

## Science of Habitat Protection and Restoration

### Lesson 2: Human Impacts on Ecosystems

#### OVERVIEW

Ecosystems are a collection of all living and nonliving things that live in one place. Humans are part of their ecosystems, and they have a responsibility to protect them. Sometimes the impact of humans on ecosystems can be negative. Brainstorming ways to prevent ecosystem degradation is important to California State Parks.

#### OBJECTIVES

- Students will compare and contrast native and nonnative plant species.
- Students will determine the components of ecosystems.
- Students will discuss human impacts on ecosystems and brainstorm ways to restore degraded habitats.

**VOCABULARY** ecosystems, degraded ecosystem

Engage		
Teacher Says/Does	Probing Questions	Student Responses
<p><i>Last class we talked about how invasive species can overtake an area and cause problems to an entire ecosystem. Today we are going to start talking about how we can try to fix these disrupted ecosystems and what California State Parks is doing to help in these efforts.</i></p> <p>(Show image of native and nonnative plants Lesson 2-3 Slide 2)</p>	<p><i>Work with a partner to compare and contrast the two plant images.</i></p> <p><i>What are some of their similarities? Differences?</i></p>	<p>The one on the left has bigger leaves, it's a brighter green color, etc.</p>
<p><i>Those are great comparisons! The plant on the left is an invasive plant species. It has big leaves and can block the sun from the native plants. Crystal Cove State Park used to have a lot of it, but now California State Parks is working to restore the park so the native plant on the right can thrive.</i></p>		



<p><i>Farming and building of roads and homes can bring nonnative organisms into an ecosystem. This can make it harder for the native plants and animals to survive there.</i></p> <p><i>The third picture is from Crystal Cove State Park, but it has not been degraded. It is a natural cave.</i></p> <p>Show PowerPoint Slide 6 <i>This is a picture of Moro Canyon at Crystal Cove State Park in a degraded state.</i></p>	<p><i>What are some of the clues that you can use to let you know it is degraded?</i></p>	<p>Electrical wires/poles, paved roads, trash on the ground, etc.</p>
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<b>Evaluate</b>		
<b>Teacher Says/Does</b>	<b>Probing Questions</b>	<b>Student Responses</b>
<p>Show PowerPoint Slide 7</p> <p><i>Now take a look at Moro Canyon today. It was restored by replacing nonnative plants with native ones, which can attract more native animals. The roads and trailers were also removed.</i></p>	<p><i>Work with your neighbors to brainstorm some ways to help restore degraded ecosystems.</i></p> <p><i>What should be removed?</i></p> <p><i>What should be added?</i></p>	<p>Trailers, roads, nonnative plants</p> <p>Native plants</p>
<p><i>In our video conference, we will talk about the process of restoring Moro Canyon. Write down some questions you might like to ask in the video conference.</i></p>		