



Wildlife Habitat

Wildlife Careers Weekly Lesson Plan





Wildlife Habitat

Goals:

1. Students will understand what a habitat is and be able to describe its four elements.
2. Students will see how an area's habitat suitability varies with different species of wildlife.
3. Students will be able to name factors that affect habitat suitability.

Materials needed:

- Computer



Keywords:

- Habitat
- Edge
- Cover
- Succession
- Habitat suitability
- Fragmentation
- Interspersion
- Corridors
- Vertical structure



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Introduction

What is the term used to describe where an animal lives? It is called a '**habitat**' and it can be defined as the kind of place where an animal, bird, fish, or plant lives in a natural state.





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What are the four elements of habitat?

1. Cover
2. Food
3. Water
4. Space

Blue Grosbeak in a Grassland



Muskrat Lodge in a Wetland



Bald Eagle Nest in a Tree

What is cover?

Cover refers to just what it sounds like – something to cover the animal. These include breeding areas, nesting sites, hiding places, resting places, safe places to sleep, feeding areas, and travel routes. Cover may be provided by vegetation or rock outcroppings. Cover is a must, as is the other elements. If the other three elements exist without cover, the animal won't thrive.



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What are the four elements of habitat?

1. Cover
2. Food
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Food

All animals must eat just as we do. Therefore, sufficient food must be available for a species to thrive. This includes enough food for herbivores and for carnivores. Sometimes humans provide food for wildlife, but in most cases, this does more harm than good. Feeding wildlife can cause them to congregate in a small area, which may lead to easier spread of diseases. People should allow wildlife to find food naturally.

A Northern Harrier with its meal



Red Oak acorns



Sunflower





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What are the four elements of habitat?

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Water

Water is also needed for animals to survive. Many animals are dependent on streams, ponds or lakes for their water source. Many of these water sources provide excellent wildlife viewing opportunities.



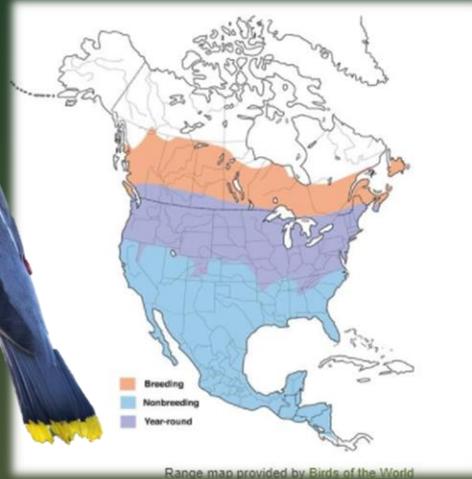
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What are the four elements of habitat?

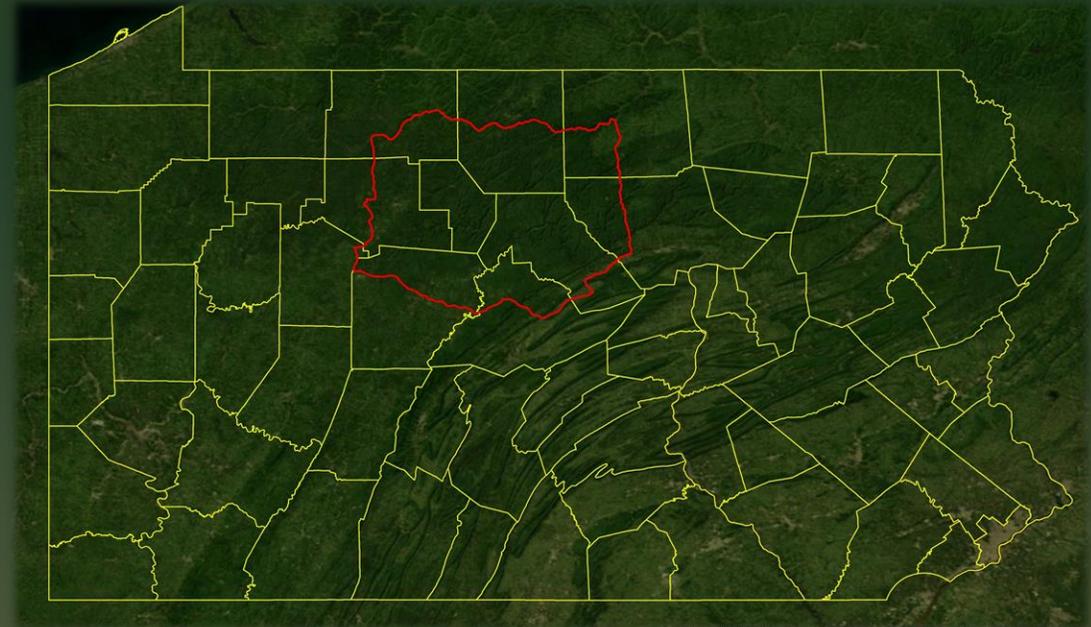
1. Cover
2. Food
3. Water
4. Space



Range map
of the Cedar
Waxwing



The elk management area in PA



Space

Space is the fourth element of habitat. Species of wildlife vary widely in the amount of space they need to live. The range of a rabbit is much different from that of a black bear or a gray fox. The abundance of the other three elements may also impact the amount of space needed by an animal. The more concentrated the food, water, and cover, the less total space an animal may need.



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In addition to these elements merely existing, they must also be:

- available in adequate amounts.
- high enough quality to meet the needs of animals
- distributed where animals need them

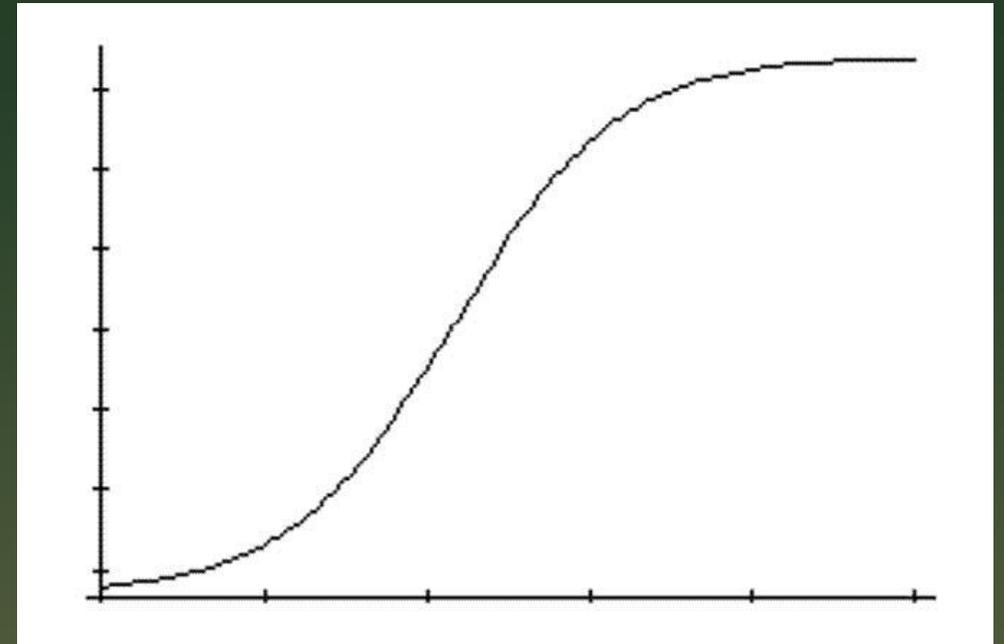




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This, in turn, affects the **carrying capacity** of an area. Carrying capacity refers to the number of animals a habitat can support over a given period of time. The greater the abundance of the four elements of habitat, the greater the carrying capacity of an area. This can be related to people and how many houses can be built in a given area.

Population



Time

Bonus: What kind of growth curve does carrying capacity represent?



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Habitat Suitability describes the ability of a habitat to support a particular animal. A habitat is said to be suitable when it has the correct amount and combination of each of the four elements of habitat.

Different animals need different types of habitat to survive.

- Waterfowl, like Mallards, prefer open country to woodlands. Ponds, edges of freshwater lakes, and marshes are ideal.
- Bobcats inhabit forested mountains, swamps, agricultural areas, and remote areas near clear-cuts.
- Little Brown Bats leave their summer roost between October/November and move into tunnels, mine shafts, and caves.



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Plant succession is the process that occurs when one plant community replaces another over time. A grassy field will grow shrubs, then small trees, then taller trees. The whole process takes decades and is initiated by a disturbance, such as a fire or a logging operation.

Different species like different stages of succession

- White-tailed deer prefer shrubby forest
- Some songbirds, such as Swainson's thrush and Black-throated blue warbler, require a mature forest with tall mature trees

Swainson's thrush



Black-throated blue warbler





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The **vertical structure** refers to how plants are layered in a forest. The three layers include:

- ground layer
- shrub layer
- canopy layer



Different types of wildlife require and live in different layers.



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Edge is the boundary where two types of vegetation meet. An example is the boundary between a hay field and a forest. These areas attract many types of wildlife because of the variety of food and cover.

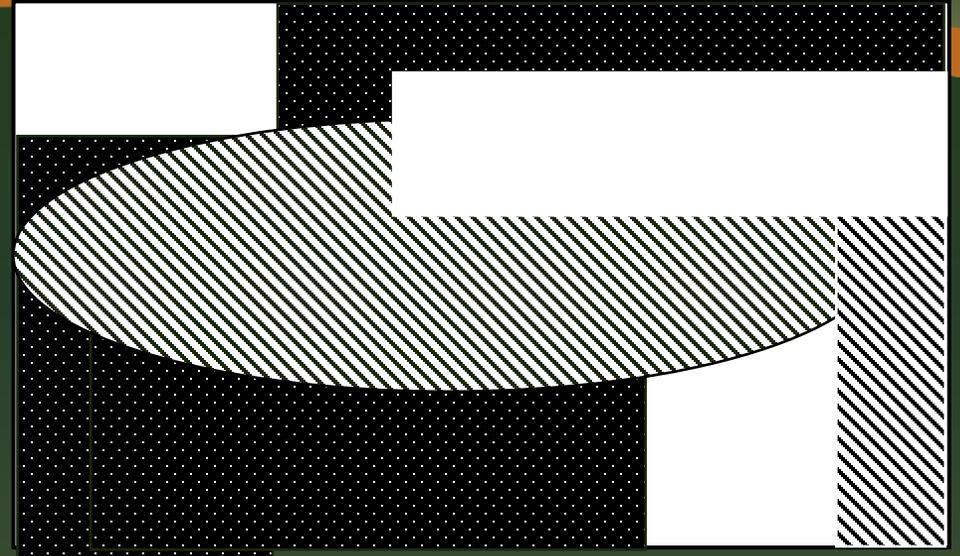




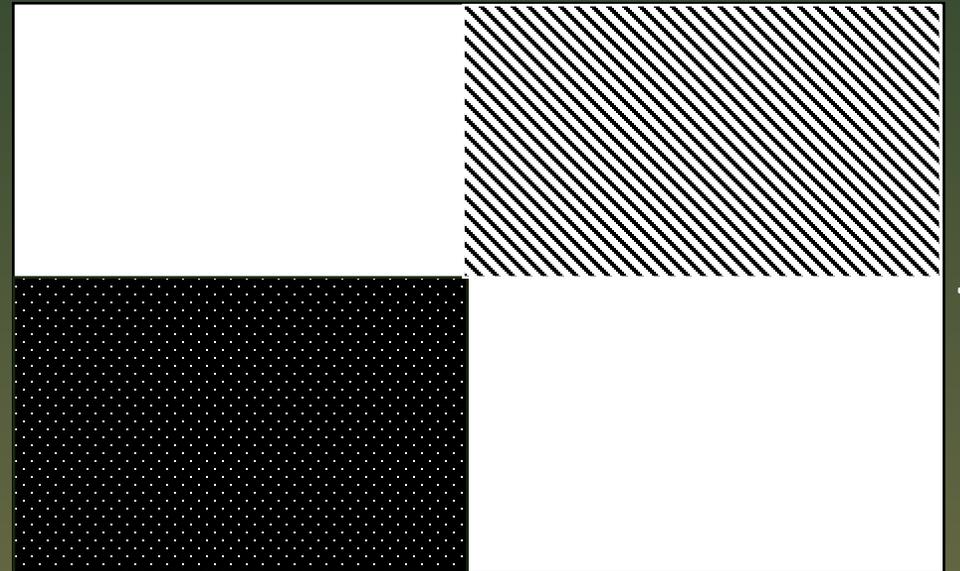
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Mixed plots of different successional stages in one area is called **interspersions**. Note that both A and B have the same types and same total area of each, but the greater number of edges, the higher the quality habitat. An example of this would be having cornfields, mature forests, and shrubby woods all in the same area.

Good interspersions



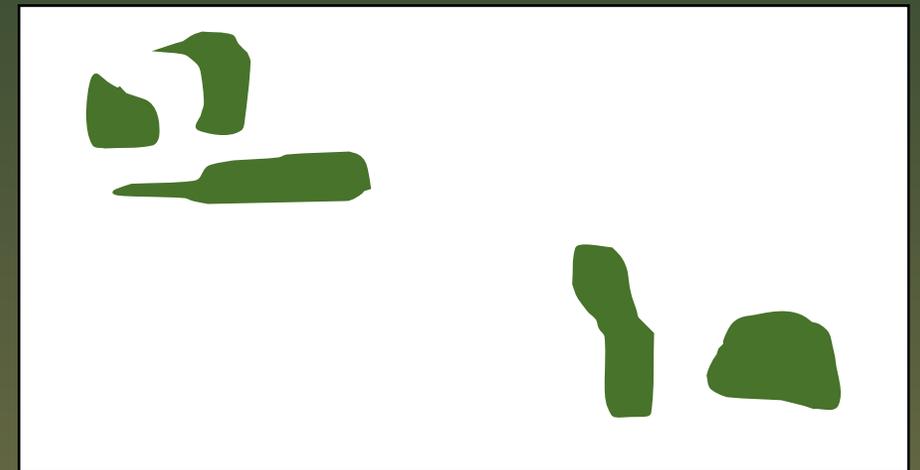
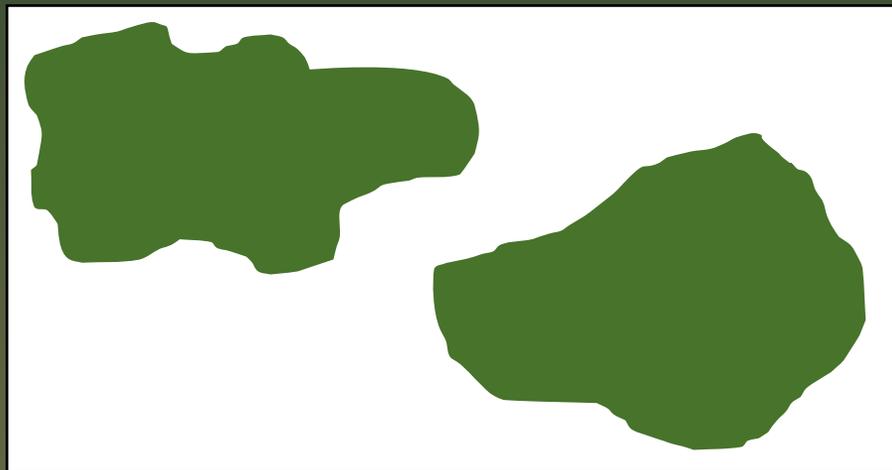
Poor interspersions





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Fragmentation is caused when large areas of habitat are broken up by developments, roads, and agriculture. While on a small scale, this sometimes can cause interspersion, too much of it can lead to less food and cover for animals. It can also cause dangerous circumstances for animals such as crossing roads and disruptions in the food chain.





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The presence or absence of **corridors** also can impact habitat suitability. Corridors are areas of secure cover that permit animals to travel from one patch of habitat to another. Without them, some animals wouldn't use certain areas because they wouldn't feel safe traveling between them.

A wildlife corridor over a major highway



Conclusion



Since different species of animals require different types of habitat, it is tough to manage a forested area for all kinds of wildlife. We want to see many kinds of wildlife in one area, but sometimes it is not possible. Managing for both timber and wildlife can be difficult.



A landowner must decide which benefits take priority. Which type of wildlife is most important? What timber do you want to harvest? Which of the two is more important? These are just a few of questions that must be considered when managing habitat for wildlife.





Evaluation

1. Either individually or in groups, choose a type of wildlife found in your area and research its habitat requirements. Be sure to include a local area that is well suited to that animal. Turn in a short-written report or do an oral report for the class.

