

Set the Restoration Cycle in Motion



Learning Objectives

Students will:

- Deepen their awareness of the need to manage invasive species and conserve native animals and plants for the sake of ecosystem health.
- Understand the stages of invasive species management and the invasion curve.
- Develop a plan to prevent the introduction and spread of invasive species.
- Tackle one or more action initiatives, such as a public awareness campaign, weed pull, monitoring study, or native plant restoration project.



Method

Students develop and take steps to implement a strategic plan to prevent the introduction and spread of invasive species, control their populations, monitor their presence, and restore native wildlife and habitat.



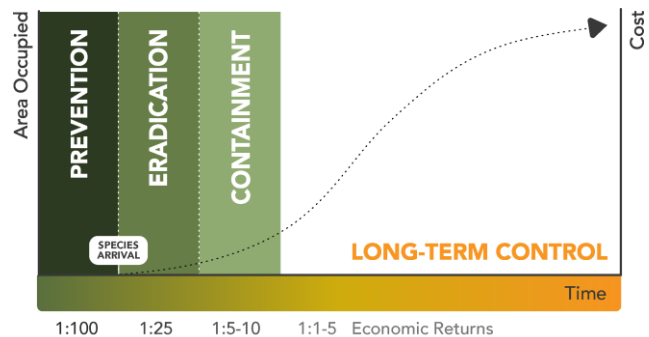
Materials

- Poster paper
- Markers, paints, and other art media

Background

When it comes to controlling the spread of invasive species, it is most effective to take action early. Invasive species management includes four stages. The **invasion curve** illustrates these stages from pre-arrival (prevention) to long-term control.

- **Prevention** - Prevention is the most effective way to manage invasive species, as well as the least costly. The key to prevention is awareness.
- **Eradication** – Once a species is introduced, it can still be removed in its entirety with early detection and rapid response.
- **Containment** – As populations increase, eradication becomes increasingly difficult, so priorities shift to preventing further spread.
- **Long-term Control** – Once an invasive species is widespread, eradication is unlikely so focus shifts to limiting populations and protecting the native species that remain. Long-term control is very costly.



The Invasion Curve, [Invasive Species Centre](https://www.invasivespeciescentre.ca/)

For additional resources visit:

[CanadianWildlifeFederation.ca/Education](https://www.CanadianWildlifeFederation.ca/Education)

Activity

1. Begin by showing students a picture of the invasion curve and review the four stages of invasive species management with them.
2. Have students brainstorm and discuss local invasive species concerns they'd like to address in their community.
 - Do they want to education their school or community about invasive species?
 - Do they want to focus on controlling or eradicating a particular invasive species?
 - Do they want to re-establish a population of native plants?

Most likely, the students' efforts will target a variety of restoration goals.

2. Tell students that they will now work together to develop a tangible plan to prevent the introduction and/or spread of invasive species in their community. This could include raising awareness, monitoring their presence, controlling their populations, or restoring native wildlife and habitat. See the list of **Potential Projects** on the next page for ideas.
3. Working together as a class or in smaller groups, direct students to develop a plan that includes both long and short-term goals. Guide youth towards developing a realistic project plan. Encourage them to be specific about their goals.
 - What steps will be taken?
 - Who will do what?
 - What materials will be needed?
 - Are there any associated costs?
 - How many people will be involved?
 - How will wildlife and habitat will benefit?
4. Have students share and discuss their project plans as a class.

Extensions

- Consider inviting someone from a local wildlife agency to visit the class and share expertise.
- Select one (or more) projects and have the students move forward with implementing it within their school or community.

For additional resources visit:

CanadianWildlifeFederation.ca/Education

Potential Projects

Awareness	<ul style="list-style-type: none"> • Create "wanted" (or "unwanted") posters, informational signs or brochures identifying an invasive species and sharing key information. Students can then post these around the school or in their communities (with permission). <ul style="list-style-type: none"> ○ Post near boat launches, docks and marinas to warn anglers, sailors and other outdoor enthusiasts to avoid moving non-native travelers from one spot to another. ○ Post in parks near trailheads to remind nature lovers, like birders and hikers, to avoid spreading seeds of invasive plants. ○ Distribute to bait shops, pet shops, garden centres and any other point of purchase for potential invaders. Suggest that retailers advise their customers never to release non-native animals or plants into natural areas.
Monitoring	<ul style="list-style-type: none"> • Using citizen science platforms like iNaturalist.ca, students can record sightings of native and invasive species in their community by getting involved in existing monitoring projects or planning their own biological survey in their schoolyard or community. <ul style="list-style-type: none"> ○ By submitting observations, students can provide valuable information to land managers who can use it to track changes in invasive populations over time, prevent their spread through early detection and gauge the success of control techniques.
Control	<ul style="list-style-type: none"> • Students could join a community weed pull or create a plan to host their own. This could involve researching local invasive species and investigating appropriate control techniques. Common approaches include: <ul style="list-style-type: none"> ○ Mechanical (mowing, plowing, and containing) ○ Chemical (herbicides, insecticides, and lampricides) ○ Biological (insect predators, diseases, and "natural enemies") ○ Manual (pulling, cutting, and removing) methods of control. <p>Note that only manual methods are suitable for students.</p>
Restoration	<ul style="list-style-type: none"> • Create a pollinator garden filled with native plant species! Students can work together to plan out the garden layout, research native plant species and develop a plan for creating the garden in their schoolyard or community. • Encourage students to support restoration projects that are already happening in their community. Whether it's tree planting, riverbank restoration, or harvesting native seeds, students can reach out to their local municipality or conservation groups to learn more about local events, activities and volunteer opportunities in their area, then build out a plan for supporting these projects.

For additional resources visit:

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