

Invasive Species Proposal



Image by DUC.

General Learning Outcomes

GLOA: Nature of Science and technology

GLOC: Scientific and technological skills and attitudes.

Specific Learning Outcomes

SLO A4: Recognize that science and technology interact and evolve, often advancing one another.

SLO A5: Describe and explain disciplinary and interdisciplinary processes used to enable us to investigate and understand natural phenomena and develop technological solutions.

SLO C1: Demonstrate appropriate scientific inquiry skills, attitudes, and practices when seeking answers to questions.

SLO C2: Demonstrate appropriate technological problem-solving skills and attitudes when seeking solutions to challenges and problems related to human needs.

SLO C3: Demonstrate appropriate critical thinking and decision-making skills and attitudes when choosing a course of action based on scientific and technological information.

SLO C4: Employ effective communication skills and use a variety of resources to gather and share scientific and technological ideas and data.

SLO C5: Work cooperatively with others and value their ideas and contributions.

Summary

Students will have an in depth look of an invasive species. They will research a wetland invasive species found in Manitoba, how it got here, what are its effects (social, economic and environmental) and possible solutions for controlling the species.

Materials

- *Projector and computer to present slideshow*
- *Student access to a library and the internet*
- *You may choose how students present their findings (written report, oral report, video, Power Point, Prezi, etc.)*

Procedure

Warm Up

Begin by reminding students of their recent visit to Oak Hammock Marsh, and ask them what kind of ecosystem it was. Present the included slideshow, which will provide an overview of six wetland invasive species found in Manitoba.

A wetland is an area of land that holds shallow water, with a maximum depth of two metres. The water makes the soil very moist, so plants who need moist soils will grow in and around the water; this is why a wetland can not be deeper than two metres, because otherwise these kinds of plants drown and do not receive enough sunlight. The water moves slowly because there are so many plants that slow the water down, absorbing some of the water like a sponge and filtering it as it moves through.

Invasive species is an introduced species or organism that causes damage to biodiversity, agricultural production or human health. They have no natural enemies/predators and outcompete native species.

Activity

The slideshow introduces students to the activity, in which they will research a wetland invasive species found in Manitoba, how it got here, what are its effects (social, economic and environmental) and possible solutions for controlling the species. You may choose to have students work individually or in small groups. This activity may take several classes of research time to complete, or could be assigned as homework.

Students will select one species highlighted in the slideshow and research it.

They should answer the following questions:

1. Where is the species native to?
2. When and how was it introduced?
3. What are its effects on wetlands and their inhabitants?
4. What are its effects on the economy?
5. What are its effects on society?
6. What are possible control or eradication measures?
7. How does science play a role in possible solutions?
8. How does technology play a role in possible solutions?
9. Which solution would you select and why?

Wrap Up

Students can present their findings - invasive species chosen, problems caused by species and possible solutions to the class or in a research essay. Students should decide, based on their findings, whether or not their solution is a good one.

Conclude by reflecting on how a real wetland such as Oak Hammock Marsh may be affected in the future through by invasive species.

Extensions:

- When students present their solutions to the class, lead a class discussion on the invasive species chosen, its effects, possible solutions. Then, have the class vote on which solution should be implemented.

- Ducks Unlimited Canada runs two programs that encourages students to engage in wetland conservation: Wetland Centres of Excellence and Wetland Heroes. Check out their website: <https://www.ducks.ca/initiatives/>

- The Caring for our Watersheds program provides funding to turn environmental solutions into reality. For more information on how students can participate, or to book a free workshop in your classroom, see our website: <https://www.oakhammockmarsh.ca/learn/caring-for-our-watersheds/>