## INVASIVE SPECIES ANSWER SHEET

### SEA LAMPREY

Sea lampreys come from an ancient family of jawless fishes that look like eels. Native to the Atlantic Ocean, they entered the St. Lawrence River and eventually the Great Lakes when the Welland Canal was modernized around 1920. Today sea lampreys are found in all the Great Lakes and many tributaries, with the largest population in northern Lake Huron.

#### Characteristics

- Eel-like fish that attach to other fish and feed on body fluids.
- Adults grow 12 to 20 inches long.
- Round, suction disk mouth is filled with sharp teeth.

#### Impacts

- Can kill 40 pounds of fish during its life.
- Often kills large, predator fish, causing populations of smaller fish to grow too large.
- Has contributed to declines in native lake trout and whitefish populations in the Great Lakes.

### **EURASIAN RUFFE**

This fish is native to Europe and Asia. It was first discovered in Minnesota's St. Louis River, the main tributary to western Lake Superior, in 1986. It arrived in the ballast water of an ocean-going vessel.

### Characteristics

- Small, aggressive fish with sharp spines on top and bottom fins.
- . Grows rapidly and loves to eat.
- Can tolerate a range of water conditions.

#### Impacts

- Makes up an estimated 80 percent of the fish caught in the St. Louis River.
- Has spread to other areas in western Lake Superior, and Thunder Bay, Lake Huron.
- Reduces food and habitat for native fish, such as walleye and perch.

### **ROUND GOBY**

This fish is originally from the Black and Caspian Seas. It hitched a ride to the Great Lakes in the ballast water of an ocean-going vessel. Round gobies were discovered in the St. Clair River around 1990. They've spread to all of the Great Lakes, with the greatest numbers in Lake Erie, Lake St. Clair, and southern Lake Michigan.

### Characteristics

- Small, bottom-dwelling fish that resembles a large tadpole.
- Known to steal fishing bait and is often caught by anglers.
- Likes to live in rocky places and can survive in poor water quality.

#### Impacts

- Displaces native fish, eats their eggs and young, and takes over optimal habitat.
- Spawns multiple times per season. Population grows rapidly.
- Can become the most numerous fish in a given area.

### SPINY WATER FLEA FISHHOOK WATER FLEA

These tiny creatures are distantly related to shrimp, lobster and crayfish. To see them clearly, you need a microscope. The spiny water flea was discovered in Lake Huron in 1984. The fishhook water flea was discovered in Lake Ontario in 1998.

#### Characteristics

- Microscopic zooplankton that have long, barbed or hooked tails.
- Tails often catch on fishing lines and downrigger cable.
- Clumps of these zooplankton look and feel like gelatin or cotton batting.

Impacts

These zooplankton:

- Eat small plankton, reducing food for native Great Lakes zooplankton.
- Compete with small and juvenile (baby) fish for plankton such as Daphnia.
- Not a good food source for native fish. Barbed tail spines are hard to digest.
- Clog nets and fishing line, creating problems for fisherman.

## ZEBRA MUSSELS

These small, striped mussels are about the size of a fingernail. Zebra mussels are native to the Caspian and Aral Seas of Eastern Europe and Western Asia. They traveled to the Great Lakes in the ballast water of ships. Zebra mussels were discovered in Lake St. Clair in 1988

and have spread to all five Great Lakes and many inland lakes.

#### Characteristics

- Live in colonies that attach to submerged rocks, dock pilings, boat hulls and even native clams and mussels!
- Filter thousands of gallons of freshwater every day to capture their preferred food—plankton.
- Dead ones can wash up on shore, littering beaches with their sharp shells.

Impacts

- Filter (eat) large quantities of plankton, reducing food for many native species.
- Cause water to become clearer, which promotes excessive growth of aquatic plants.
- Grow in large clusters that clog water intake pipes, boat motors, and pumps, costing millions of dollars to control each year.
- Attach to native Great Lakes mussels and clams, often smothering them.

### ASIAN CARP: BIGHEAD AND SILVER CARP

These two fish were brought to North America in the early 1970s to remove algae from aquaculture ponds (by eating lots of plankton). They escaped from farms along the Mississippi River during a flood in the early 1990s. These big fish now live in the Mississippi and Illinois rivers, and scientists fear they will enter Lake Michigan.

Characteristics

These two fish:

- Grow up to 4 feet long. Weigh over 60 pounds.
- Jump more than 15 feet out of the water. Slam into fishing boats.
- Eat more than 40 percent of their body weight each day.

Impacts

- Eat enormous amounts of plankton—including phytoplankton and zooplankton.
- Could disrupt the Lake Michigan food web and cause problems for fisheries.
- Have been spotted less than 50 miles from Lake Michigan.

### **PURPLE LOOSESTRIFE**

Early settlers brought purple loosestrife to North America from Europe. They liked the plant's eye-catching purple flowers. From its humble beginnings as a garden plant, purple loosestrife quickly invaded wetlands in nearly every U.S. state and Canadian province.

Characteristics

- Tall, flowering plant that can grow from 3 to 7 feet high.
- Often found on the edges of wetlands, roadside ditches and other moist areas.
- Perennial plant that regenerates from its roots every spring.
- Bright purple flowers bloom during midsummer.
- Spreads quickly. A mature plant can produce more than 2.5 million seeds each year.

Impacts

- Competes with native Great Lakes wetland plants and gradually replaces them.
- Not a good food source. When this plant takes over a wetland, ducks, fish, and frogs may leave or die.
- Dense stands of this plant block access to water.

### **EURASIAN WATERMILFOIL**

Eurasian watermilfoil was first spotted in North America in the 1940s, and some say it was brought here intentionally. Others believe the plant was transported in the ballast water of ships from Northern Europe and Asia. Today, Eurasian watermilfoil thrives in nearly every U.S. state, including Michigan, and three Canadian provinces.

Characteristics

- Submerged aquatic plant. Forms thick mats on the water's surface.
- Gets tangled in boat propellers and interferes with swimming and fishing.
- Has feathery leaves, and small red flowers that bloom above water in early summer.

Impacts

- Inhabits inland lakes including some in the Great Lakes region.
- Forms tangled mats that interfere with boating, swimming, and fishing.
- Prevents sunlight from reaching native aquatic plants.
- Reproduces from fragments. Spreads easily by clinging to boats, trailers, and fishing gear.

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# **AQUATIC INVASIVE SPECIES PHOTO CARDS**

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# **AQUATIC INVASIVE SPECIES CHARACTER CARDS**

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	Sea Lamprey	Eurasian Ruffe	MICHU-05-413 COPY MASTER
<ul> <li>CHARACTERISTICS</li> <li>Eel-like fish that attach to other fish and feed on body fluids.</li> <li>Adults grow 12 to 20 inches long.</li> <li>Round, suction disk mouth is filled with sharp teeth.</li> </ul>	<ul> <li>IMPACTS</li> <li>Can kill 40 pounds of fish during its life.</li> <li>Often kills large, predator fish, causing populations of smaller fish to grow too large.</li> <li>Has contributed to declines in native lake trout and whitefish populations in the Great Lakes.</li> </ul>	<ul> <li>CHARACTERISTICS</li> <li>Small, aggressive fish with sharp spines on top and bottom fins.</li> <li>Grows rapidly and loves to eat.</li> <li>Can tolerate a range of water conditions.</li> </ul>	<ul> <li>IMPACTS</li> <li>Makes up an estimated 80 percent of the fish caught in the St. Louis River.</li> <li>Has spread to other areas in western Lake Superior, and Thunder Bay, Lake Huron.</li> <li>Reduces food and habitat for native fish, such as walleye and perch.</li> </ul>
<ul> <li><b>CHARACTERISTICS</b></li> <li>Small, bottom-dwelling fish that resembles a large tadpole.</li> <li>Known to steal fishing bait and is often caught by anglers.</li> <li>Likes to live in rocky places and can survive in poor water quality.</li> </ul>	<ul> <li>IMPACTS</li> <li>Displaces native fish, eats their eggs and young, and takes over optimal habitat.</li> <li>Spawns multiple times per season. Population grows rapidly.</li> <li>Can become the most numerous fish in a given area.</li> </ul>	<ul> <li>CHARACTERISTICS</li> <li>Microscopic zooplankton that have long, barbed or hooked tails.</li> <li>Tails often catch on fishing lines and downrigger cable.</li> <li>Clumps of these zooplankton look and feel like gelatin or cotton batting.</li> </ul>	<ul> <li>IMPACTS</li> <li>These zooplankton:</li> <li>Eat small plankton, reducing food for native Great Lakes zooplankton.</li> <li>Compete with small and juvenile (baby) fish for plankton such as Daphnia.</li> <li>Not a good food source for native fish. Barbed tail spines are hard to digest.</li> <li>Clog nets and fishing line, creating problems for fisherman.</li> </ul>
Round Goby		Spiny Water Flea	

# **AQUATIC INVASIVE SPECIES CHARACTER CARDS**

Zebra Mussel

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## IMPACTS

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- Grow in large clusters that clog water intake pipes, boat motors, and pumps, costing millions of dollars to control each year.
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## **IMPACTS**

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Purple Loosestrife

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