

System Name: Kincardine Drinking Water System  
Municipality: The Municipality of Kincardine  
Drinking Water System Category: Large Municipal Residential

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The Municipality of Kincardine is located in Bruce County in the Saugeen Valley Source Protection Area. The western portion of the Municipality is bordered by Lake Huron. In 2011, the population was 11,174, which was the same as 2006. Seasonal residents add to the population during peak periods. The main towns are Kincardine (population 6725) and Tiverton (population 705). Smaller villages include Inverhuron, Millarton, Underwood, Armow, and Bervie.

There are five municipal drinking water systems in the Municipality of Kincardine, four are groundwater wells and one is a surface water intake. The groundwater well systems are: the Armow Drinking Water System, Scott Point Drinking Water System, Tiverton Drinking Water System (the Dent well and two wells at Briar Hill), and the Underwood Drinking Water System. The Great Lake intake supplies the town of Kincardine.

The Kincardine Water Treatment Plant (WTP) is located at 155 Durham Street, Kincardine. The Kincardine Drinking Water System is categorized as a large municipal residential system under Ontario Regulation 170/03 and it is classified as a Great Lakes (Type A) intake within the *Clean Water Act*. The design population for the Kincardine WTP system is 9250 (Stantec 2008, Phase 1 Report).

The Kincardine (WTP) and supply facilities have undergone numerous changes since they were first constructed. The current plant configuration was completed in 2007. The WTP provides filtration, a chlorination system and an underground reservoir. The chlorination system consists of three gas chlorinators; two of the chlorinators are dedicated to pre- and post-chlorination and the third acts as a standby. Pre-chlorination occurs at the raw water intake, during periods when zebra mussel control measures are in place, and upstream of the flocculation tanks. Low lift pumping facilities consist of a separate low lift pumping station building, a concrete pump well having a total volume of 101m<sup>3</sup> at low lake level and three vertical turbine low lift pumps (Stantec 2008, Phase 1 Report).

The distribution system serves the town of Kincardine, residents north of the town via a pipeline and the Huronville subdivision, with a total of approximately 3300 connections. Recently, the Kincardine water distribution system was expanded to provide water to four former groundwater supply systems as follows: Kinshuron, Craig-Eskrick, Lake Huron Highlands, and Port Head Estates.

The municipality operates the marina in Kincardine. The marina has the capacity for 154 recreational vessels and 20 transient vessels. Two piers extend from the shore out into the lake and line the entrance channel to the harbour. The north pier extends 196m out and the south pier extends 153m. Two berths are maintained at the Kincardine marina for Southampton tugboats in the event that a safe harbour is required. Occasionally, commercial fishing boats operate from the Kincardine Harbour.



*View of Kincardine intake from Dundas Street*

The Kincardine WTP obtains its water from Lake Huron. One surface water intake structure is located at a depth of 6.8 m.

Intake pipe:  
diameter = 50.8 cm length = 765 m

Approved intake capacity:  
18,750 m<sup>3</sup>/day

In the annual WTP report for 2006, operators reported June to be the highest demand month with a maximum raw water daily flow of 7227 m<sup>3</sup>/day and an average daily raw water flow of 4889 m<sup>3</sup>/day.

Bruce Power, a nuclear power plant, located more than 10 km to the north at Douglas Point has a major shoreline infrastructure relating to the various water-cooling intakes and discharges and shoreline development (Stantec 2008, Phase 1 Report).