Adventure 1

Québec Around 1980: A Rich Territory

Québec is rich in natural resources. These resources vary according to the relief, type of soil, climate and immediate environment.

1 Québec's 10 administrative regions around 1980

LEGEND

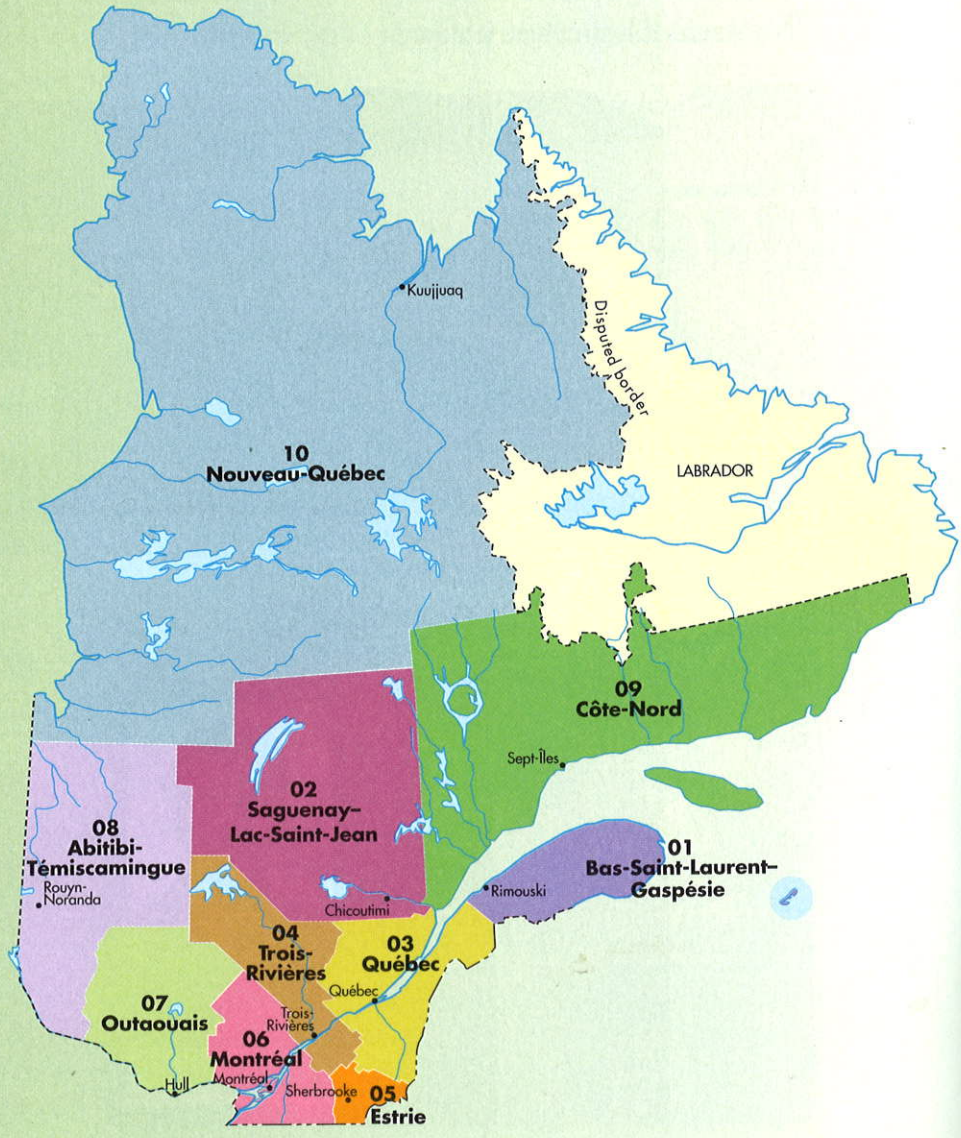
01 Bas-Saint-Laurent–Gaspésie
The mountains in this region are covered by dense forest. The Matapedia Valley's microclimate is ideal for farming and especially raising livestock, while Gaspésie possesses a wide variety of seafood. The region is also rich in copper, concentrated in Murdochville.

02 Saguenay–Lac-Saint-Jean
A tiny portion of this region is suitable for farming and dairy production due to its microclimate. Mostly, it is recognized for its vast forests that provide trees for the paper industry. Granite is also extracted in this region.

03 Québec
The south shore of the St. Lawrence River is ideal for farming with its flat land relief and well-irrigated soil.

A few forests still exist in this area. Docks and ports are set up along both shores of the river for the transportation of goods. This region is Québec's administrative centre.

04 Trois-Rivières
Farming and dairy production are important in this region. The northern portion boasts a vast forest and a highly developed hydrographic network. The region's main economic activities involve the harvesting of hardwood to make furniture and flooring, and conifers for pulp and paper.



For You to Discover

Around 1980:

- What were the divisions, of the Québec territory?
- How had the natural resources been developed?
- What were the main economic activities?

In order to manage this vast territory, the government created 10 administrative regions. Its objective was to promote economic development and respond to the specific needs of each region.

05 Estrie
Estrie is an agricultural region particularly suitable for livestock. However, its mountainous relief is not conducive to grain growing. The region has mining resources, such as asbestos, which is extracted from the Appalachian Mountains. This is the only region in Québec where this ore is found. Ski centres also attract many people to the region.

06 Montréal
The island of Montréal is used for activities other than agriculture and mining. However, agriculture is practised in the northern and southern parts of the region. Many ski centres are also located in the north. Although the region has few natural resources, the Port of Montréal stretches over several kilometres where a variety of products are shipped and received. The city is Québec's economic centre.

07 Outaouais
Forestry resources are abundant in the region. Pulp and paper, among other products, are produced here. It possesses a drainage basin with multiple waterways.

08 Abitibi-Témiscamingue
Témiscamingue has a microclimate that lends itself to livestock farming. The boreal forest covers most of its territory. Conifers in the region are used to make pulp and paper and lumber. Copper and gold are abundant in the Canadian Shield which covers the region.

09 Côte-Nord
This region is characterized by vast forests and many waterways. It offers hunting and fishing opportunities to outdoor enthusiasts. Iron deposits are also found in the mountains of the Canadian Shield that cross this region.

10 Nouveau-Québec
The region's subarctic climate is not suitable for agriculture. The vegetation is sparse across most of the territory, but iron **deposits** are found in the region. Nouveau-Québec has tremendous hydroelectric potential, due to its many waterways.

Deposit
A natural layer or accumulation of minerals in the ground

Look at the map on page 10.

1. Which administrative region is the largest?
2. Which region's main economic activities include fishing?
3. To which administrative region does the city of Québec belong?

Mining Resources

Most of Québec's mining activities involved **ores**, such as iron, gold, copper and asbestos. Some mines had plants nearby that processed metal **minerals** into **ingots**. These products were then shipped by train to cities, and then on to various countries. Some minerals underwent additional processing, such as copper which was used to make coins and electrical conductors.

Ore
A rock that contains minerals that can be extracted for profit

Mineral
A metallic or nonmetallic substance that is extracted from rocks

Ingot
An oblong piece of cast metal

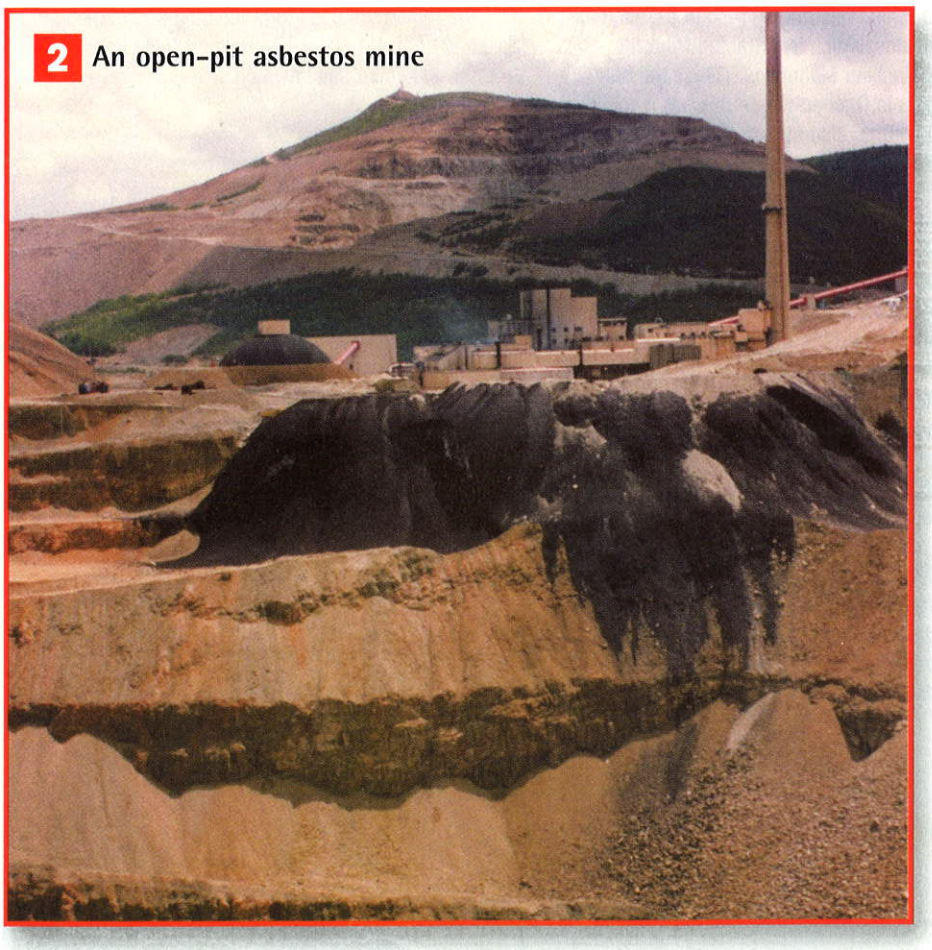
Asbestos is a nonmetallic mineral that was used to make construction materials, such as pipes, gypsum board and mineral wool. Asbestos was also very useful as a fireproof material.

Iron, another type of ore, was extracted from the Canadian Shield. Some towns such as Schefferville and Fermont owe their existence to the mining of this resource. The ore was shipped to factories where iron pellets were produced and exported around the world by train or ship. The iron was processed mainly into steel and construction materials.

In this period, mine workers did not know that they were exposing themselves to serious illnesses, such as asbestosis.

In fact, exposure to asbestos fibre dust is extremely toxic for human beings.

What do you think a company's responsibilities should be toward its workers?

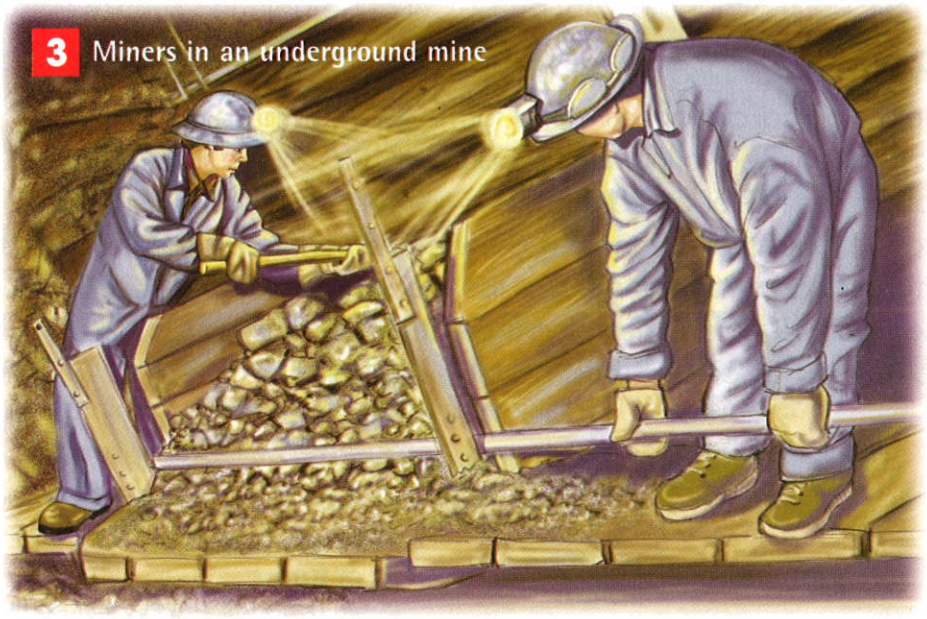


2 An open-pit asbestos mine

Eagle Eye

Look at illustrations 2 to 4.

1. Name other minerals that are extracted elsewhere in Canada or around the world.
2. Around 1905, was mining among Québec's main economic activities?
3. Compare working conditions in an underground mine and an open-pit mine. Which do you think is more dangerous?



3 Miners in an underground mine

Working in a Mine

Mines required a large workforce. Geologists were the first stage in the mining process. Their role was to determine if the soil contains enough ore to open a mine. If this was the case, electricians, carpenters and plumbers would construct tunnels to take the miners down to the **galleries**. At this stage, the miners played a major role. They descended into the mine and, using mechanical tools, extracted the ore. In open-pit mines, tractors and trucks were used to perform the work. In this instance, heavy machine operators were hired.

Some of the stages of extraction could be performed by remote control, using cameras installed in the mine galleries. Technicians were responsible for maintaining the equipment.

Gallery
An underground passage in a mine

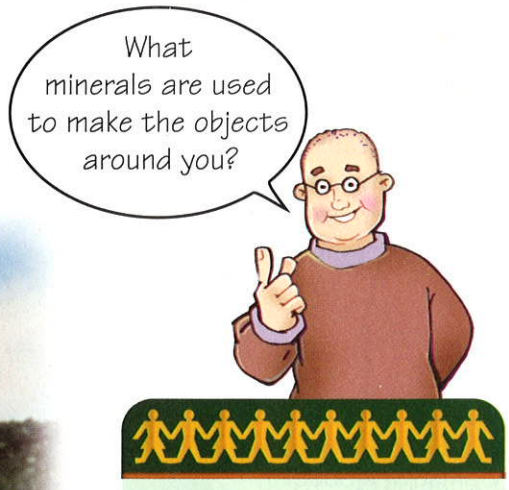
4 **A large truck owned by the Asbestos Hill company around 1979**

Did You Know...?

Québec's mineral resources are public property, which means that they belong to everyone.

However, these resources cannot be extracted without following the rules established by the Department of Natural Resources. These rules are set out in the *Mining Act*.

Among other things, it is forbidden to carry out mining activities in sanctuaries or ecological reserves.



Mining has inevitable impacts on the environment.

- What are these impacts?
- What do companies and governments do to protect the environment in Canada?

Did You Know...?

In 1924, 2400 Québec farmers got together and founded a Catholic farmers' union to defend their interests.

In 1929, a specialized farmers' newspaper, *La Terre de Chez Nous*, hit the presses. The newspaper still exists today.

In 1972, the *Union catholique des cultivateurs* became the *Union des producteurs agricoles* (UPA), a genuine farmers' union.

The union offers various benefits, such as insurance and farming cooperatives.

Eagle Eye

Look at table 5.

1. Compare the number of farms in 1961 and in 1981. Did the total area of farms increase?
2. What means were used to ensure that the soil produced as much in 1981 as in 1961?

Agriculture

Since the beginning of the 20th century, there have been numerous technological advances. In the farming sector, these advances have been used to increase productivity. More sophisticated farm equipment has enabled farmers to speed up the various stages of production. However, since this new equipment is expensive, farmers often grouped together to buy the machinery they needed. They then worked together, sharing the equipment and working collectively on certain tasks, such as ploughing.

5 **The area of Québec farms in 1961 and 1981**

Year	Number of farms	Average area of farms (in hectares)
1961	96 000	365
1981	48 000	479

Specialized Farms

More and more Québec farmers specialized in a single type of production. Around 1980, approximately 78 000 people were working in the farming sector. Dairy production was the most important agricultural activity. In fact, **quotas** were imposed in order to avoid overproduction that would cause a drop in the price of milk.

Quota
A production limit on a particular product

6 **A vegetable crop**

Three factors contributed to increased farm production: the higher level of education among farm operators; the mechanization of tools; and the use of techniques, such as spreading fertilizer, spraying pesticides and rotating crops.

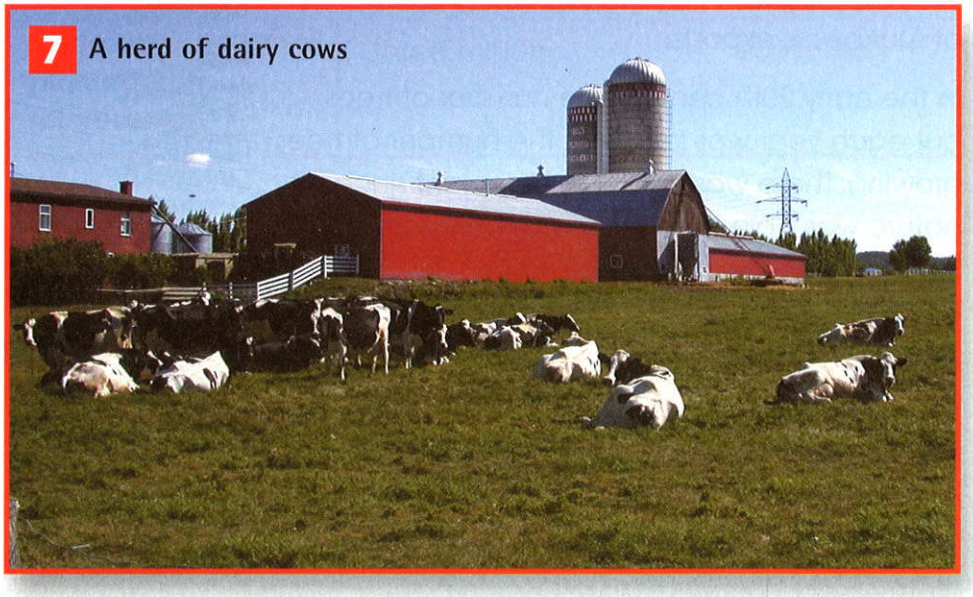
Each farm could produce more, since its products could easily be preserved. Moreover, the transportation network was well-developed and foodstuffs could be delivered across Québec. Food was placed in refrigerated trucks and transported to distribution centres or to processing plants. For instance, milk was picked up from producers and shipped to specialized factories where it was prepared for consumption or processed into cheese, yogurt and ice cream.

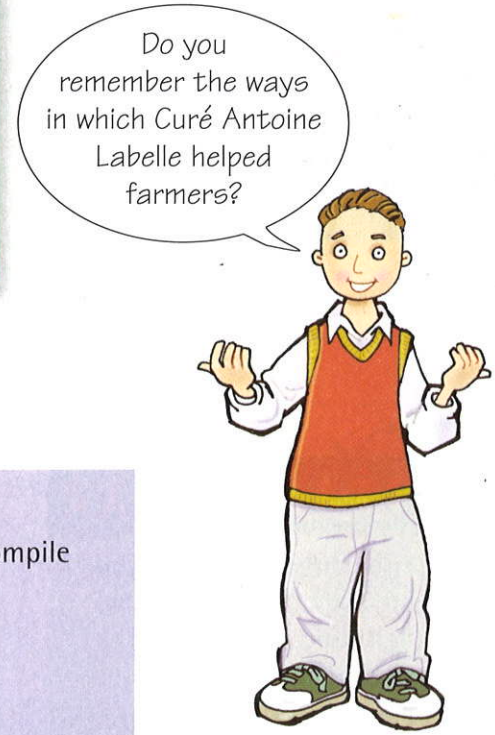
Eagle Eye

Read the text and review what you have already learned.

1. At the end of the 19th century, how were dairy products shipped from Lac-Saint-Jean to other regions in Québec?
2. How do we ship food products today?

7 A herd of dairy cows





Your Project

Inventory of the Resources and Needs of Your Region

Before choosing the project you would like to set up in your community, compile an inventory of the resources and needs of your region.

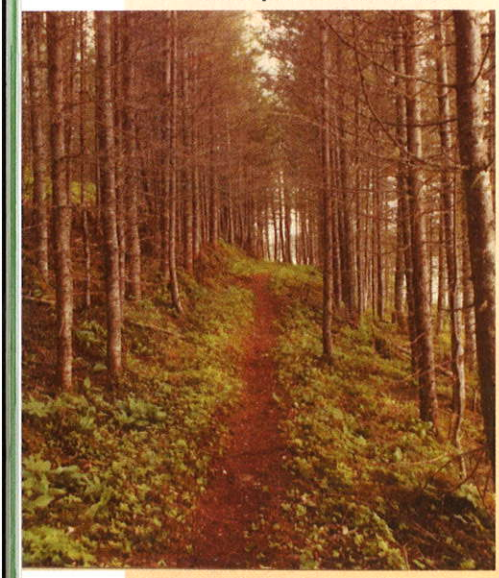
- What natural resources are available?
- What elements make up the wealth of the community?
- What are the needs of the population?
- Is there an environmental problem that needs to be resolved?
- Are cultural or sports activities lacking?

You can also identify the companies that have been successful. This will help you pinpoint a promising sector for your project.

Did You Know...?

Between 1972 and 1986, close to 25% of Québec forests were ravaged by the spruce budworm—an insect that eats the buds on conifer trees.

9 Trees infested by the spruce budworm



Forest Resources

Around 1980, Québec forests provided jobs to over 10000 people. In the 1950s, there were 90000 forestry-related jobs. Sophisticated machinery used to cut trees during this period is still used today. In fact, a large part of the workforce was replaced by these machines.

Boreal Forest

Canada has the world's largest boreal forest. It covers one-third of Québec's territory.

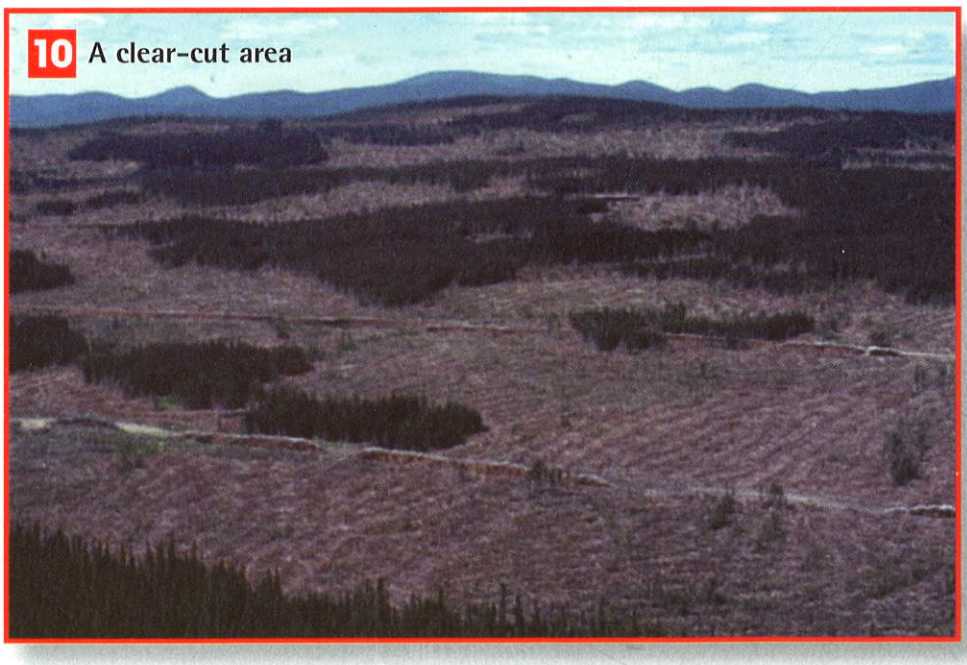
8 Black spruce

Forest resources are used primarily for manufacturing paper. The black spruce is the most commonly used tree for this production. In 1980, the paper sector represented 30% of Québec's exports.

In the early 20th century, the number of trees cut each year was less than the number of trees growing. There was no need to replant since nature was able to regenerate the forest. At the time, tree-cutting was done with an axe or a saw.

The invention of sophisticated tree-cutting machines led to clear-cutting, in which all of the trees in a given area were cut down regardless of size. Clear-cutting had a dramatic impact on forests.

10 A clear-cut area



Fires threaten forests and are sometimes caused by lightning or human negligence.

Fires can set trees ablaze and destroy thousands of square kilometres of forest.

As citizens, what measures should we take to prevent forest fires?

After the machines had finished cutting, the ground was strewn with branch debris that prevented new growth. This situation was made worse by the fact that new tree growth was slower in boreal regions.

Today, companies that cut trees must plant new trees in order to regenerate the forest. In fact, millions of trees are planted every year. Table 11 provides information about tree-cutting and reforestation in Québec.

11 **Cutting and reforestation in Québec**

	1960 to 1970	1990
Volume of deforestation	24 million cubic metres a year, on average	28 million cubic metres
Number of seedlings planted for reforestation	three million	250 million

Mixed Forest

Along the South Shore of the St. Lawrence River, hardwoods are the most sought-after trees. Hardwood is used to manufacture flooring and furniture. Maple, oak and cherry are types of wood which are in high demand.

The mixed forest was once abundant in the St. Lawrence Valley, but today it has virtually disappeared.

12 **A truck transporting timber**

- The government is responsible for protecting the environment, but is it our duty to participate in these efforts?
- When you're walking in the forest, what can you do to help protect the environment?

Eagle Eye

Look at table 11.

Why do you think forestry companies are more aware of the importance of reforestation?

Your Project

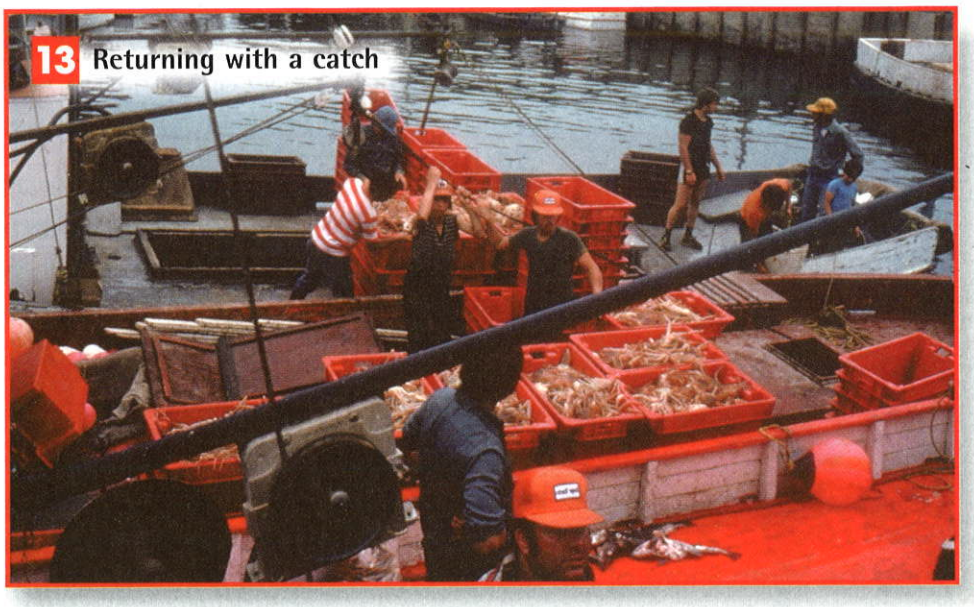
Ideas Galore!

Have a brainstorming session to decide on the most beneficial project for your region.

- Unleash your imagination.
- Don't dismiss your classmates' ideas at this point. A far-fetched idea can lead to a great project.
- Start by writing down everyone's ideas on a large sheet of paper.

Fisheries

Fish and shellfish are abundant in the Bas-Saint-Laurent, Gaspésie, Îles-de-la-Madeleine and the Côte-Nord regions. Lobster, Northern shrimp and herring are the main species available. Many other saltwater fish also live in these regions.



13 Returning with a catch

Did You Know...?

Matane shrimp are found primarily in the region of Sept-Îles! Captain Clément Soucy discovered this in 1964.

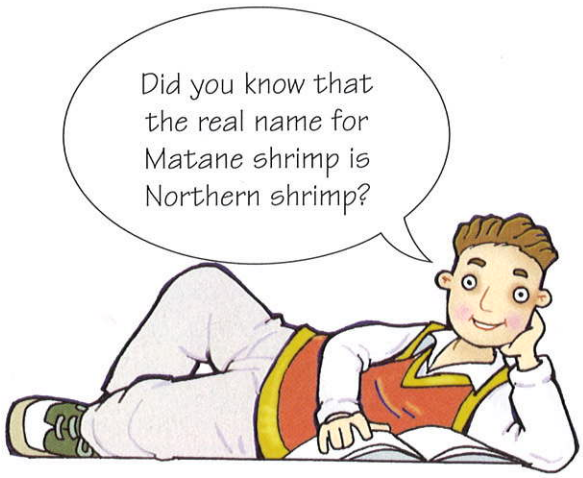
Captain Soucy set up a shrimp processing plant in Matane, a town in Gaspésie. But he soon discovered that shrimp was more abundant in the region of Sept-Îles.

Today, Matane shrimp are distributed across Canada.

Fish Processing

Specialized factories process ocean catches for commercial sale. These factories dry or can certain fish. They also process seafood such as crab and clams. These processed products include shrimp caught in the salt waters of the St. Lawrence River.

In Gaspésie, the fishing sector provides jobs for many people. However, these jobs are seasonal. In Québec, the number of people working in this sector dropped from 13 000 around 1905 to about 7000 around 1975.



Collapse of the Cod Stock

During the 1970s, the Grand Banks of Newfoundland were teeming with cod. But then the cod stock declined dramatically and the species became endangered. This was caused by two factors. First, each commercial fishing boat was catching excessive quantities of cod. Second, the Grand Banks was in international waters where large ships from several European countries were also fishing.

This led to conflicts between countries that were eager to profit from the abundance of cod.

In the early 1980s, the government adopted an **order** prohibiting cod fishing. This radical measure was necessary to protect the species which was at risk of extinction in the region.

Some animal species are endangered due to human activity. Cod is a good case in point.

- Do you know other species that could become extinct if we are not careful? Which ones?
- What measures should be taken to protect endangered species?

Alternatives

As a result of this order, many fishers in Québec were without work. They needed alternatives. Some went into **aquaculture**, and the first farms of this kind emerged. This activity became popular in a number of regions, including Gaspésie, due to its numerous bays and **coves**. Fish farming was developed with various species, such as salmon and brook trout, and this activity later included mussel-farming and oyster-farming.

Pisciculture was another activity available to fishers. It required large pools of fresh water and enough space to install water filtration equipment. Pisciculture developed gradually in the early 1980s.

Order
An official decision

Aquaculture
Raising fish and shellfish for commercial purposes

Cove
A small bay

Pisciculture
The breeding and rearing of fish

14 Aquaculture

Eagle Eye

Look at photograph 14.

Why is Gaspésie suitable for aquaculture?

Your Project

Choosing a Project

At this stage, it's time to group similar ideas together.

- Give a title to each group of ideas and organize them according to sector of activity (environment, culture, tourism, agriculture, etc.).
- Specify the details of your project. Retain the most promising projects. For example, you may choose to set up a library or protect a lake.
- Try to think about the number of people it will serve, its feasibility, the resources required, etc.

Set your priorities and select the project that gets unanimous support from the group.

Hydrographic Network

Due to its relief, Québec has many lakes and rivers.

The Canadian Shield dominates Québec's landscape and covers most of the province's territory. It is one of the world's oldest rock formations. Today, the Canadian Shield is characterized by its rolling hills and valleys.

Long ago, the Canadian Shield boasted impressive mountains. These mountains were flattened by millions of years of erosion and by the movement of glaciers during the last Ice Age. As glaciers melted, many cavities were carved out and filled with water to become lakes, rivers and other bodies of water.

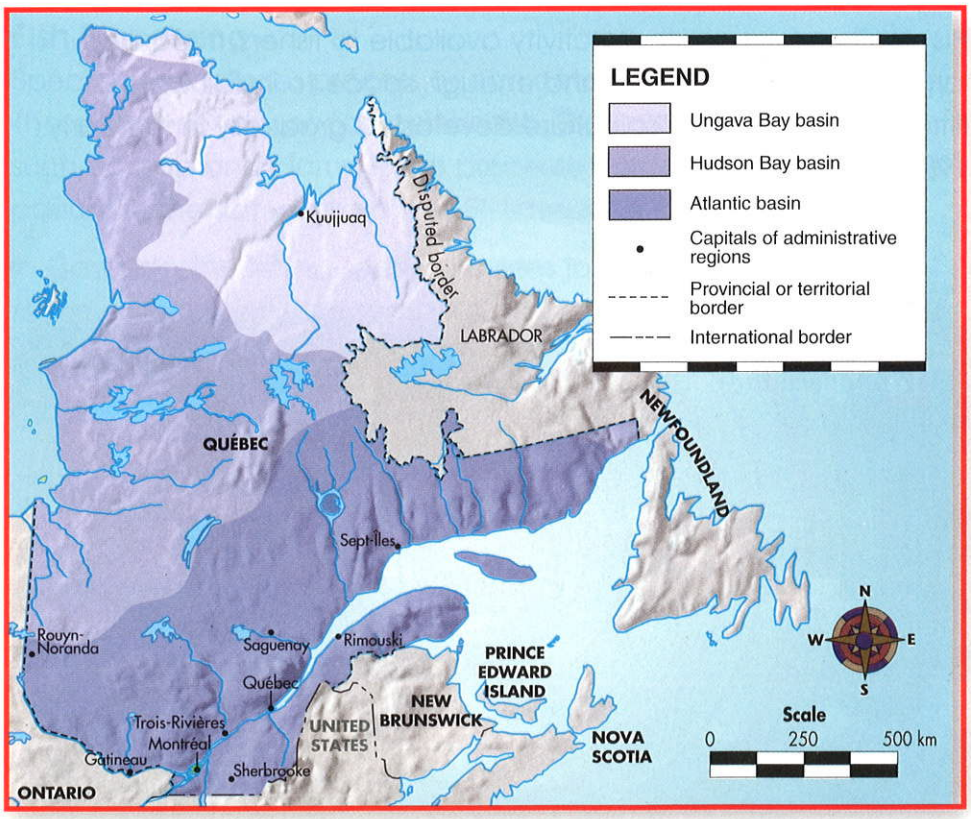
All of these changes explain Québec's hydrographic network.

All of the waterways that empty into an ocean are referred to as a **drainage basin**. Québec has three drainage basins: Hudson Bay, Ungava Bay and the Atlantic Ocean.

Drainage basin
Network of waterways in a specific area that drain into an ocean

Look at map A.

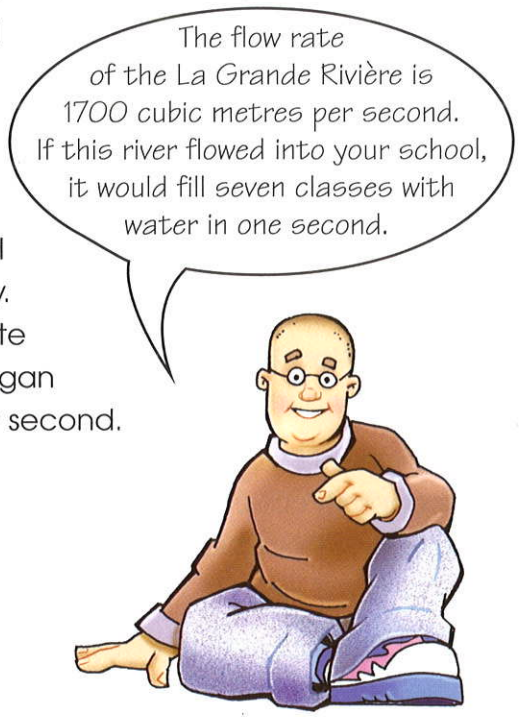
1. Find Québec's three drainage basins.
2. In what basin is the La Grande Rivière located? What about the Réservoir Manicouagan?
3. Name a city located in the Ungava Bay basin.



Map A Québec's relief and drainage basins

Québec has many large waterways, with over one million lakes and rivers. The St. Lawrence River is the 14th-largest river in the world and the second largest in Canada, after the Mackenzie River located in the Northwest Territories.

The St. Lawrence River is 1058 kilometre long and has a **flow rate** of 9850 cubic metres per second.
Our rivers have strong flow rates that are useful for generating electricity. For example, the flow rate of the Rivière Manicouagan is 1026 cubic metres per second.



Eagle Eye

Look at illustration 15.

1. What feeds the river?
2. Into what area does the river flow?

Flow rate
The volume of liquid that moves in a given unit of time, for example cubic metres per second (m^3/s)

Hydrographic network
A group of streams, lakes and rivers that flow into an ocean

15 Hydrographic network **from stream to ocean**