



## Conservation Connections

### Prep

Place laminated habitat and animal cards into a basket, hat, or bag. Ask students to take a card from the basket and form a circle. Ask students to hold up their cards so that everyone else can see the picture. Explain to the students that the circle represents the ecosystem, and that all of the animals and habitat components on the cards can be found in Rhode Island.

### Materials

- Laminated animal/habitat cards
- String
- Basket, hat or bag

### How to - Part 1

- Start with one student holding an animal card and ask them what they think their animal would eat. For example, the white-tailed deer would eat acorns.
- When the student makes the connection between the animal on their card and the food item, run a line of yarn between the students and ask them to hold the ends. Explain that a connection has been made between these two living things. If the second student is holding an animal card, ask them what they think their animal might eat. If they are holding a habitat card, ask them if there are any other connections they can make with others in the circle.
- Continue creating connections between students until a web of yarn crisscrosses the circle. Explain that they have created a food web.
- Ask students how many strings they are holding. Are there some animals with more connections than others?
- Ask the students what they think would happen to the food web if some animals or plants disappeared from the ecosystem.

## How to - Part 2

- Begin introducing scenarios that could impact different parts of the ecosystem.
  - *Example: A disease has been introduced which is killing the oak trees causing a shortage of acorns.*
  - *Example: A town performed a large-scale pesticide treatment in the area which is accidentally harming local insects.*
  - *Example: A factory built a dam in the area, blocking herring from moving upstream to reproduce.*
- In all of these scenarios, the animals that are directly impacted should drop their strings, those who are dependent on those animals should also drop their strings, and so on and so forth. In any of the scenarios, all the strings will eventually be dropped. You can rebuild the food web between each scenario to show how the waterfall effect occurs no matter which species is impacted.
- Explain that for an ecosystem to function properly, every individual species matters.

## Discussion

- Explain to students that when wildlife biologists think about the ecosystem, they aren't just thinking of individual animals, like the one deer or the one hawk that we saw in our food web, they are thinking about populations of wild animals. Ask students if anyone has heard the word population or if anyone knows the definition.
- Explain that a population is a group of individuals of the same species living and interbreeding within a given area. For example, in Rhode Island, we have a large population of white-tailed deer, but a very small population of black bears.
  - If a population of a particular animal drops too low or disappears, that impacts the environment and other species that interact with it.
    - *What would happen to flowering plants if pollinators disappeared?* There would be less seeds created and less plants in following years.
    - *What would that mean for herbivores?* There would be less plants for the herbivores to eat which would mean their populations would decrease.
    - *What would that mean for carnivores?* There would be less food available for carnivores so their populations would decrease.
    - *Can you think of ways biologists can make sure that the whole ecosystem (all of the interacting populations of plants and animals) stays healthy?*
- Making sure the habitat is protected and healthy for all animals. In Rhode Island, the DEM Division of Fish & Wildlife protects habitat for animals in Wildlife Management Areas. These are places that are protected for animals forever.
- Biologists also help monitor populations of wildlife so that they know right away if they need to take action to help those animals.