

# TOWN OF HERBERT WATERSHED FACTSHEET

## GEOGRAPHY

- Herbert is located within the Rush Lake Sub-Basin, which is part of the larger Old Wives Watershed.
- The Rush Lake Sub-watershed is unique from the Old Wives Watershed because water from Duncairn Reservoir/Swift Current Creek can be diverted to the Highfield Dam, approximately 11 km south of the community of Rush Lake.
- The Rush Lake Sub-Basin has an area of approximately 1,634 km<sup>2</sup>, accounting for roughly 6.7% of Old Wives Lake Watershed total area of 24,478 km<sup>2</sup>.
- Moisture deficits, caused by low precipitation and high evaporation, are common in the summer, making the region prone to drought.
- The Rush Lake Sub-Basin portion of the Old Wives Lake Watershed is bordered by two other watersheds: Swift Current Creek to the west and South Saskatchewan River to the north.
- The Rush Lake Sub-Basin, situated within the Old Wives Lake Watershed, is located within the Nelson River Major Basin.
- Water from the Old Wives Lake Watershed, including the Rush Lake Sub-Basin, does not reach the Nelson River because the watershed is a terminal basin. Terminal basins are those that have no natural outlets, such as rivers, meaning water can only leave via evaporation or groundwater inflow.



Swift Current Creek



Herbert Reservoir

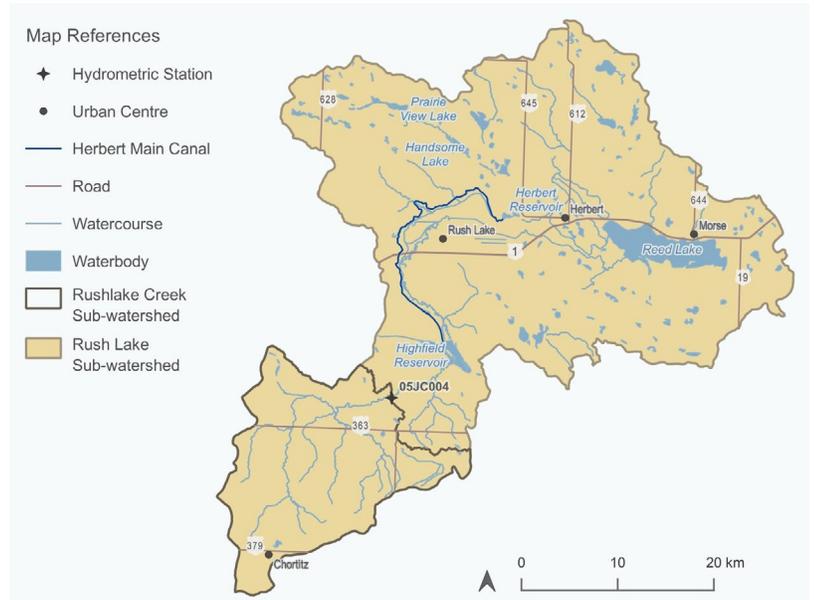
## HYDROLOGY

- The Rush Lake Sub-watershed encompasses all land that would naturally contribute water to Reed Lake.
- Reed Lake is located between Herbert and Morse, parallel to Highway 1, and is the largest lake within the Rush Lake Sub-Basin.
- Reed Lake is a shallow, saline, terminal lake. Terminal lakes are those with no outlet, in which water can only leave through evaporation or groundwater inflow.
- Spring runoff and intermittent creeks are the primary contributors of water to Reed Lake. Due to the majority of water being received in the spring, Reed Lake experiences significant fluctuations in water levels throughout the year, with spring having the highest water levels.
- In years with above normal precipitation, Reed Lake's water levels can become quite high. Importing water into the basin from the Swift Current Creek Watershed and irrigation releases from irrigation projects can further raise water levels.
- Lizard Creek is a tributary of Reed Lake, which originates northwest of the community of Rush Lake.
- Lizard Creek is a semi-natural watercourse that has been artificially altered to accept overflow from Highfield Reservoir when flood conditions are present.
- Within the Rush Lake Sub-Basin there are several dams/ reservoirs, two of which are part of Herbert's water infrastructure: Highfield Reservoir and Herbert Reservoir.
- Highfield Reservoir receives water from the Duncairn Reservoir, within the Swift Current Creek Watershed, via the Swift Current Creek Main Canal. Water from Highfield is then transported to the Herbert Reservoir via the Herbert Main Canal.

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## SOURCE WATER

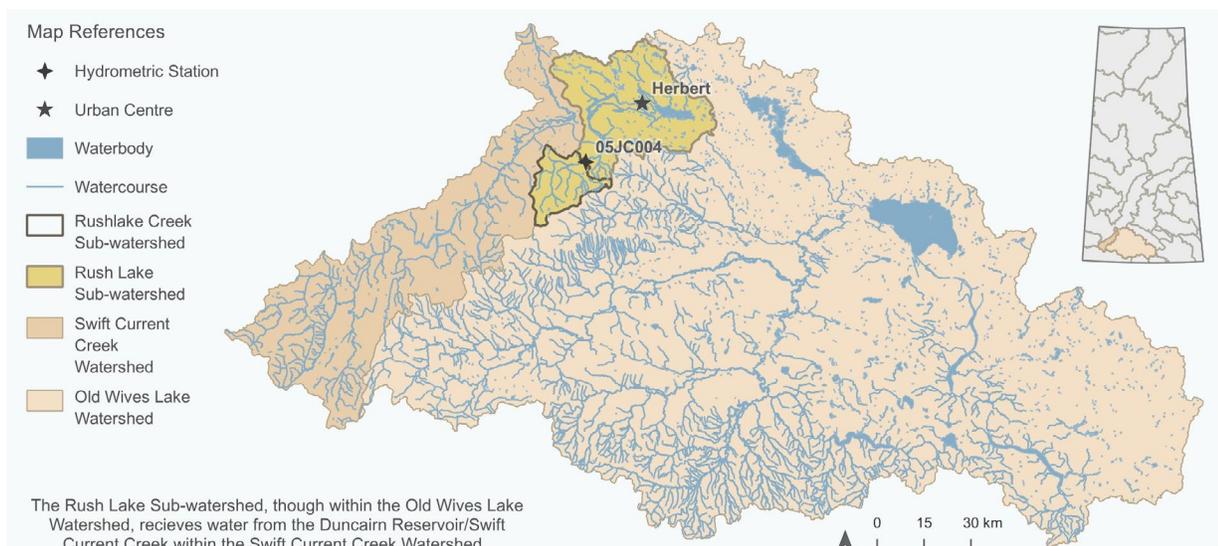
- Herbert's surface water supply is sourced from the Duncairn Reservoir, travelling through a series of reservoirs and canals before it reaches the town.
- Water from Duncairn Reservoir is released into the Swift Current Creek, which transports the water to a reservoir south of Swift Current.
- From the reservoir by Swift Current, water is drawn by weir into the Swift Current Main Canal, which runs 40 km east of Swift Current until it reaches Highfield Reservoir.
- Highfield Reservoir primarily receives its water from the Swift Current Creek, though some water is supplied by Rushlake Creek, located southwest of the reservoir.
- Water exits the Highfield Reservoir via the Herbert Main Canal, which provides water to the Rush Lake Irrigation District and the Herbert Reservoir.
- The Herbert Reservoir is 6 km west of Herbert. There is a pipe that transports water from the reservoir to the dug-out north of Herbert. Water from the reservoir is also used by the Herbert Irrigation District.
- The town also has five wells, which were drilled in 2011 in response to concerns regarding Herbert Reservoir's water quality.



Old Wives Lake/Swift Current Creek Map

Only two or three of these wells are used to provide water for the community.

- It was found that the wells did not supply the community with enough water, and to compensate the Town of Herbert sources its water from both the surface and ground.
- The ratio of surface to ground water varies depending on the time of year. In the winter, the ratio is approximately 60:40 and, in summer, the ratio is about 75:25.



Rush Lake Sub-Watershed