

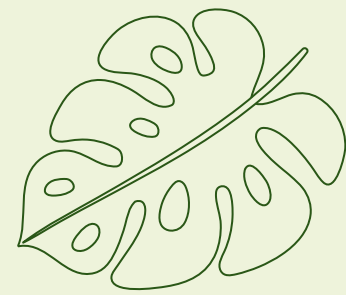


# The Invasive Species Challenge

A lesson on Alberta's Invasive Species

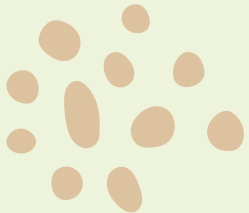


# Learning Objectives

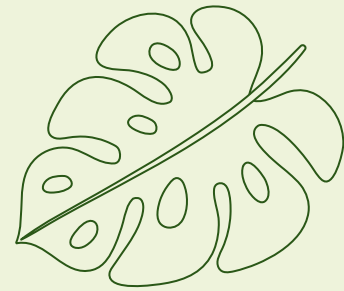


By the end of the lesson, students will:

- Define invasive species and distinguish them from non-native but non-invasive species.
- Identify and analyze several invasive species currently impacting Alberta ecosystems.
- Explain the ecological, economic, and social impacts of invasive species.



# Learning Objectives



By the end of the lesson, students will:

- Evaluate how human activities contribute to the introduction and spread of invasives.
- Explore and assess Alberta's management and prevention strategies (e.g., Clean, Drain, Dry, Don't Let It Loose).
- Apply learning by completing an Invasive Species WebQuest that synthesizes research, critical thinking, and communication skills.

# Curriculum Connections:



## Grade 7:

- Science: Unit A - Interactions and Ecosystems, Unit B - Plants for Food and Fibre
- Social Studies 7: Canada: Origins, Histories and Stories

## Grade 8:

- Science: Unit E - Freshwater and Saltwater Systems

## Grade 9:

- Science Unit A - Biological Diversity
- Science Unit C - Environmental Chemistry
- Social Studies 9: Economic Systems

# Curriculum Connections:



## Science 10

- Unit D: Energy Flow in Global Systems

## Biology 20:

- Unit A - Energy and Matter Exchange in the Biosphere
- Unit B - Ecosystems and Population Change

## Biology 30:

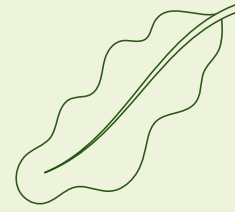
- Unit D - Population and Community Dynamics

## Social Studies 10-1 / 20-1

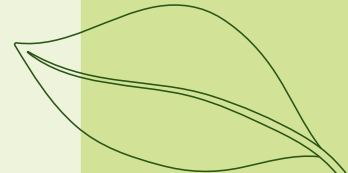
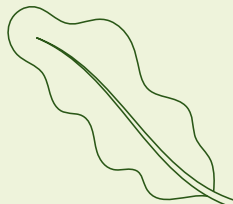
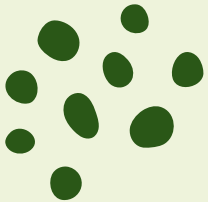
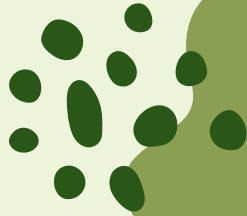
- Globalization and Sustainability



# Materials



- Link to Google Slides: [here](#)
- Design your own invasive species: [here](#)
- Invasive Species Webquest: [here](#)



# What is an invasive species?




# Watch Invasive Species 101:






# What Are Invasive Species?



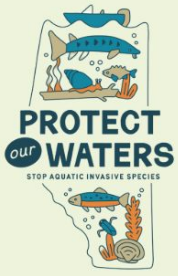
Non-native plants, animals, or organisms that spread quickly and cause harm.

They:

- Outcompete native species
  - Alter food webs
  - Spread disease
  - Cost millions in control and damage
- 

# Meet some of Alberta's Invaders:





# Prussian Carp



Similar to goldfish, they disturb sediment, compete with native fish, and eat anything that can fit in their mouths.



# Wild Boar



Wikimedia



Oat field with wild boar damage

One of the most damaging invasive species in North America. They damage crops, spread disease and make a mess in forests.



# Rats



Rat burrowed under the grain bin.



Norway rat, *Rattus norvegicus*



Roof rat, *Rattus rattus*

Rats are one of the most destructive invasive species in North America! Alberta remains the largest RAT-FREE place in the world.

# Invasive Plants - Leafy spurge



Invasive plants that have no natural means of control and will spread quickly and reduce biodiversity.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## DESIGN YOUR OWN INVASIVE SPECIES

### STEP 1: Draw your invasive species

Draw your made-up invasive species below. It can be an animal, plant, fungus, or something totally unique! Add labels to highlight its special traits (e.g., "climbing vines," "toxic bite," "fast-growing roots").

### STEP 2: Describe its competitive traits

What makes this species so hard to stop? Pick or write its top 3 survival superpowers:

Check all that apply or write your own:

- Grows super fast
- Eats anything
- Reproduces like crazy
- Has no predators here
- Spreads by wind
- Hides easily
- Releases toxins
- Survives cold or heat
- Other: \_\_\_\_\_

# Design your own Invasive Species



# How did they get here?



# How did they get here?

- Global trade and travel
- Intentional releases (pets, gardens)
- Boats, ATVs, contaminated soil
- Climate change expanding ranges



**Prevention = cheapest and most effective strategy!**



# Why are they a problem?



Canada thistle infestation



Himalayan balsam infestation



# Why are they a problem?

- They steal food and space from native animals.
- They crowd out native plants that wildlife need.
- They make lakes and rivers muddy and unhealthy.
- They destroy farms and gardens.
- They cost a lot of money to clean up and control.

**Can you think of other ways?**




# The Impacts

- Environmental: loss of biodiversity
- Economic: farm loss, property damage, control costs
- Social: health risks, recreation impacts

Ex: Wild boars can cost farmers thousands per year per field.

**Can you think of other impacts?**





# What can we do to stop the spread of invasive species?



# We Can Help!

- Don't let pets loose
- Wash your gear and boots
- Plant native flowers
- Report sightings to EDDMaps
- Stay on marked trails

**How can you help in your community?**



**EDD**MapS  
find • map • track



## Invasive Species of Alberta

Name: \_\_\_\_\_

For background information, watch this short video to answer questions 1-5

<https://www.youtube.com/watch?v=gYNA4twlc7hI>

1. What is an invasive species, and how is it different from other plants or animals that come from somewhere else? \_\_\_\_\_  
\_\_\_\_\_

2. Can you name two invasive species from the video and explain what problems they cause? \_\_\_\_\_  
\_\_\_\_\_

3. How do invasive species end up in places they don't belong? \_\_\_\_\_  
\_\_\_\_\_

4. Why are invasive species a problem for the environment and for people? \_\_\_\_\_  
\_\_\_\_\_

5. What are some things people can do to stop the spread of invasive species? \_\_\_\_\_  
\_\_\_\_\_

### ASSIGNMENT

Your job is to investigate 3 of the following invasive species that are here or threatening and complete the data table. **You may ONLY use these sites to gather your information.**

- Alberta Invasive Species Council: <https://abinvasives.ca/>
- Government of Alberta: <https://www.alberta.ca/invasive-species>
- Alberta Parks: <https://albertaparks.ca>

# Alberta Invasive Species WebQuest



# For More Information:

- Prussian Carp: [here](#)
- Protect Our Waters Campaign: [here](#)
- Wild Boar: [here](#)
- Squeal on Pigs Campaign: [here](#)
- Rats: [here](#)
- Rat on Rats Campaign: [here](#)
- Leafy Spurge: [here](#)
- Grow Me Instead Campaign: [here](#)



# Thanks

**Do you have any questions?**  
aiscaquatics@gmail.com | abinvasives.ca

