

Chicago Lakefront Fishes

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The city of Chicago sits on the drainage divide between the Great Lakes and Mississippi basin. It owes its history and future to its location on the shores of Lake Michigan. With 10 million people living in the Greater Chicago region, it is often envisioned as an environmental wasteland. There are certainly places that fit this description, and there are definitely a lot of challenges facing those who are working to protect the region's aquatic habitats. The circus surrounding the Asian Carp is just one example.

What is under-appreciated is the high diversity of fishes living in the Chicago Region. At least 170 species can be found within 50 miles of downtown Chicago. Some are well known among fishermen, but many are overlooked. It is important for biologists, naturalists, conservationists, etc. to advertise this wonderful biodiversity. If we can accomplish this, and then get people to appreciate fishes and learn more about them, it will facilitate the protection and management of local aquatic habitats.

One way to advertise biodiversity is through field guides

and brochures. Hence this is what I decided to do for the Chicago lakefront. The area of interest is Lake Michigan adjacent to Chicago, including the various bays, marinas and river mouths. Approximately 70 species of fishes have scientific records within this area. Some are more common in the depths of Lake Michigan, with only sporadic individuals swimming near shore. Others are more common in interior lakes and rivers. But all can found along the Chicago lakefront (Fig. 1).

The brochure itself (sample, pp. 15 & 16) is eight inches by 21 inches when fully extended, divided into 6 panels. When folded, each panel is eight inches by 3.5 inches, so the brochure can fit into a jacket pocket, backpack, tackle box, etc. Field guides / brochures need to be easy to carry around and to use, otherwise people will not make the effort to utilize them.

Thirty species are covered in the brochure because of space limitations. Each species has one or two pictures, as well as a three or four sentence description of how to identify it

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Fig. 1.

Longnose Dace (*Rhinichthys cataractae*) is the official fish of the city of Chicago.



Sea Lamprey
Petromyzon marinus
This invasive species is recognized by its snake-like body and circular mouth



Alewife *Alosa pseudoharengus*



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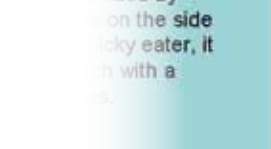


Pumpkinseed *Lepomis gibbosus*
A beautiful sunfish with a black "ear flap" rimmed with blue and a red spot. During the summer, they are often seen along the Chicago lakefront in shallow water. A male clears a 1-2 foot circular area of vegetation and debris, then a female lays eggs in the hole.



Pumpkinseed (*Lepomis gibbosus*) build nests in the shallows along the lakefront.

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Usually has a black stripe extending from the eye but this can be obscured in darker older adults. M extends past the eye in adults, but not necessarily juveniles. 2 feet.



Channel Catfish *Ictalurus punctatus*
Popular sport fish that lives on the bottom. Has 8 barbels.



Northern Pike *Esox lucius*
Not common in Chicago, but individuals will appear from



Yellow Perch *Perca flavescens*

One of the most sought after fish along the Chicago lakefront. Tastes delicious. Population numbers have declined over the years, although there has been a slight increase recently, giving us hope for the future of this favorite fish. Identified by its yellowish color, several dark bars along its sides, and two fins on the back. 1 foot.



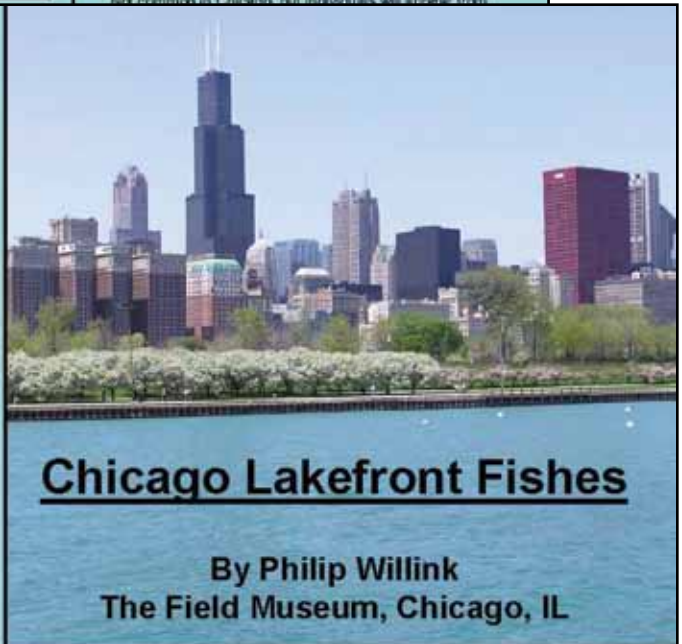
Walleye *Sander vitreus*

Usually associated with local rivers, it seems to be becoming more common in Lake Michigan. And larger individuals keep appearing. A popular sport fish recognized by its streamlined shape, two fins on its back, and a white blotch on the bottom tail tip. 2 1/2 feet.



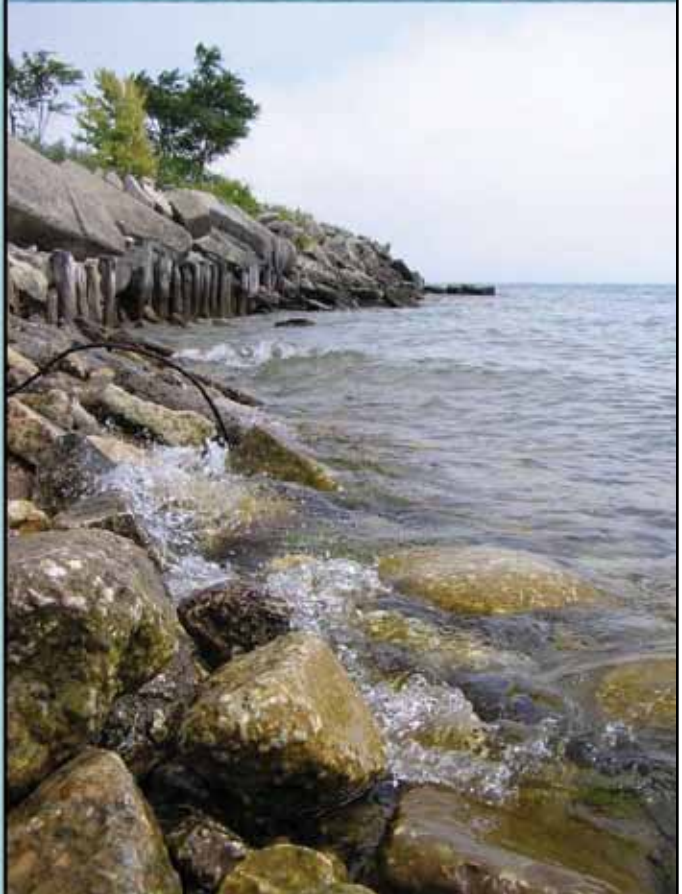
Round Goby *Neogobius melanostomus*

Invasive species that has recently become abundant in Chicago. It has wreaked havoc among some fishes living along the bottom, and is most notorious as a 'bait stealer'. Recognized by its two pelvic fins fusing together to form a single disk. 10 inches.



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and interesting facts. I tried for a taxonomic and ecological diversity when choosing species. Well-known, common species were included because people would react negatively to their absence. And some oddball taxa were included to make it interesting. A few habitat shots of the Chicago lakefront round out the layout.

Approximately half the species in the guide are game fishes like bass, salmon, pike, sunfish, catfish, and perch. Since fishermen are a target audience, it is important to include game fishes, and they are an important part of the aquatic ecosystem.

Around one third of the fishes are invasive, which highlights the problem the Great Lakes have with introduced species. Some are in the area accidentally, like Sea Lamprey (*Petromyzon marinus*) (Fig. 2), Round Goby (*Neogobius melanostomus*), and Alewife (*Alosa pseudoharengus*). Others have been intentionally stocked, like Rainbow Trout (*Oncorhynchus mykiss*), Chinook Salmon (*Oncorhynchus tshawytscha*), and Brown Trout (*Salmo trutta*). Some people get upset when you point out that salmon in the Great Lakes are invasive species. They just happen to be 'popular' invasive species.

Bighead Carp / Asian Carp (*Hypophthalmichthys nobilis*) is included as well, even though NO physical specimens of Asian Carp have been found in Lake Michigan as of June 2010. But several were found in a pond in Lincoln Park (north side of Chicago), which is connected to Lake Michigan via an overflow drainage pipe with a screen. So technically there are Lake Michigan basin records. Someone is believed to have put the Asian Carp in the Lincoln Park pond, although we do not know who or why, or whether it was intentional or accidental.

A couple of the more unusual fishes are Lake Sturgeon (*Acipenser fulvescens*) and American Eel (*Anguilla rostrata*). Both are rare along the Chicago lakefront, but they do show up from time to time. They were more common in the past, and there is hope that they may be more common in the future. But that remains to be seen. The Lake Sturgeon is the largest fish in the region. The American Eel takes the gold medal for making the longest migration to get here, starting its trip thousands of miles away in the Atlantic Ocean.


I also included Burbot (*Lota lota*) and Bloater (*Coregonus hoyi*). These species typically live in the dark depths of Lake Michigan, a couple hundred feet or more below the surface. But they will occasionally wander into the shallows and have been found in water only knee-deep. The Burbot is a freshwater cod, whereas the Bloater is a whitefish endemic to the Great Lakes.

Several smaller nondescript fishes were included. People routinely ignore the Banded Killifish (*Fundulus diaphanus*) and Ninespine Stickleback (*Pungitius pungitius*) in favor of the larger

salmons and basses. Both species are more common than most people realize. Sand Shiners (*Notropis stramineus*) are numerically abundant, but few people will take the time to identify them correctly. And then there is the Longnose Dace (*Rhinichthys cataractae*), voted the official fish of the city of Chicago. Not many people are aware of this piece of trivia.

This is but a sample of the wonderful fish biodiversity along Chicago's lakefront. Hopefully this brochure will increase people's appreciation for our neighbors beneath the waves. For a free PDF of Chicago Lakefront Fishes, please go to: <http://sites.google.com/a/fieldmuseum.org/pwillink/Home/chicagoregionfishes>

Acknowledgments

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Fig. 2.

The infamous Sea Lamprey (*Petromyzon marinus*) continues to attack trout and salmon in Lake Michigan.