Grade 12: CARIBOU FALLS' ALL-WEATHER ROAD

Students explore the environmental and social impacts of all-weather roads from the perspective of an environmental practitioner proposing the key determining factors on the placement of a community's all-weather road.

CURRICULUM CONNECTIONS

Related Outcomes

This lesson will contribute to the student's ability to

- consider further studies and careers in science- and technology-related fields;
- work as a member of a team in addressing problems, and apply the skills and conventions of science in communicating information and ideas and in assessing results;
- develop, present, and defend a position or course of action based on their findings.

Related Coursework

This lesson works well in classes studying

- careers related to biology, engineering, and environmental studies;
- community access;
- contemporary issues facing Aboriginal communities;
- relationships affecting the biodiversity and sustainability of life within the biosphere;
- the impact of industrial and human activity on the environment.

PREPARATION

Learning Objectives

During this lesson, students will

- identify the general environmental and social impacts of all-weather roads based on the handout Road Access and All-Weather Roads;
- identify the positive and negative impacts of a proposed all-weather road based on the case study provided;
- assess these impacts from the perspective of their assigned environmental practitioner to determine the factors they think should influence the placement of the road;
- evaluate the roles of various environmental practitioners in the decision making process related to all-weather road development.

Total Time 85 minutes, including group presentations.

Material Required

- Road Access and All-Weather Roads from My EnviroConcerns on the Aboriginal EnviroCareers website/CD-ROM (one per student)
- Case Study: Caribou Falls' All-Weather Road, master provided (one per group)
- Copies of the following profiles from the EnviroCareers section of the Aboriginal EnviroCareers website/CD-ROM: conservation biologist, environmental scientist, GIS analyst, remediation scientist, environmental co-ordinator, Aboriginal liaison, forester, environmental policy analyst or Traditional Environmental Knowledge (TEK) advisor (assign one profile per group)
- Flip chart paper and markers (several per group)

DELIVERY

TIME	PROCESS	TEACHER'S NOTES
15 minutes	1. **Introduction: Introducing Issues Related to Community Access** *(Discussion and Structured Overview)* 1.1 Divide class into groups of 3-4. Distribute the following to each group: a. Road Access and All-Weather Roads. b. Case Study: Caribou Falls' All-Weather Road.	1.1 To save time, prepare group packages ahead of time.

	c. A profile for one of the following environmental careers: conservation biologist, environmental scientist, GIS analyst, remediation scientist, environmental co-ordinator, Aboriginal liaison, forester, environmental policy analyst or TEK advisor. d. Flip chart paper and a marker.	
10 minutes	1.2 Road Access and All-Weather Roads. Discuss the positive and negative aspects of all-weather roads as described in the handout.	1.3 Select the profile of an occupation not being assigned to a group to develop an example you can use to model the decision-making process.
	1.3 Describe the main activity as follows. Model the types of decisions to be made and support information to be considered by the groups at each stage. "Each group has been assigned the role of a particular environmental practitioner. Your task is to develop a list of factors your practitioner thinks should influence the placement of the Caribou Falls all-weather road. In your groups, you will a. Review the profile of your assigned environmental practitioner to identify the main goals and concerns of the occupation. b. Review the Caribou Falls First Nation profile to familiarize yourself with the community and the proposed road. c. Determine the positive impacts of constructing the all-weather road from the perspective of your assigned practitioner. Rank each list by order of importance. d. Determine the negative impacts of constructing the road from the perspective of your assigned practitioner. e. Rank each list by order of importance to determine the two most significant factors influencing where the road should and shouldn't go."	To enhance your overview, show students a map of the Caribou Falls area using an overhead transparency. Draw in Caribou Falls prior to the class based on the information in the case study. Alternatively, have students draw a map of the region based on the case study as part of their group work. For a simple map of Labrador, go to the Government of Newfoundland and Labrador website at: www.gov.nf.ca/exec/publicat/economy/lab.htm
	2. **Main Activity: Exploring a Plan for an All-Weather Road as an Environmental Practitioner** *(Cooperative-learning Groups)* 2.1 Provide the following additional directions to the groups a. "Select a note taker, time keeper, and presenter." b. "Record the positive and negative impacts identified on the flipchart paper." c. "Record your essential considerations on a separate flip chart sheet." d. "Prepare your presentation." e. "Present your position to the rest of the class." f. "You have 30 minutes to complete the assignment." 2.2 Begin the activity.	2.2 Monitor the groups frequently. If necessary, ask leading questions to help the groups focus their work. 2.2 Adjust the time allowed for the group work according to the number of students in the class.

20 minutes

3. **Closure and Evaluation: Presenting Group Recommendations**
(Presentations and Discussion)

3.1 Reconvene the large group. Invite the spokespersons from each group to present and defend their group's influencing factors.

Remind presenters they should identify and portray their assigned environmental practitioner.

3.2 Once all groups have presented, discuss the strengths of each proposal.

3.3 Assign the following reflective question as homework: "Having heard the perspectives of many environmental practitioners, which occupation's views do you think influence the placement of an all-weather road in real life. Why?"

Discuss students' homework in a subsequent class.

Evaluation Considerations

Did each group

- make decisions collectively;
- demonstrate the perspective of their assigned practitioner;
- defend its point of view?

Did individual students

- listen to and consider other groups' points of view;
- participate in group discussion and contribute to the decision making process;
- assess the roles of various environmental practitioners in the development of all-weather roads.

SUGGESTIONS FOR ADAPTATION

- This lesson can be adapted for Grades 9-11 by focusing on selected factors such as animal migration patterns or the potential for water or other pollution instead of requiring students to identify and analyze a range of factors.

CASE STUDY: The Caribou Falls' All-Weather Road

** Caribou Falls First Nation is a fictional community, however, it represents a compilation of communities in the Labrador West region and their community access issues. The environmental factors identified in the case study are accurate to the region.*

The Road

Halston Iron Ore Company has agreed to partner with Caribou Falls First Nation* to build an all-weather community access road between Caribou Falls and Labrador City. Originally, Halston planned to build a commercial road to gain access to its new iron ore deposit 30 kilometres southwest of Caribou Falls. The company has agreed to extend the road to Caribou Falls and to upgrade its quality so it's suitable for all-weather community access.

About the Community of Caribou Falls

Caribou Falls First Nation is located on the south shore of Caribou Lake, approximately 100 kilometres northeast of Labrador City. Chartered flights from Labrador City or Churchill Falls and the winter road from Labrador City are the only two ways in and out of the community.

The community's population is 250. Members of the Michikamau Band established a main camp in the area for managing surrounding trap lines and hunting grounds in the l880s. Large numbers of people would gather in the area for several weeks in the summer to trade and hold ceremonies. Eventually, the community of Caribou Falls developed. The people of Caribou Falls continue to use these traditional trap lines and hunting grounds as well as the ceremony grounds southwest of the community.

The lack of an all-weather road has significant effects on Caribou Falls. Transporting goods and services into the community is extremely expensive. Essential services within the community are limited also—there is only one operator-assisted telephone for the entire community. Community members are unable to take advantage of employment opportunities in the local mining, forestry, and tourism industries. Other than subsistence hunting and fishing, there is little economic development in the community.

The road would enable the community to promote the area as a cultural and eco-tourism destination. Community members would also have access to employment opportunities at Halston's developing mine.

About the Area

The area is internationally known among wildlife and hunting enthusiasts for the almost 700,000 strong George River Caribou herd. The herd winters in the region northeast of Caribou Falls, some years ranging as close as 50 kilometres from Caribou Falls.

The region's rolling hills, wilderness, and many lakes and rivers make it an ideal outdoor recreation area. However, no parks or protected areas have been established because the isolated nature of the area has made this unnecessary.

The Serpentine River winds north from Lake Wabash, just south of Labrador City, into Caribou Lake. Six other lakes spot the area between Caribou Falls, Labrador City, and Churchill Falls.