CANADIAN WILDLIFE FEDERATION

90+ minutes

Map That Habitat

Learning Objectives

Students will:

- Learn how to map physical features and consider the habitat needs of birds.
- Identify which bird-friendly habitat features are present or missing from their mapping area.

Method

Students select an area to map with birds in mind. They will map bird-friendly physical features, such as cavity nesting trees, food sources, sheltering trees, and water, as well as threats such as cats, pesticide-treated grass, and polluted water.

Materials

- Newsprint paper or Bristol board
- Crayons and pencils
- Clipboards and paper

Background

We use “maps in our mind” all the time. That’s how we find our way from home to school. Printed maps help us find our way if we are lost. Maps can be simple drawings that explain how to find a friend’s house. They can be big, complex, or global (showing countries of the world). They can be conceptual and include information on the resources about birds in your community. Or they can be artistic and include artists’ renderings of birds in a local area.

No single map includes everything— that’s why there are many kinds. We are probably most familiar with road-maps, which include roads, cities, and rivers and are drawn to scale. Others may depict subway systems, endangered species, or amounts of rainfall in an area. Maps can render anything! There are even maps that show the shape of the land beneath the ocean. A **cartographer** is someone who makes maps. **Cartography** is the science of making maps.

In this activity, maps will be used to depict a "bird’s-eye view" of your backyard, schoolyard or community. The data you gather and illustrate on your maps will give you ideas about what could to be done to improve bird habitat in your area. Depending on the project’s scope, your students' maps could also provide data to be used by community groups or agencies to create or restore habitat for birds.

Mapping can be the first step in helping improve birds’ habitats, by:

- Identifying the assets, resources, and deficits in an area
- Helping students to zero in on problems and come up with solutions.

Activity

1. Tell students that they will be collaborating to make a master map that focuses on how an area could be made more attractive for birds. Explain that the master map will be a group project, contributed to and worked on by the entire class. A large sheet or two (or more) of newsprint or Bristol board taped together will do for the master map's surface.
2. Review habitat requirements for birds (food, water, shelter, and space in a suitable arrangement).
3. Have students decide on an area to be mapped. It can be as small as a sliver of your schoolyard or as large as your neighbourhood. The scope should be reasonable for students' age levels.
    - Familiarize young students with mapping techniques by having them map their classroom.
4. Divide the class into groups of four or five.
5. Have each group brainstorm, and then present to the class, a list of habitat elements that ought to be depicted on the map. Here are some tips to get them started:
    - Nesting sites (e.g., cavity nesting trees; coniferous and deciduous trees and shrubs; bird boxes)
    - Food sources and types of food (e.g., seed, nut, or berry producing trees and shrubs; a diversity of flowering plants that attract insects)
    - Water sources (e.g., natural sources, such as a river, or made by people, such as bird-baths.
    - Shelter (e.g., coniferous and deciduous trees and shrubs);
    - Landmarks (e.g., rock roosts for perching, meadows, large and small trees);
    - Bird species living in, or regularly seen in, your mapping area and where they were seen
    - Location of lawns, gardens, and parks
    - Areas under potential development
    - Dangers for birds (e.g., cats and other predators, lawns sprayed with pesticides, windows into which birds could fly).
6. Provide each group (or student) with a clipboard, paper and writing utensils.
7. Each group should:
    - Draw the location of their school in the centre of a sheet of paper.
    - Mount their drawing on their clipboards.

8. Next, head outside as a class to view the area to be mapped.
    - Students should bring their drawings.
9. Instruct students to make a rough sketch of all physical features that ought to be included, such as trees, nests, vegetation, fences, or buildings.
8. Back inside, have students brainstorm ideas for symbols to represent the various features in the map's legend.
9. Using a projector or the blackboard, make a "rough draft" map with as much detail as possible.
10. With the draft complete, have students work together to transfer these details onto the master map, using the newsprint or Bristol board for the final copy (to scale is optional).
11. Once the physical features have been drawn on the master map, have the students bring their clipboards (and drawings!) outside and take another stroll around the mapping area with the class.
12. During this walk, students should:
    - Sketch in features that appeal to birds.
    - Indicate features that may be missing or harmful.
13. Ask the students to look at the area as if they were birds:
    - What would appeal to them in the area?
    - Are there any tasty berry bushes, trees for shelter, or a diversity of wildflowers to attract insects that birds like to eat?
    - Remind the students that plants we consider weeds offer a banquet of seeds and insects for birds. Include areas such as stretches of concrete or places sprayed with pesticides.
14. Back in class, make a rough sketch of these newly observed features. Have the students draw in the bird-friendly and unfriendly elements onto the master map.
15. Date the map, create a legend, include compass points and scale (scale is optional).
16. Display the map in a hallway at your school.

Extensions

- Have students brainstorm other ways to use the information on your bird habitat map, such as building a database of information, creating a Web site, or designing a brochure or a guidebook.
- What would your map look like if your schoolyard were more bird-friendly? What steps would you need to take to create an ideal bird habitat?

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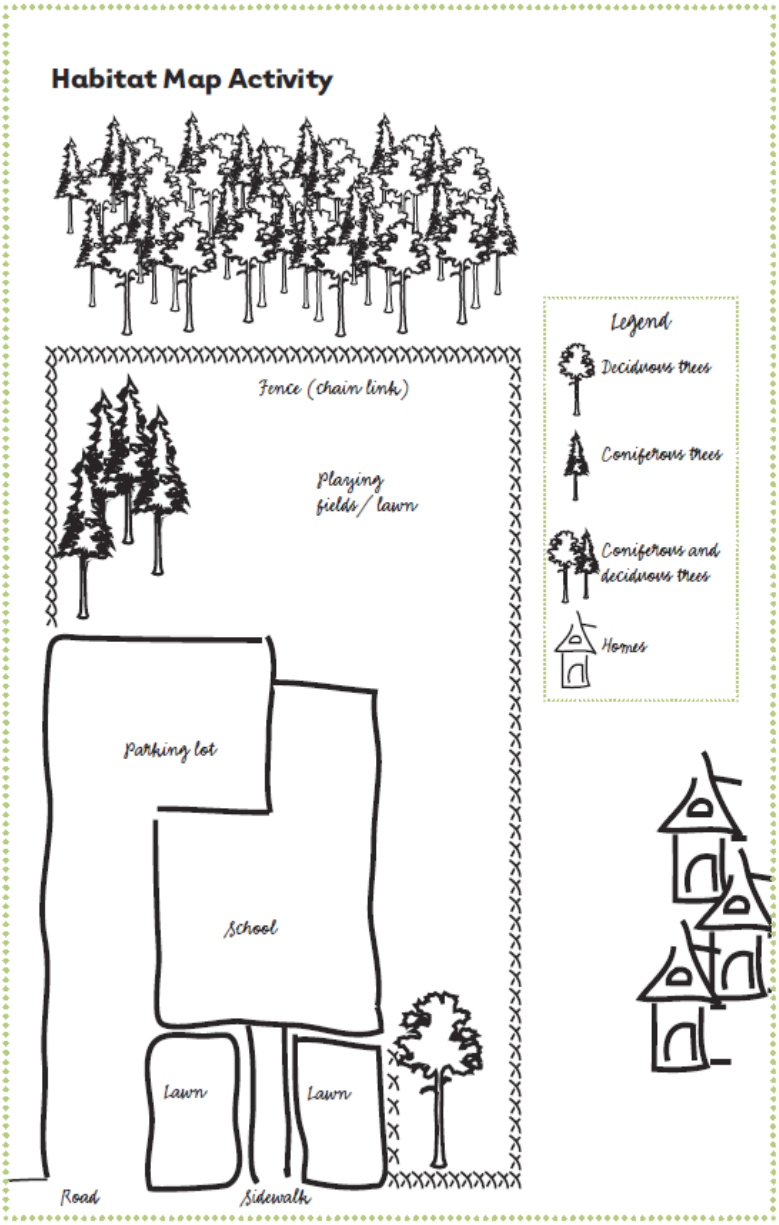
Mapping Tips

- A map title explains what the map is about.
- A date on the map represents its time period. (Historical maps often have two dates: the time period the map represents and the date it was drawn.)
- The compass points (or compass rose) let you line up the compass arrow so it points north, for example, to the "real" north so you may orient yourself.
- The legend or key of a map helps to decode its details.
- A road-map, for example, often uses symbols for towns, airports, and hospitals, and coloured lines for provincial boundaries and highways. When students map for birds, they can come up with their own symbols to help them interpret their map.
- The scale shows a map's details at the correct size when compared to other details. It may also help to judge distances. It would be confusing, for example, if a bird box and your school were shown as being the same size!



- A scale of 1:1,000 may mean that 1 cm represents 1,000 cm. A road map's scale might mean 1 cm equals 7 km.
- Lines that run across, or up and down, a map mark latitude and longitude. They help to locate places on a map. Lines of latitude circle the Earth in east and west parallels; lines of longitude circle from the North Pole to South Pole.
    - Explain to younger students that these are imaginary lines.

For additional resources visit:

CanadianWildlifeFederation.ca/Education