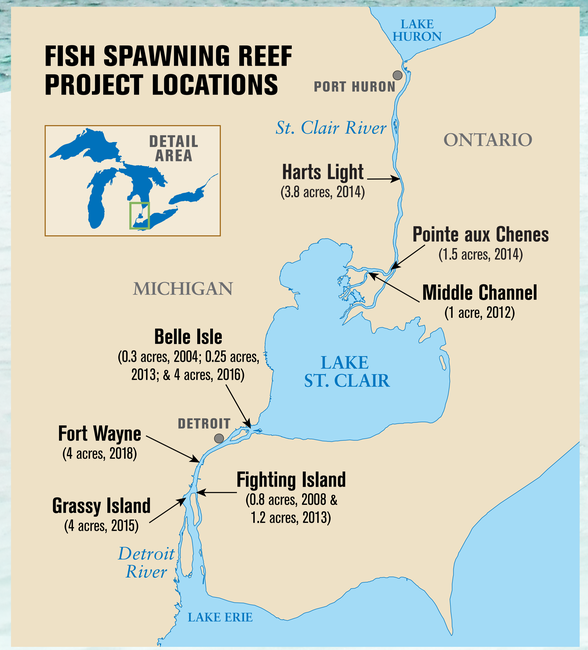
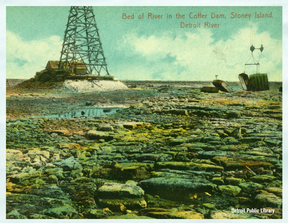
Restoring Fish Habitat in the Detroit River

FISH SPAWNING REEF PROJECT LOCATIONS





Sections of the Detroit River were drained and blasted to create deeper shipping channels, which damaged important fish habitat. These historical photos show the river bottom before (left) and after (right) excavation of the Livingstone Channel, around 1910.

In the waters of the Detroit River, at the northwest end of Belle Isle, a diverse group of partners has built rocky reefs that provide new places for lake sturgeon, walleye, and lake whitefish to spawn. The intent is to improve habitat to help grow populations of these native fish.

Historically the Detroit River was lined with limestone reefs and rocky areas, where millions of fish came to spawn. The fast, cool currents of the river flowing over the rock beds made perfect spawning grounds. Fish such as lake sturgeon, walleye, and lake whitefish flourished. However, dredging and other changes made to the river removed or degraded much of the rocky habitat used by fish to protect their eggs. This contributed to a steady decrease of some fish populations.

SPAWNING REEFS

Beginning in 2004, a team of scientists began designing and building rocky reefs in the St. Clair and Detroit rivers to replace some of the habitat that had been lost. Scientists continually study restored reefs to make sure fish are using them to produce healthy offspring.

The largest reef off of Belle Isle has more than 20,000 tons of rock and covers 4 acres — about 3 football fields — of river bottom. The reef is just 2 feet thick and is far enough below the surface to be out of sight and not influence boat traffic.

RESTORATION: Reefs are built with marine construction vessels that place quarried limestone rock on the river bottom.

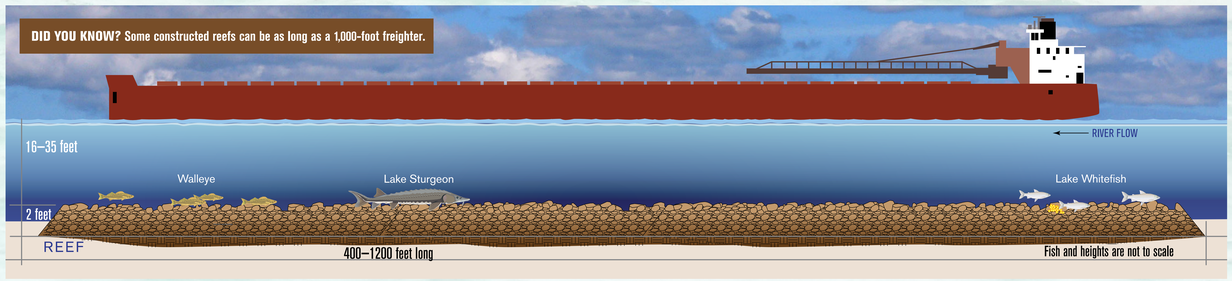
MONITORING: Scientists use special gear to estimate the number of eggs deposited on a reef and track populations of juvenile and adult fish.

VIDEOS: To see videos and learn more about efforts to restore fish habitat in the Detroit and St. Clair rivers, go to: **youtube.com/MichiganSeaGrant**

YouTube

PLANNING: Detailed information about the river bottom and water flow are used to find the best locations for constructed reefs.

The first constructed reef project in the Detroit River was built near Belle Isle in 2004. This small project demonstrated that constructed reefs can work well in this river and helped garner support for additional projects.



Constructed fish spawning reefs are created by placing a 2-foot layer of limestone rock rubble on the river bottom. Reefs are built in deep, fast flowing sections of the river where they will not interfere with navigation.

LAKE STURGEON: A SPECIES OF SPECIAL CONCERN

Lake sturgeon are unlike any other fish in the Great Lakes — they can grow up to 7 feet long and can weigh up to 300 pounds. They are slow to mature and do not begin reproducing until they are 15-20 years old. Females can live 80-150 years and males about 55 years.

Although they look a bit like sharks, they don't have teeth. Instead, they suck up invertebrates from the bottom of the river or lake with a mouth that looks like a vacuum-cleaner hose.

Lake sturgeon are considered threatened or endangered in 7 of the 8 Great Lakes states. Researchers estimate that their population is now 1 percent of what it once was.

Many scientists believe there isn't enough high-quality habitat for sturgeon, making projects like these important to their recovery. Protecting habitat for lake sturgeon benefits a number of other native fish — including walleye, lake whitefish, and log perch — which also reproduce or find shelter in rocky areas along the river bottom.

Lake sturgeon, *Acipenser fulvescens*
Illustration: Emily Damstra

St. Clair – Detroit River System Initiative

Great Lakes RESTORATION

Sea Grant Michigan

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The Belle Isle reef project was built in 2016 with funds from the Great Lakes Restoration Initiative. A coalition of groups helped plan, build, and monitor the reef project, including scientists from the U.S. Geological Survey, U.S. Fish and Wildlife Service, Michigan Department of Natural Resources, SmithGroupJJR, DTE Energy, the University of Michigan, and Michigan Sea Grant. Reef restoration is part of a larger effort to restore fish and wildlife habitat in the St. Clair and Detroit rivers.

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