

Water Use Licensing Report: Southwest Interlake Watershed

Protective Process

Water Rights Use Licensing is done under the authority of the Manitoba *Water Rights Act* which first came into force in 1930 when Manitoba took control of its natural resources which had previously been administered by the Federal government. The water use licensing process is the primary mechanism available for ensuring the sustainable development of the province's water resources for beneficial purposes. The Act provides for hydrologically based legal framework that balances human and environmental needs. The licensing process takes into consideration the appropriate social, economic, political, and administrative aspects of water management. At the core of the licensing process is the requirement for water to be legally appropriated and put to beneficial use by the licensee. Manitoba Water Law has the flexibility to accommodate new and growing uses of water while protecting those who have used water in the past including unlicensed domestic users (e.g. exempt wells).

The intent of water rights licensing is to protect the interests of licensees, domestic users, the general public, and the environment with respect to the use or diversion of water or the construction and operation of related water control works under licence. In Manitoba, water withdrawals of less than 5500 Imperial gallon/day (25,000 liters/day) generally do not require licensing. These projects are protected under the domestic use exemption. Licenses are issued for municipal, agricultural, industrial, irrigation, and "other" purposes. Projects that fall into the "other" category include air cooling/heating; aquaculture; fire protection; water bottling; water slides; etc.

The general and specific conditions that are included on all licenses reflect, in part, the information received from the technical and management studies that have been carried out for the project and/or water body. For surface water projects, this determination is based on an analysis of stream flow data, riparian needs, the water use requirements of senior water users, domestic needs, and instream flow requirements. For groundwater projects, this determination is based on an assessment of hydrogeological information including; geological information on aquifers, aquifer sustainable yield estimates and water allocation budgets, where available, as well as the water use requirements of senior users and domestic wells. [Note – Projects withdrawing more than 200 cubic decameters of water in a year are also subject to Environment Act licensing which has a formal public notification and engagement process.]

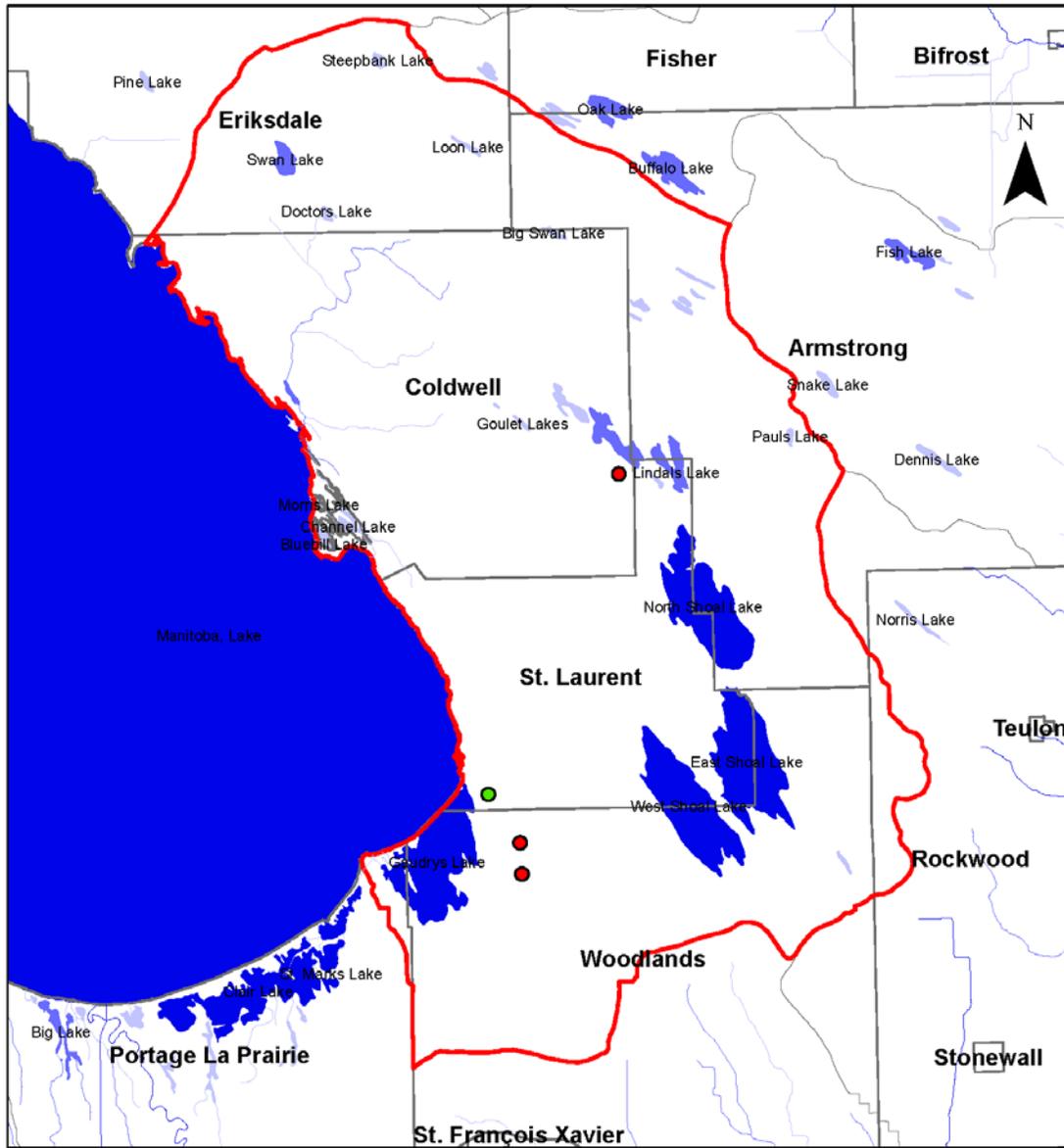
Water Rights Licensing in the Southwest Interlake Watershed

There are presently 4 licensed or renewal licence water rights projects within the Southwest Interlake watershed: 3 (75%) groundwater projects and 1 (25%) surface water project (Figure 1). In this watershed, 96 dam³ has been allocated under licence for both groundwater and surface water sourced projects (Table 1). However, out of the total licensed volume of water allocated for beneficial use, 39% was for surface water projects and 61% was for groundwater projects. 61% percent of total licensed volume of water was for agricultural (livestock) purposes only with the remaining 39% for (crop) irrigation. Therefore, agricultural users are the highest licensed water users followed by one irrigator (Table 1).

Table 1: Amounts Allocated Under Water Rights Licence

Purpose	Allocated Under Licence (dam ³)		Total Allocation (dam ³)
	Ground Water	Surface Water	
Agricultural	59	0	59
Industrial	0	0	0
Irrigation	0	37	37
Municipal	0	0	0
Other	0	0	0
Total	59	37	96

Figure 1: illustrates the Point of Diversion of the Water Use projects within the Southwest Interlake Watershed.



Southwest Interlake Watershed

Legend

- Ground Water Use
- Surface Water Use
- Southwest Interlake IWMP Boundary
- Manitoba Municipal Boundaries



Figure 1: Location Map of Water Use Licensing Projects in the Southwest Interlake Watershed

Data Gaps

As the Southwest Interlake Watershed water yield budgets have not been established, licensing allocation decisions are made based on an individual site specific evaluations. Current allocations are believed to be well below the sustainable yield of the basin streams and aquifers (see the next section).

The Surface water Management Section uses a computerized algorithm to estimate water yields at selected points along stream courses. The Water Use Licensing Section makes use of this method to determine the sustainability of proposed surface water withdrawal applications. Because the method does not require any site specific field work, it is necessarily conservative in its estimation of water yields. Proponents have the option of hiring a qualified person (usually a Professional Engineer) to undertake a more detailed analysis of the potential water yield at their diversion site.

The Water Use Licensing Section has taken a different approach to evaluating the sustainability of a proposed groundwater sourced project. Since 2004 applicants have been required to hire a professional hydrogeologist to evaluate well and aquifer conditions at the project site.

Basin Yield and Licensed Water Use

It is often useful to compare the licensed allocation volumes under the Water Rights licensing process with the average annual precipitation volumes for a watershed. To do this we used an average annual precipitation (rainfall and snow) of 480.2 mm (18.9 inches) as determined from the 1981-2010 period of record at the Lunder Environment Canada weather station. When we convert this figure to a volume it works out to 1,578,840 dam³. At this time, the licensed allocation volume of all the surface water and groundwater projects in the basin is 96 dam³. When we express the licensed allocations as a percentage of average annual precipitation on the basin it works out to less than 0.1%. Typically the largest component of water "use" in a watershed is the evapotranspiration component. Therefore, future growth in licensed water use in the watershed is likely to come, at least in part, at the expense of the component of the annual water budget that evaporates from the land and water bodies and the component that transpires from the vegetative cover on the landscape.