

# Community Close-Ups:



## Focus:

The number and species of organisms able to survive in an ecosystem depends on the resources that are available.

Read the following two scenarios aloud. Have students work in pairs to answer the questions and write a paragraph or make a flowchart to depict what is happening in the communities.

## COMMUNITY ONE



On a hillside in the forest, there is enough water and space to grow 100 healthy trees. Over many years, no forest fires, no insects, no disease, and no harvesting of trees have thinned out or made more room for the growing trees in the area. Now there are 1000 trees competing in this area that only has enough sunlight, water, nutrients and space for 100 trees.

### 1. Is this a healthy forest?

No, the trees are stressed because they are not all able to get enough of the resources they need to fight off insect attacks, disease, and to grow into large trees. Also, these trees are less likely to survive a forest fire because they are growing so closely together, the fire will easily spread from one tree top to the next.

### 2. What will eventually happen to many of the stressed trees?

They will continue to weaken and will likely die.

### 3. What could happen to a forest that has many diseased and dead trees?

This forest is more susceptible to an intense forest fire that would kill all of the trees and degrade the watershed and wildlife habitat.

### 4. Can humans do anything to restore this forest to a healthy ecosystem?

Yes, forest managers are trained to use a variety of methods for managing healthy forests.

We could harvest the overcrowded trees to make room for other trees to grow large and thrive. The trees that are harvested will go to a sawmill to be made into many renewable wood products such as lumber for homes, paper, furniture, cleaning products, cosmetics, etc. Forest managers must protect wildlife habitat, water quality, and ensure the sustainability of future forests before they are allowed to harvest any trees.



# COMMUNITY TWO



An area of the forest has lots of small shrubs and seedlings. It has very few large trees. It is a perfect home for mice. Since owls love mice, this is also a good hunting ground for owls. Over time the seedlings and saplings in this area grow into older, taller trees and shade the forest floor from the sun. They compete successfully for sun, water, and nutrients (food) and suppress the shrubs, grasses and seedlings trying to grow in this area.

## 1. What happens to the mice as shrubs, grasses and seedlings disappear?

They find new homes in other areas that provide more food and safety.

## 2. What happens to the owls?

They will need to hunt in other areas where they will be able to find mice.

## 3. What will happen to the trees if they become overcrowded?

They become stressed and are more likely to die of disease, insect attacks and fire.

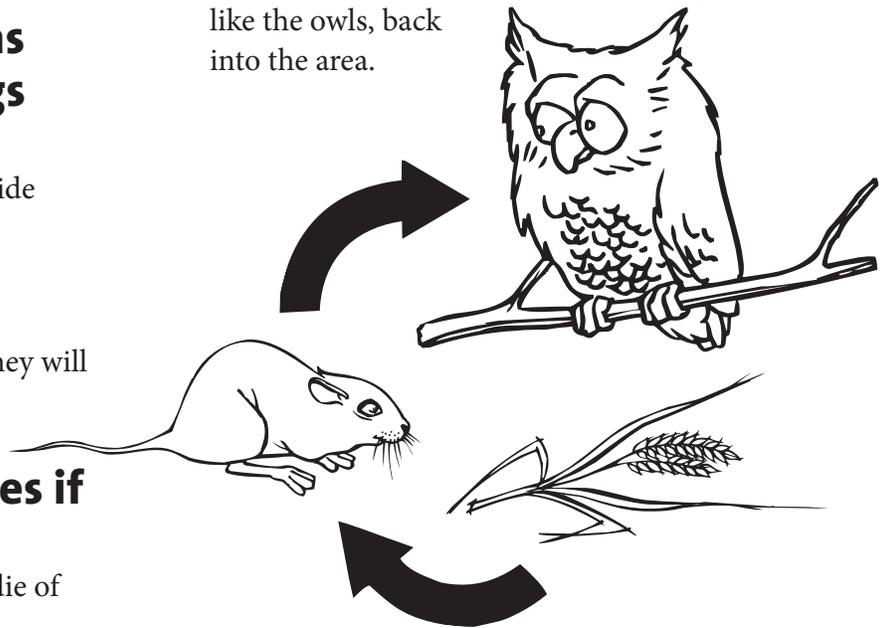
## 4. What happens if some of the trees are harvested?

The trees that remain will be healthier.

More sun, water, and nutrients will reach smaller plants as pockets of the forest are opened up.

The smaller plants will bring back the mice.

The return of the mice will bring their predators, like the owls, back into the area.



## Enrichment Activity:

Build a food web mobile. Students can use the organism that they researched for the food web activity. Use construction paper and/or index cards to make cutouts of the featured organism and all of the other organisms it interacts with in its environment. Use string to tie the cutouts to coat hangers.

