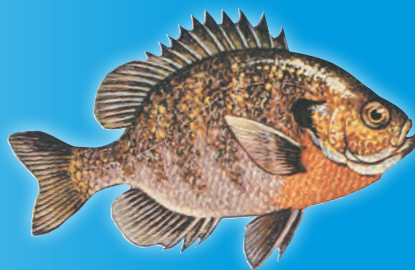


**A River's
Rejuvenation:
The Fish
Story
of Detroit**



Dear Friends,

Welcome to *A River's Rejuvenation*, a collaborative project celebrating the importance of both fish and the Detroit River in our shared history. At the Detroit Historical Society, we tell Detroit's stories and why they matter—and this is the story of how we got to these lands and waters and what our communities have done to make sure we can stay. From thousands of years ago to the present day, fish have played a crucial role in providing food for the people of Detroit, and tracing the history of fish reveals how Detroiters have lived, worked, and played through the centuries. As a community, we're learning from our errors, and the return of fish and wildlife to our river shows us that we can all contribute to preserving the beautiful natural environment of Detroit.

We want to thank our many collaborators and especially the NOAA Heritage Program for providing funding for this project.

This project is one of many at the Detroit Historical Society that will continue to honor the environmental history of Detroit. We hope you can join us in our love and appreciation for the natural world around us.

Warmly,

Elana Rugh



President and CEO

Detroit Historical Society

A River's Rejuvenation: The Fish Story of Detroit

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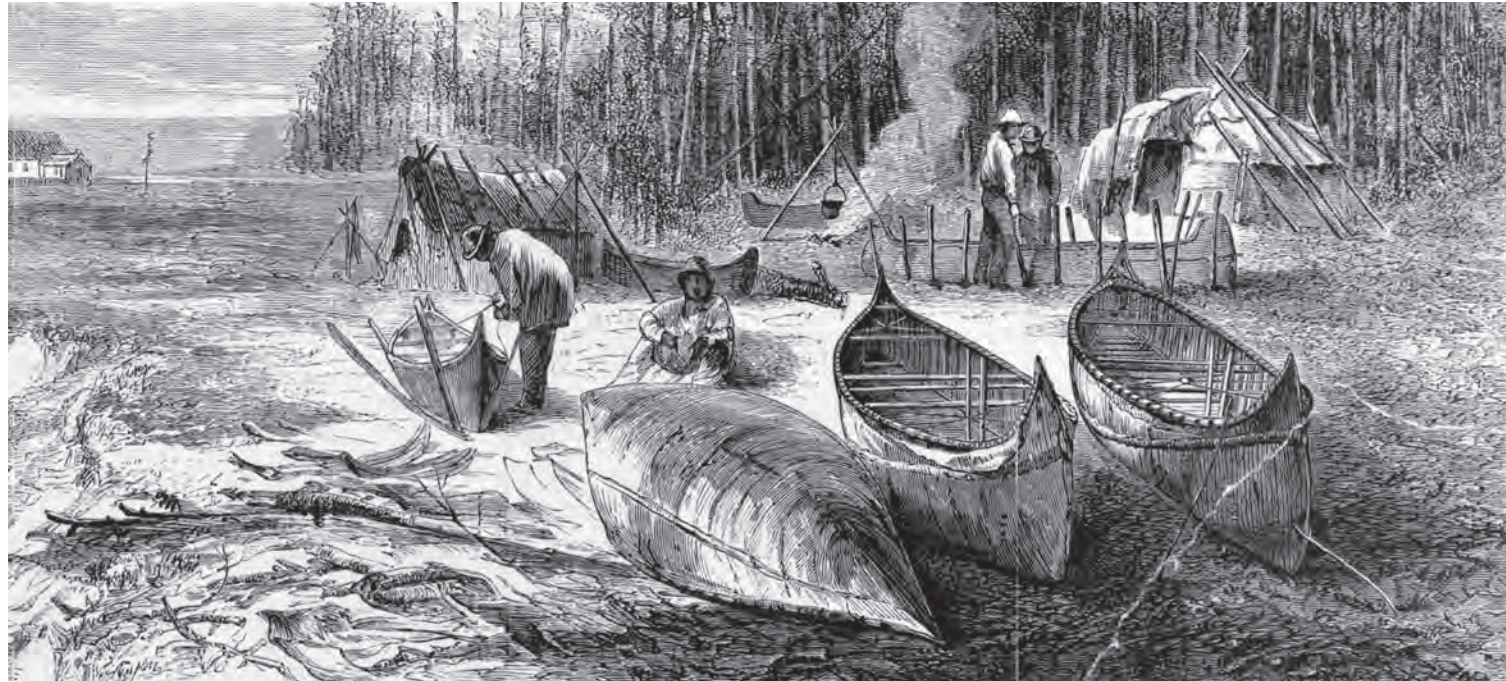
The Detroit Historical Society tells Detroit's stories and why they matter.

Since its founding in 1921, the Detroit Historical Society has been dedicated to ensuring that the history of our region is preserved. Our vision is to be an integral part of Detroit's present and future by providing meaningful experiences that share its past.

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TEN THOUSAND YEARS OF FISH

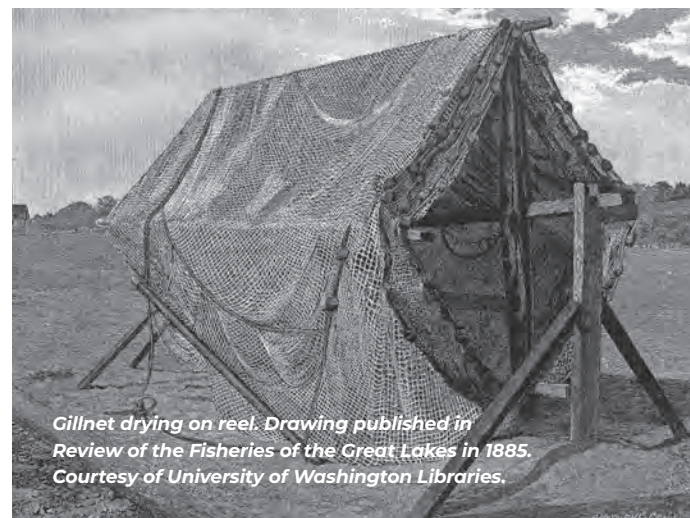


Indigenous community members making birch bark canoes. Drawing published in Harper's Weekly, August 5, 1871. Courtesy of Library of Congress.

The beautiful land and waters of Michigan have been the ancestral home of the Anishinaabe people for over ten thousand years. Giigoonh, or fish, played a central role in the lives of the Anishinaabe ancestors, who lived by hunting, gathering, and fishing. Where hunts and harvests could be inconsistent, fish were a constant—leading the ancestors to build their villages on the shores of the Great Lakes. These communities continue to live on the very lands we all occupy today, including the land where the river bends called Waawiyaaataanong, or Detroit.

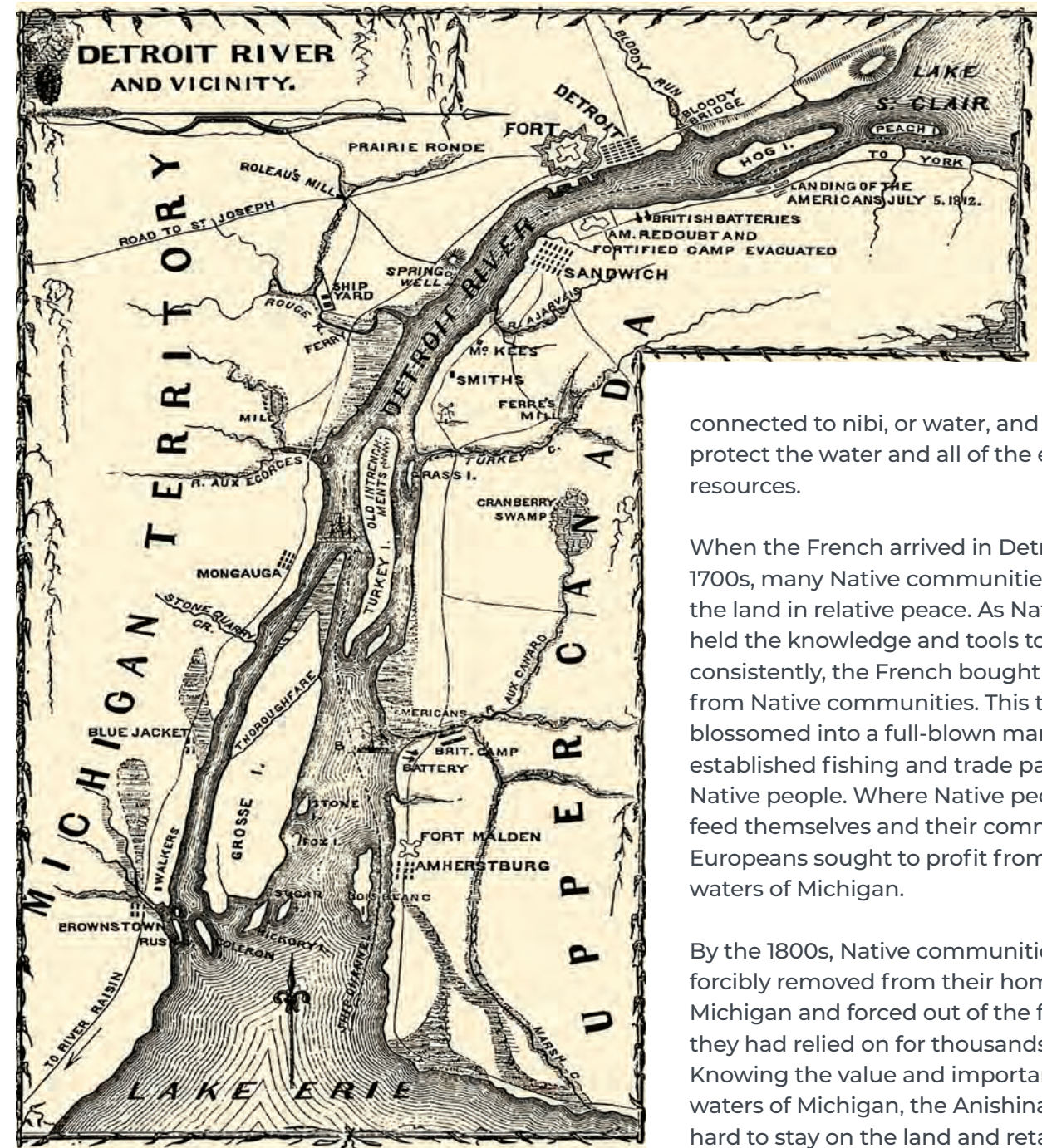
The ancestors fished with technologies that are still in use, including gillnets, which could catch hundreds of fish at once to feed an entire village. Fishing was neither an individual nor a masculine sport; instead, fishing was a communal activity for the entire village. During the fishing seasons of spring and fall, community members would harvest necessary materials, make nets and birch bark canoes by hand, catch fish, and prepare fish to store or eat.

The fish of the lakes and rivers of Michigan included whitefish, sturgeon, and trout, and made up more than half of the Anishinaabe diet. Fish dishes could include giigoonhwaaboo (fish soup), gaaski-giigoonh (smoked fish), and sagamité, a stew made of whole fish and corn. In addition to providing food, fish were used in a myriad of creative ways: fish skins were used to make bags and other ceremonial objects, and fish oil was used as a fire starter, ensuring that no parts of the fish would go to waste.



Gillnet drying on reel. Drawing published in Review of the Fisheries of the Great Lakes in 1885. Courtesy of University of Washington Libraries.

TEN THOUSAND YEARS OF FISH



This map illustrates the Detroit River in 1812. Native landmarks are seen in the burial mounds at Spring Wells, the Cranberry Swamp, and settlements of Blue Jacket and Monguaga. From Benson Lossing's "Pictorial Field-Book of the War of 1812" published in 1869.

connected to nibi, or water, and work hard to protect the water and all of the earth's natural resources.

When the French arrived in Detroit in the 1700s, many Native communities were sharing the land in relative peace. As Native Detroiters held the knowledge and tools to catch fish consistently, the French bought fish directly from Native communities. This trade soon blossomed into a full-blown market, disrupting established fishing and trade patterns of Native people. Where Native people fished to feed themselves and their communities, the Europeans sought to profit from the land and waters of Michigan.

By the 1800s, Native communities were being forcibly removed from their homelands in Michigan and forced out of the fishing areas they had relied on for thousands of years. Knowing the value and importance of the waters of Michigan, the Anishinaabe fought hard to stay on the land and retain their fishing rights. Even as European and American colonizers forced Anishinaabe communities to sign treaties giving up large portions of their land, the Anishinaabe people negotiated permanent access to the waters for fishing.

Illustrating the centrality of fish in Anishinaabe life, "fish" served as a name for one of the seven Anishinaabe doodeman, or clans, alongside loon, crane, bird, bear, marten, and deer. In some communities, the fish clan is called "Sturgeon," honoring the oldest and largest native fish of the Great Lakes. Members of the fish clan are deeply

URBANIZATION AND INDUSTRIALIZATION

HUMAN BOOM CHANGES THE LANDSCAPE

In the 1800s, more and more settlers began arriving in Detroit, pushing out much of the local Native community. Between 1830 and 1930, Detroit's population grew from 2,200 to 1,570,000 people. Most people settled along the river, straining the river's ability to remain healthy.

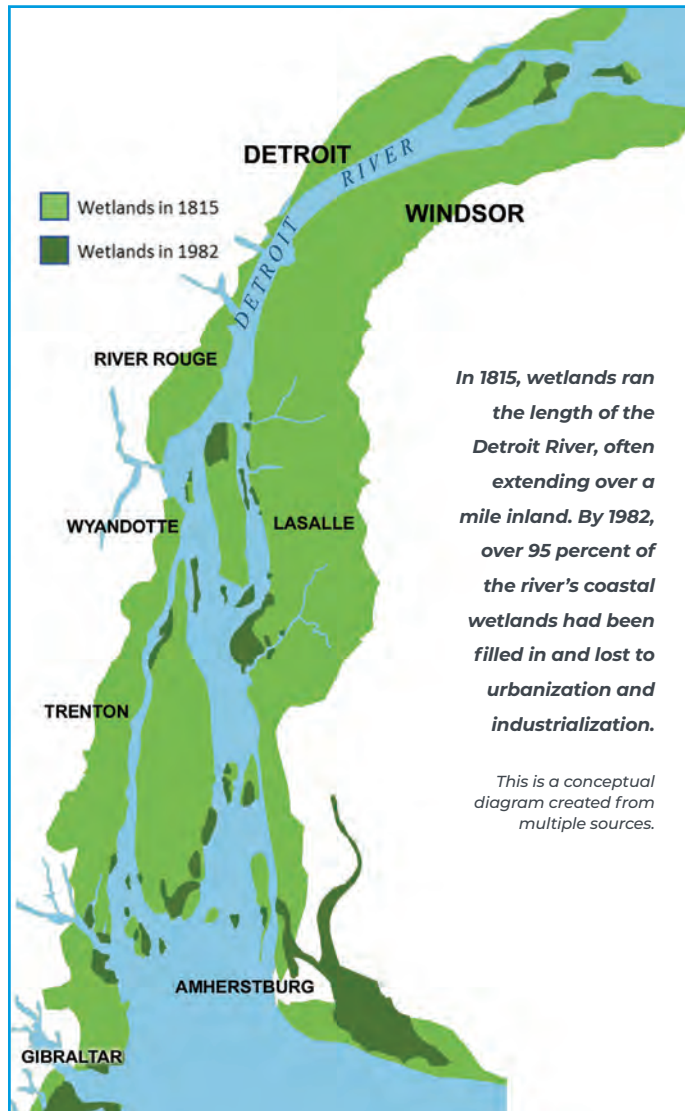
The new settlers attempted to "reclaim" the wetlands surrounding the river by filling shorelines and draining swamp water. They believed the wetlands harbored diseases and insects, not realizing that the wetlands served to clean the water and support plants and organisms that fed birds and fish.



While filling shorelines created more waterfront land, it hampered the river's ability to regulate itself and support wildlife.

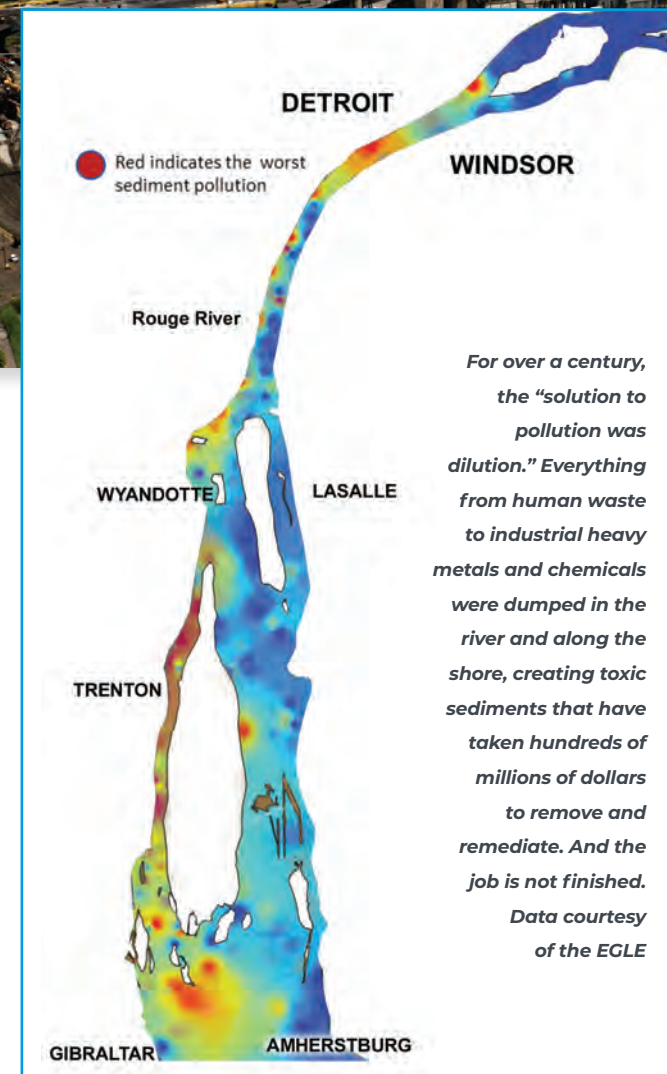
The growth of the city created other serious issues for Detroit's natural environment. The new settlers generated a significant amount of sewage, and most human waste either went into outhouses, affecting groundwater, or into sewer pipes that emptied directly into the river.

In addition, settlers created new metal and chemical industries, which brought major changes to Detroit. Natural resources were harvested from the northern Great Lakes, including copper, iron, lumber, and limestone. Detroit also sat above a large salt deposit, which gave rise to chemical manufacturing industries. To transport these huge cargoes, Detroit became home to many shipbuilding companies. The Detroit River became the busiest in the world, hosting thousands of ships transporting raw and finished goods as well as passengers.



URBANIZATION AND INDUSTRIALIZATION

HUMAN BOOM CHANGES THE LANDSCAPE



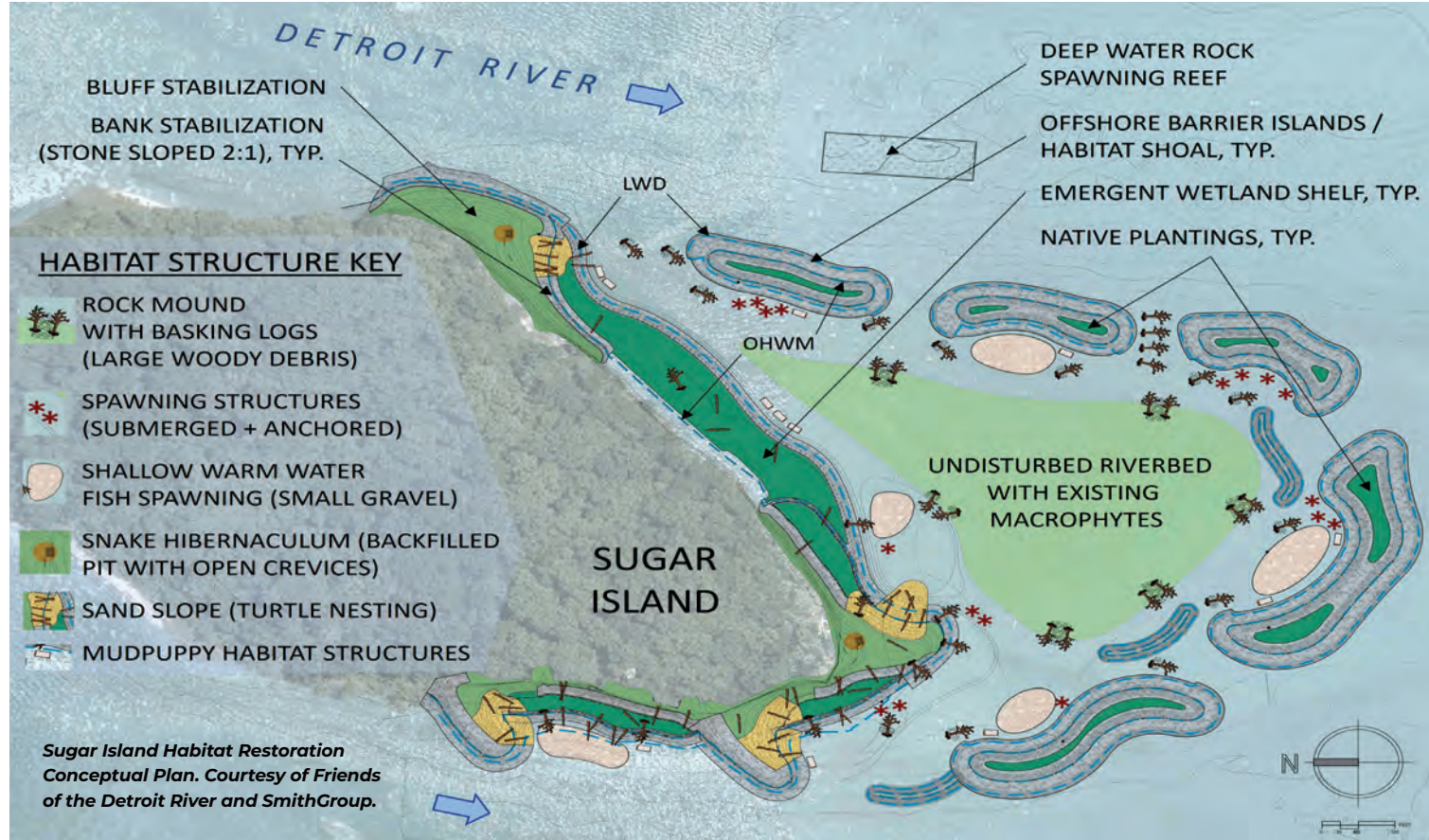
For over a century, the "solution to pollution was dilution." Everything from human waste to industrial heavy metals and chemicals were dumped in the river and along the shore, creating toxic sediments that have taken hundreds of millions of dollars to remove and remediate. And the job is not finished. Data courtesy of the EGLE

These industries devastated the natural environment of Detroit. They contributed heavily to pollution, and deep channels dug into the rocky river bottom to accommodate large ships destroyed plant, fish, bird, and reptile habitats.

Fishing became its own industry, as settlers began to harvest fish and wildlife commercially. Overfishing contributed to the gradual collapse of regional fisheries. Once a source of life for thousands of years, few fish remained in the Detroit River, and the few fish that remained were no longer safe to consume.

RESTORATION & REMEDIATION

REVERSING COURSE



From the 1950s onward, scientists identified several problems that were far worse than just dirty water and habitat destruction. Chemical pollutants were causing deformities in fish and birds, preventing reproduction, and even changing how birds sang. Phosphates, popular in household detergents and farm fertilizers, caused excessive growth of algae – called “blooms” – which choked out other organisms in ponds, streams, and lakes. Invasive plants, fish, and insects were overwhelming native species.

Legislation gave conservation advocates tools to turn the tide in 1970 with passage of the Michigan Environmental Protection Act, the U.S. Clean Air Act, and the Canada Water Act. Soon after came the U.S. Clean Water Act and stronger wetlands protection. In 2001, Canada and the U.S. strengthened the International Boundary Waters Treaty, originally signed in 1909. Increased federal



RESTORATION & REMEDIATION

REVERSING COURSE



funding gradually allowed for the regulation of chemical pollutants and tangible efforts to restore habitats and clean badly polluted sites. The Great Lakes Restoration Initiative (GLRI) provided federal funding for the Detroit River Public Advisory Council to undertake fourteen fish and wildlife restoration projects as part of an effort to delist the Detroit River as an “Area of Concern.”

Sturgeon spawning reefs were created near Belle Isle and other areas along the Detroit River bottom to replace some of the rocky habitat lost when the deep channels were dug for navigation. Abandoned industrial sites are transforming into natural uplands and wetlands. Seawalls are being removed where possible, allowing new coastal wetland development. And where existing coastal wetlands have deteriorated due to erosion, protective habitat shoals are being constructed.

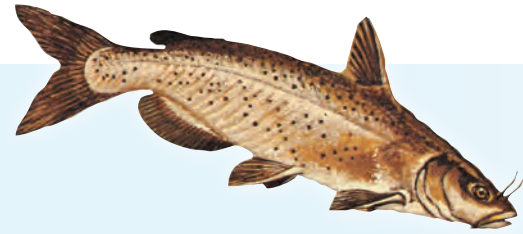
Over decades, each successful project positively impacted subsequent projects. On Belle Isle, four GLRI-funded projects administered through the Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA) resulted in one success story. The Blue

Heron Lagoon was reopened to the river following 65 years of separation. Spawning reefs positioned upstream of the lagoon allowed hatching fish larvae to drift into the calm lagoon water for nursery activity. Lake Okonoka was reconnected to the lagoon and to the river downstream, allowing the flow of Great Lakes water and fish through the previously stagnant water bodies. Immediately offshore, another project enhanced fish spawning and nursery activity in the shadow of an existing fishing pier.

Downriver, North America's first International Wildlife Refuge, established in 2001, represents over two decades of land acquisition, and hosts a series of restoration projects on both sides of the Detroit River. Properties were set aside as habitat for a broad spectrum of fish and wildlife, and are managed by both the U.S. Fish and Wildlife Service and the Canadian Wildlife Service. Several small islands on the edge of Lake Erie have received significant restorative help, and success at Stony and Celeron Islands led to further success at Sugar Island and Hennepin Marsh.

FISH OF THE DETROIT RIVER

FISH OF THE DETROIT RIVER



Channel Catfish



Lake Whitefish



Walleye



White Bass



Yellow Perch



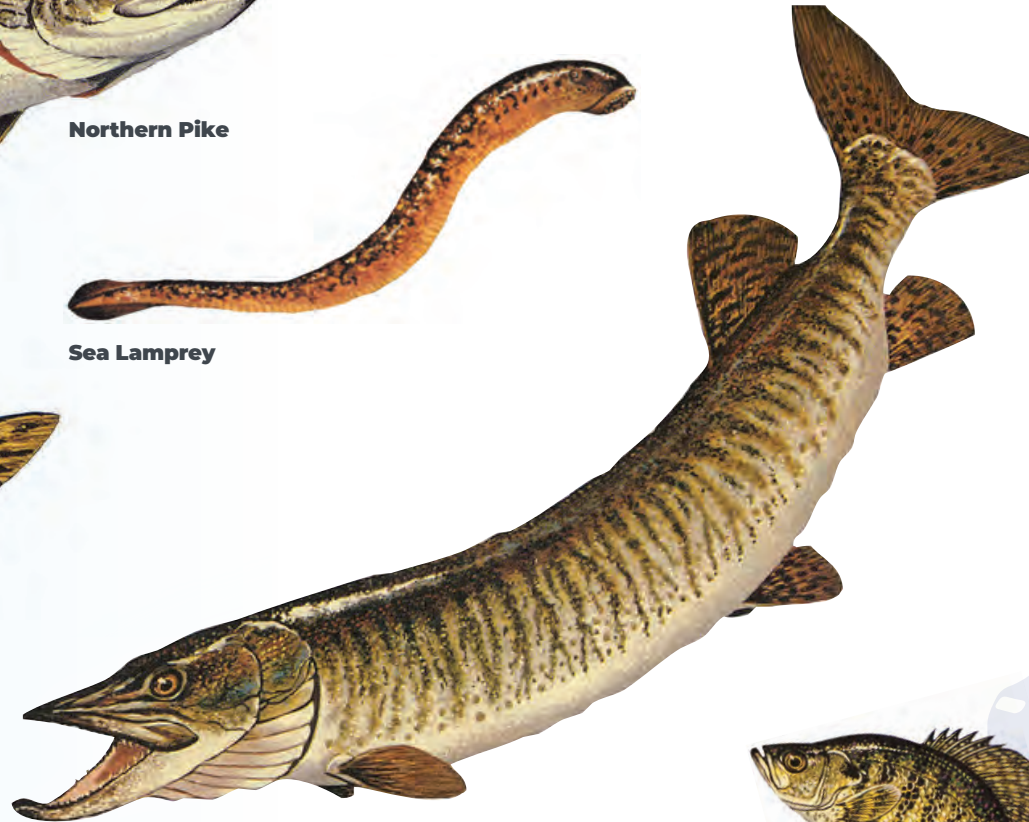
Northern Pike



Sea Lamprey



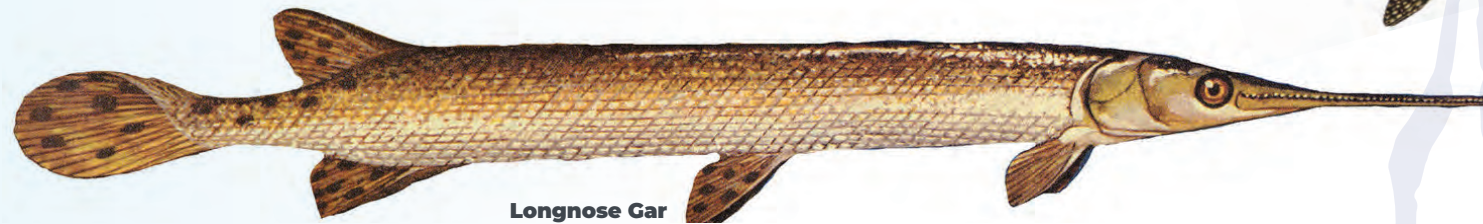
Smallmouth Bass



Muskellunge



White Crappie



Longnose Gar



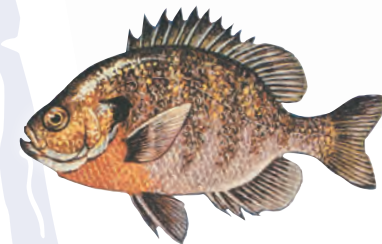
Lake Sturgeon



Gizzard Shad



Lake Trout



Bluegill

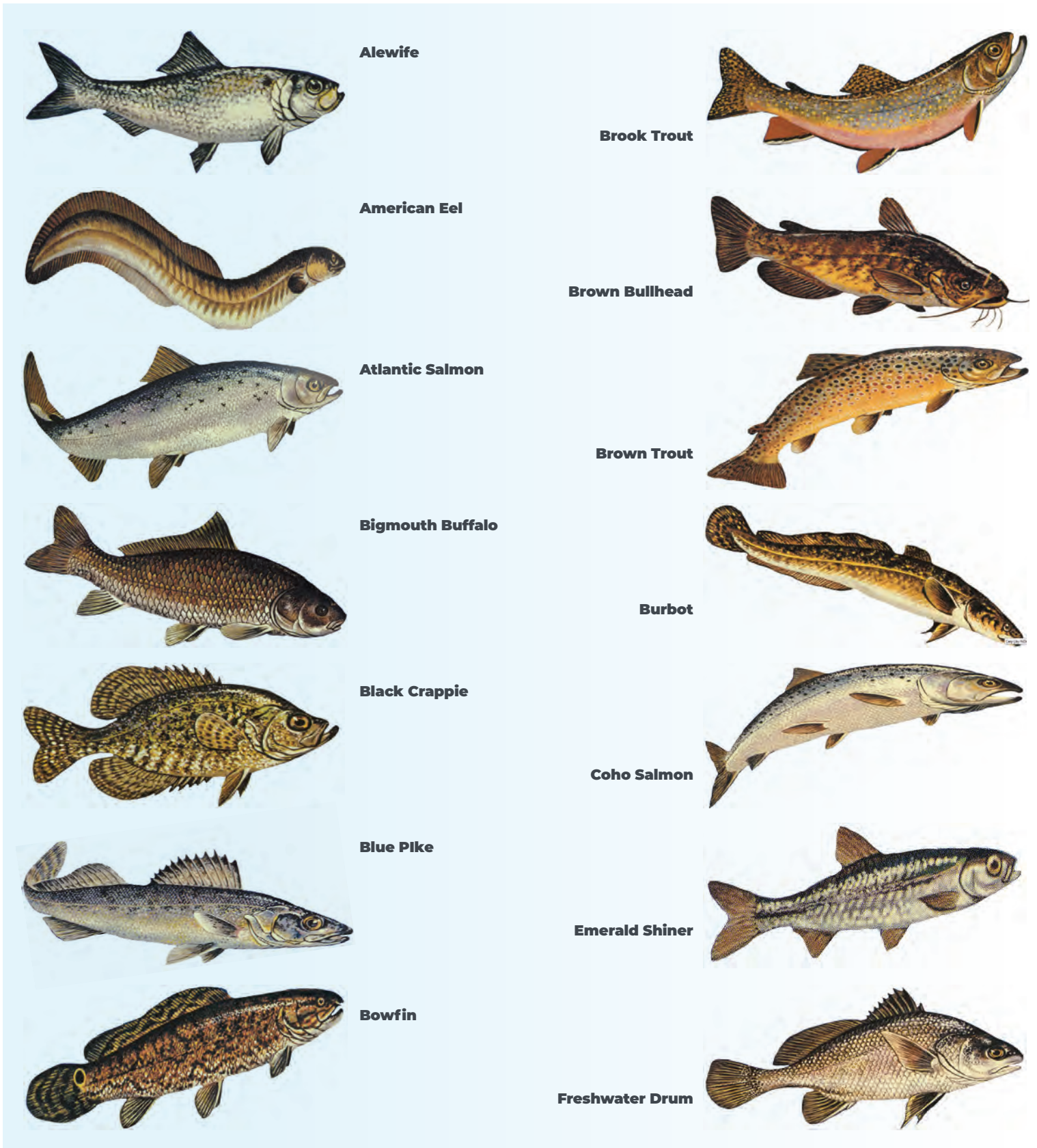


Common Carp

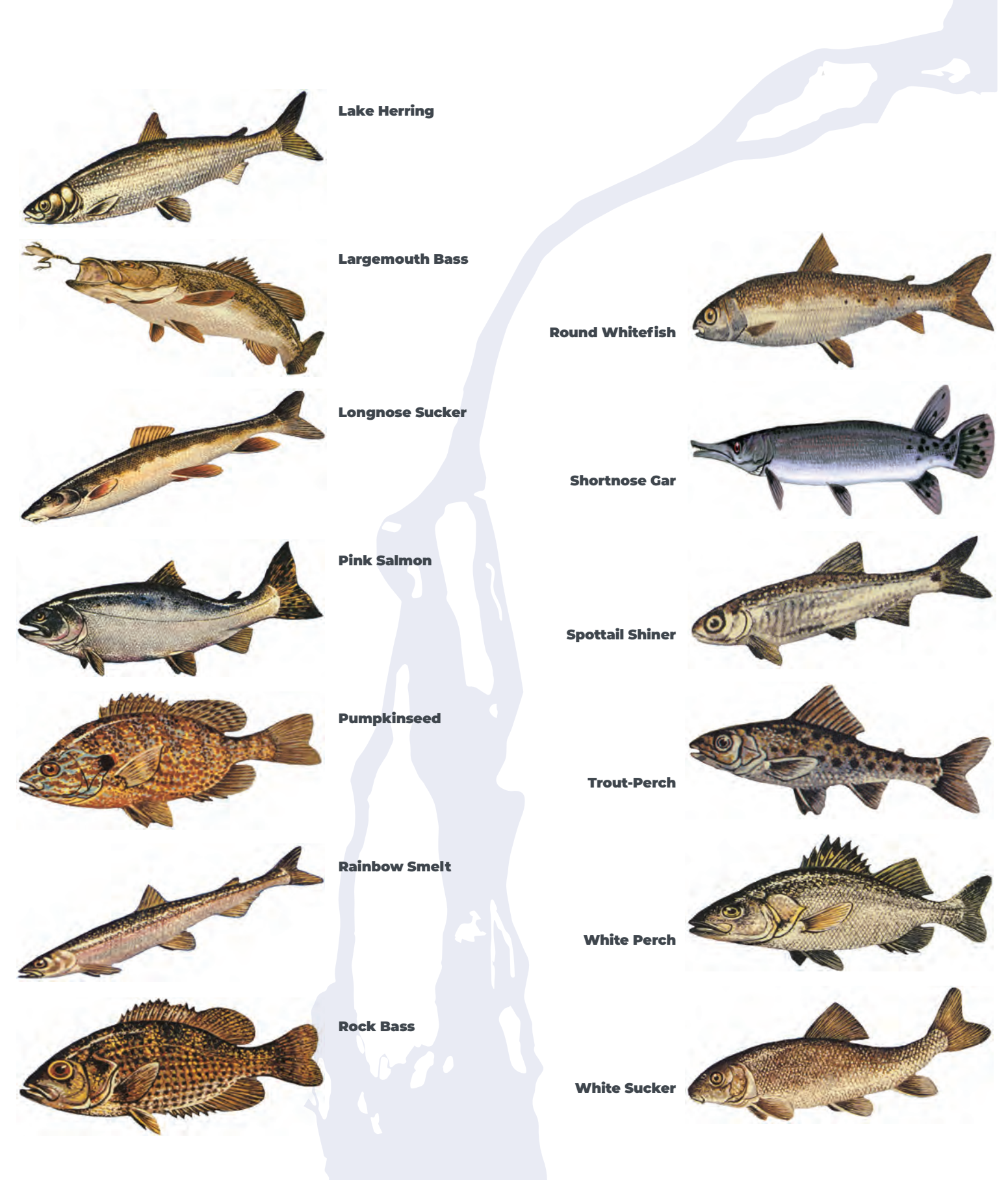


Chinook Salmon

FISH OF THE DETROIT RIVER



FISH OF THE DETROIT RIVER



RETURN OF LIFE

MAKING PROGRESS

A pair of Bald Eagles on Belle Isle bore two eaglets in 2021, two in 2022, and three in 2023.

Photo by Frank Cone of pexels.com



Restoration and remediation have illustrated nature's resilience. Life began returning to the waterways more quickly than many people predicted. Native plants and flowers, reptiles and amphibians, aquatic mammals like mink and otters, and ancient fish like lake sturgeon are all experiencing a healthy rebound.

Beavers, driven from the Huron-Erie Corridor two centuries ago by trappers, have returned. Almost 200 bald eagles have established nesting sites along the river, including on Belle Isle and Peche Island in the heart of urban areas. Ospreys, fish-hunting raptors, which haven't nested locally since the 1890s, are back in force. Newly restored habitats welcome hundreds of species of birds during the annual spring and fall migrations and bring thousands of bird-watching tourists to the area.

With substantial improvement in water quality and areas of restored habitat, fish populations have increased dramatically. Walleye and yellow perch numbers are on the rise, even with increased fishing activity. Being predator fish at the top of the food chain, they are considered good indicators of the river's health.



Driven to near extinction by the fur trade, North American Beavers are now showing up all along the river—even on the Detroit Riverfront Riverwalk. Photo by Andrew Patrick of pexels.com

RETURN OF LIFE

MAKING PROGRESS

There are some unintended consequences. Because of the cleaner water and the great variety of fish, the population of double-crested cormorants (a fish-eating bird species) has exploded. In western Lake Erie, excrement from thousands of nesting cormorants has killed all vegetation on certain islands. Also, the number of “giant” Canada geese—nearly extinct in 1900—has similarly ballooned, causing pollution in parks and backyards.

The Detroit River supports at least 65 kinds of fish. Many of these species, including white, smallmouth and striped bass, yellow perch, lake sturgeon, muskellunges (known as muskies) and walleye, are prize catches for fishermen.

The population numbers are impressive, too. In 1978, the walleye community in Lake Erie was in a state of crisis. Today, their numbers are estimated at over 22 million, with half of them swimming up the river each spring to spawn. Western Lake Erie and the Detroit River are recognized as the “Walleye Capital of the World.” Recent estimates suggest that lake sturgeons have rebounded from just a few hundred several decades ago, to over 50,000 today, some as long as six feet. After a century-long absence, lake whitefish are spawning again in the Detroit River.



Virtually unchanged in over 100 million years and nearly extinct, Lake Sturgeon are making a remarkable comeback. Courtesy of Michigan Sea Grant.

Unfortunately, there are several unwelcome aquatic invaders, mostly brought to the lakes in the ballast water of ocean vessels. The sea lamprey, which preys on other fish, has thrived despite efforts at eradication. Invasive shrimps and plants also compete with native species. Round gobies are an invasive fish with a mixed record. While they prey on fish eggs, gobies also consume zebra mussels (another invader), provide food for walleye, bass and Lake Erie water snakes, and slow the reproduction of cormorants.



This Eastern Fox Snake was caught napping on a purposely placed log, which was part of the habitat restoration project at Belle Isle's Blue Heron Lagoon. Courtesy of Herpetological Resource and Management.

RETURN OF FISHING



Kids learn to fish on Belle Isle with We Fixin to Fish. Courtesy of Jocelyn Muirhead.

Fishing for Sport

Efforts to rebuild spawning grounds and habitat have paid dividends, and today the Detroit area enjoys some of the best recreational fishing on the continent. The spring walleye run in the lower river is nationally renowned, and fishing magazines and media regularly cite Lake St. Clair as some of the best bass and muskellunge fishing available. Between tournament fishermen and local anglers, the sport infuses hundreds of millions of dollars into the regional economy.

Fishing for Family

Fishing can be associated with racial and economic privilege—but Detroit’s families of color have remained resilient and resourceful by fishing in our local waters for centuries. Today, families of color in Detroit continue to engage in catching, cleaning, cutting, cooking, and eating fish. Detroit’s many different communities prepare their fish in a variety of creative ways—and families of color have historically taken care to eat as much of the fish as possible, leaving bones in and savoring the head, eye, cheek, fins, and tail.

RETURN OF FISHING

Fishing for Sovereignty

Although the Anishinaabe communities of Michigan signed treaties with United States government guaranteeing their permanent right to fish in the waters of Michigan, Native communities faced harm and abuse when exercising their fishing rights in the twentieth century. Racist slogans such as “Save a fish; Spear an Indian” could be seen and heard throughout fishing communities in Michigan into the late 1900s. Native fisherman were harassed, assaulted, shot at, and often saw their equipment and property destroyed by non-Native people who considered Native fishing as a threat to the sport of fishing.

In part due to the violence against Native communities during this time, Native tribes began seeking federal recognition as sovereign nations, giving rise to the 12 federally recognized tribes of Michigan. These Native nations have a government-to-government relationship with the United States. In the 1960s-1980s, many tribes were able to take the issue of fishing to court, leading to landmark state and federal Supreme Court cases, which upheld Native treaties with the U.S. and guaranteed Native right to fish.

Fishing with Youth

Young people are some of the most enthusiastic anglers on the planet. Fishing gives youth the opportunity to learn how to provide for themselves, engage with local community members, and care for the natural environment—all while having the time of their lives. Thousands of young people have joined in on the fun, fishing on Belle Isle and in the Detroit River with the support of fishing mentors like Tracy Webb, founder of We Fixin To Fish. In just two years, Webb has taught fishing to over 2,000 children in Detroit, many as young as 3 years of age. A lifelong fishing advocate, Webb shows youth that healthy food can be found as close as our backyards.

First Time Fishing?

Many people feel intimidated when fishing for the first time, but don’t worry—fishing is both fun and accessible. The Michigan Department of Natural Resources sponsors family fishing days during the summer. In Michigan, children 17 years of age and younger do not require a fishing license. Adults can purchase fishing licenses online or at a local store for \$10 for a single day pass. Simple fishing rods can be found for just \$15, and live bait like worms can be purchased for under \$5. In a pinch? You can always tie fishing line to a stick and use corn or bread as bait! Every year, the State of Michigan publishes an annual Fishing Guide—be sure to help protect our natural environment by following the rules and regulations set by the Department of Natural Resources.



Fishing on Belle Isle. Courtesy of Jocelyn Muirhead.

ENVIRONMENTAL JUSTICE

COMMUNITIES OF COLOR TAKE THE LEAD



Detroit high school students plant native species near the Belle Isle South Fishing Pier. Courtesy of Friends of the Detroit River.

Today's twelve Ojibwe, Odawa, and Bodéwadmi tribal governments within Michigan include many natural resource departments, which serve to protect the lands and waters both inside and outside of the tribes. These natural resource departments not only govern fishing practices and provide fish to their community members, but also lead efforts to clean waters, build and maintain fish hatcheries, and reintroduce native fish to Michigan waters.

In addition to efforts by Native governments, many Native community members make it their life's work to protect our water and natural environments. Most well-known are the water walkers, led by Anishinaabe women, who have walked over 10,000 miles along the shores of the Great Lakes to raise awareness of the importance and need to protect our water.

Native environmental activism in the twentieth century gave rise to the modern environmental justice movement, which recognizes the intersectional relationship between social injustices and environmental destruction. The movement calls attention to the ways marginalized communities bear the brunt of environmental

harm, including poor air quality, water poisoning, flooding, and other natural disasters resulting from climate change.

In the second half of the twentieth century, Detroit faced the impacts of economic decline, White flight, and urban decay, which culminated in environmental injustices for the Black and Brown communities of Detroit. These issues include air and water pollution, utility shut offs, and lead poisoning, which all contribute to higher levels of cancer, chronic illnesses, and birth defects. As a direct result of environmental racism, Detroit became home to the "most polluted zip code" in the state, and one of the most polluted in the country.

Today, environmental justice activists fight for the ability for all communities—not just white communities—to live, work, and play in safe, healthy environments. Black and Brown communities of Detroit advocate for clean air and water for all Detroiters, and Indigenous communities continue efforts to protect the Great Lakes. Every day, these activists inspire new generations to become stewards for our land and waters.

IT TAKES A COMMUNITY

LEADERS IN THE FIELD

Citizens, families, governmental agencies, and public and private organizations have fought hard for the land and water they love. The following list identifies major participants in fish-related, restorative projects:

Canadian/United States Cooperatives

- International Joint Commission
- Great Lakes Commission

Federal Agencies

- National Oceanic and Atmospheric Administration
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Coast Guard
- Environment and Climate Change Canada
- Parks Canada

Sovereign Native Nations

- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Keweenaw Bay Indian Community
- Hannahville Indian Community
- Bay Mills Indian Community
- Sault Ste. Marie Tribe of Chippewa Indians
- Little Traverse Bay Bands of Odawa Indians
- Grand Traverse Band of Ottawa & Chippewa Indians
- Little River Band of Ottawa Indians
- Match-E-Be-Nash-She-Wish Band of Potawatomi Indians
- Saginaw Chippewa Indian Tribe
- Pokagon Band of Potawatomi Indians
- Nottawaseppi Huron Band of Potawatomi Indians

State/Provincial/Municipal Agencies

- Ontario Ministry of Natural Resources
- Michigan Department of Environment, Great Lakes, and Energy
- Michigan Department of Natural Resources
- Essex Region Conservation Authority
- Michigan State University
- University of Windsor
- University of Michigan
- Wayne State University

Conservation Organizations

- The Nature Conservancy in Michigan
- Michigan United Conservation Clubs
- Ducks Unlimited – Michigan Chapter
- Michigan Environmental Council

Local Partnerships and Collaborative Groups

- Detroit River Public Advisory Council
- Friends of the Detroit River
- Detroit Riverfront Conservancy
- Detroit River Canadian Cleanup
- Belle Isle Conservancy
- SEMCOG Green Vision
- Southeast Michigan Stewardship Coalition
- Detroit Climate Action Collaborative
- Greater Detroit American Heritage River Initiative
- Michigan Sea Grant

Project Design and Engineering Firms

- Environmental Consulting & Technology, Inc.
- SmithGroup
- EA Engineering, Science, and Technology, Inc.
- PEA Group
- LimnoTech

Private Industry

- U. S. Steel
- Shell Oil Company
- DTE Energy

Community shoreline cleanup on the Detroit River at Belle Isle Beach. Courtesy of Sam Lovall.





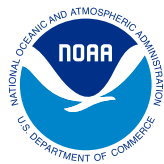
Fishery on Belle Isle. Courtesy of University of Michigan Bentley Historical Library.

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DETROIT
HISTORICAL
SOCIETY



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