



It's Your Niche

Authors: Michigan Water Stewardship Program, Eaton Conservation District, borrowed from the Michigan Department of Natural Resources (Aquatic Invasive Species Education Project)

Lesson Overview: Students will be able to define habitat and niche and create business cards for native, non-native, and invasive aquatic species.

This lesson meets the following Michigan Department of Education standards:

Next Generation Science Standards (NGSS):

- ✓ 2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.
- ✓ 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
- ✓ MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Recommended Grade(s): 2nd, 3rd, 4th, 5th, 6th, 7th, 8th

Recommended Subject(s): Science, English **Duration:** Prep time: 10 min., Activity: 30 min

Materials Required: 3x5" blank index cards, coloring materials, animal ID guides/posters/internet, optional – large paper

Suggested Vocabulary for Students: habitat, niche, native species, non-native species, invasive species, aquatic,

Background Information for Educator: insert 3-4 (more if necessary) sentences of relevant information.... insert background information, insert background information, insert background information, insert background information, insert background information, insert background information, insert background information, insert background information, insert background information, insert background information.

Lesson Procedure:

Introduction:

- ~ Review habitat with students (food, water, air, shelter and space in a suitable arrangement). Tell students that habitat can be considered an animal's address. Explain to students that in this activity they will be not only looking at animals' addresses, but animals' jobs (niche), as well.
- ~ Talk about roles in the environment. What makes an invasive species good at his job? (Reproduces fast/a lot, can eat anything/more, flexible habitat, etc.) Invasive carp are a great example.

- ~ Discuss the neighborhood the students live in. Everyone has an address and most people have jobs. The job might be a role that a person plays in the community. Animals have roles in the ecosystem or community they live in. This role is called the animal's ecological niche. It includes such things as where and how it gathers its food; its role in the food chain; what it gives and does for the community; its habits, periods of activity, etc. It can also be described as what an animal does for a living. What happens if they are not there? What if someone steals their niche?

Activity:

- ~ Allow students time to choose and research an aquatic species found in the Great Lakes. They should find out its niche and choose one thing this animal does well.
- ~ Their assignment will be to create a business card for that animal advertising its job in the community. To help them, you may want to bring in a few "real" business cards to look at.
- ~ Here is an example of an animal business card. →
- ~ Business cards should include the following: name of animal, job title, company name, address, phone number, slogan and illustration or symbol for business.



Wrap up:

- ~ Hang business cards on the bulletin board and call it "Whose Niche?" Discuss the ecosystem you have created. How do invasive species play a role?

Assessment Options:

- ~ What kind of role do invasive aquatic species play in the Great Lakes?
- ~ How can invasives cause harm to the environment, the economy, or even human health?
- ~ How can we reduce the population of invasives and/or prevent new ones from entering the lakes?
- ~ Name 3 facts about the species you choose.

Adaptations/Extension/Enhancements:

- ~ If not individually, have students work to create billboards for their animals business on large paper.

Additional Resources:

- ~ MWSP website: www.miwaterstewardship.org
- ~ Michigan Invasive Species: <https://www.michigan.gov/invasives/0,5664,7-324-68002---,00.html>
- ~ The link to this original DNR invasive species lesson plan series: https://www.michigan.gov/documents/dnr/Aquatic_Invasive_Species_Education_project_607805_7.pdf

Our MWSP logo represents the two hands of Michigan - both the upper and lower peninsulas - and caring for our water resources and water quality. The green hand symbolizes all vegetation and crops in our state and the tan hand symbolizes soils. The lighter blue water signifies the vast surface water throughout the state and the darker blue water denotes groundwater.