

Age: 10-14 years
Time: Steps 1-2: 30-45 minutes
 Step 3: 2 hours or more

**Invasives Control Activity Guide:
 Learn, Debate and Do Your Part**

Step 1: Learn about the different kinds of controls that can be used

Mechanical control means removing the species either by hand or with a machine. This method works only for small populations and for targeting a specific species. It minimizes the damage to the environment. Mechanical control is a lot of work and takes a long time. In fact, it may never be done. For plant species, mechanical control can mean mowing, burning or hand pulling. For animal species, common techniques include trapping, hunting or using physical barriers such as nets or fences.

Chemical control is useful for both small and large areas, it is not target-specific and can pollute nearby land and water, threatening the health of plants, animals and humans in the area. Another problem with this method is that target species may become resistant to the chemical, and the chemical may stop working. Chemicals used to control invasive plant species are called *herbicides* and can be applied directly on the invasive plant, around the soil on the plant's base, or in the soil before the seeds of the plant fertilize. *Pesticides* are chemicals used to control animal species by either killing the species or preventing reproduction. Attractant pheromones, another form of chemical control, tempt the species into a trap with an attractive smell.

Biological control is when a new species is introduced to control an invasive species – a natural enemy. It is a chemical-free method and can be environmentally friendly. But this method is tricky. If the biological control succeeds too well, it can become an invasive species itself, making the problem even worse. Or the biological controls may have difficulty surviving their new setting and fail to do their job.

Invasive plants can be intentionally infected with fungi, bacteria or viruses that stop the plant from spreading, or kill it. For invasive insects and fish, sterile species can be introduced to mate with the invasive species and produce eggs that will either not develop or produce sterile offspring. This way there will be fewer of that species in the future. Predatory animals can control the invasive population, but there is a risk that they will prey on native animals as well. Remember the old song about the woman who swallowed the spider to catch the fly?

Prevention is usually the best control. Government agencies and the public must work together to address the problem. Agencies such as border patrols can limit the introduction and spread of invasive species by inspecting incoming ships and packages. You can help by learning about invasive species and by volunteering to get rid of them in their area, and by asking for more action from the government. Global warming will probably encourage the spread of invasive species, so you can also help by taking steps to reduce greenhouse gas emissions in your community.

Step 2: Debate – Choose your weapons!

What do you think is the best way to control your chosen species? Come up with your own plan. Things to consider: cost, difficulty/practicality, effectiveness, and side effects. Present your plan to your group.

Divide into small groups. How do you think your invasive should be controlled? For each invasive, there will be different issues. For example, should aquatic invasives (weeds in the water) be treated with herbicides? That lake may have many species of fish, and provide drinking water for a whole town. On the other hand, pulling the weed may not work fast enough to save the lake. There will be many points of view.

Step 3: Civic Engagement

Take a trip to your county, state or national park to learn about local invasive species in person, then stay to help fight the problem! Your park ranger, county agricultural extension agent, county park naturalist and other officials are aware of the issues surrounding invasives. They often organize events to help combat them.

Join in! Many parks organize weed pulls, especially in the spring. National Public Lands Day, held each September, involves more than 110,000 youth and adult volunteers in removing invasive species and improving public land across the U.S. For more information on how to get involved, visit the [National Public Lands Day Web site](#).

How is your chosen invasive species being controlled now? By spraying chemicals, by pulling them out by hand, by introducing their own natural enemies into your environment? Is this method working? Is it safe? What did you learn when you researched your invasive?