Habitat Enhancers: Creating a Habitat Improvement Project

Activity Overview

Students use the wheel of the year and additional information to create a habitat improvement project. (This is a service learning activity.)

Objectives

- Students will:
- Understand the seasonal nature of food abundance and scarcity in a habitat
- Understand the spatial nature of food abundance and scarcity in a habitat
- Identify potential problems in the habitat that could be addressed by students
- Identify food scarcities that could be remedied by a student activity
- Develop a habitat improvement project

Subjects Covered

Science

Grades

3 through12

Activity Time

3-4 hour for planning (depending on habitat, grade level, number of projects, etc.) Actual implementation time will vary.

Season

Winter for planning time

Winter through early Summer (depending on project) for action time

Materials

Information from Habitat Detectives and Habitat Assessors activities, field guides (trees, shrubs, flowers), native plant, tree, and shrub nursery catalogues

State Standards

Science:

Ask questions, plan investigations, make observations, predictions (C.4.2)

Select multiple information sources (C.4.3)

Support conclusions with logic (C.4.7)

Background

An understanding of any habitat is fairly incomplete until it includes a seasonal and spatial understanding of food and shelter availability. This activity is based on the more complete understanding of habitat gained through processing information in the Habitat Assessors activity and then focusing attention on feasible student projects to improve the habitat.

What might these projects be? This will depend on the habitat itself, the students' grade level, and the resources available.

A conventional schoolyard could be enhanced by:

- Planting native trees and/or shrubs producing nut, seeds, fruit, and/or shelter
- Planting a native species butterfly garden in a sunny spot
- Planting a native woodland garden in shady spot
- Creating a brush pile for shelter
- Installing bird feeders and/or birdhouses

A woodland habitat of any size could be enhanced by:

- Removal of invasive species
- Restoration of native flower species (if diversity is low)
- Extending the nectar season by planting native flower species that bloom earlier or later than the ones currently in the habitat
- Extending the berry/fruit season by planting native shrubs and/or brambles
- Planting good nut sources (hickory and white oak are especially edible)
- Creating brush piles for shelter
- Installing bird houses, especially for at-risk cavity-eaters
- Installing bat houses

Worthy achievable projects are numerous. Time will be a limiting factor, as will be the students' age (and strength and abilities). Cost may not be a problem if you have a supportive PTO or PTA group eager to encourage service learning activities. Parents or community members can be found to help with carpentering activities. Gardeners can be counted on to help with planting activities.

Tips for successful activities

Students generally are more interested in helping animals or birds than plants, so it's important to discuss why projects focused on plants actually help the animals

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Identify data and sources to answer questions (C.8.2)

Use knowledge, models, and theories to explain results (C.8.5)

Evaluate questions, hypotheses, conclusions (C.8.9)

Identify further questions (C.8.11)

Identify issues, questions, research; design & conduct investigations (C.12.2)

Choose & evaluate data collection methods (C.12.4)

Use explanations & models to describe results (C.12.5)

Present a scientific solution to a problem (H.8.2)

Analyze resource management (H.12.1)

Investigate a resource management plan or proposal (H.12.5)

Environmental Education:

Make observations, ask questions, plan investigations (A.4.1)

Collect information, make predictions, offer explanations (A.4.2)

Develop answers, draw conclusions, revise understanding (A.4.3)

Collect information, conduct experiments, develop solutions (A.8.2)

Use techniques to organize information (A.8.3)

Identify questions to solve current problems (A.12.1)

Cite examples of adaptation to habitat (B.4.6)

Explain importance of biodiversity (B.8.3)

Explain & cite examples of how humans shape the environment (B.8.10)

Evaluate importance of biodiversity (B.12.7)

Identify environmental problems & issues (C.4.1)

Use environmental monitoring techniques (C.8.2)

Use questioning & analysis skills (C.8.3)

by increasing food and/or shelter. For example, increasing flower diversity increases the chance for nectar availability, which benefits hummingbirds, bees and butterflies.

In fact another successful approach to developing a project is for the class to choose an animal, bird, insect ,etc., species of special interest to them. Is it a year-round resident? Is it a summer-migrant songbird, or a short-lived butterfly with specific larval forage-plant requirements? How do the food needs of this species match with the food availability wheel of the year? What might its shelter needs be? Approaching the habitat-enhancement by first choosing a creature to help will help students understand that habitat enhancement is the most effective way to help creatures.

It is important to remember to plant only native shrubs and trees; our native wildlife need native plants.

How can the class assess ample diversity in order to choose a planting project? In a 10 acre woods, 30 flower species would be considered quite good, while 5 species would be fairly poor. Other questions to ask: are there more than 2 kinds of nut trees? Seed trees? Fruit trees and shrubs? Berries? Do the foods come all at the same time? Planting different species can extend food seasons and nutritional sources, which can significantly help animal species.

It is extremely helpful to have a good set of tools. Most useful are work gloves, trowels, shovels, clippers, and loppers. A large collection of gallon milk jugs and several watering cans are also very useful. Large plastic tubs are handy when weeding out invasive species or weeds. Small-adult and child-size work gloves (leather palms and cotton backs) are not expensive. If funding is a problem, grants are frequently available for service learning activities.

Whenever tools are involved, it is best to have adequate supervision. A good rule is about 5 or 6 students per adult. Always explain safety rules, because most students don't yet know them.

Before actually beginning any task, demonstrate how it's done. For example see Earth Partnership for Schools activity, "Planting Native Plants" 7-16.

Additional Resources

- Henderson, C.L. (1992). *Woodworking for wildlife: Homes for Birds and Mammals.* St. Paul, MN: Minnesota Dept. of Natural Resources. (For orders, call 1-800-657-3757)
- Henderson, C.L. (1994). *Landscaping for Wildlife.* St. Paul, MN: Minnesota Dept. of Natural Resources. (For orders, call 1-800-657-3757)

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Compare effects of activities on environment (C.12.1)

Identify ways to take positive action (D.4.3)

Develop a plan for improving or maintaining the local environment (D.8.6)

Develop a plan to maintain or improve local environment & implement plan (D.12.5)

Source

Georgia Gómez-Ibáñez,
Cambridge Elementary School, WI

Wheels available at
www.partnersinplace.com

- Tallamy, D.W. (2007). *Bringing Nature Home: How you can sustain wildlife with native plants*. Portland, OR. Timber Press.