

**Note:**  
 This activity builds on the clean water theme in the **Green Star!** Nov/Dec issue.

**Grades:** 5-7

- Materials:**
- Photocopied map of British Columbia with the Fraser River on it
  - Highlighter pen
  - Map of First Nations in B.C. (see page 31)
  - Props such as clothing, backdrops, etc. for skits

- Time**
- Part I: Two one-hour sessions, plus research time
  - Part II: Two one-hour sessions, plus research time
- Total: 4 hours +

**Source:**  
 This activity is adapted from the Sierra Club of Canada, BC Chapter *Watershed Connections*, available at [www.sierraclub.ca/bc/programs/education/educators/](http://www.sierraclub.ca/bc/programs/education/educators/)

## Lesson Plan: Impacting our Watersheds: Focus on the Fraser River

**Activity Objectives**  
 In this activity students will:

- Describe three ways (among many) that former-European and modern cultures have had an effect on British Columbia watersheds;
- Describe three ways that former-European and modern cultures have had an effect on First Nations culture in B.C. ;
- Delineate the Fraser River watershed on a map of British Columbia

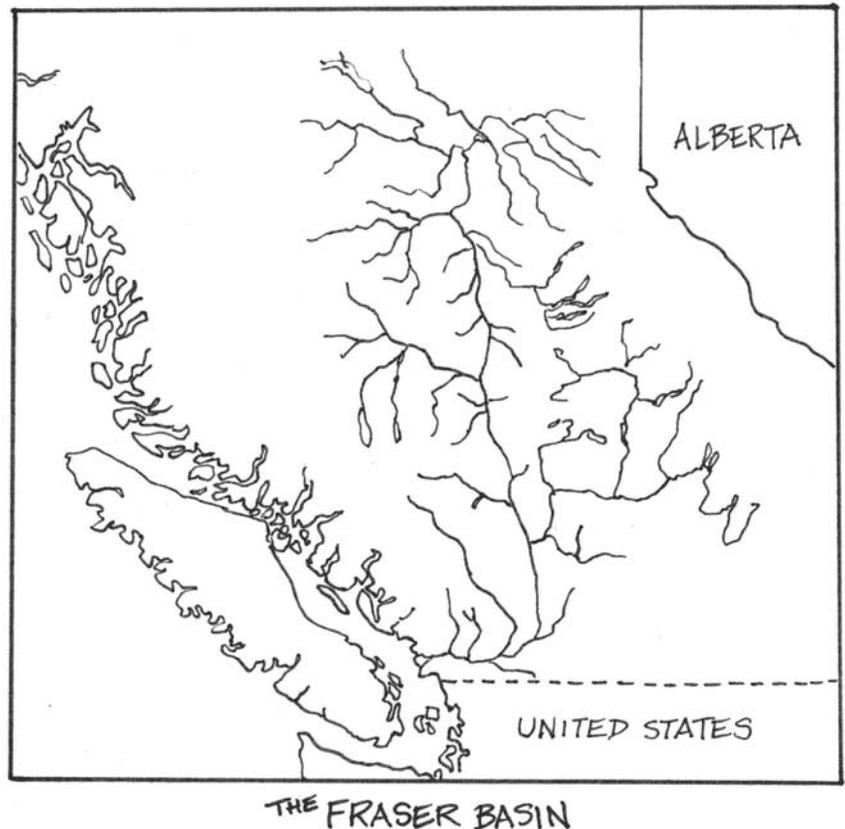
### Background

The Fraser River is one of planet Earth’s largest rivers. The Fraser and its tributaries are the lifeblood of British Columbia. The Fraser River watershed (called the Fraser Rivershed) is home to most of B.C.’s salmon and two-thirds of the province’s human population. It has proven to be a very popular place for former-European human culture to make its home, mostly because of its resource richness.

When the first former-European humans began settling the Fraser Rivershed, they found a seemingly endless supply of trees, fish and other natural resources. However, the relentless growth in recent times has resulted in residential development, urban and industrial runoff, and large-scale agriculture, logging, and mining.

The Fraser Rivershed has experienced loss of wetland and stream habitat, disappearing runs of native salmon, decreasing biodiversity and increasing silt and toxin levels.

The very resources that enticed modern culture to settle along the Fraser In the first place are disappearing quickly.



Although First Nations people also had impacts on the environment, many groups lived in the Fraser River watershed for many thousands of years, and their population growth and environmental impact was minimal. Modern cultures, on the other hand, have grown and consumed so quickly that many of the watershed's natural resources are now considered to be in danger. In addition, the ancient cultures of First Nations peoples have been altered due to contact with modern cultures.



What can we, as concerned students of the environment, learn from past mistakes? Is it possible to use our observations of environmental degradation, resource depletion and cultural impact in order to change how we live so that we can have what we need without compromising the ability of future generations to get what they need?

### KEY WORDS

**Biogeoclimatic zone:** a landscape region which is generally characterized by certain biological, geological and climatological attributes. There are 12 in B.C.

**Culture:** the ideas, customs, skills, arts, etc. of a given people in a given period.

**Headwaters:** upstream region within a watershed; higher elevation source for rivers; the source of a stream.

**Outflow:** downstream end of a river where it empties into the ocean or a lake.

**Rivershed:** like a watershed, it drains from the highest points of land into a common system of rivers, streams, creeks, lakes, bogs and wetlands, feeding a single, larger waterway.

**Sustainable development:** the ability to meet the needs of the present generation without compromising the ability of future generations to meet their own needs.

**Tributary:** a river or stream which contributes its water to a main river by discharging it into the latter, from either side, and at any point along its course.

**Wetlands:** ecosystems dominated by water-loving plants and having wet or saturated soils, such as bog, swamp, slough, pond or marsh.

### FAST FACTS: The Fraser Watershed

- is the largest Watershed in B.C., and contains the longest river in B.C.
- flows through approximately 21 million hectares of land
- is made up of 12 biogeoclimatic zones
- is home to more than 2.5 million people (66% of B.C.' population) and the world's greatest salmon population
- has received both Canadian and B.C. Heritage River status
- supports farming, forestry, mining, fishing, manufacturing, construction, tourism and service industries
- contains 48% of B.C.'s operable forests
- contains 60% of B.C.'s metal mine production
- contains 44% of B.C.'s farm land
- contains 67% of B.C.'s Sockeye Salmon and 60% of B.C.'s Pink Salmon
- contains 49% of B.C.'s fresh water sport fish catch
- produces 80% of B.C.'s annual economic production
- accounts for 66% of B.C.'s total household income
- has a Sockeye fishery, which once had revenues of \$100 million annually, and is now on the brink of collapse
- is B.C.'s most endangered and polluted river system

(Source: the Watershed Society of British Columbia, 2000)

## ACTIVITY DESCRIPTION

### PART I:

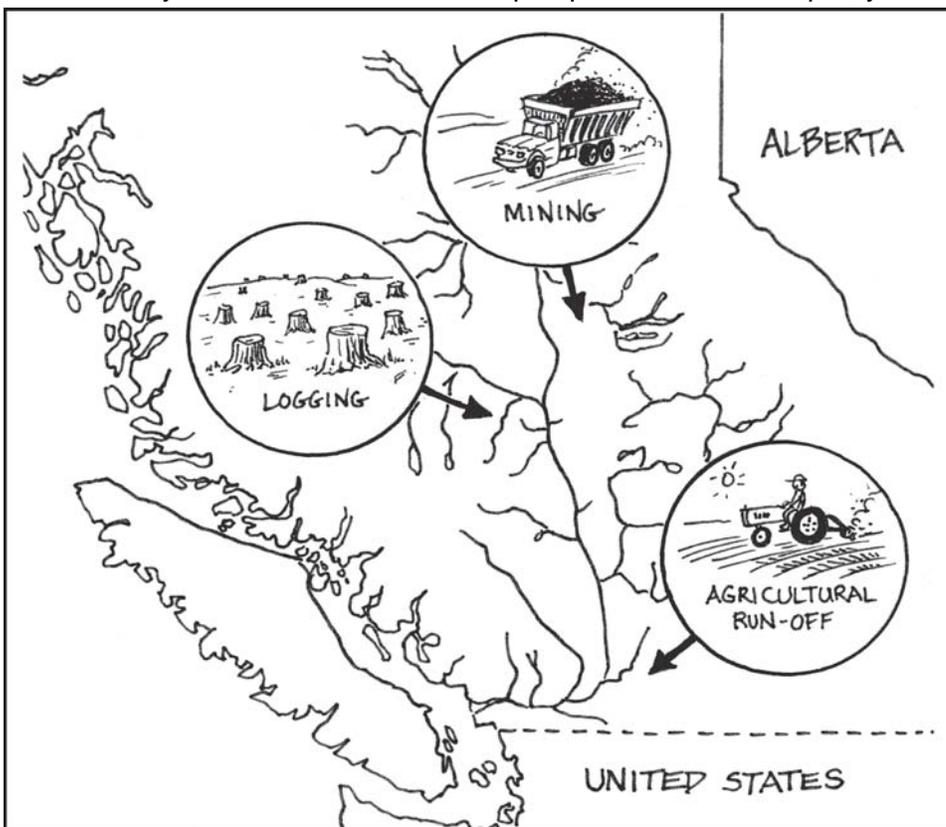
1. Try to trace the path of the Fraser River from its headwaters to its outflow. How many tributaries can you find? Use a highlighter pen and a photocopy of a map of British Columbia which shows the Fraser River on it. Try to delineate the various parts of a watershed: headwaters, boundaries, tributaries, estuaries, lakes, ponds, riparian zones, and forests.
2. Review the facts in **Fast Facts: The Fraser Rivershed** (above). Can you think of any other import roles or functions that the Rivershed might fulfill?
3. In small groups of three or four choose a topic (or topics) from the issues in **Watershed Worries**. Fraser Rivershed Watershed Issues (right) or come up with your own. As a group, research your issue(s), and then create an educational presentation. Try to investigate the impacts created by early settlers, (both First Nations and others) on the environment of watersheds, and specifically the impacts of present-day society on the Fraser Rivershed. Think in terms of sharing information with your classmates. Write a short story outlining your findings.

### WATERSHED WORRIES: Fraser Rivershed Issues

- ❖ Agriculture and agricultural run-off
- ❖ Boat traffic
- ❖ Dyking
- ❖ Fishing and over-fishing
- ❖ Global warming
- ❖ Liquid waste disposal and sewage
- ❖ Logging and deforestation
- ❖ Multi-point source pollution
- ❖ Non-native vegetation
- ❖ Poor land and water management
- ❖ Pulp mill effluent discharge
- ❖ Recreation
- ❖ Residential, commercial and urban development
- ❖ Over-consumption of resources
- ❖ Wood processing and wood debris/wood waste

### PART II:

1. Now that you've done your homework, it's time to share what you've learned with your classmates! As a group, pick one issue and develop what you've learned into a short skit. Try to make your skit have a historical perspective. For example, you could set it during the Gold Rush era. Details in the skit about natural resource impacts could include habitat loss due to human settlements around rivers, degradation of forests in the riparian zone due to logging or road-building, water pollution resulting from human activity in watersheds, or some other impact that your group thinks of. As well, the skit could depict the challenges to local customs and culture that the rush brought, and attempts made by local people to retain their customs and culture.



2. Act! Consider video recording your skit, or taking pictures to put up on your school website or in your school annual.