

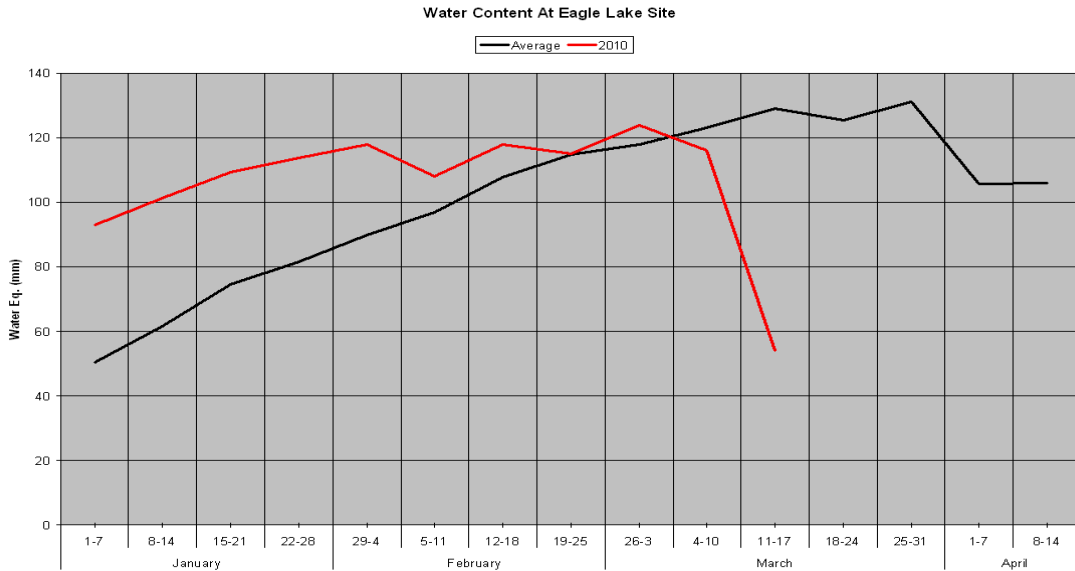


## Shadow Lake Spring 2010 Conditions

The water level on Shadow Lake has been unusually low this spring, resulting in a number of inquiries to Parks Canada. To assist all lake residents in understanding the situation, Parks Canada has prepared this report, providing an overview of various factors which have contributed to current levels.

The late winter of 2010 was characterized by a lower than normal snowpack, much lower than normal late snow accumulation, and lower than average precipitation in March and April.

The winter of 2010 started off very much in a normal fashion. Through the end of February, snow accumulations were very close to average. However, the “water content” in the snowpack as the single most



Source: Parks Canada water levels website

important indicator of reservoir fill potential, was very close to or above average. Throughout the winter, Parks Canada officials were monitoring the situation closely. Up to the end of February, with the prospect of average spring rain, the indicators did not cause significant concern about the ability to fill the reservoir lakes, nor did it dictate a departure from the standard operating regime.

March and April 2010 saw metrological conditions that were profoundly different from norm. Reservoir lakes are typically re-filled, after having been drawn down, with the runoff from the melting snowpack in March and



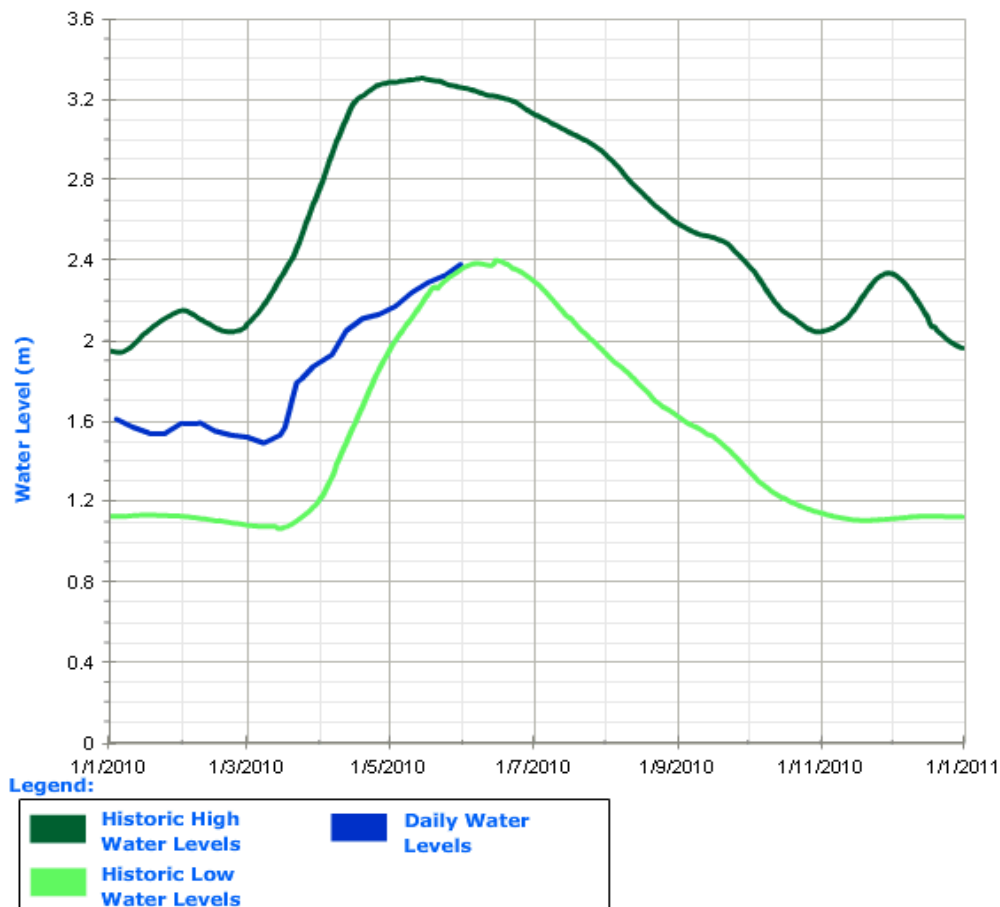
the spring rains in April. Unfortunately, this year there was no typical spring freshet and the early spring rains that are normally counted upon were largely absent. Data from March/April follow:

- Recorded snow at the Haliburton Environment Canada weather station during the month of March 2010 was 3.6 cm (average snow received in March: 33.2 cm);
- Last snow recorded “on the ground” at the Haliburton Environment Canada weather station was on March 16, 2010 (in the 3 years previous, snow was recorded on the ground into mid-April); and
- Recorded rainfall at the Haliburton Environment Canada weather station during the months of March and April 2010 was 47.4 mm (average rainfall for those months is 147 mm).

Conditions in the early spring of 2010, outlined above, made filling the reservoir lakes, particularly on the Gull River system, very difficult. Parks Canada officials recognized the unusual conditions that were occurring early in March and moved to replace the stoplogs as quickly as possible. It had little effect because there was neither a freshet caused by the melting snowpack nor the April rains to catch.

## Water Levels

### Oblong Lake (Haliburton Lake) Water Levels



Source: Parks Canada water levels website



Source: Coalition for Equitable Water Flow, [www.cewf.ca](http://www.cewf.ca)

As a result, there are currently a number of Haliburton reservoir lakes that are at or are very near historic (recorded) low water levels, still weeks from the summer season.

It is worth pointing out that these meteorological conditions and low water level concerns are not localized to just the Trent River watershed. Lake Ontario's water level was, up until recently, 18 inches below where it was last year and the Saint Lawrence River at the Port of Montreal is an 6 feet below average. This effect is causing concern amongst Seaway authorities over the effect on Great Lakes shipping.

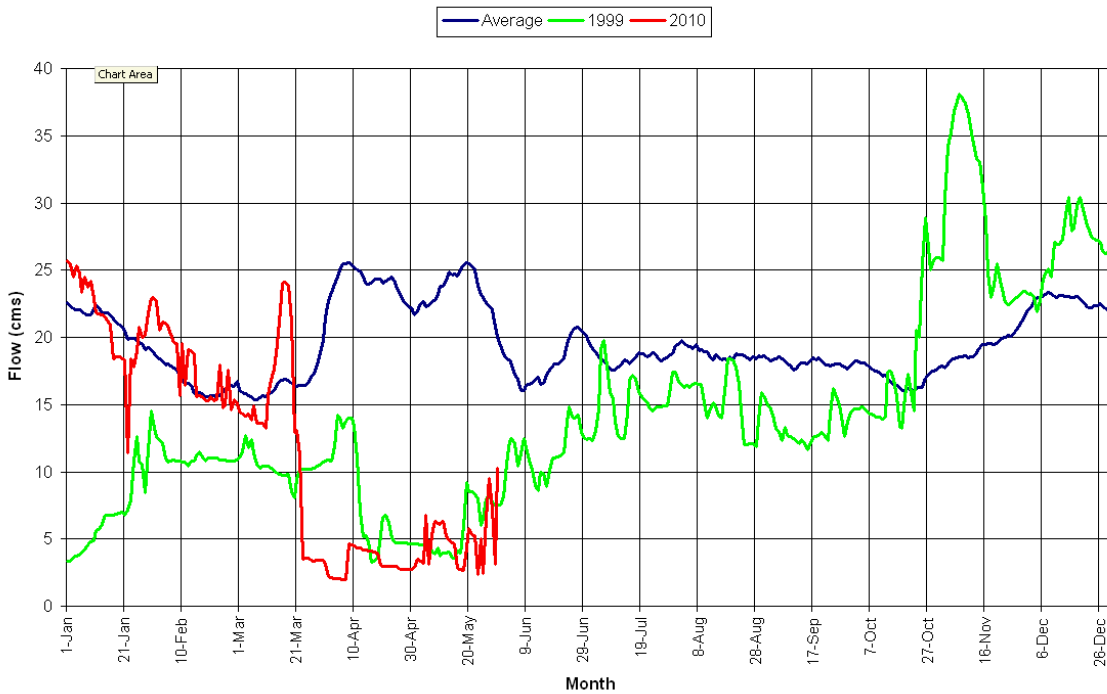
So, where does this leave Shadow Lake?

Shadow Lake is a flow through lake with no control structure immediately below the lake to regulate the flow out of the lake. Consequently, Shadow Lake's water level is entirely dependent on in-flow exceeding out-flow. When flows into the lake are high, levels rise; when flows into the lake are low, levels decline. Parks Canada officials have, in the past, attempted to maintain minimum levels on Shadow Lake by drawing water off the reservoirs upstream when it is available, whether or not it is needed to maintain the navigation draught downstream on the Waterway. This year the lack of available reservoir waters this year coupled with the prospect of a hot, dry summer necessitates that significant water conservation measures be taken. Parks Canada officials are retaining as much water for as long as possible high up in the reservoir system. This is generating lower than normal flows through Shadow Lake and causing the lower than normal water levels.

The current situation has happened previously. Similar conditions were seen in the late 50's and even more recently in 1999 when a dry winter and spring caused similar low flows through Shadow Lake (see graph below).

It should be noted that Shadow Lake will benefit as the season progress when Parks Canada officials start to draw waters out of the Haliburton lakes into the Trent Severn Waterway. When that water flows through Shadow Lake, it will replenish and maintain water levels for the balance of the summer. At the same time it should be noted that at that time some of the upstream reservoir lakes could see their water levels drop by as much as 4 metres vertically.

### Gull River at Norland Flows



Source: Parks Canada water levels website

The current low water situation in Shadow Lake is likely to persist for the next few weeks. The rainfall that has been experienced across the lower Waterway corridor has been used to overfill the larger Kawartha Lakes. This is allowing Parks Canada to defer the drawn down from the reservoirs. Parks Canada anticipates that dry conditions will return and will require use of the reservoir waters to maintain navigable levels on the Waterway. When the Haliburton dams are opened the flow from the reservoirs will improve the levels on all the flow through lakes including Shadow Lake.

For more information:

[www.parkscanada.ca/trent](http://www.parkscanada.ca/trent)

Jack Alexander  
Director of Canal Operations  
Trent-Severn Waterway  
(705) 750-4900

Dave Ness  
Water Control Engineer  
Trent-Severn Waterway  
(705) 750-4900