

Aberfoyle Permit to Take Water Renewal Summary

2015

Nestlé Waters Canada
Aberfoyle Site



Aberfoyle Overview

Nestlé Waters Canada is a proud community partner, environmental steward and employer in Wellington County. Nestlé Waters Canada bottles water from well TW3-80 at the Aberfoyle facility in Puslinch, near the City of Guelph, in southern Ontario (*Figure 1*). Operating in Aberfoyle for 15 years, water supply sustainability has always been critical. Keeping the aquifers healthy is not only the right thing to do for the environment and community, but essential to our business.

The water taking is governed by a Permit to Take Water (PTTW) issued by the Ontario Ministry of the Environment and Climate Change (MOECC) which allows the company to withdraw up to 2,500 liters a minute. The current permit will expire on July 31, 2016. Nestlé Waters Canada submitted a permit renewal application for well TW3-80 to the MOECC on April 11, 2016. The application seeks the same withdrawal limits as the current permit for a period of ten years, through 2026.



Figure 1. Nestlé Property in Puslinch

March 2015 Annual Monitoring Report

Supply Well TW3-80

An aquifer is a highly permeable rock or sand formation that stores and transmits significant quantities of water. An aquitard is an impermeable rock or clay formation that impedes the movement of groundwater.

In the Aberfoyle area, groundwater is typically derived from two bedrock aquifers, separated by an aquitard. The Guelph aquifer consists of the shallowest bedrock and supplies water to numerous residences. Nestlé Waters Canada’s well TW3-80 withdraws water from a lower aquifer, the Amabel aquifer. A steel casing lines most of well TW3-80, such that water only enters the well from the Amabel aquifer, between 28.4 and 31.1 metres below ground. The Guelph and Amabel aquifers are separated by the Eramosa aquitard, which resists the flow of water between the two aquifers.

TW3-80 Permit

Nestlé Waters Canada is permitted to take water from TW3-80 at a rate of up to 2,500 liters per minute, or a maximum of 3,600,000 liters a day. In 2015, Nestlé Waters withdrew 58% of the permitted volume for the year. In 2015, the most water the company withdrew in a single day was 86% of the permitted limit. This occurred during peak bottling season. The annual volumes of water taken from 2001 to 2015 are shown on *Figure 2*. The volume of water withdrawn from TW3-80 in 2015 was close to the average of the last 14 years.

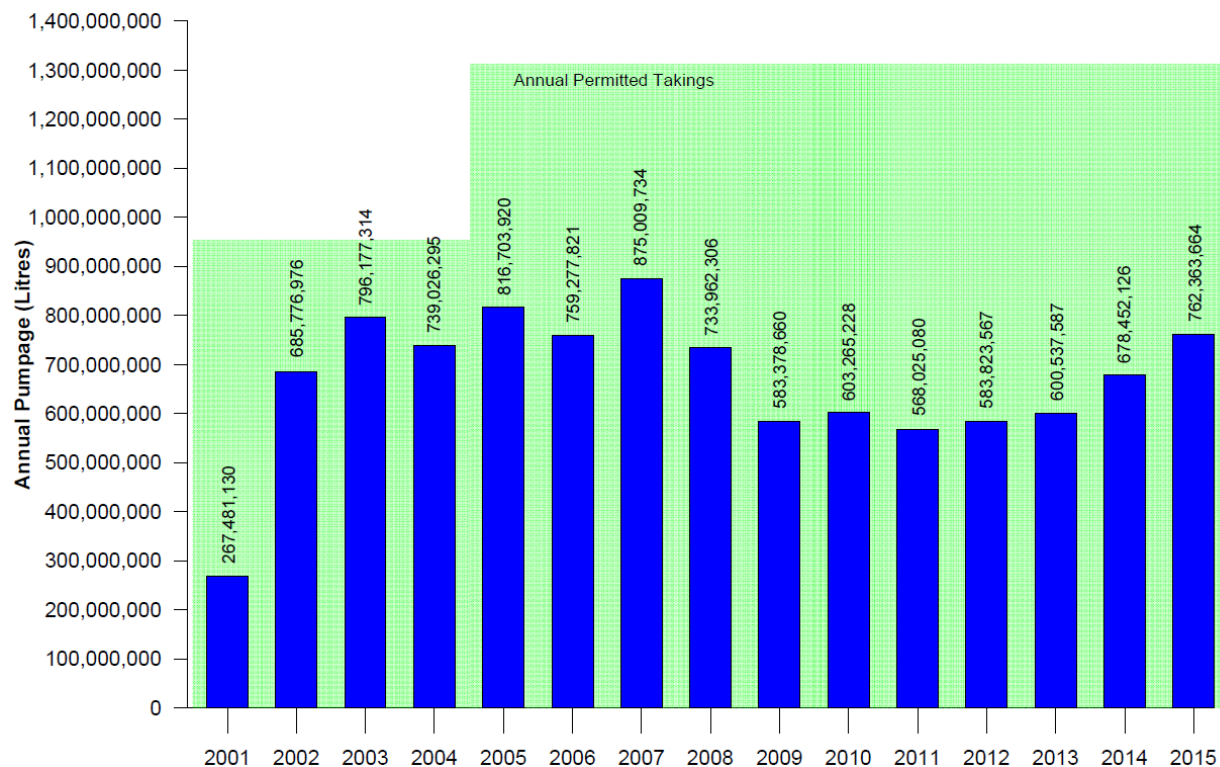


Figure 2. TW3-80 Annual Water Takings

Monitoring Overview

Nestlé Waters Canada has conducted extensive testing and studies over the years to ensure that operations do not diminish the availability of water for other users or the environment. Studies include:

- Five pumping tests to evaluate aquifer properties and predict effects of water withdrawals;
- Geophysical logging of wells to understand the bedrock aquifer;
- Real-time measurement of groundwater and surface water levels;
- Stream flow measurements in Aberfoyle Creek;
- Water quality sampling in the overburden and bedrock aquifers; and
- Ecological surveys of the wetlands and creeks.

Permit conditions require Nestlé Waters Canada to monitor the natural and pumping-related variations in groundwater and surface water levels, including at private wells belonging to local businesses and residences. Third-party contractors additionally evaluate wetland vegetation, species diversity, stream flow and stream temperature to ensure that the groundwater withdrawal does not affect the habitat of water-dependent ecology.

The tests demonstrate that there have been no long-term impacts to the sustainability of the aquifer or ecosystems resulting from 15 years of the company's Aberfoyle operations.

Site Monitoring

Nestlé Waters employs a full-time hydrogeologist and independent scientists are contracted by Nestlé Waters Canada to monitor the groundwater system, surface water features, wetlands and natural environment surrounding the Aberfoyle facility. Water extraction rates from TW3-80 are recorded by the company and reported to the MOECC. Monitoring efforts ensure that Nestlé Waters Canada's operations do not affect the long-term sustainability of the groundwater, surface water and natural environments.

The groundwater and surface water monitoring program consists of monitoring at 82 locations within two kilometers of TW3-80 each month. The program includes the following:

- TW3-80 and an unused production well (TW2-11);
- 16 monitoring well nests of between one and five wells each (a total of 38 wells) that are completed at various levels in deep bedrock, shallow bedrock and the overburden;
- Seven surface water stations to measure stream levels;
- Nine mini-piezometer nests (a total of 18 piezometers) to measure shallow groundwater levels;
- Six temperature stations to measure changes in stream temperature; and
- Eleven private wells.

The ecological monitoring consists of:

- Fish and fish habitat monitoring;
- Water temperature monitoring;
- Vegetation monitoring; and
- Wildlife monitoring.

Monitoring Results

Groundwater monitoring documents that water levels in the aquifer vary with respect to precipitation, which recharges the aquifer; and pumping by Nestlé Waters Canada. Variations in precipitation result in long-term, year-over-year changes in water levels. The company's pumping results in short-term water level changes which decrease with distance from the supply well.

The resulting water levels throughout the aquifer reflect both natural seasonal variations in precipitation, and variations in the company's pumping. *Figure 3* (see next page) illustrates groundwater conditions on the company's property. Water levels (middle graph) are generally lowest each year during the summer months, when daily pumping (top graph) approaches 1,500 to 2,000 liters per day. However, water levels remained relatively high during 2011 and 2013, when precipitation was significantly higher than average.

Water levels declined in 2012 and then increased in 2013 and declined again in 2015, a trend that is seen in aquifers across Ontario as wells responded to drier periods of lower precipitation. The years of 2012 and 2015 were periods of below normal precipitation. For example there was about 27% less precipitation recorded in 2012 and 2015 compared to 2013 and the water levels reflect this.

The water levels in the Guelph aquifer and Overburden are similar at this location. Water levels in 2015 are within the range of water levels observed in the past.

Overall, the trend of water level variation in the production aquifer is stable and the groundwater taking from TW3-80 has not caused a long-term declining trend in the aquifer water level. Unacceptable impacts to the upper Bedrock and Overburden aquifers have not been identified.

Summary

Nestlé Waters Canada takes its environmental stewardship responsibilities seriously and is committed to sustainable management of natural resources. The data collected in the 246 page 2015 Annual Report demonstrates that the company's Aberfoyle water withdrawal activity has not resulted in impacts to the long-term sustainability of the groundwater, surface water, wetlands or other natural resources.

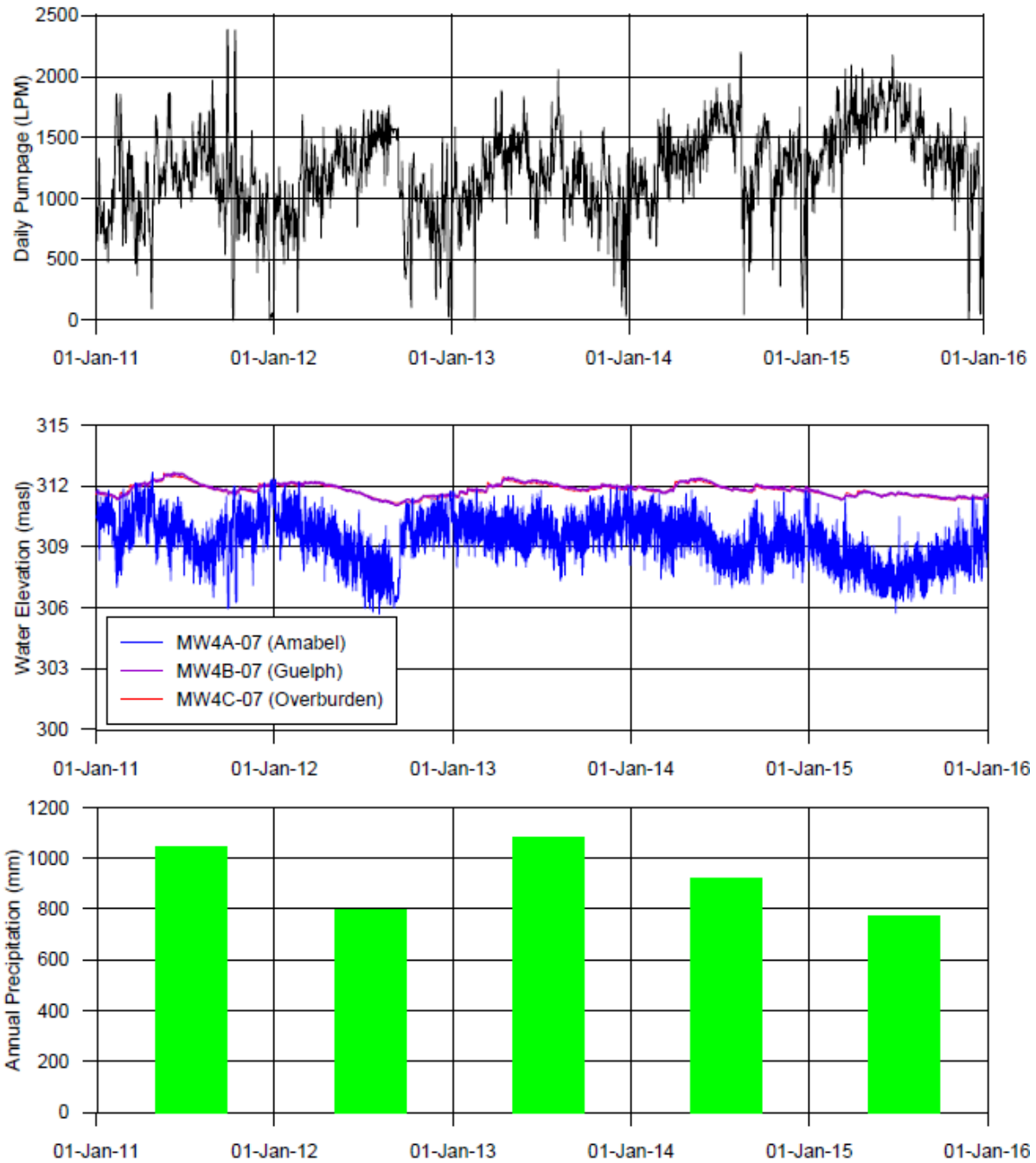


Figure 3. Hydrograph of Monitoring Wells 750 m Northwest of TW3-80