



CONSERVE WILDLIFE
FOUNDATION OF NEW JERSEY

Shrinking Habitat

NJ Core Curriculum Content Standards addressed: 5.1.D, 5.3.A, 5.3.B, 5.3.C, 5.3.D, 5.3.E

Objectives: After participating in this activity, students will be able to:

- Define habitat as it relates to both people and wild animals;
- Describe the effect of human development on plants and animals living in the area;
- Evaluate the importance of suitable habitat for wildlife;
- Recognize that loss of habitat is the most critical problem affecting wildlife today.

Materials: Green and blue construction paper; 2 desks or chairs (or hula hoops) to delineate a herbivore habitat; 5 or 6 sheets and blankets to simulate development for a group of about 25 students

Vocabulary: habitat, food chain, development, herbivore, carnivore, vegetation

Procedure:

PART 1:

1. Put three words on the board – People, Pets, Wildlife. Ask students “What do people need in order to live?” List student answer under the “People” column. Ask the same questions and record the answers for both Pets and Wildlife.
2. After the lists are made, ask the students if some ideas can be lumped together under a more general category (such as food, water, shelter, space, etc.). Try and narrow down the list so that only the essential survival needs are displayed.
3. Ask the students to compare the lists – are they similar or different? The most basic survival needs should be the same for each of the three groups and can be limited to:

Food	Arrangement
Water	Sunlight
Shelter	Soil
Space	Air

People and wild animals have the same basic needs for survival.

PART 2:

Let students know that this part of the lesson will simulate wildlife in its habitat.

1. Divide participants into 4 groups. For a group of 25 students, the breakdown would be as follows:

Herbivores (9) *3 times as many carnivores*
Carnivores (3)

Vegetation (6)
Land developers (2)

2. Establish a large playing area (outside or in the classroom with chairs, tables, and desks moved to the side or gym). This simulates a wildlife habitat area.

3. Provide each **herbivore** with:

SHELTER: Two desks or chairs (or hula hoops)

FOOD: 3 pieces of green construction paper

WATER: 1 piece of blue construction paper

Some VEGETATION portrayed by STUDENTS.

Provide each **carnivore** with:

SHELTER for a lair: one desk or chair (or hula hoop)

SPACE equivalent to that used by 3 herbivores.

3 HERBIVORES as a potential food source.

WATER: One piece of blue construction paper

Some VEGETATION portrayed by STUDENTS.

4. Ask the herbivores to arrange the food, water, and shelter and the vegetation (students) in a space to represent their habitat.

5. Once the herbivores have arranged their habitat, **ask the carnivores to move into the area to establish their lairs and water sources, keeping an eye on the herbivores for possible food sources.** (For added interest, students can identify what type of animal they are and then role play its characteristics). *This phase may take up to 10 minutes – students who are developers may begin planning their development while herbivores and carnivores arrange their habitat.*

6. Once all the animals are established in their habitats, **it is time for the developers to enter the picture.** These developers have been given the opportunity to build a new housing development. They may use approximately 5 minutes to construct their development, explaining their actions as they take them. They may use the space equivalent to that used by 3 herbivores. The developers can use the sheets and blankets to build their development. They may remove vegetation (without physically hurting the students), they may remove shelter (represented by desks or hula hoops or whatever pre-determined materials), food, and water.

8. Once the development is constructed, engage all the students in a discussion of what happened. Some questions to consider:

1. What action took place? With what consequences?
2. Would or did any animals die? How were you affected by this development? From what causes?
3. Could the developers have done anything differently to change the consequences?
4. Could they have developed several smaller areas instead of one large area, or vice versa, with what effects?
5. Would it have reduced the negative consequences for wildlife if they put the development in a different area of the habitat?
6. Were there any positive consequences? If so, what were they? How were they achieved?
7. What are some possible impacts on wildlife from human activities like development of land.
8. Are there places in your community where wildlife habitat has been lost by human development?
9. Are there ways to minimize negative impacts when wildlife areas are developed? What can people do to minimize the negative impacts on wildlife?

Adapted from:

Project WILD, The Beautiful Basics, p. 30. 1992 Western Regional Environmental Education Council.

Project WILD, Shrinking Habitat, p. 258. 1992 Western Regional Environmental Education Council.

Background Information about habitat

A person has the same basic needs as other animals, including those that are wild and domestic. Every animal needs a home. An animal's home, or 'habitat,' not only includes its shelter but the areas outside and around the house or shelter where the animal frequents to obtain food and water. Hence, the basic needs that must be met for an animal to survive include shelter, food, water and space. An animal's habitat is the area where the animal is able to meet its needs sufficiently; and, it may be similar to the neighborhood or community that a person lives in.

As of the Year 2000, New Jersey had over 8,400,000 residents and continues to have the greatest number of people per square mile (almost 1,135), thereby recognized as the most densely populated state in the country. While the State can boast of being home to more than 800 species of wildlife, it also lists almost 10% of these species as being threatened or endangered. Preserving and maintaining the diversity of the State's wildlife populations is important, not only to reflect the integrity and vitality of New Jersey's ecosystems, but to also not upset these systems biologically and ecologically.

In many instances the 'habitats' of people collide with the habitats of different species. Development (habitat loss and habitat fragmentation) poses the biggest threat to the State's more sensitive wildlife populations, along with pollution and the alteration or manipulation of habitat.

It is important for students to understand that the places where people live are often shared with, or located within a short distance from, other animals. As people live on in established neighborhoods, communities and cities, or as they spread out into newly developed areas, they will manage to meet their needs accordingly. In so doing, their activities will most likely impact the populations of certain animals. It is not what people need, or why people need certain things that are detrimental; what is important is how people meet these needs – how they maintain their neighborhoods and communities and how they manage the growth and development of these areas.

Background info about bald eagles decline and subsequent restoration in New Jersey

Bald eagles nesting in NJ face many threats, with disturbance and habitat loss the greatest threats in our state. In addition, contaminants in the food web may negatively affect the eagles nesting in some areas of NJ.

Disturbance is defined as any human activity that causes eagles to change their behavior, and takes many forms, including mere presence of people in nesting or foraging areas. In general, people on foot evoke the strongest negative reaction. The problem is that when eagles change their behavior in reaction to people, they cease doing what is best for their survival and the well being of their eggs and young; ultimately, that reduces the survival of individuals and the population. Biologists continually work to manage and reduce disturbance in eagle habitats, especially around nest sites. A corps of experienced volunteers, as well as public education and

established, safe viewing areas, are essential to this effort. Viewing eagles from safe distances, where eagles continue to act normally, is best for eagles and satisfies our natural desire to see them. The EagleCam provides a unique opportunity to view eagles up close without altering their behavior.

Biologists also work to protect habitat in a variety of ways, including working with landowners, land acquisition and management, and applying the state's land use regulations.

NJ biologists work year round to protect bald eagle nest sites. However, with increasing competition for space in the most densely populated state in the nation, it is clear that critical habitat needs to be identified and, where possible, protected. Critical habitat for eagles includes areas used for foraging, roosting and nesting.

The population of wintering bald eagles has also grown along with the nesting population, especially in the last ten years. This growth reflects increasing nesting populations in NJ and the northeast, as each state's recovery efforts continue to pay off for eagles.