8 Western Canada

Learning Objectives

- To describe the physical and historical geography of Western Canada as a basis for understanding the region's social and economic position in Canada
- To emphasize the role of environmental challenges in agricultural regions and the oil sands industry
- To outline the transformation of Western Canada's economy from agricultural frontier to "rapidly growing region"
- To highlight Western Canada's industrial sector and trends toward more processing of agricultural products, a larger service sector, and growing urban centres with knowledge-based research clusters
- To describe Western Canada's resource sector and complexities related to pipelines, pollution, government approaches, and promises.

Chapter Overview

The geographic dimensions and importance of Western Canada are outlined in Chapter 8 and these dominant themes emerge:

1. Tremendous economic growth in this region in the past decade, followed by an end of the resource boom in 2014.
2. The region's continental position results in higher transportation costs in accessing global markets.
3. The continuing role of agriculture as an economic anchor for Western Canada.
4. Alberta's oil sands and mining activities have brought prosperity to the region in addition to environmental challenges.

Western Canada within Canada

Western Canada is a rapidly growing region, ranking second in GDP and third in population size of the six geographic regions.

Western Canada's Population

Of Western Canada's 6.7 million people (2016), the Indigenous population forms nearly 10 per cent. First Nation reserves and the urban Indigenous population are increasing in population.

Western Canada's Physical Geography

The physical geography of Western Canada features two major physiographic regions—the Interior Plains and the Canadian Shield—and two minor ones—the Hudson Bay Lowland and the Cordillera. The continental climate, characterized by moisture deficit conditions, constrained agriculture initially in areas such as **Palliser's Triangle**.

Environmental Challenges
Droughts are a major challenge in Western Canada and both climate change and population growth are placing additional pressure on water in this region.

Western Canada's Historical Geography
Western Canada's recorded history dates back to fur-trading when the Hudson Bay Company administered a large area in the western interior that was part of Rupert's Land. Prior to this, Plains people and Métis formed the population of Western Canada. Following rail development and free homestead promotion, settlement in Western Canada by Europeans grew sharply, transforming the Prairies into an agricultural resource frontier.

Western Canada Today
Primary sector activities dominate Western Canada's industrial structure and Alberta is the economic giant of the three provinces with oil and gas production.

Technical Spearheads
In agriculture, oil, and mining, technological advances have increased efficiency by improving practices and equipment, for example.

Western Canada's Economic Anchor: Agriculture
The critical trends in agriculture in Western Canada are outlined, including larger farms, fewer farmers, and older farmers; advances in technology; depopulation of rural towns; and growth of foreign markets for specialty crops. The fertile and dry belt agricultural regions are outlined along with agricultural fringe sub-regions. Changes in crop types and livestock industry have been dictated largely by market forces and environmental conditions.

Western Canada's Resource Base
Diversification of Western Canada's resource economy began in the 1970s with the growth of Alberta's energy sector. Mining, fuels, the processing of agricultural products and, to a lesser extent, forestry have contributed to a broader-based resource economy, although subject to external market trends and events. Issues tied with Western Canada's resource base include atmospheric, land, and water pollution near oil sands projects, and with the implications of federal government strategies to reduce carbon emissions.

Western Canada's Urban Core
Major urban areas such as Calgary, Edmonton, and Saskatoon are experiencing economic and demographic advances while growth in smaller urban areas varies considerably. The Calgary–Edmonton Corridor has emerged as the most urbanized region in Western Canada.

Challenge Questions

1. With the end of the resource boom in 2014, why did Alberta and Saskatchewan face hard economic times while Manitoba continued its slow but steady growth?
2. Why has the controversial issue of pipelines to tidewater created a divide between the oil-rich provinces of Alberta and Saskatchewan and other provinces?
3. How have mechanization and advancing biotechnology altered Western Canadian agriculture?

4. Why has Western Canada's agriculture been an economic anchor for more than a century?
5. What factors have turned prairie farmers against spring wheat?
6. What environmental and government challenges are associated with oil sands development?
7. What impact has the North American Free Trade Agreement and the loss of the Crow Benefit had on the livestock industry of Western Canada?
8. Locals sometimes describe Western Canada as "Next Year Country" (p. 266). Has Western Canada finally reached "Next Year"? Why or why not?
9. What is the Calgary–Edmonton Corridor and why has it become so dense compared to other regions in Western Canada?

Key Terms

Agricultural fringe Agriculture at its physical limits. Along the southern edge of the boreal forest and in the Peace River country, farmers clear the land, but the short growing season prevents most crops from maturing, so many farmers turn to cattle instead. (p. 265)

Alberta clipper A low pressure system originating in the Rocky Mountains in southern Alberta and tracking east. (p. 251)

Athabasca tar sands The world's largest reservoir of crude bitumen located in northern Alberta. (p. 250)

Bakken formation A geologic structure containing large quantities of oil trapped in shale (located in southern Saskatchewan and Manitoba and extending into North Dakota, Montana, and South Dakota). (p. 262)

Bitumen A tar-like mixture of sand and oil. (p. 250)

Carbon sequestration Carbon capture and storage technology involving the capture of CO_2 and other greenhouse gases and their subsequent storage in stable geological formations. (p. 261)

Chernozemic A soil order identified by a well-drained soil that is often dark brown to black in colour; associated with the grassland and parkland natural vegetation types and located in the Prairies climatic zone. (p. 252)

Chinooks Strong winds that become warm and dry as they flow down a mountain slope in the lee of a mountain range. (p. 251)

Conventional oil Deposits that can be recovered through natural flow or pumping to the surface and that, therefore, have a higher ratio of extracted energy to the energy needed in extracting and refining. In contrast, "unconventional" oil and gas must be "unlocked" from the deposit through special means such as fracking (as with shale deposits) or must undergo a complicated extrac-

tion/refining/separation process (as with in-situ extraction and upgrading of oil sands). "Tight" oil and gas refers to oil trapped in impermeable rock. (p. 270)

Dilbit Bitumen diluted with a diluent. (p. 270)

Diluent A hydrocarbon substance used to dilute crude bitumen so that it can be transported by pipeline (p. 273)

Dry Belt An agricultural area in the semi-arid parts of Alberta and Saskatchewan primarily devoted to grain farms and cattle ranches. Crop failures due to drought are more common in this area than in other agricultural areas. (pp. 253, 265)

Evapotranspiration An important part of the water cycle, the sum of the evaporation of water from the soil into the air and the transpiration of water from plants and its subsequent loss as vapour. (p. 252)

Fertile Belt A mixed farming area where crop failures due to drought are less common than in other agricultural areas. This area of long-grass and natural parkland vegetation is associated with black and dark-brown chernozemic soils. (p. 265)

Great American Desert The treeless Great Plains as described by American explorers in the nineteenth century. (p. 254)

Orographic uplift Air forced to rise, and then cool, over mountains. (p. 251)

Palliser's Triangle Captain John Palliser led an expedition organized by the British Colonial Office and the Royal Geographical Society to survey the Canadian West in 1857–60. He concluded that this short-grass natural vegetation area in southern Alberta and Saskatchewan was a northern extension of the Great American Desert and was therefore unsuitable for agricultural settlement. (p. 252)

Peace River Country Aspen parkland region at the northern edge of agriculture in northwest Alberta and northeast British Columbia. (p. 265)

Potash A general term for potassium salts. The most important potassium salt is sylvite (potassium chloride). Potassium (K) is a nutrient essential for plant growth. (p. 274)

Upgrader A processing plant where large hydrocarbon molecules are broken into smaller ones. (p. 363)

Value-added industry Manufacturing that increases the value of primary (staple) goods. (p. 268)

Western Sedimentary Basin Within the geological structure of the Interior Plains, the normally flat sedimentary strata are bent into a basin-like shape. These basins often contain petroleum deposits. (p. 250)