



Live! With SARA

Summary

Students will research and present a radio or television talk show to explore Canada's *Species at Risk Act (SARA)*.

Activity Information

Level: Grades 10 and 12 (sec. III and V)

Subjects: Sustainability of Ecosystems, Evolution, Change and Diversity, Interactions Among Living Things, Science; Language Arts

Estimated Duration: One 60-minute class period for discussion, homework to complete research and questions, one period to present talk shows.

Materials: none.

Learning Outcomes

Sustainability of Ecosystems

Explain how a paradigm shift can change scientific world views (e.g., present examples that illustrate the shift from a world view centred on humans to one focused on inter-relationships among all species).

Analyze the impact of external factors on an ecosystem.

Evolution, Change and Diversity

Identify multiple perspectives that influence a science-related decision or issue (e.g., identify various perspectives on such issues as the origin of life, the protection of wild species of plants, and the preservation of wilderness areas).

Interactions Among Living Things

Evaluate Earth's carrying capacity, considering human population growth and its demands on natural resources.

Teacher Background

Legislation is an important environmental tool. Canada has legislation that protects human rights and freedoms, historical properties, and special areas.

The Government of Canada recognized the importance of protecting species at risk in Canada by passing the *Species at Risk Act (SARA)* in 2003. SARA is designed to prevent Canadian wildlife species, subspecies, and distinct populations from becoming extirpated or extinct. It also provides for the recovery of endangered or threatened species, and encourages the management of other species to prevent them from becoming endangered or threatened.

In addition to the federal legislation, most provinces and territories recognize species at risk in legislation. Some, like Nova Scotia and Ontario, have specific species at risk legislation, while others recognize species at risk through other legislation such as their provincial or territorial wildlife act.

Procedure

1 Begin a discussion about legislation, and why it is important.

Some leading questions might include:

Q: What is legislation?

Q: What is its purpose?

Q: How is it developed?

Q: What are the differences between federal and provincial/territorial legislation?

Q: How does legislation get proposed and eventually passed as law?

Q: How is legislation enforced?

Q: How can we create a balance between societal and landowner rights and penalties/rewards?

Introduce the SARA legislation and provide a general introduction to its history, purpose and role. There is an explanation of how the act will protect wildlife species and conserve their biological diversity at:

www.sararegistry.gc.ca/the_act/default_e.cfm

2 Explain that students will be exploring Canadian species at risk legislation by participating in a new Canadian talk show. Students

can brainstorm the name of the show or pick a name such as *Save Our Species!* or *Will This Be Our Last Farewell?*

The show will have a host (modeled after someone the students choose such as the *Tonight Show's* Jay Leno, Oprah Winfrey or Jay Ingram), who will explore the SARA legislation by interviewing a series of guests who will share their opinions about its history and intended outcomes. They will also discuss the possible impact on selected species at risk in Canada.

You will want to explain how a talk show is developed. Researchers support the host by finding out information about the people and topics that are featured so that they can develop relevant questions.

3 Divide the class into groups of three or four students. Each group will do the following:

a) Select a geographic region of Canada and pick a species in that region that lives in a forested environment and is at risk.

b) Research the species in order to better understand its ecology and biology. The following questions will help guide the research:

Q: What role does this species play in its ecosystem?

Q: What is its geographic distribution? If the students are feeling adventurous, offer extra marks for mapping the distribution.

Q: Is the species currently protected? If so, how?

Q: What are the threats to this species' survival?

Q: What factors may complicate the protection of this species?
(Legislation or policies relating to species at risk, current forest management practices, agricultural practices on private land, other urban land use, etc.)

Q: What role do non-government organizations and other organizations play in the protection of this species and the habitats they depend on?

c) Research a forest company that manages land in or near the habitat of the species at risk and find out if it actively plans for, and manages, the forest community to ensure protection of the species at risk.

d) Find out if the land in question is Crown owned or privately owned. How will this affect the plans to protect this species?

e) Find out if there is a recovery team that is currently working on the conservation and protection of the species. If there is, explore what they are doing. If there is not, consider what a recovery team should be doing to help the species.

f) Find out if there are environmental groups involved in protecting this species and, if so, what are they doing.

g) Find out what else provincial/territorial governments are doing or could do to help the species.

4 Each group should designate their talk show host and the rest of the students in that group will be guests that the host interviews, with the following roles:

- a wildlife biologist, heading up the species at risk team;
- a forest industry representative, responsible for managing the land base where the species at risk is located; and
- a representative from an environmental non-government organization that is concerned about the protection of the species at risk.

Note: If there is a group with more than four students, identify additional roles such as a private woodlot owner, or farmer whose property will be affected by the recovery plan; a government land use planner; someone who has been convicted of violating a law related to the species at risk (e.g., damaging habitat, poaching), a teacher or student who has taken an interest in increasing community awareness), a local celebrity or politician who has taken up the cause of endangered species protection.

5 Each group will prepare questions based on their research so that the talk show host can explore the positive outcomes of the legislation on the species at risk. Researchers should also prepare the correct answers for the guests, so that accurate information is shared with the audience.

6 Hold the talk shows! Each group will have 15 minutes for its show. The host will introduce each of the guests and then interview them. As each new participant is introduced, the previous guest can remain on the set and contribute to the new discussion. The show will be considered a success if the following has been presented:

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- Students introduce the SARA legislation, with a brief discussion of how it relates to other government policies and legislation;
 - They examine briefly how an individual species at risk will be protected under the new legislation;
 - They show why the legislation can be a useful tool for forest companies that want to ensure the sustainability of ecosystems under their care;
 - They introduce other provincial/territorial legislation that helps protect species at risk; and
 - They recognize and explore issues around the legislation – presenting views from those who support it as well as some who think it goes either too far, or not far enough, to protect the species.

Extensions

Instead of a talk show, develop a town hall meeting where students play the roles of different interest groups responding to a forest management plan. This could include many of the same roles: wildlife biologist, forest industry representative, member of an environmental organization, interested citizen, etc.

Special Threats to Canadian Trees

There are many reasons why species are considered “at risk”. Some just naturally have small population numbers, other species have low reproductive rates. In recent times, the greatest threat to wildlife has been habitat loss, caused mostly through the activities of humans. Certain wild species are more susceptible to loss of habitat than others, particularly if they have very specific habitat requirements, depend on a large range area, or follow fixed migration routes.

Some of Canada’s own tree species are currently declining. Western white pine, a species native to British Columbia, has been seriously affected by white pine blister rust, a fungus inadvertently introduced into western North America around the year 1910. This fungus has had a huge impact on western white pine reducing its numbers to such an extent that, in many regions of British Columbia, western white pine is now considered a *ghost species*, too rare to be considered commercially viable. White pine blister rust is also affecting white-bark pine, a close relative of western white pine. Both are keystone species for ecosystem health and sustainability.

Recently, you may have heard about the threat of the Asian long-horned beetle; it has no known natural enemies within Canada’s forests and could become a serious threat to Canada’s sugar maples and other hardwood species. A single female long-horned beetle can lay 80 or more eggs under the bark of a tree. The larvae that hatch from these eggs feed on the tree’s wood, creating a network of winding galleries. Once this happens, the only way to destroy them is to identify infested trees, cut them down, then burn or chip them before the adult beetles have a chance to emerge. Spraying with insecticides doesn’t help because the beetle larvae are hidden under the bark, deep in the wood of the host tree.

Other threats exist for Canadian tree species, some found in Canada’s rare Carolinian forest. This unique forest type in southwestern Ontario is the northernmost edge of a vast temperate hardwood forest found in eastern North America. Within Canada’s Carolinian forest, you will find an impressive list of plant and animal species, including 70 species of trees. Unfortunately, within the Carolinian forest, as in other parts of Canada, threats such as Dutch elm disease, butternut canker, beech bark disease and beech scale, as well as introduced emerald ash borer, are all too common!

The poster included with this kit provides interesting facts about many of these trees and the threats that they are experiencing.



American Chestnut
Castanea dentata