

Keep Our Lakes Great: Educating Youth on Invasive Species

Final Report



Invading Species Awareness Program
April 25, 2019

Project Background

Youth are the future stewards of the environment and have a great stake in protecting Ontario's ecosystems and biodiversity from invasive species. There are limited curriculum-linked programs available to teachers looking to educate their students on invasive species, and the ISAP has been working to build opportunities and relationships for student/teacher engagement.

The goal of this project was to create more opportunities for teachers and students to learn about the role of the public in preventing the introduction and spread of invasive species in Ontario via the continued development and delivery of targeted, relevant, curriculum-linked educational materials for students and teachers. Through this programming, students were encouraged to enjoy healthy outdoor recreation, while simultaneously being mindful of the stewardship role that they have as a result of their engagement in outdoor recreational activities.

1. Employ an Education Liaison to coordinate the production and delivery of targeted educational programming within classrooms and communities in Ontario;
2. Employ a Communications Liaison to develop a communications plan to promote the availability of the Education Liaison to visit schools to deliver programming;
3. Coordinate the production of education kits/lesson plans that can be disseminated to teachers;
4. Implement the communications plan and advertise curriculum kits and availability of the Education Liaison to deliver classroom programming (e.g. email, social media);
5. Deliver classroom presentations/programming using the invasive species curriculum kits as coordinated by the Education Liaison. Through this project we aim to reach >2000 students and 50 schools; and
6. Coordinate an "Invasive Species Fair" within the community inviting children to participate and share their knowledge on invasive species and how they can prevent their introduction/spread.

Project Results

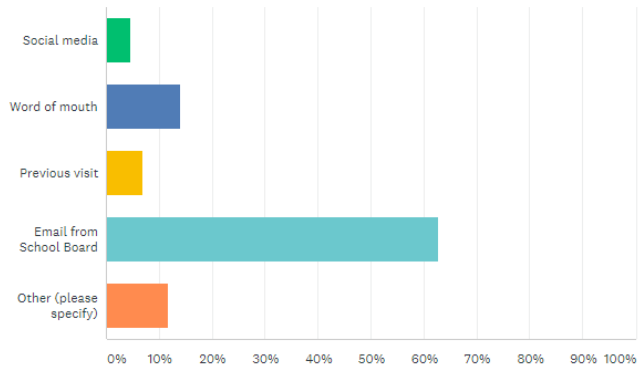
An Education Liaison was hired to coordinate the production and delivery of targeted educational programming within classrooms and communities in Ontario, as well as build and disseminate education kits/lesson plans to educators. An example of an introductory lesson, including the curriculum links, can be found in the appendix at the end of this report.

The ISAP also employed a Communications Liaison who developed a communications plan to promote the availability of the Education Liaison to visit schools to deliver programming (see promotional material below). The availability of this programming was promoted via social media and an email distribution list that included teacher and school board contacts.

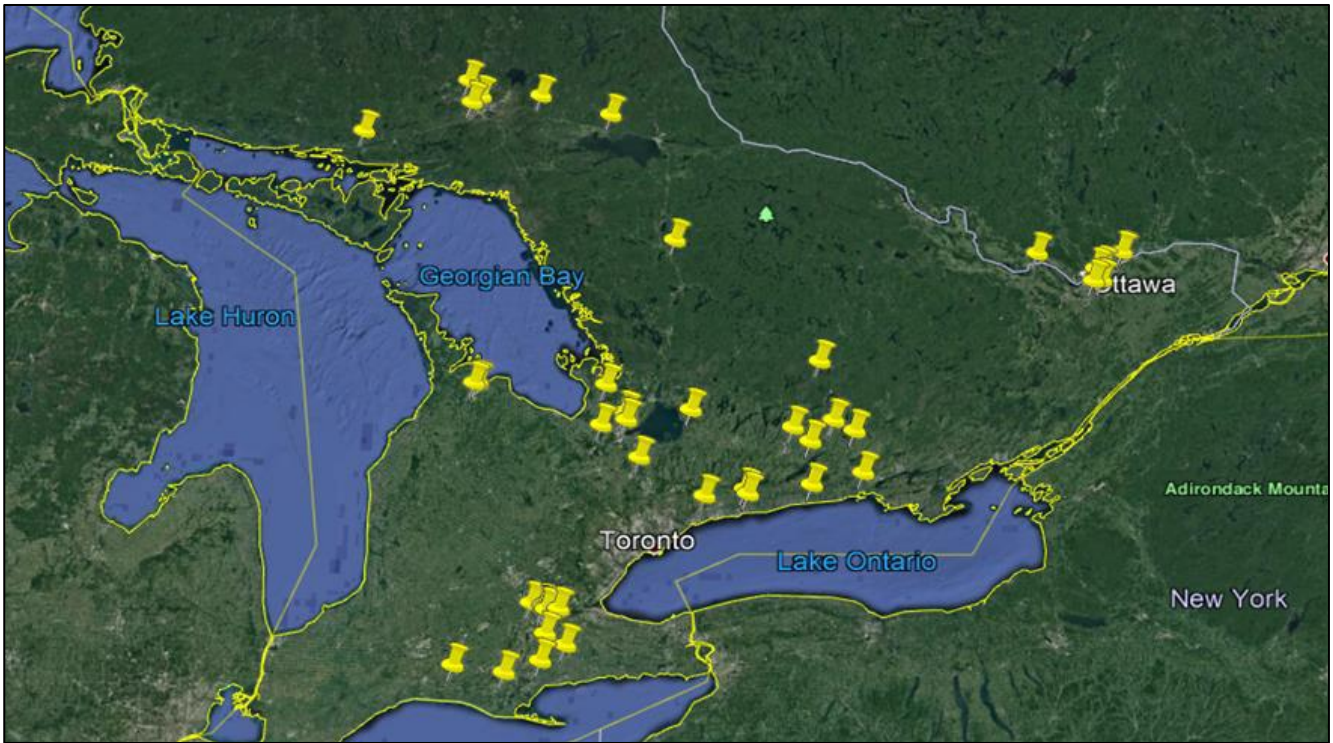


• How did you hear about the Invasive Species Classroom visit opportunity?

Answered: 43 Skipped: 0



Efforts to promote this programming resulted in a full schedule for the Education Liaison, from September 2018 – March 2019. Through this project, the ISAP aimed to reach >2000 students at 50 schools; however, the programming was well-received, and the Education Liaison was able to surpass the original goal. By the end of March, the Education Liaison worked with 147 teachers and travelled more than 14,200 kilometres (see map below) to deliver 154 presentations to 185 classes (4,186 students).

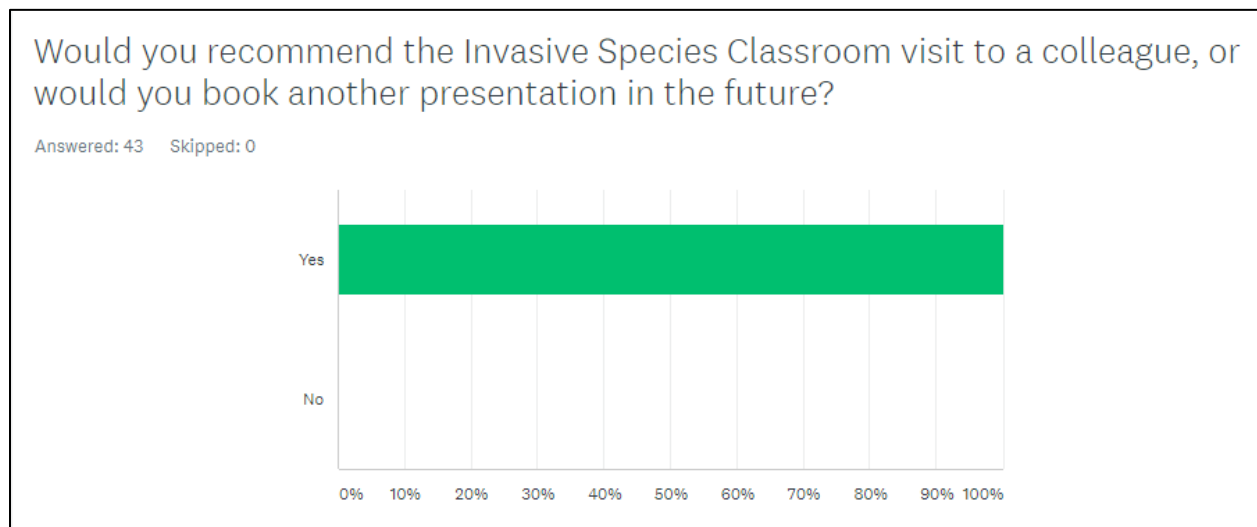


Project Deviations

The Education Liaison initiated a partnership with a grade 12 teacher at I.E. Weldon Secondary School in Lindsay, Ontario to coordinate the delivery of an Invasive Species Fair. Unfortunately, conflicting schedules resulted in the decision to postpone this event, and continue to have the Education Liaison focus on the delivery of classroom programming throughout Ontario.

Conclusion

In conclusion, efforts to create more opportunities for teachers and students to learn about the role of the public in preventing the introduction and spread of invasive species in Ontario were successful in 2018-19. The ISAP Education Liaison hit the ground running and successfully developed and delivered targeted, relevant, curriculum-linked educational materials to 4,186 students. After each classroom visit, each teacher had the opportunity to provide feedback via an online survey (see below). The survey results indicate that this program was well-received, with all survey respondents indicating that they would recommend the program to their colleagues and/or book additional classroom visits in the future.



"This was a wonderful presentation. It supported the curriculum and engaged my students. The presenter was prepared and knowledgeable of the content. She was able to manage the students and keep them engaged. I appreciated how the presentation was broken into chunks so that student interest and attention was maintained. The content was presented at their level and they gained a lot of knowledge with the subject area that I was not able to provide them with. I'd love to have more presentations for different areas of the curriculum. Well done."

Appendix

Today we are going to talk about:

Invasive Species

Shelby Heath
Invading Species Awareness Program

What is an invasive species?

- A plant, animal, or insect that is from **another part of the world**, that has come into Canada and **hurts** our plants, animals, or insects, and even humans!



Dog strangling vine



Spiny Water Flea

There are many invasive species all around us, and they can be animals, plants, fish, and even water creatures!



Zebra Mussels



Water Soldier



Purple Loosestrife



Round Goby

Why are invasive species bad?

- Invasive species are like **bullies** in nature. They take more than they need, which leaves nothing for our species!
- With invasive species, it is hard to have a healthy environment.



Asian Carp



Rusty Crayfish



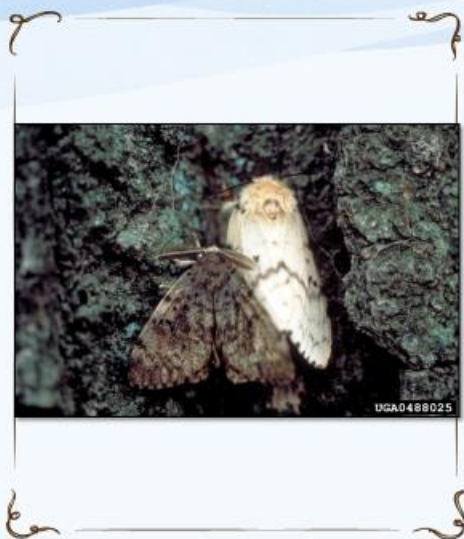
Phragmites

Invasive Species hurt our native species

Native species are the plants, fish, and animals that are from **Canada** and Ontario



Invasive species take away things that our native species need to survive, like air, food and water, and destroy the places they live (habitat)



There are even invasive insects that hurt our forests

Habitat is where plants and animals live,
and has **living** and **non-living** things



What if we lost all our native species?



What if we only had one type of bird?



What if we only had one type of tree?

What if something happened to that one type of tree and
we lost all of our tree species?

How do invasive species get here? Humans!



Moving wood that has insects in it



Aquarium and Garden stores



Boats

How do invasive species spread?



Seeds can get stuck on the bottom of our shoes, on our clothing, or fur on our pets!



People releasing invasive species into the wild. Goldfish are an example of an invasive species!

What can you do to help?



Don't dump invasive species into nature, they can spread very quickly!



Check your shoes, boats, and equipment to make sure you're not giving invasive species a free ride



Remember:

Invasive species might not look scary, but they can cause big problems for our environment. Remember to make sure you're not spreading invasive species!

What are some signs of a healthy environment?



What is different in this picture?



What do you think happened in this picture?



Curriculum links

Kindergarten

Specific Expectations

As children progress through the Kindergarten program, they:

- 29.1 identify similarities and differences between local environments (e.g., between a park and a pond, between a schoolyard and a field)
- 29.2 describe what would happen if something in the local environment changed (e.g., if trees in the park were cut down, if the pond dried up, if native flowers were planted in the school garden)
- 29.3 identify ways in which they can care for and show respect for the environment (e.g., feeding the birds in winter, reusing and recycling, turning off unnecessary lights at home, walking to school instead of getting a ride)

Grade 1

Sustainability and Stewardship

Living things grow, take in food to create energy, make waste, and reproduce. (Overall expectations 7 and 8)

Plants and animals, including people, are living things. (Overall expectations 7 and 8)

Living things have basic needs (air, water, food, and shelter) that are met from the environment. (Overall expectations 1, 2, and 3)

Different kinds of living things behave in different ways. (Overall expectations 7 and 8)

- 1.2 describe changes or problems that could result from the loss of some kinds of living things that are part of everyday life (e.g., if we lost all the cows, all the insects, all the bats, all the trees, all the grasses), taking different points of view into consideration (e.g., the point of view of farmers, children, parents)
- 2.2 investigate and compare the basic needs of humans and other living things, including the need for air, water, food, warmth, and space, using a variety of methods and resources (e.g., prior knowledge, personal experience, discussion, books, videos/DVDs, CD-ROMs)
- 3.4 describe the characteristics of a healthy environment, including clean air and water and nutritious food, and explain why it is important for all living things to have a healthy environment
- 3.6 identify what living things provide for other living things (e.g., trees produce the oxygen that other living things breathe; plants such as toma-

Grade 2

Air and water are a major part of the environment. (Overall expectations 1, 2, and 3)

Living things need air and water to survive. (Overall expectations 1 and 3)

Changes to air and water affect living things and the environment. (Overall expectations 1 and 3)

Our actions affect the quality of air and water, and its ability to sustain life. (Overall expectations 1, 2, and 3)

Grade 3

Many ways in which plants have an impact on society and the environment, and ways in which human activity has an impact on plants and plant habitats.

Investigate similarities and differences in the characteristics of various plants, and ways in which the characteristics of plants relate to the environment in which they grow.

Demonstrate an understanding that plants grow and change and have distinct characteristics.