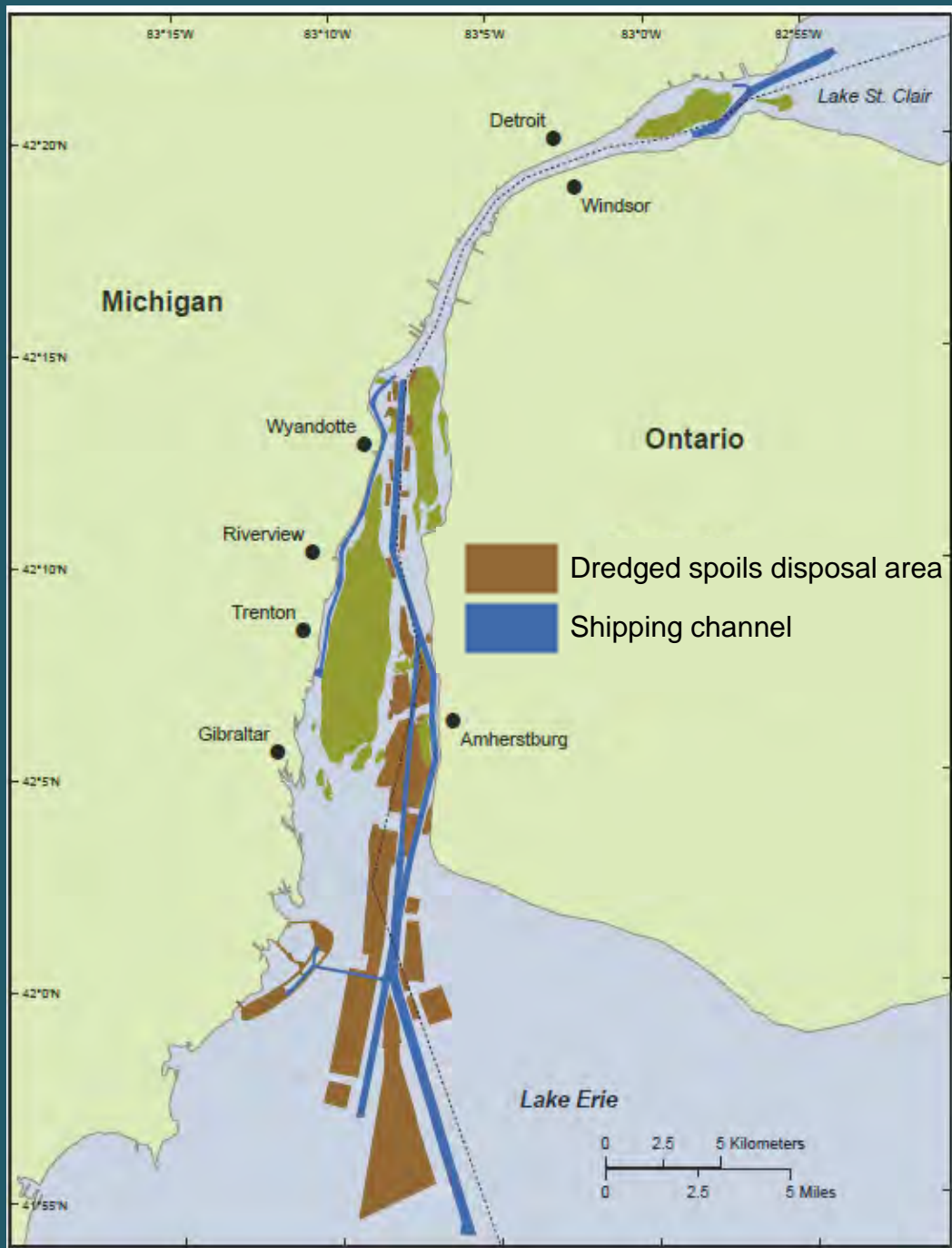
- Very developed area
- Includes 5 Areas of Concern
- Some of the only remaining free-flowing large rivers



Navigation Channels

1874 – 1968:

- Created 96.5 km of shipping channels,
- Removed over 46,200,000 m³ of material,
- Covered 40.5 km² of river bottom
- Built 85 hectares of above-waterline compensating works
- Spent \$283 million



Bennion and Manny 2011

Altered river bed



Our Poster Child for Restoration – Lake Sturgeon



During spawning season, many fish look for rocky areas with fast flowing, clean water



Head of the St. Clair River (170 acres)

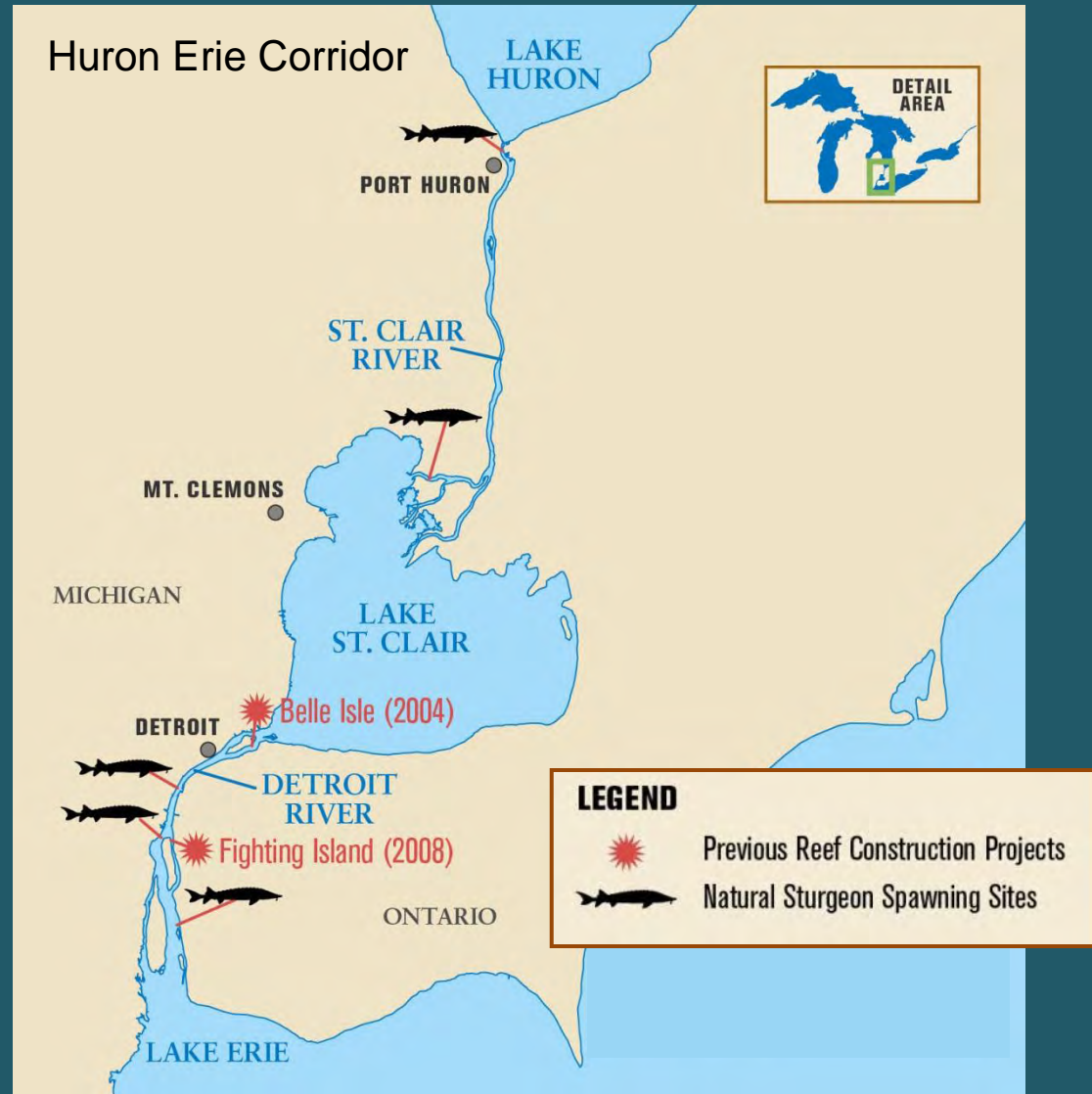


Sturgeon Eggs

Re-creating fish spawning habitat

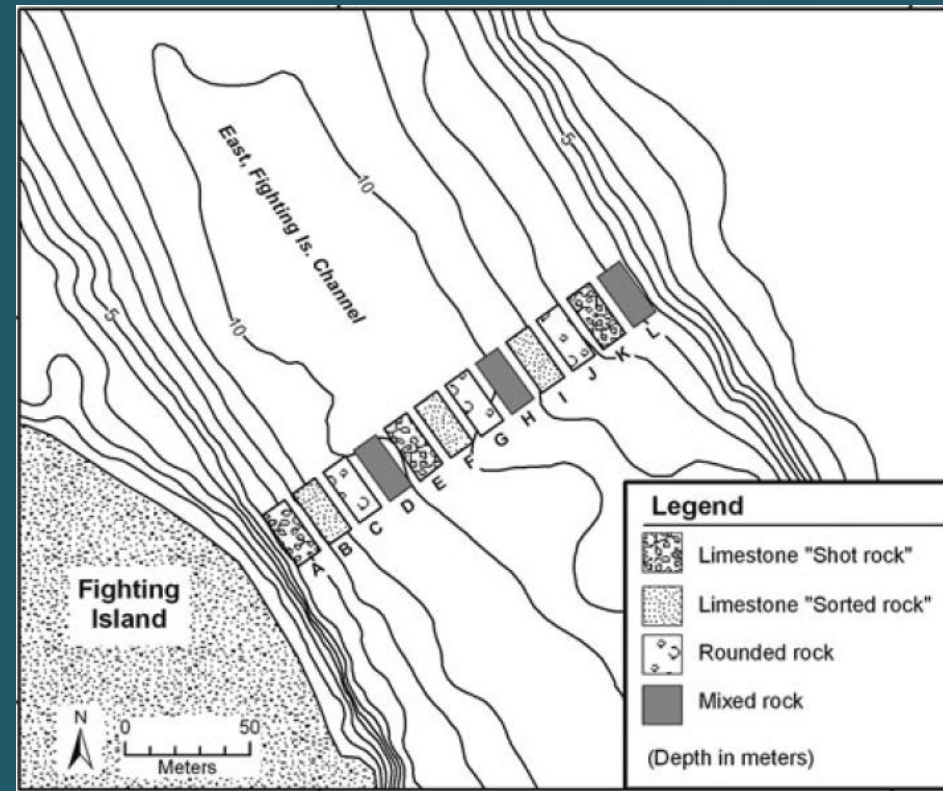


Wolf River, WI



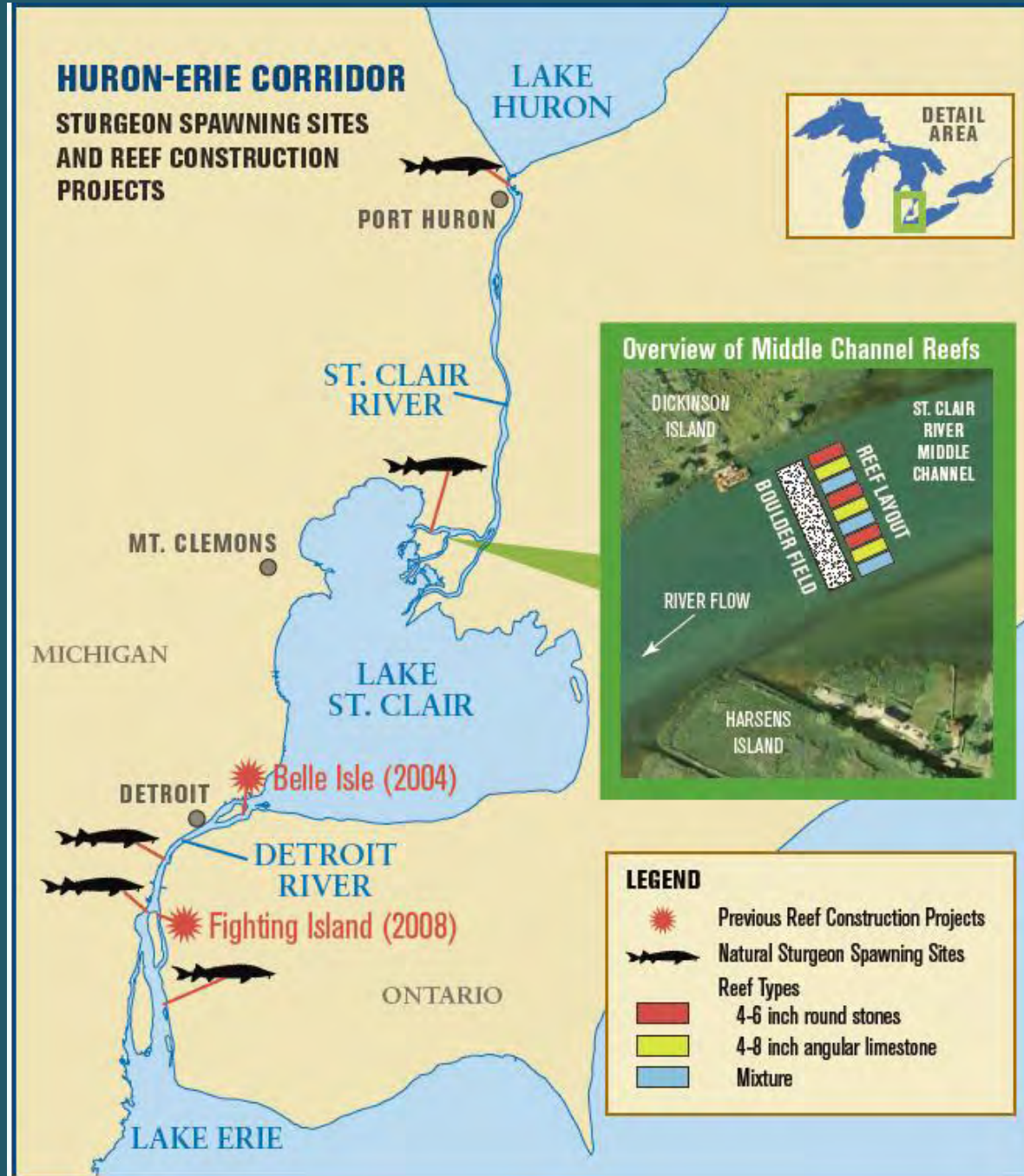
Observations – Both Constructed Reefs

- 20 native fish species used the reefs
- Surgeon spawned on the Fighting Island Reef in 2009 and 2010, viable eggs and larvae
- No clear rock type preferences
- Surgeon preferred beds with fastest flowing water



Current restoration efforts

- Connectivity to nursery areas in delta
- Self cleaning shape



Assessment

- Adult fish use
- Fish egg deposition and viability
- Larval fish emergence
- Juvenile fish
- Pre and Post Construction

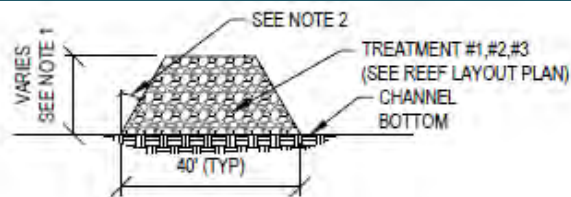
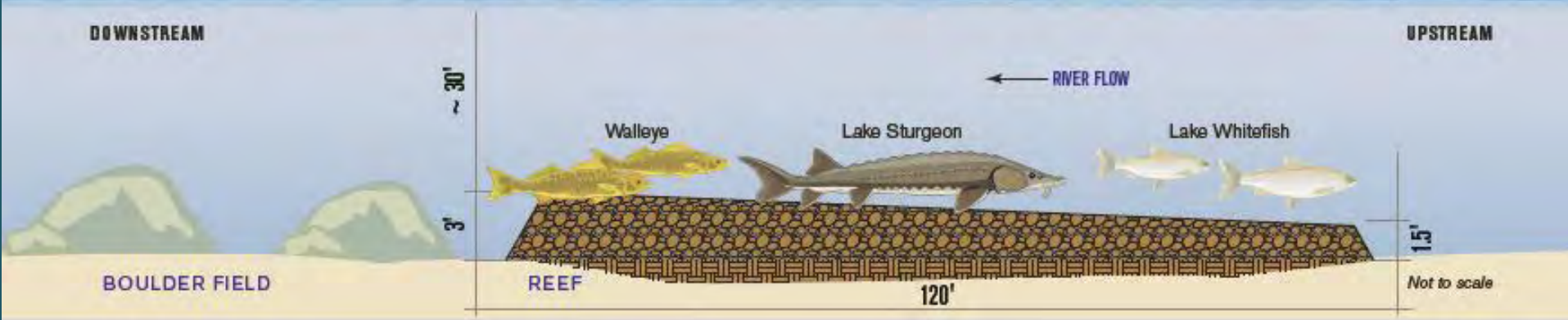


Habitat construction



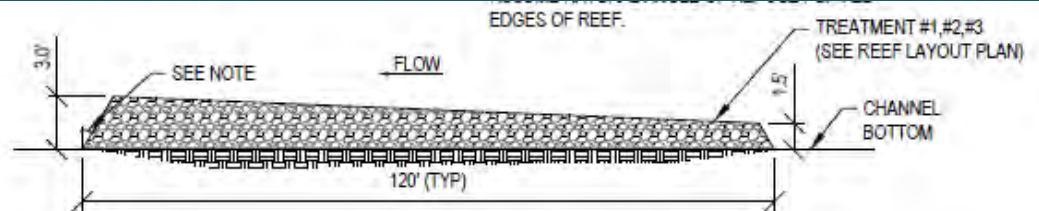
RESTORING FISH HABITAT IN THE ST. CLAIR RIVER

MIDDLE CHANNEL REEF PROJECT



2 TYPICAL CROSS SECTION

NOT TO SCALE



3 TYPICAL LONGITUDINAL SECTION

NOT TO SCALE

Outreach

SLIDE 1: SMITH TERMINAL TICKET LOBBY, view 1



May 1, 2012 Outreach Event



May 9, 2012 Construction Assessment



Before and After



Hdg: 207.6
Speed: 0.7

Hdg: 199



Michigan Sea Grant

Timeline ▾

Now ▾

Highlights ▾

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3:49 / 3:50



HD



7:03:23

05-09-12



Thank You

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Mary Bohling

bohling@msu.edu

313-410-9431