

Web of Life Game-Critter Cards

These Critter Cards are designed to be used for the Web of Life Game during your distance learning ranger program, *Water Those? Aquatic Invasive Species at Sleeping Bear Dunes*.

Before the distance learning program:

1. Familiarize yourself with the rules of the game and the answer key before the distance learning program so that you are ready to help facilitate the game.
2. Print, cut out, and distribute one card to each student prior to the ranger program. If you are unable to print, please email slbe_education@nps.gov so that we can mail you a packet ahead of time.
3. Give students a few minutes to review the name of their critter, what it eats, and what eats it before the program begins. This will save time during the game.

Tips: There are 21 native critters and 6 invasive critters. If you have more than 27 students, please print multiples of the zebra mussels, round gobies, and sea lampreys. If you have less than 27 students, please eliminate the coyote, bald eagle, Coho salmon, spiny water flea, or rusty crayfish.

Please note that the ranger will be narrating the game during the program. The teacher will be helping to facilitate the game, but does not need to know all of the information listed below. This information is being provided so that you know what to expect and can plan ahead based on the needs of your students. Do not hesitate to contact the ranger prior to the program if you have any concerns or suggested modifications.

Game Instructions:

1. Round 1

- a. Ask students to sit in a circle on the floor with their Critter Cards. Give them a minute or so to find the name of their creature, what it eats, and what eats it. Red cards are for invasive species. The invasive species do not play until the second round, but they should sit in the circle and help the students around them. Get them excited by explaining that they will be attacking the food web!
- b. The teacher will stand in the middle of the circle with the ball of yarn.
- c. The teacher is the sun, the source of all energy. The ranger will ask the students what organisms will use the sun's energy to create food—plants. Have the phytoplankton (green algae and diatom) raise their hands. Remind students that they are creating a web, so they have to hold on to a piece of yarn before the toss the ball to the next student.
- d. The teacher will hold onto the end of the yarn and toss the ball to green algae and they will toss the yarn to the diatom. From there, work your way up the food chain as best you can. Explain that the web will get messy and complicated because most living things eat a variety of plants and/or animals. Remind them that sometimes, they won't be passing the yarn to a critter that they eat, but rather to a critter that eats the same type of food that they also eat.
 - i. Sun→green algae→diatom→zooplankton→fingernail clam→scud→water strider→crayfish→rainbow smelt→yellow perch→walleye→largemouth bass→lake whitefish→lake trout→Coho salmon→sturgeon→human→coyote→piping plover→loon→herring gull→bald eagle
- e. After your web is complete, run through some different scenarios to see who can feel the

effects.

- i. A loon eats a crayfish. If you are either of these animals, tug the yarn.
- ii. A fingernail clam eats some plankton. If you are either of these animals, tug the yarn.
- iii. A person fishing catches a yellow perch. If you are either of these animals, tug the yarn.

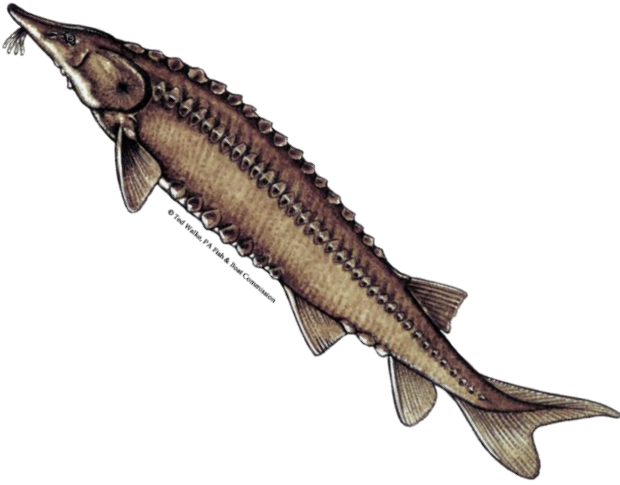
2. Round 2

- a. At this point, add in the invasive species—the students with the following cards should get ready to attack the web and will be added in as we run through each scenario: zebra mussel→round goby→spiny water flea→rusty crayfish→alewife→sea lamprey
 - i. Zebra mussels clear the water, let more light down deeper into the water, and the diatoms and algae begin to grow. Tug the yarn if you are a diatom, green algae, a zebra mussel, or a round goby (eats zebra mussels).
 - ii. A spiny water flea eats all of the plankton. If you are either of these plants or animals, tug the yarn. If you eat any type of plankton, tug the yarn.
 - iii. A rusty crayfish eats the same insects, plants, and small fish that the native crayfish eats and takes away all of its food. If you are a rusty crayfish, a native crayfish, a diatom, green algae, or a smelt—tug the yarn.
 - iv. Alewives arrive in the Great Lakes and have no natural predators. They eat diatoms, zooplankton, and scud. If you are any of these critters, tug the yarn. There are so many alewives that when they die, big piles of them wash up on the beaches. Humans did not like piles of dead fish on the beaches—tug the yarn if you're a human. Humans decided to introduce Coho salmon to Lake Michigan from Washington to eat the alewives. If you are a Coho salmon, tug the yarn. You are not native, but you are not causing harm to the food web so you are also not invasive.
 - v. A sea lamprey arrives and eats some fish and attaches itself to other fish. If you are a sea lamprey or any type of fish, tug the yarn. Sea lampreys have no natural predators in Lake Michigan—nothing eats them.
 - vi. The ranger will ask the students what they think will happen to sea lampreys if they have no predators. This impacts the whole web—everyone tug the yarn.

3. **Game Conclusion:** Ask for a volunteer or two to describe one thing they learned during the game. What are some other things that could impact this web? Have the students return to their seats.

Native Critter Cards

Lake Sturgeon
(fish)



Who eats me? humans

What do I eat? Insects, scud, rusty crayfish, fingernail clams, zebra mussels

Walleye
(fish)



Who eats me? Humans, largemouth bass

What do I eat? Yellow perch, insects, crayfish

Largemouth Bass
(fish)



Who eats me? humans, other large fish

What do I eat? walleye, other small fish, cray fish, insects

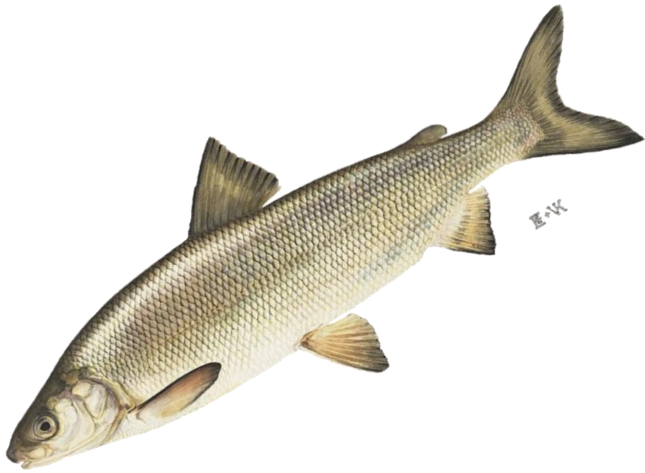
Lake Trout
(fish)



Who eats me? humans, sea lamprey

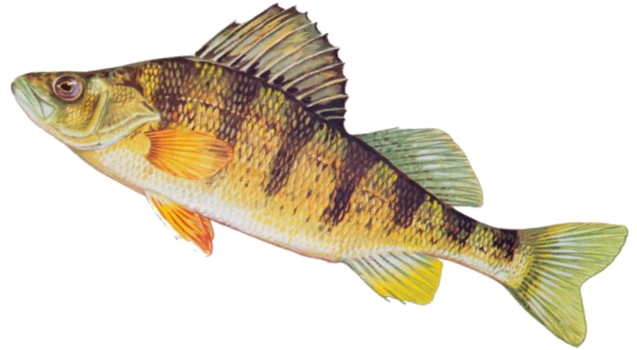
What do I eat? Smaller fish, insects, crustaceans, plankton, small birds, and mammals

Lake Whitefish
(fish)



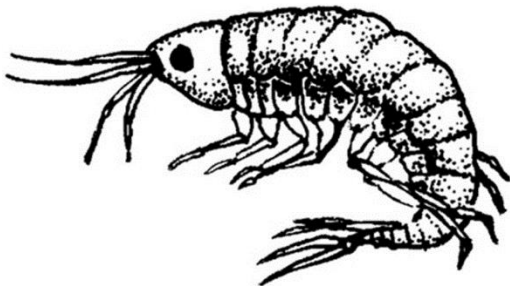
Who eats me? humans, lake trout, walleye
What do I eat? Insects, smaller fish

Yellow Perch
(fish)



Who eats me? Humans, alewife
What do I eat? Plankton, worms, minnows

Scud
(crustacean)



Who eats me? insects, shore birds, rainbow smelt
What do I eat? algae, dead plants/animals

Fingernail Clam
(mollusk)



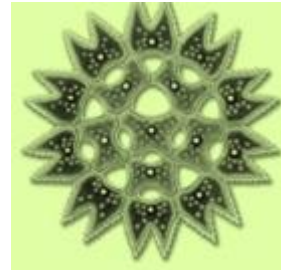
Who eats me? Lake sturgeon
What do I eat? plankton, bacteria

Diatom
(phytoplankton)



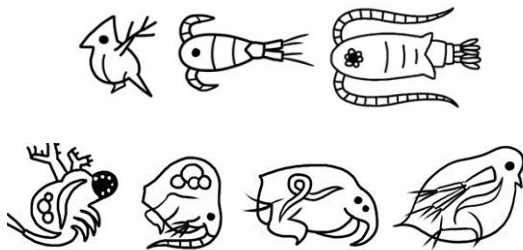
Who eats me? zooplankton, mollusks, fish
What do I eat? make my own food with sunlight

Green Algae
(phytoplankton)



Who eats me? mollusks, fish
What do I eat? make my own food with sunlight

Zooplankton



Who eats me? fish, insects
What do I eat? phytoplankton, algae, bacteria, dead plants/animals

Piping Plover
(endangered bird)



Who eats me? coyotes, dogs, cats, crows
What do I eat? insects, crustaceans, mollusks

Herring Gull
(bird)



Who eats me? other gulls, bald eagle

What do I eat? clams, small fish, birds, dead animals, small mammals, human garbage

Common Loon
(bird)



Who eats me? large fish, gulls, bald eagles

What do I eat? fish, crayfish, frogs, snails, leeches

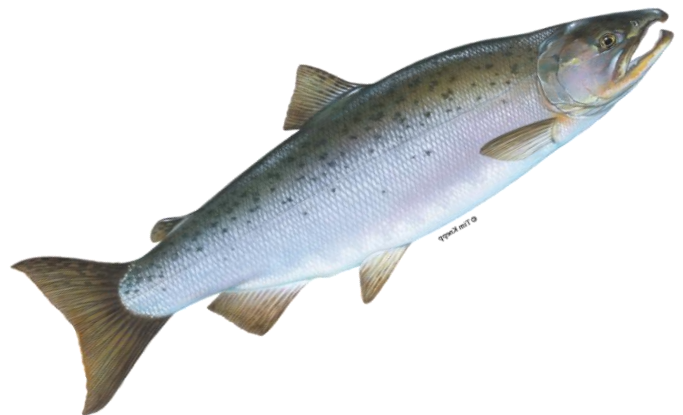
Bald Eagle
(bird)



Who eats me? scavengers like coyotes

What do I eat? dead or wounded fish, birds, mammals

Coho Salmon
(fish)



Who eats me? humans, sea lamprey, other large fish

What do I eat? small fish, alewives

Human
(mammal)



Who eats me? nothing in the Great Lakes

What do I eat? lake trout, yellow perch, walleye, largemouth bass, lake whitefish, lake sturgeon, Coho salmon

Water Strider
(insect)



Who eats me? birds, fish, other insects

What do I eat? insects, plants

Crayfish
(crustacean)



Who eats me? walleye, common loon

What do I eat? plants, insects, small fish

Rainbow Smelt
(fish)



Who eats me? Large rainbow smelt, Coho salmon, walleye, lake trout

What do I eat? Small rainbow smelt, scud, zooplankton

Coyote
(mammal)



Who eats me? cougars, hunted by humans, sometimes die from disease

What do I eat? piping plover, small mammals, insects, fruit, dead animals including fish and birds

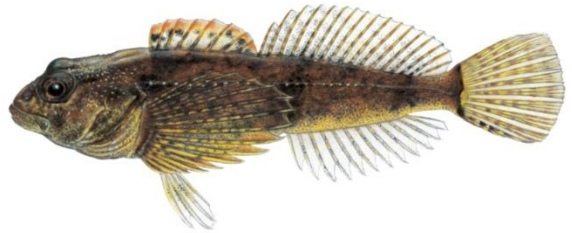
Invasive Critter Cards

Sea Lamprey
(parasitic fish)



Who eats me? nothing in the Great Lakes
What do I eat? Lake trout, Coho salmon, other fish

Round Goby
(fish)



Who eats me? largemouth bass, walleye
What do I eat? small fish, zebra mussels

Alewife
(fish)



Who eats me? Coho salmon
What do I eat? phytoplankton, zooplankton, small crustaceans

Zebra Mussel
(mollusk)



Who eats me? round goby
What do I eat? algae

Spiny Water Flea
(zooplankton, crustacean)



Who eats me? fish
What do I eat? plankton

Rusty Crayfish
(crustacean)



Who eats me? some fish, birds
What do I eat? plants, insects, small fish