



Chapter

14

Environmental Impacts of Globalization

Chapter Focus

When you hear the word “sustainable” what other words pop into your head? Likely one of the first is “environment.” No economy, no matter how prosperous, can continue indefinitely if the environment that supports it is irreparably damaged.

So far, in Part 3, you have focused on the question of whether or not all people enjoy the benefits of economic globalization. In this chapter and the next one, you will have a chance to focus on whether or not the prosperities brought by globalization are sustainable or not.

What are the relationships between economic globalization and the environment? Does the **consumerism** of the global marketplace have an impact on the natural world? Can we develop the economy and protect the environment at the same time? Consider these questions as you reflect further on the Main Issue for Part 3: *Does globalization contribute to sustainable prosperity for all people?*

consumerism a preoccupation with buying goods and services

Key Terms

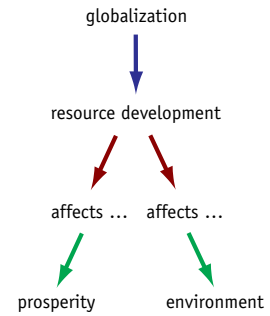
- consumerism
- ethics
- implication
- surface mining
- peatlands
- reclaimed
- sustainable development
- clear-cutting
- selective cutting
- exclusive economic zone (EEZ)
- desalination



Figure 14-1 Workers try to clean up oil spilled into Lake Wabamun, outside Edmonton, after a train derailment in 2005. Has your community been affected by environmental issues? In the Skill Path for this chapter, you will think critically about the impacts of globalization on the environment by assessing a decision related to this issue.

Chapter Issue

In this chapter, you will consider the following Chapter Issue: *To what extent does globalization affect the environment?* You will focus on an activity that is closely related to economic globalization—the collection of natural resources. Start by thinking about some of the ways in which Canadians’ use of natural resources such as water, timber, and fossil fuels affects the environment. Think about what you already know about sustainable development. Remember, when you think about the effects of globalization on the environment, it is important to consider how your personal decisions play a role. Keep that in mind as you further reflect on the Key Issue: *To what extent should we embrace globalization?*



▲ Begin exploring the relationship between globalization and sustainable prosperity by examining the extent to which one of the effects of globalization—that is, resource development—affects both prosperity and the environment.



▲ **Figure 14-2** An aerial view of the James Bay Hydro Project in Québec, 1991. Projects like this can have both positive and negative impacts. Although the James Bay Cree and Inuit lost a lot of their traditional lands, they gained economic opportunities through a resource development agreement with the governments of Canada and Québec. Similarly, although the project creates non-polluting energy, which can be sold in the global marketplace, the impact on the environment in terms of damage to ecosystems was huge. How can analysis of environmental impacts in Canada help us learn about global environmental issues related to resource development?



SKILL PATH

SP Thinking Critically

Assess a Position

ethics moral principles or values

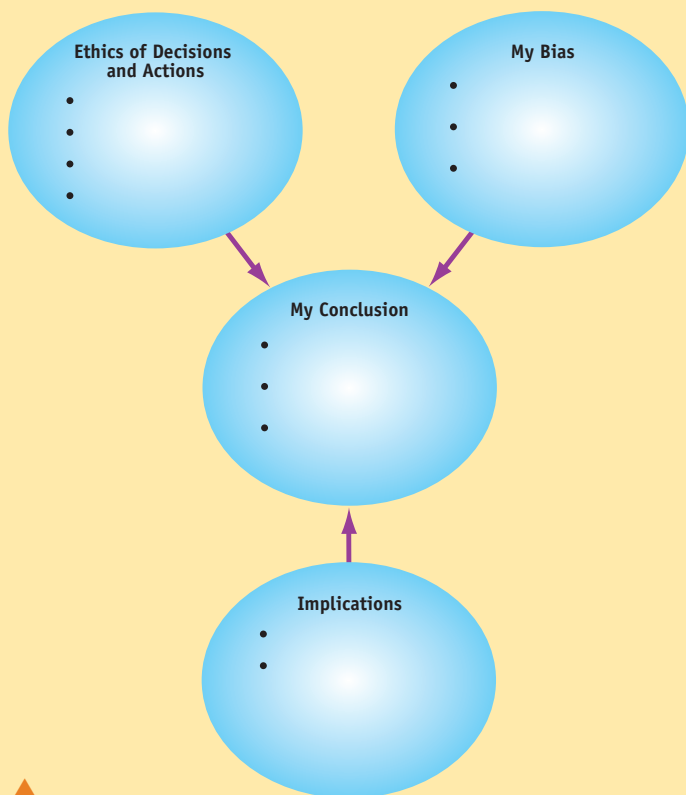
implication a suggestion that certain things are true or will happen as a result of something else

Critical thinking helps you make reasoned judgments. When you are asked to think critically, you need to

- distinguish fact from opinion
- determine how credible, reliable, and accurate information is
- notice perspective and bias
- consider the ethics of decisions and actions

Thinking critically about your own impact on the natural environment will help you explore the Chapter Issue: **To what extent does globalization affect the environment?**

Your Task: In this Skill Path, use critical thinking skills to evaluate the position taken in the following article. Using your skills from Chapter 1 (pages 7–8), brainstorm and develop a concept web that illustrates your responses to the questions asked in each of the steps.



Our Ecological Footprint

In mid-2005, the world's population was 6.45 billion. In the next 50 years, it is expected to grow to almost nine billion. Clearly, this is not good news for our environment, and especially for poor people who already lack the resources they need to survive.

Every person uses up a certain amount of the earth's finite resources. A formula has been created to work out someone's impact on the environment based on their levels of consumption. This is called the "ecological footprint."

People in wealthy countries tend to use more resources than poor countries because they can afford scarce resources and have a higher standard of living.

Studies using the "ecological footprint" formula show that if everyone in the world consumed resources at the same rate as people in the richest countries, humans would need at least three planet earths to support everyone.

Source: World Vision Australia,
<http://www.worldvision.com.au/wvconnect/content.asp?topicID=39#Our+ecological+footprint>.

Figure 14-3 A sample concept web. If you think, based on previous learning experiences, that a different type of organizer would be more effective for you, consult with your teacher about using an alternative format.

Step 1

Consider the Ethics of Decisions and Actions

Ethics are principles and values that help you do the right thing. Your ethics are shaped by your world view. They affect your behaviour and your expectations of others. When you evaluate a position on an issue, consider the following ethical questions:

- What values and beliefs does this position support?
- Does this position promote respect for self, respect for others, and taking responsibility for one's actions?
- Does this position allow for appreciation for differences of opinion?
- Does this position allow for multiple perspectives? Would research on other positions help you evaluate this position?

Step 2

Consider the Implications

When you accept a position, you accept the implications of that position. An **implication** is a suggestion that certain things are true or will happen. Think about implications before you accept the position.

- What would happen if you took this position? What would happen if you did not take or accept this position?
- What would happen if everyone took or refused to take this position?

Step 3

Consider Your Bias

When you accept a position based on ethics, it is important to reflect on how your beliefs, values, and knowledge have affected your decision to do so.

- Are you making an informed decision?
- Do you have facts to back up your assumptions?
- How is your bias affecting your reaction to this position?

Step 4

Reach Your Conclusion

- What are the main ideas underlying this position?
- What strengths and weaknesses can you find in this position?
- Why do you accept or reject it?



▲ **Figure 14-4** Conservative MP Steven Fletcher speaking in Parliament, 2004. Why is it important to think critically about the positions and policies of others? How do the ethics of people in positions of power affect you?

READING GUIDE

Before you start reading this chapter, make a list of questions you have based on what you know about the topic and the Chapter Issue. While reading, make notes about questions that are answered in the text. After you have finished the chapter, take part in a class discussion to explore any remaining questions.

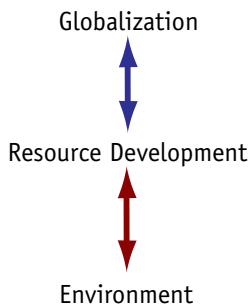


Figure 14-5 Impacts and effects. When you are looking at the relationships among globalization, the economy, and the environment, it is important to look at how impact on the environment can turn around and “bite back.” How would impacts on the environment affect Alberta’s ability to have strong resource industries and participate in the global economy?

Figure 14-6 Multiple perspectives on one tree. Most people probably see one tree as many of these things. Which of these perspectives do you relate to most?

Resource Development and the Environment

Question for Inquiry

- In what ways does globalization affect resource development and the environment?

Has resource development increased as a result of globalization? Think back to what you have learned about imperialism and industrialization. How were natural resources developed in colonies in the 19th and 20th centuries?

In our global economy, resources can be bought, sold, and used all over the world. For example, improved transportation and manufacturing have made it possible for trees grown in one country to be shipped to a second country for processing into pulp. The pulp might then be shipped to a third country, where it is used to make paper. The paper might then be distributed through free trade to other countries, where it is sold for use in computer printers.

Do you think that each of the countries in this scenario benefits equally from the development of the resource? Do any of them have more at stake than the others? There are many perspectives on the development of natural resources. Think of an example. How might different people view a tree?

A person who...	might see the tree as...
<ul style="list-style-type: none"> • works in the logging industry • needs to build a home • monitors forest health • studies ecology • has asthma because of poor air quality • needs firewood • feels a spiritual connection to land • works to protect animal species 	<ul style="list-style-type: none"> • an economic opportunity • a source of timber • a source of seeds from which new trees will grow • an integral part of an ecosystem • a natural air filter • a source of fuel • an essential part of the whole environment • an important habitat

Some people think that countries should develop their natural resources to export raw materials for income. Others believe that countries, especially wealthy countries, should conserve their resources but consume products made with the resources of other countries. Still others believe that countries should develop resources as they are needed by local populations

and try to be as self-sufficient as possible. A self-sufficient country does not need to import a lot of goods to function. In a globalizing world, it is increasingly rare for a country to be completely self-sufficient.

Who makes decisions about resource development? What factors are considered before decisions are made? As you read this section, think about the steps outlined in this chapter's Skill Path.

Resource Development in Alberta

Resource development is a global issue because the world's resources are limited. Development of one resource in one country could affect the rest of the world, especially if it is done irresponsibly. In order to better understand resource development, let's look at an example of resource development in Alberta. How has globalization affected the development of Alberta's oil resources? How has this resource development affected the environment? By examining this relationship, you can begin to think about the Chapter Issue: *To what extent does globalization affect the environment?*

Oil Sands and the Economy

Globalization has played a big role in bringing the oil sands to the forefront of Canada's economy. Consider what you have learned about economic globalization. How has globalization affected the development of the oil sands? Is oil a local market or a global market? Since 1997, global investors have put \$34 billion into the oil sands. According to the Canadian Energy Research Institute, this investment is expected to grow to \$100 billion by 2020. Investors are expected to include French, Chinese, and Indian petroleum producers.

How does oil sands development affect the economy of northern Alberta?

FastFacts

The first record of the oil sands is in 1719, when a Cree man named Wa-pa-su presented a sample at the Fort Churchill trading post.

What can be learned from the history of oil sands development? How does examining the history of a natural resource expand our understanding of its role in the environment and in the economy?

Figure 14-7 Economic effects of oil sands development

Some economic effects of oil sands development on...	include...
workers	<ul style="list-style-type: none"> the creation of jobs the creation of investment opportunities and the extra money needed to take advantage of such opportunities
local businesses	<ul style="list-style-type: none"> the likeliness that a wealthy population will spend more money an increase in visitors and business people from out of town who must pay for food, lodging, and entertainment while in the area
global investors	<ul style="list-style-type: none"> the opportunity to exploit a large source of oil to feed world markets a politically stable and predictable place to make investments
Lubicon Cree	<ul style="list-style-type: none"> creation of jobs destruction of vast tracts of Boreal forest, which are the basis of the Lubicon traditional economy, and which are part of several unsettled land claims
local, provincial, and federal governments	<ul style="list-style-type: none"> increased revenues from taxes and fees as the industry expands

READING GUIDE

When reading a series of numbers or statistics, create a visual organizer in your notes to help you assess their importance.

FastFacts

In 2006, it cost about \$25 to mine one barrel of oil from the oil sands.
 Mining the oil sands is an expensive way to collect oil. Should we be considering environmental costs? What other costs might there be?

Oil from oil sands costs more to produce than does oil from traditional wells. As a result, the oil sands were not a top priority for oil production in Canada until recently. It is profitable to mine the oil sands only if the cost of production is lower than the price of oil on the world market. For example, in 1998 a barrel of oil cost US\$18. If a barrel of oil mined from the oil sands costs more than \$18 to produce, then it was cheaper to buy oil from somewhere else than to produce it locally. By 2005, however, the price of oil hit US\$60 per barrel. This change in the market made it economically profitable to step up oil sands production.

Oil Sands and the Environment

Developing the oil sands may be a profitable business right now, but what about in the future? Oil is not a renewable resource. Is it economically or environmentally wise to continue to rely on oil for energy? How does oil sands development affect the environment of northern Alberta? It may generate prosperity, but, is it a sustainable prosperity?

Some environmental effects of oil sands development on...	include...
land	<ul style="list-style-type: none"> • destruction or alteration of ecosystems and natural habitats • replacement of wilderness with roads and buildings
water	<ul style="list-style-type: none"> • depletion of clean freshwater sources, since great amounts of water are used to remove the oil from the sand and this water cannot be returned to natural waterways without expensive recycling programs
atmosphere	<ul style="list-style-type: none"> • air pollution created when the oil sands are processed • emissions from machinery and equipment • increase in greenhouse gases emitted by burning fossil fuels such as oil, which have an effect on climate change

Figure 14-8 Environmental effects of oil sands development

surface mining the technique of digging up land completely, as when mining oil sands

peatlands lands consisting of partly rotted vegetation, such as swamps

reclaimed restored to a productive state

Surface mining is the technique used to develop oil sands. The land over the oil sands, including forests, wetlands, and **peatlands**, is removed to create access to the sands below. The government has strict regulations to ensure that surface-mined land is **reclaimed**, or restored to a state that is equally or more productive than it was before the mining. For example, the sand, silt, and water that remain after the oil sands have been processed are used to refill the mined strips. Grass or trees can then be planted. One reclaimed area is now home to a herd of bison (see Figure 14-9 on the next page).

Reclaimed land is very different from what it used to be, however. Ecosystems such as wetlands are important habitats to many species of plants and animals, and they take a long time to redevelop once they have been destroyed. Peatlands, such as swamps and fens, absorb large amounts



Figure 14-9 A wood bison habitat on reclaimed land in northern Alberta. This habitat was developed by Syncrude, an oil company, and the Fort McKay First Nation. How does the creation of wildlife preserves help address the issue of reclamation?

of carbon dioxide, a greenhouse gas. When peatlands are destroyed, the area is less able to absorb carbon dioxide. There are plans to reforest some of the reclaimed land, but some environmental scientists have expressed concerns about the ability of trees to grow in the sandy reclaimed soil.

Conservationists worry about the impact of this reclamation on wildlife, plants, and groundwater. Oil sands are found under about 20 per cent of Alberta's territory. With current reclamation processes, this huge landscape could be permanently changed.

Perspectives on the Economy and the Environment

Globalization has driven the development of the oil sands, which in turn has created many jobs for people in Alberta and around the world. Chances are that you know at least one person who works in the oil industry or a spin-off industry (one fuelled by the oil industry). Oil sands development also creates revenues for all levels of government. Many people expect to benefit from the development of the oil sands, but many also believe that the development will cause extensive damage to the land in Alberta. Some think that as part of a global community, we should be reducing our dependence on fossil fuels and seeking more environmentally sustainable ways of creating energy.

The oil sands developments will have a big impact on local communities. Some people are pleased that labour opportunities are being created near their homes, but others believe that the financial gains will be enjoyed only by people outside the area. Also, traditional ways of living may be changed as a result of the industry. Consider the opinions expressed in the Voices feature that follows.



Figure 14-10 Mining the oil sands. Surface mining for oil sands requires digging up the surface of the land completely. How might people and animals living nearby be affected by surface mining? Should local people be involved in decision making about such developments?

FastFacts

By 2004, some 33 000 hectares (330 square kilometres) of land had been mined for oil. Another 60 000 hectares had been approved for development. Only 5000 hectares had been reclaimed.

Calculate the percentage of reclaimed land in 2004. Think of a few reasons why the reclaimed land was only a small percentage of the land being developed.



Voices

Perspectives on Oil Sands Development

There are many perspectives on the development of the oil sands. Here are a few voices.

Irresponsible and inefficient use of transportation fuels in North America is driving [oil] sands development at a pace and scale that poses significant ecological and climate change risk.

Source: Julia Langer, Global Threats Director, World Wildlife Fund Canada, <http://www.sierraclub.ca/national/media/item.shtml?x=904>.

A lot of our Elders cry when they go out on the land. How did this happen?

Source: Stuart Janvier, resident of Janvier (near Fort McMurray), *Calgary Herald*, October 25, 2005.

I am 43 and I plan on retiring around the oil sands.

Source: Glen Pembroke, an Ontario labourer working at the oil sands, *Calgary Herald*, October 25, 2005.

It seems that politics have trumped environmental protection. Each draft of the plan [to manage the withdrawal of water from the Athabasca River for oil sands processing] makes more concessions to the oil sands industry. ... The draft plan guarantees the oil

sands industry the water they want, even when river flows are low and fish are being impacted. If this plan goes forward we will have to consider what legal options we have to secure the protection of the river.

Source: Melody Lepine, a representative of the Mikisew Cree First Nation, <http://www.pembina.org/media/media-release.php?id=1279>.

I mean, there's no question that they've got a mess up there. But I do think they'll take care of it over time.

Source: T. Boone Pickens, Texas oil tycoon, <http://www.cbsnews.com/stories/2006/01/20/60minutes/main1225184.shtml>.

The proposed [oil] sands developments will tear a hole in Canada's lungs—our vital boreal forest ecosystem. ... It is essential that an integrated land management plan be in place that recognizes and protects the integrity of this critical ecosystem.

Source: Lindsay Telfer, Sierra Club of Canada, <http://www.sierraclub.ca/national/media/item.shtml?x=904>.

- 1 How do these perspectives affect decisions made about oil sands development? In the decision-making process, how should the government address different perspectives? In your team, discuss which perspectives you think need more attention and why.

Explore the Issues

- 1 **Visualize It.** Using newspapers, books, magazines, and the Internet, find five pictures that show the environmental impacts of oil sands development in Alberta. Mount the images on a presentation board as a photo essay. Consider your bias as you put together your collection. Has it affected your decision making when choosing images? **SKILL PATH**
- 2 **Apply It.** Visit the *Living in a Globalizing World* website for a link to the Environmental Protection Agency (EPA) website for Victoria, Australia. Read about calculating ecological footprints. Then, select one of the calculators to try. Make a basic calculation of your family's ecological footprint or the ecological footprint of your school.
- 3 How might various groups, such as governments, communities, Aboriginal peoples, environmental scientists, investors, and labourers, determine the "costs" of resource development?
- 4 **Assess It.** One concern that economists and environmentalists share is the future. Analyze the sustainable prosperity of oil sands development. How do you think the development of the oil sands will shape the future of
 - Alberta's economy
 - the local environment
 - the global environment
 - Alberta's political role in Canada and worldwide
 - the residents of northern Alberta?

Resource Development in Canada

Question for Inquiry

- How do resource development agreements affect the relationship between globalization and the environment?

How does this article affect your understanding of the potential for resource development agreements in Canada? ▼

They're not out of the woods yet, but Great Bear is quite an achievement

... Premier Gordon Campbell made the announcement [about the creation of the Great Bear Rainforest resource management area], but he acknowledged the work of former New Democratic Party premier Mike Harcourt, who started the land-use planning process, environmental groups that made it an international issue, the forest industry, and [Aboriginal] groups, all of which made

significant concessions to reach the historic agreement.

They came out with more than 100 new parks and protected areas covering an immense area, large enough to get attention around the world. ...

A much larger area is designated for some resource development—with severe restrictions. Some areas allow mining but not logging. Others allow limited logging with

restrictions to protect wildlife and view corridors.

The total protected and managed area in the coastal region that starts halfway up Vancouver Island and runs to the tip of the Alaskan panhandle is twice the size of Belgium. ...

Vancouver Sun, February 13, 2006

Minerals, oil, gas, timber, and water are all natural resources that can be mined, collected, or harvested and then sold. We must ask important questions about developing resources, however.

- Are the resources renewable?
- Can their development be sustained, or continued at the same rate, into the future?
- Can the resources be extracted, or taken out of the natural environment, without harming the land, water, and wildlife in the area now or in the future?
- Will the area have to be changed in order to extract the resource? For example, will new roads or industrial plants need to be built? What effects will they have on the area?
- What about people who live nearby? How will they be affected?
- How much money can be made? How will the money be used? Who will use it?
- Is **sustainable development** of these resources possible?
- Is the resource required to satisfy needs or to satisfy wants? How is the answer to that question related to sustainable development?

sustainable development development that meets the needs of the present without compromising the ability of future generations to meet their own needs

READING GUIDE

As you read, make a note of passages that remind you of other material you have covered. Use these notes to reinforce your learning and expand your understanding.

One of the most important questions to ask about resource development is also the Main Issue for Part 3: *Does globalization create sustainable prosperity for all people?* In this section, you will have a chance to look at ways in which people in Canada are addressing the economic, environmental, political, and social effects of resource development. You will also see how resource development agreements can help shape the economy and the environment in a globalizing world.

Sustainable Development of Resources

Canada has an abundance of natural resources. Various Canadians have different ideas about how they should be developed. You have seen that some people believe that prosperity from oil and gas development will improve Canada's economy, while others believe that we should be trying to reduce dependence on fossil fuels. Some people support diamond mining in the North, while others oppose it for social and environmental reasons. Some people believe that we should continue to develop forestry, while others believe that it is important to protect forests to keep air clean and preserve habitat for wildlife. Let's take a closer look at these three examples and see how resource development agreements have shaped the effects of resource development on the environment.

The Mackenzie River Pipeline

In the 1970s, huge reserves of oil and gas were discovered in the Far North. A pipeline was planned to transport the oil southward from the Beaufort Sea along the Mackenzie River. Before the plan was implemented, the Canadian government asked Chief Justice Thomas Berger to determine the project's potential impacts on people who lived nearby.

After consulting with Aboriginal people in the region, Berger concluded that the pipeline should not be built.

Voices

The Berger Report

The culture, values, and traditions of Native people amount to more than crafts and carvings. Their respect for the wisdom of their Elders, their concept of family responsibilities extending beyond the nuclear family to embrace a whole village, their respect for the environment, their willingness to share—all of these values persist within their own culture even though they have been under unremitting [constant] pressure to abandon them.

Source: Mr. Justice Thomas Berger, Mackenzie Valley Pipeline Inquiry, 1977.

- 1 What do these observations have to do with resource development?
- 2 Why did Berger recommend that production be halted?



Figure 14-11 Chief Justice Thomas Berger, author of the Berger Report, in front of a map showing the proposed pipeline in 1977.

Today, however, the proposal to build the Mackenzie Valley Gas Pipeline is being reconsidered. Improvements in technology could make the project less damaging to the environment. Many, though not all, Aboriginal land claims have been settled since the 1970s. Many Aboriginal groups are now in favour of development because they will be involved in decision making, economic growth, and sustainable development of the resource. Gas companies have negotiated with local Aboriginal peoples, creating jobs and training programs and giving them up to one-third ownership of the pipeline. The government has also promised to use \$425 million to fund Aboriginal social programs. How have these developments affected the chances that this resource development project will bring sustainable prosperity to all people?

Diamond Mines in Canada's North

The discovery of diamonds in Canada's North has led to a flurry of development in recent years. In 2006, Canada was the world's third-largest producer of diamonds. How have resource development agreements shaped the progress of diamond mining in the North?

Consider the example of the Snap Lake Diamond Project in the Northwest Territories. In 2004, three resource development agreements were signed. Two of the agreements dealt with social, economic, and labour concerns. For example, one of them set targets to ensure certain levels of employment and training of Dene peoples in the new operations. The third agreement, the Snap Lake Diamond Project Environmental Agreement, was signed by De Beers Canada Mining Inc., an international diamond company, and the government of the Northwest Territories. Aboriginal groups were involved in the negotiation of the agreement, including local Dene and Métis groups. These groups, with the help of science and technology experts, and with financial support from De Beers and the territorial and federal governments, will monitor the environmental impacts in the region.



Source: Mackenzie Gas Project, <http://www.mackenziegasproject.com/theProject>.

▲ **Figure 14-12** The proposed location of the Mackenzie Valley Pipeline. It will connect with existing pipelines in northwest Alberta. How can involvement of local communities improve the planning of large resource development projects like this one?



◀ **Figure 14-13** The Snap Lake Diamond Project. For what reasons might environmental concerns be of high importance here? What are some of the environmental risks that might be involved with resource development projects located in remote areas?

Source: De Beers Canada Inc., http://www.debeerscanada.com/files_2/snap_lake/factsheet.html.

Web Link

Visit the *Living in a Globalizing World* website for a link to Ecosolutions, a company that was asked to design an environmentally sound method of waste disposal for the construction of the Snap Lake Diamond Project.



Voices

Resource Development and First Nations People

The future of our people will depend on the development of our resources and lands. We can no longer rely on trapping as a way of supporting our families and communities. Very few people trap because of many reasons, including the low fur prices and high costs of going out on the land. More and more, young people are becoming better educated as time goes on, and we can't expect them to have a good living trapping. It just can't be done anymore.

What we need is to create more jobs that our young people can fill—jobs that are long term. We know these jobs cannot be created just by what's happening in our communities. Jobs will have to be created by other

activities such as mining and other things that are going on outside our homes. This, we know for sure.

What we really need is stronger corporate capacity, and this is where the federal government can really help us in the future. We are interested in construction, trucking businesses, petroleum distribution enterprises, facility management, catering, and aviation, all of which is related to resource development. We need to focus on developments which have the opportunity to create long-term wealth for our people. This is where the government can really work with us.

Source: Joe Rabesca, Grand Chief of the Dogrib First Nation, [http://www.miningnorth.com/docs/Aboriginal%20Participation%202005%20\(2\).pdf](http://www.miningnorth.com/docs/Aboriginal%20Participation%202005%20(2).pdf).

- 1 In what ways does Grand Chief Joe Rabesca believe that people in his community may benefit from resource development?

FastFacts

According to a study in 2001 by the Food and Agriculture Organization of the United States (FAO), about 6 per cent of the world's forests are found in Canada. About 22 per cent are located in the Russian Federation, and about 14 per cent are in Brazil. In total, two-thirds of the world's forests are located within the boundaries of only 10 countries.

Does our forestry industry affect the rest of the world? Is sustainable forest management more of a local issue or a global issue?

clear-cutting cutting down all trees in an area

selective cutting logging for specific trees without clearing the whole area

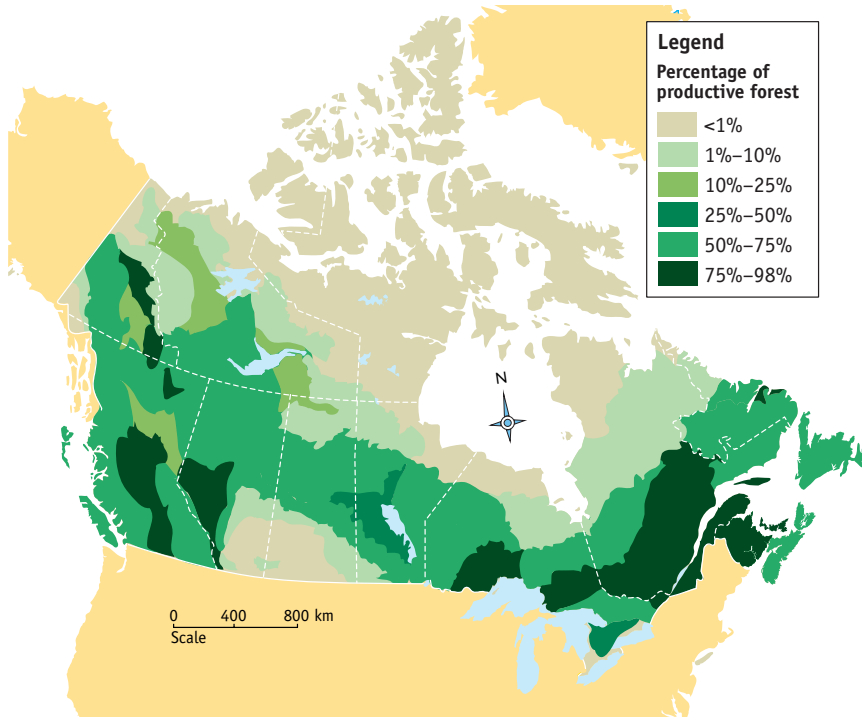
Figure 14-14 A logging site in Port Alice, on the northwest coast of Vancouver Island, British Columbia. When you look at this photograph, do you see an economic success or an environmental disaster? How do our beliefs shape our reactions to issues?

Canada's Forest Resources

Some foresters would argue that forests can be harvested and replanted many times, so forestry is a sustainable industry. Other forest management professionals would argue that a forest ecosystem is not easily recreated once it has been destroyed.

Clear-cutting means cutting down all the trees in a given area. It is the most common way to harvest timber in Canada. **Selective cutting** means logging for specific trees without clearing the whole area. Selective cutting could be a more sustainable way to manage forestry.





Source: Atlas of Canada, <http://atlas.gc.ca/site/english/maps/environment/ecology/humanactivities/productiveforestlanduse>.

Canada is the biggest exporter of forest products in the world. Softwood lumber is used to build houses and other buildings. Paper products are sold to the United States, the European Union, and Japan. Do you think it is important to manage forestry in a sustainable way, considering that it is such an important industry? Or should we find other ways to succeed in trade and leave the forests alone?

Resource Development Agreements

In the Snap Lake Diamond Mine example on page 243, you read about some resource development agreements that were created to benefit local communities. In a globalizing world, trade is important both internationally and locally. Why are agreements on resource development important in a global economy? How might resource development agreements affect the impact of resource development on the environment?

Sustainable Development and International Waters

The United Nations Convention on the Law of the Sea was signed in 1982. The agreement gave all nations the right to fish on the high seas, but coastal countries, such as Canada, were given an **exclusive economic zone (EEZ)** to fish within 320 kilometres (200 miles) of their shores.

Figure 14-15 A map showing Canada's productive forest land use. Forests are important habitats for plant and animal species. They absorb carbon dioxide and help keep the air clean. They also provide the materials for countless products used by Canadians every day. How do we determine the value of a forest?

Web Link

What is the Canadian Forest Service Model Forest Program? Visit the *Living in a Globalizing World* website for a link to find out about this program.

Source: Wildlife Habitat Canada, <http://www.whc.org/images/MarineAreasColourFinal.jpg>.

Figure 14-16 Canada's exclusive economic zone (EEZ) off the East Coast. In these waters, Canadian regulations and conservation laws apply. Beyond the boundary, however, Canadian officials have no authority. In a globalizing world, does this system seem appropriate? Why or why not?

exclusive economic zone (EEZ) an area of sea around a country's shoreline from which the country has the exclusive right to extract natural resources

Fast Facts

Since 1994, people of the Haida First Nation in Haida Gwaii [HY-duh-gwy], the Queen Charlotte Islands, have operated a fisheries program in conjunction with the Department of Fisheries and Oceans to maintain Aboriginal fishing rights.

In what ways can Traditional Knowledge be used to shape resource development agreements?

National conservation laws apply in the EEZs, but fish swim freely throughout the oceans, moving in and out of protected areas. By the early 1990s, many fish populations were low. Canada and other coastal countries set fishing quotas to conserve fish stocks and to promote sustainable development. Huge international fishing trawlers operated beyond the 320 km line, however, with no restrictions on their catches.

Tensions increased, and fishing boats became involved in violent encounters. As enforcement of EEZs became dangerous, the UN decided to address the problem. In 1995, the UN Agreement on Straddling and Highly Migratory Fish Stocks was created in an effort to manage fish stocks worldwide. The agreement addresses sustainability, conservation, fishing quotas in international waters, each country's right to protect its EEZs, and processes for settling disputes. Canada has been a part of this agreement since 1999.

Impact and Benefits Agreements

How do governments work to protect various interests in the negotiation of resource development agreements? In Canada, impact and benefits agreements or participation agreements give Aboriginal groups opportunities to negotiate for their interest in resource development projects. They can negotiate for employment, training, environmental protection, and revenue distribution. When impacts and benefits of projects are assessed in advance, sustainable development becomes more likely. You will take a closer look at sustainable development in Chapter 15.



◀ **Figure 14-17** Commercial development of fish resources. Overfishing in the ocean could mean the extinction of many species of fish. They are being harvested faster than they can reproduce and increase their population. Who should control the oceans? Why?

Explore the Issues

- 1 Extend It.** Find out about the current state of the Mackenzie Valley Gas Pipeline Project. Is the project proceeding? What major issues still need to be settled? What is the impact of the project on the environment? For background information, visit the *Living in a Globalizing World* website to access the CBC archives.
- 2 Explore Perspectives.** Search the Internet for an article that expresses an opinion about the development of resources in Canada's Far North. Use search terms such as "controversy," "Arctic," "resource," and "diamonds." You could choose a general article, or one about a particular resource, such as oil or diamonds. What are some of the concerns raised? Use the steps of the Skill Path in this chapter to assess the position of the author.



SKILL PATH

Chapter Summary and Reflection

Apply and Extend Ideas

- 1 Many scientists argue that clean, fresh water is the most essential resource on earth. The World Water Forum meets every second year to discuss global issues surrounding water. The theme of the Fourth World Water Forum in Mexico City in 2006 was “Local Actions for Global Challenges.” As a class, try to find out about the importance of fresh water to humans over the next 50 years by exploring independently on the Internet. Then, regroup and put this list in order according to which issues you think are most important:
 - clean drinking water for all humans
 - wasteful use of water and efficient water use
 - water pollution
 - water rights
 - water technology, such as **desalination**For each item in the list, give a reason to justify its ranking on your list.

desalination removal of salt from seawater, converting it to fresh water

- 2 In 2006, the oil sands produced more than one million barrels of oil per day. Some experts predict that production could triple by 2016. What would be the most significant effect for Alberta’s economy? What about the environment? Is this sustainable development? Write one paragraph or draw a series of illustrations to explain your position on this issue.
- 3 In a private journal entry, reflect on the importance of multiple perspectives when considering globalization and the impact of human activities on natural environments.
- 4 How do you personally shape the effects of globalization on the environment?
 - a) Are you aware of the origin of the products you consume? Use the Chapter 8 Skill Path (pages 123–124) on using the Internet to locate three websites that could help you become an informed consumer.
 - b) Identify one of your consumer “habits” that you could alter to reduce the impact you have on the environment.

- c) Draw a cause-and-effect diagram to illustrate the chain of events from your change of consumer behaviour to a change in the environment.

Practise Your Skill

- 5 Ask your teacher if your class can invite some guest speakers to talk to you about the oil industry in Alberta. You may want to hear from a representative of an oil and gas company, a representative from an environmental group, or a local politician. Consider the ethics of decisions and actions as the speaker explains his or her position. Consider the implications of the position. Think of one good question for each speaker, and listen carefully to his or her talk to find the answer. If your question has not been answered in the speech, ask it aloud. Listen carefully to the answer and ask for clarification if you do not understand the response.

SKILL PATH

Reflect on the Chapter Issue

In this chapter, you have analyzed the impact of globalization on the environment. You have examined multiple perspectives about the relationships among people, the land, and globalization. Now you are ready to respond to the Chapter Issue: *To what extent does globalization affect the environment?* Take part in a class discussion about the Chapter Issue, drawing on what you learned in this chapter. Next take another step back to analyze how the way you live your life affects globalization, which in turn affects the environment. Conduct a class discussion to identify the connections between the lifestyles of you and your classmates and the trends in globalization and the environment. Use a graphic organizer to keep track of your ideas. Use these to develop a tentative class position about this issue: *To what extent do I contribute to the problem of an eroding environment or contribute to a sustainable solution?* As a class, use the Skill Path to assess your class position before revising it to become your personal informed position.

This exploration will help you to continue to develop a personal point of view about the Main Issue for Part 3: *Does globalization contribute to sustainable prosperity for all people?* **SKILL PATH**