

Who Can Live Here?

SUMMARY:

Students assess the fitness of a habitat for a specific species.

Grade Level:

9–12

Time:

2–3 class periods (120 minutes)

Subjects:

Biology, Environmental Science/Studies, Geography

Skills:

Observation, Investigation, Data Processing, Critical Thinking

Learning Objectives

Students will be able to:

- Locate habitat elements on a specific site
- Assess site's potential as a suitable habitat for a specific species
- Identify an area of the site that would include the most habitat elements for a specific species

Materials:

- Tools for observing wildlife: field guides, binoculars, hand lenses (optional)
- Habitat worksheets (p. 91)

Background

See Ecology 101 (p. 24-35)

Preparation

Identify a suitable study site for students, either on or near school grounds. (A current or future Schoolyard Habitats location makes an excellent study site). Study sites should potentially provide habitat for at least 4 to 7 different species.

Procedure

1. To evaluate the fitness of a habitat for a specific species, the students will first need to:
 - Research the needs of animals native to the area. Assign each student (or allow students to choose) a different animal that is found or could be found at the study site. Assign animals from a variety of phyla. Identify the specific habitat needs of the animal—food, water, cover, and places to raise young.
 - Describe the habitat type at the site and

evaluate it for each of the habitat components and the impact of humans. Rate the habitat in terms of each component on a scale of 1 to 10, with 1=poor and 10=excellent.

- Analyze the findings to evaluate the quality of the site for this animal. A guide to assist the students in this task is included at the end of this activity.
2. After the students have analyzed their individual species, the class should compile their findings to assess the overall wildlife habitat quality of the site.
 - Record all of the data on a chart displayed in the classroom on the board, overhead projects or computer screen:



Habitat Components

SPECIES	FOOD	WATER	COVER	PLACES TO RAISE YOUNG	HUMAN COMPATIBILITY	TOTALS
Species A						
Species B						
Species C						
Species D						
Species E						
Etc.						

- Discuss the answers to the following questions:
 - Which animals had the highest total score? Lowest?
 - Which components had the highest score? Lowest?
 - For which animals would the habitat be the easiest to improve? Most difficult?
 - Which habitat component is the easiest to improve? Hardest?
 - Do different animals need different site enhancements?
- Discuss different enhancement possibilities that might improve the habitat quality rating. Have the students break into groups according the animals or components on which they would most like to focus.

For example, a group may wish to focus on one component, such as water, or on one species for



which one or more components were not appropriate. Have them draw up simple plans to improve the quality of the habitat and present them orally to the class.

- The class should discuss each plan: *How likely is it that the plan will improve the quality of this habitat? How feasible (in terms of time, cost, legal issues, etc.) is the plan? What community resources might be needed to implement the plan? What other information would they need to carry out their plan? Does the plan of one group affect the plan of another? Can any of the plans work in tandem?*

needed. Ask them what they would include in a survey of that site.

2. Give students the results of another survey (perhaps completed by another class for another site), and ask them to suggest a plan to improve habitat quality at that site.
3. Using inventory information, students write a site description and speculate about wildlife species that may have lived there once but are no longer seen there.

Assessment

1. Describe another location in the community familiar to the students. Provide photographs, maps, or diagrams if

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Who Can Live Here?

9-12 WORKSHEET

Name: _____ Date: _____

Site: _____ Location: _____

Part 1: Natural History

Wildlife Species: _____

Description of animal: _____

Specific Needs of Animal

Food: _____

Water: _____

Cover (all types: nesting, wintering, storage, resting, and protection): _____

Places to Raise Young: _____

Part 2: Habitat Characteristics

Habitat Type: (check all applicable)

- | | | |
|---|---|--|
| <input type="checkbox"/> Mixed Forest | <input type="checkbox"/> Mixed field/shrub/some trees | <input type="checkbox"/> Houses, few trees and little lawn |
| <input type="checkbox"/> Lake | <input type="checkbox"/> Wetland | <input type="checkbox"/> Neighborhood |
| <input type="checkbox"/> Forest | <input type="checkbox"/> Shrub | <input type="checkbox"/> Buildings, scattering of trees, little or no lawn |
| <input type="checkbox"/> River | <input type="checkbox"/> Park | <input type="checkbox"/> Business Area |
| <input type="checkbox"/> Agricultural Field | <input type="checkbox"/> Shrub with some trees | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Pond | <input type="checkbox"/> Houses, many trees, mowed lawn | |
| <input type="checkbox"/> Mixed field/shrub | <input type="checkbox"/> Schoolyard | |
| <input type="checkbox"/> Stream | | |



9-12 WORKSHEET

Briefly describe the habitat at the site you're investigating, including major vegetation and wildlife known to be on site: _____

Part 3: Habitat Component Rating

A. Food

1. Does this site provide food for this animal? Yes No
2. If yes, list foods found on this site: _____

3. Are foods limited to one or more seasons? Yes No
4. If yes, which seasons? Winter Spring Summer Fall

Rate "Food" from 1 to 10: _____ ("10" is excellent quality; "1" is poor quality.)

B. Water

1. Does this site provide water for this animal? Yes No
2. If yes, list water sources found on this site: _____

Rate "Water" from 1 to 10: _____ ("10" is excellent quality; "1" is poor quality.)

C. Cover

Animals require different types of cover. Place "yes" next to those cover types that your animal requires, then decide if this site meets the needs for the animal. If yes, list possible places where the animal may find cover on your site.

COVER TYPE	NEEDED BY ANIMAL?	FOUND ON SITE?	LOCATIONS (BE SPECIFIC)
Breeding/Nesting			
Nursery			
Roosting/Resting			
Hibernating			
Protection			
Other			

Rate "Cover" from 1 to 10: _____ ("10" is excellent quality; "1" is poor quality.)



E. Places to Raise Young

I. Does the site provide adequate places to raise young? Please explain.

Rate "Places to Raise Young" from 1 to 10: _____ ("10" is excellent quality; "1" is poor quality.)

Part 4. Human Compatibility

Are there human activities on this site? Yes No

If so, list: _____

Are these activities compatible with this animal inhabiting this site? Explain. _____

Rate "Human Compatibility" from 1 to 10: _____ ("10" is excellent quality; "1" is poor quality.)

Part 5: Management

What is the total rating for this animal at this site? _____

Based on this total habitat evaluation, could this animal live on this site? _____

Why or why not? _____

Does the animal live on this site to your knowledge? Yes No

If not, why not? _____

Can this site be easily improved for this animal? Yes No

If yes, how? _____
