

Industries and Economic Activity

May 2021

Introduction

The lower Winnipeg River basin (LWRB) is located in the northwest section of the entire Winnipeg River basin (WRB), which spans parts of western Ontario and small parts of Manitoba and northern Minnesota, United States. The Discussion Sheet Series highlights research on ecological and socio-economic aspects of the basin to encourage discussion with experts, government departments, Indigenous groups, and stakeholders. The Discussion Sheet Series is based on available data collected in 2018 and 2019. Sheet 10 of 11 summarizes industries and economic activities in the LWRB.

Industries

The LWRB supports several active industries, primarily mining and hydroelectric development, that contribute to the regional economy through job creation, as well as capital and operating expenditures. They are also sources of government revenue through taxation. The region also has high levels of interaction with the river and regional lakes through recreational fisheries, tourism, remote hunting and fishing lodges, boating, and cottagers.

Mining

The LWRB is part of the mineral-rich Precambrian Shield. The primary minerals historically mined in the region were gold, silver, lithium, nickel, copper, tin, tantalum, and caesium (Government of Manitoba, n.d.c). While active mining is limited, the region has a considerable number of inactive mines and history of mineral exploration. There are 19 mine sites located in the LWRB; almost all of them are non-operational or abandoned (Figure 1).

Only one mine is operational in the LWRB: the Tanco Mine, located 60 km east of the Town of Lac du Bonnet, produces caesium formate (Martins et al., 2013) (Figure 1). While the mine's operations are below its peak capacity (Godkin, 2014), at the peak of operation, the mine significantly contributed to the regional economy by employing 150 people and spending



approximately CAD 9 million on payroll each year and CAD 28 million in total annual spending (Government of Manitoba, 2013b). Zienkiewicz (2013) noted that the Tanco mine previously contributed more than CAD 1.5 million in payroll annually to the economy of the Lac du Bonnet area alone.

The pegmatite¹ that the mine exploits lies beneath Bernic Lake. As such, the mine operations have the potential to cause environmental damage and adversely impact water quality in the lake and downstream (Bird River² and Winnipeg River). According to Martins et al. (2013), efforts have been made to minimize environmental damage in the area. The plant design enables it to capture any spilled material and store waste in a lined disposal cell, eliminating discharges into the lake. The Environmental Impact Assessment states that, even though the mine activities resulted in a measurable change from the pre-mining condition of Bernic Lake, “the changes that have occurred are not considered to be adverse” (Government of Manitoba, 2013a, p. 131). The incidence of algae has increased in the lake but not to the extent that water quality degradation has occurred (Government of Manitoba, 2013a).

Recent mining explorations took place in the Bird River Greenstone Belt (Grid Metals Corp, 2018) and north of Cat Lake in Nopiming Provincial Park (Wilderness Committee, 2018), which points to an ongoing commercial interest in these areas.

Forestry

There is currently no operational forestry in the area (Manitoba GeoPortal Open Data, 2018). Before the shutdown of the Tembec mill in Powerview-Pine Falls in 2009, forestry was a major source of income for many people in the LWRB (Canadian Press, 2010; Government of Manitoba, 2013a). The mill’s closure has improved the quality of the environment and people’s health, but it has resulted in job losses, forcing many people to relocate to seek employment (Norman, 2018). Forestry operations may resume in the future, as four Indigenous communities are currently exploring commercial forestry opportunities in the area with the goal of setting up an Indigenous-led company (CBC News, 2019).

Hydroelectric Generation

There are six run-of-river hydroelectric generating stations on the Winnipeg River supporting the generation of about 10% of Manitoba Hydro’s electric power and producing around CAD 203 million in revenue for the company in 2018³ (Manitoba Hydro, 2018) (Figure 2). Manitoba Hydro supplies electricity to local commercial facilities and private residences in the basin. In the Lac Du Bonnet area (including the Winnipeg River System), there were approximately 2,500

¹ Pegmatites are rocks that have solidified from lava or magma and are composed almost entirely of crystals, often sources of valuable minerals (e.g., gem minerals, lithium minerals) (Encyclopaedia Britannica, 2013).

² Bernic Lake discharges into the Bird River via Bernic Creek (see Sheet 11: Maps).

³ Total revenue (electric) in 2018 was CAD 1,931 million (Manitoba Hydro, 2018).



commercial customers and 24,000 residential customers (personal communication, Manitoba Hydro, October 9, 2018).

Manitoba Hydro is also a large employer. Approximately 133 staff work at Winnipeg River Operations (Point Du Bois, Slave Falls, Seven Sisters, McArthur, Great Falls, Pine Falls), and approximately 556 staff work in the larger Eastman area (Dugald, Great Falls, Lac Du Bonnet, Point Du Bois, Selkirk, Steinbach) (personal communication, Manitoba Hydro, October 9, 2018).

Agriculture

The agricultural industry has been an important component of the region's economic activity, particularly in the RM of Lac Du Bonnet and the RM of Alexander. The zoning map (see Sheet 9: Land Management) shows that a large proportion of the LWRB is designated as Rural Agricultural. In terms of actual land use, agricultural cropland covers 3% of the LWRB (see Sheet 2: Landscape Characteristics). According to the 2016 census, 5.8% of the labour force is employed in "agriculture, forestry, fishing and hunting"⁴ in the RM of Alexander and 3.6% in the RM of Lac du Bonnet compared to 4.4% in Manitoba as a whole.

There is agricultural activity in the broader Winnipeg River basin, specifically the RM of Whitemouth, which can have downstream effects on water quality in the LWRB (see Sheet 4: Water Quality and Nutrient Loading).

Tourism and Recreation

Tourism is a critically important industry for the LWRB area. The diversity of rivers and lakes and the location of the Whiteshell Provincial Park make the area a popular destination for summer cottagers and outdoor recreation. The area provides numerous recreational opportunities, including fishing, hunting, canoeing, rafting, camping, boating, hiking, cross-country skiing, and snowmobiling. As discussed in Sheet 7: Demographics and Communities, some regions of the LWRB comprise a high proportion of seasonal residents (e.g., the RMs of Alexander and Lac du Bonnet) and have high density related to cottage development.

The LWRB is part of the Eastman Tourism region, which covers the southeast region of the province between Lake Winnipeg and the Ontario border and stretches as far north as the 53rd parallel. Travel Manitoba conducted assessments of the economic value of tourism for this region and found that visitation in the Eastman region accounts for 20% of all Manitoba's visitors—or 2,223,000 visitors, who spent CAD 138.4 million in 2015—9% of all tourism spending in Manitoba (Travel Manitoba, 2016). The LWRB's potential for recreation and tourism continues to be developed. The new Provincial Tourism Strategy for Manitoba aims to achieve CAD 2.2 billion in annual spending generated by 12.6 million visitors in 2022 (Travel Manitoba et al., 2019); this may increase future tourism development in the LWRB.

⁴ North American Industry Classification System (NAICS).



Fishing

There is no commercial fishing on the Winnipeg River and no fish packing stations in the LWRB. Recreational fishing, however, is one of the principal leisure activities on the Winnipeg River and adjacent tributaries and lakes, including an active guided sport fishing industry. Anglers in the LWRB significantly contribute to the local economy and to the economy of the province, estimated at CAD 55 million in 2018 based on a survey by Manitoba Water Stewardship (2005). The successful recreational fisheries are dependent on healthy fish populations and, in turn, aquatic habitat and water quality in the region (see Sheet 5: Aquatic Animals and Habitat and Sheet 4: Water Quality and Nutrient Loading). Apart from the economic benefits, the fisheries provide a range of non-tangible benefits, such as enjoyment from being outdoors.

Economic activities rely on and may impact the watershed and its resources. The industries discussed here, especially hydroelectric generation, mining, and tourism, are both locally and regionally important: they create and support jobs, generate incomes, and are a source of government revenues through taxes. The potential expansion of economic activity in the LWRB, specifically in the mining, forestry, and tourism sectors, needs to be reconciled with ecological and social priorities and impacts before any project moves forward.



Figure 1. Surficial geology and mine site map of the LWRB

Mines Status

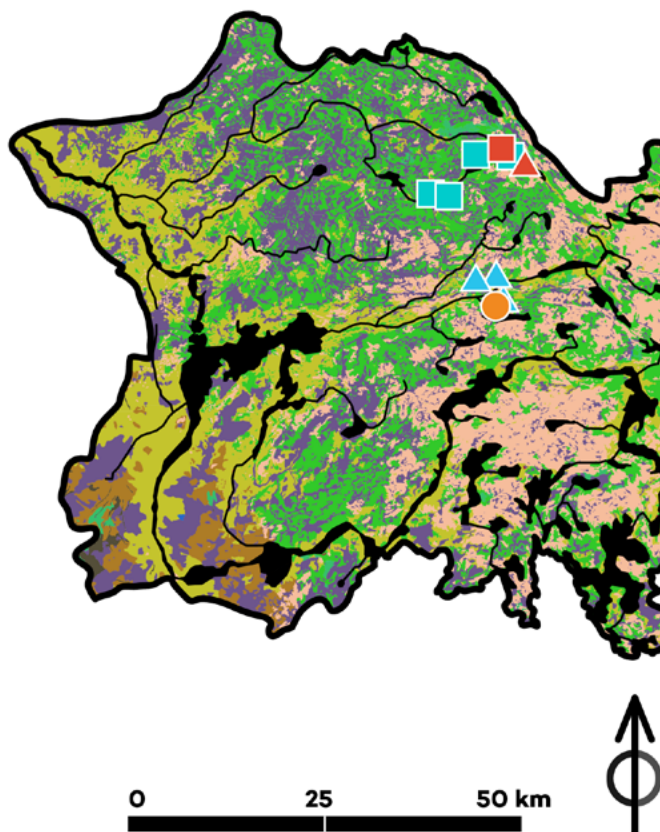
- Operational
- Non-operational
- △ Orphaned and Abandoned

Commodity

- Transition Metals
- Tantalum/Cesium
- Lithium

Surface Geology

- Alluvial Sediments
- Distal Glaciofluvial Sediments
- Eolian
- Marginal Glaciolacustrine Sediments
- Offshore Glaciolacustrine Sediments
- Organic Deposits
- Paleozoic Terrane
- Precambrian Terrane
- Proximal Glaciofluvial Sediments
- Sand Diamicton
- Shoreline Sediments
- Silt Diamicton
- Surface Water











Source: Government of Manitoba, n.d.a.

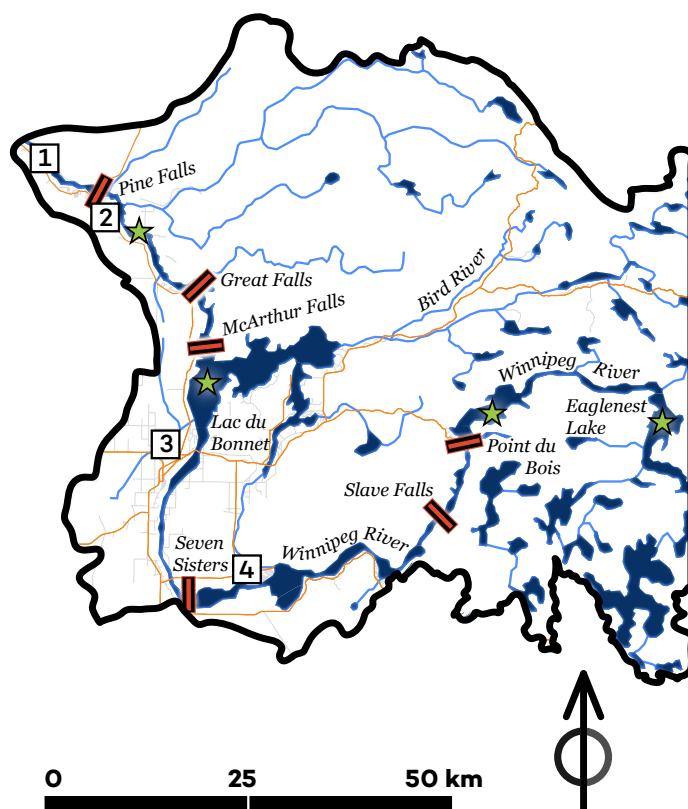


Figure 2. Map of the LWRB, highlighting the generating stations

Communities

- 1 Fort Alexander / Sagkeeng
- 2 Powerview-Pine Falls
- 3 Lac du Bonnet
- 4 Pinawa

-  Generating Station
-  River/Stream
-  Trans-Canada Highway
-  Highway
-  Other Road
-  Mainline Railroad
-  Other Railroad
-  Water Quality Sites



Source: Government of Manitoba, n.d.a.

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