

Saginaw Bay: Improving Fish Habitat & Coastal Resilience Workshop SUMMARY

Background

Saginaw Bay is home to rich habitats full of fish, birds, plants, and other life. However, human activities have damaged these habitats over time. In addition, coastal communities are seeing effects of increased environmental stressors on shoreline areas. Many partners are working hard to improve resilience and bring aquatic habitats back to life in Saginaw Bay. Healthy habitats and improved natural shoreline protections are vital to making sure the Bay is strong, beautiful, and resilient for future generations.

Nonprofits and federal, state, and local agencies are working to restore Saginaw Bay and foster a resilient fishery while supporting all the communities - both local and across the Great Lakes Basin served by Saginaw Bay.

Previously in 2019, project partners identified a good location for off-shore fish spawning habitat and built Coreyon reef 10 miles out into the Bay. The current proposed projects are closer to shore, helping supplement the Coreyon reef project and support coastal resilience for local communities. Funding comes from the National Fish and Wildlife Foundation and the Great Lakes Restoration Initiative.

The proposed restoration sites have been chosen carefully, based on sediment samples, mapping of the Bay floor, and computer models that show how wind, waves, and sediment move around the Bay. The project team has identified three potential candidates for this phase of habitat and coastal resilience restoration work:

- Kawkawlin River Mouth: build reef to support fish spawning and reduce sediment deposition
- Spoils Island: build fish spawning reef
- Wenona Beach Estates: restore coastal wetlands to reduce shoreline erosion and flooding risk

Meeting Summary

On May 3, 2023, 18 community participants joined the project team (12 members) for a workshop focused on improving fish habitat and coastal resilience in the southern portion of Saginaw Bay, near the areas of the Kawkawlin and Saginaw Rivers. Key stakeholders and rights holders within the Saginaw Bay watershed were invited to provide input that will inform the decision-making process.

Workshop participants included elected official, partner representatives, and community members representing:

- Bay County
 - Bangor Township
 - Bay City
- Boating community
- Environmental community
- Fisheries community
 - Charter fishing
 - Recreational fishing
- Non-profit organizations
- Saginaw Chippewa Indian Tribe

At the workshop, participants learned more about restoration funding, how it will be used to improve coastal resilience and fish habitat (such as restoring fish spawning reefs) along with potential sites for future improvement. Participants had the opportunity to ask questions and give feedback about benefits and drawbacks for these restoration sites through a facilitated discussion.

The workshop was convened by the Great Lakes Fishery Commission, Michigan Department of Natural Resources, and Michigan Department of Environment, Great Lakes and Energy. The event was facilitated by Michigan Sea Grant and Michigan State University Extension.

The project team is grateful to participants for sharing their input and values. Their care and passion for Saginaw Bay was clear throughout the workshop. Participants raised many important questions that the project team takes seriously and will consider. The team will continue to collect additional information before any site selection, design, and permitting will occur.

Participants brought many shared values to the discussion: childhood memories of fishing and exploring Saginaw Bay, respect for the Bay's vibrant human and natural communities, appreciation for freshwater and recreation opportunities (e.g., boating, shoreline access, etc.), and more.

Content sharing

Presentations included:

- Jeff Jolley, Michigan Department of Natural Resources, sharing about improving fish habitat and coastal resilience
- Bretton Joldersma, Michigan Department of Natural Resources, sharing about the overall project and available funding
- Tonya Lewandowski and Marty Boote, ECT, sharing about the feasibility study, potential sites for habitat restoration, and the Coreyon Reef case study
- Terry Heatlie, NOAA Fisheries, sharing about the Brandenburg case study
- *Presentation Link:* <https://bit.ly/41WvQBA>

Questions raised by participants during the presentations included:

- Do we know how much coastal wetland area remains around Saginaw Bay?
 - **Response:** That's a good question. Partners are looking to find a reliable source for data and information about wetland loss in Saginaw Bay - including historical wetlands lost; wetlands disconnected; and wetlands replaced by invasive phragmites. However, current funding is already spoken for and directed toward resilience issues like erosion, flooding, etc., and this project wouldn't directly support any research if the data is not already available. Redirect toward [facilitated discussion](#).
- Do we have an estimated percentage of potential reduction in sediment transport and deposition at Kawkawlin River Mouth boating channel?
 - **Response:** Data isn't available.
- What happens to the sand and where is the sand going around Wenona Beach and Kawkawlin River?
 - **Response:** We don't really know. Long-shore transport will keep sediment moving along the bed of Saginaw Bay. These projects can slow down transport and rate of accrual. Sediment will still enter the navigational channel. The boating channel functions as a sand trap, but adding a reef could potentially slow down accumulation and reduce the frequency of dredging needed to maintain the channel
- Could some Dow dioxin clean-up money be used to remove sediment coming down from Saginaw River?
 - **Response:** Sediment in the watershed is a worthy concern. This funding is designated for improving habitat *in* the Bay. Other funding and efforts can focus on watershed sediment reduction, e.g. promoting soil erosion control and agricultural best management practices. The U.S. EPA and EGLE continue to characterize contaminants like polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans that were released by Dow and address concentrations that are above relevant risk thresholds. This effort is progressing from the source in Midland downstream, in and along the Tittabawassee River and Saginaw River, and will continue into Saginaw Bay over time.

Concerns voiced by participants during the presentations included:

- Focus on fishing is good, but boaters and waterfront users are concerned about marsh on waterfront SE of Kawkawlin River destroying beaches and views. A reef north of the channel would be a navigation hazard -- how far will boaters have to travel to access the river? Who will redo and distribute boating charts? How to make it safe for boaters?
 - **Response:** Redirect toward [facilitated discussion](#).
- Changing littoral flow can affect sediment deposits elsewhere along the shoreline.
 - **Response:** This is exactly the type of concern we need to consider. Redirect toward [facilitated discussion](#).
- Wenona was a “traditional beach.” Residents at the Estates aren’t up to speed on the proposed plan. Worried about wave action disturbing vegetation and fouling the beach.
 - **Response:** We’ve tried repeatedly to contact Wenona Beach Estates management with no response. If anyone has contact recommendations, please share them with the project team. Redirect toward [facilitated discussion](#).

Facilitated Discussion

Through a facilitated exercise, participants shared the challenges and opportunities they perceived for each potential restoration site. Participant results are summarized below, along with opportunities presented by the project team:

Kawkawlin River Mouth

Presented opportunities:

- Would provide fish habitat
- Benefit is marginal but a near-shore reef could also reduce channel sedimentation

Participant opportunities:

- Slow down sediment deposition at the river mouth.
- Support fish spawning activities, especially for popular species like walleye.
- Provide nearshore fishing opportunities.
- Greater wave energy may help prevent sediment deposition and provide oxygen to eggs laid on the reef.

Participant challenges:

- Coreyon reef area is considerably deeper than this proposed site.
- Concerns about navigation issues and collisions/contaminant discharge from recreational boating traffic.
- Lighted buoys, updated charts, education, and outreach would be important for public safety, but costs and effort must be accounted for.
- Modeling needs to show impacts for nearby natural beach fronts.
- Can't effectively compare Saginaw Bay to high-banked, saltwater, tidal ecosystems.

Spoils Island (CDF)

Presented opportunities:

- Would provide fish habitat
- Would compliment the Coreyon rock reef restoration – supporting development of system of reefs in Saginaw Bay

Participant opportunities:

- Would support existing fish spawning activity, especially for fish that don't spawn upriver.
- Could provide economic benefits by generating activity at Patterson Road boat launch.
- Would not affect recreational boat traffic.

Participant challenges:

- Potential contamination from the site.
- Must work with the U.S. Army Corps of Engineers to ensure that site operations are not impeded.

Wenona Shores

Presented opportunities:

- Would provide fish habitat
- Wetland restoration will prevent coastal erosion
- Wetland restoration will reduce wave height and flood risk
- Wetland restoration will provide fish spawning and nursery habitat
- Wetland restoration will provide wildlife habitat

Participant opportunities:

- Reintroduce native wetland species.
- Saginaw Bay birding trail already attracts tourist activity; wetlands could bring more birding visitors.
- Building islands will protect beaches.

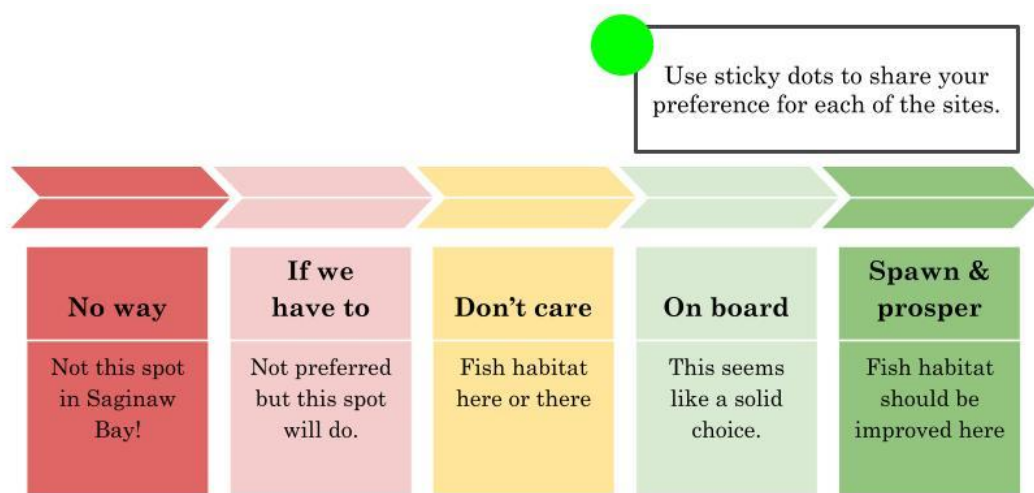
Participant challenges:

- No one from the Wenonah Beach Estates community is present to share their concerns.
- More beach front is needed, not habitat.
- Adding plants could block shoreline views and access and increase the need for beach clean-up.
- Potential for invasive phragmites growth in wetlands.
- Potential loss of tax revenue from shoreline property owners unhappy with wetland views.
- Could attract cormorants.
- Would remove beachfront access for low-income residents.
- Public opposition could make it difficult to acquire permits and maintain community relationships with resource managers.
- Must identify who would maintain the plants.

Public opposition could make it difficult to acquire permits and maintain community relationships with resource managers.

Gradients of Agreement

After contributing their perceived challenges and opportunities for each site, participants used sticky dots to capture their current attitudes about the locations. The “gradient of agreement” process presented for consideration:



Gradients of Agreement

	No way	If we have to	Don't care	On board	Spawn & prosper
Kawkawlin River	1	2	1	5	2
Spoils Island (CDF)	0	0	1	4	6
Wenona Estates	3	5	3	0	0

Participants who chose “No way” were asked to include any additional concerns, but all reflections had already been captured during prior facilitated discussions.

Next Steps

After reviewing the input from the workshop, the project team plans to:

Kawkawlin River Mouth

- Collect additional information on...
 - Potential of project to provide habitat for invasive aquatic species
 - Potential impacts to navigation and mitigation measures
 - Fate of sediment, particularly down-drift with installation of structure.
 - Will downdrift beaches be starved or be deposition zones for sand/silt both, or neither?
 - Impacts of various water level scenarios on performance of Kawkawlin River reef (e.g., sediment transport, vegetative communities, fish utilization etc.)
 - Impacts of Kawkawlin River reef on frequency of dredging operations.
 - How does a 10-25% reduction in sediment deposition in the river channel impact dredging schedules through time (and cost) and under a variety of environmental conditions?
- Confirm partnership on buoying the site with the Kawkawlin River Watershed Association
- Develop plan for navigation chart updates
- Develop a strategy for continued community engagement related to the project. If you are interested in serving as a local partner, please contact [the project team](#).

Following the workshop and based on the additional information collected, the team hopes to move forward with preliminary engineering and design for this site.

Spoils Island (CDF)

- Collect additional information on...
 - Potential mitigation of impacts to USACE dredging operations
 - Potential impacts to navigation and mitigation measures
 - Potential for coastal wetland restoration
- Develop a strategy for continued community engagement related to the project. If you are interested in serving as a local partner, please contact [the project team](#).

Following the workshop and based on the additional information collected, the team hopes to move forward with preliminary engineering and design for this site.

Wenona Shores

Following the workshop with input provided by participants (see previous sections) and absence of Wenona Shores residents, this site is currently not moving forward with next steps. The project team encourages the community to continue exploring this site and its potential for resilience enhancements with residents.

Contact for more information

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