

# Lake Water Quality Program

Environmental Planning Initiatives

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## 2015 Annual Report



## City Of Lakes

The City of Greater Sudbury is recognised as the 'City of Lakes', with a geographic area of 3,627 square kilometres, about two-thirds the size of Prince Edward Island. Greater Sudbury boasts 330 lakes, more lakes than any other municipality in Canada. Our lakes are a valued natural resource to our citizens who have a vested interest in the health and quality of these rich community assets.

## Lake Water Quality Program

The Lake Water Quality Program helps to ensure that Greater Sudbury is positively recognised as a City of Lakes. The Lake Water Quality Program advocates for the ecological health of the lakes, provides lake water quality monitoring and education, offers technical support to lake stewardship groups and the community, and provides research into various issues related to lake water quality.

## Staffing

The City of Greater Sudbury provides funding for the full-time position of the Program Co-ordinator and a seasonal Lake Water Quality Field Intern. These positions are responsible for the day-to-day program and activities including water quality monitoring, shoreline home visit program, technical assistance to lake stewardship groups and the Lakes Advisory Panel.

## Summary of Activities

In conjunction with its partners, the Lake Water Quality Program carried out the annual Spring Phosphorus Sampling, the Love Your Lake shoreline assessment program, bathymetric mapping of various lakes, the Lake Stewardship Grant Program and co-ordinates the Shoreline Home Visit Program. In summary:

- 40 lakes sampled for spring phosphorus
- Love Your Lake shoreline assessment on Clearwater and Ramsey lakes
- Conducted bathymetric mapping on 7 local lakes
- 10 lake stewardship grants awarded
- New Lakes Advisory Panel members appointed for 2014-2018 term
- 28 active lake stewardship groups

## Lake Water Quality Program Components

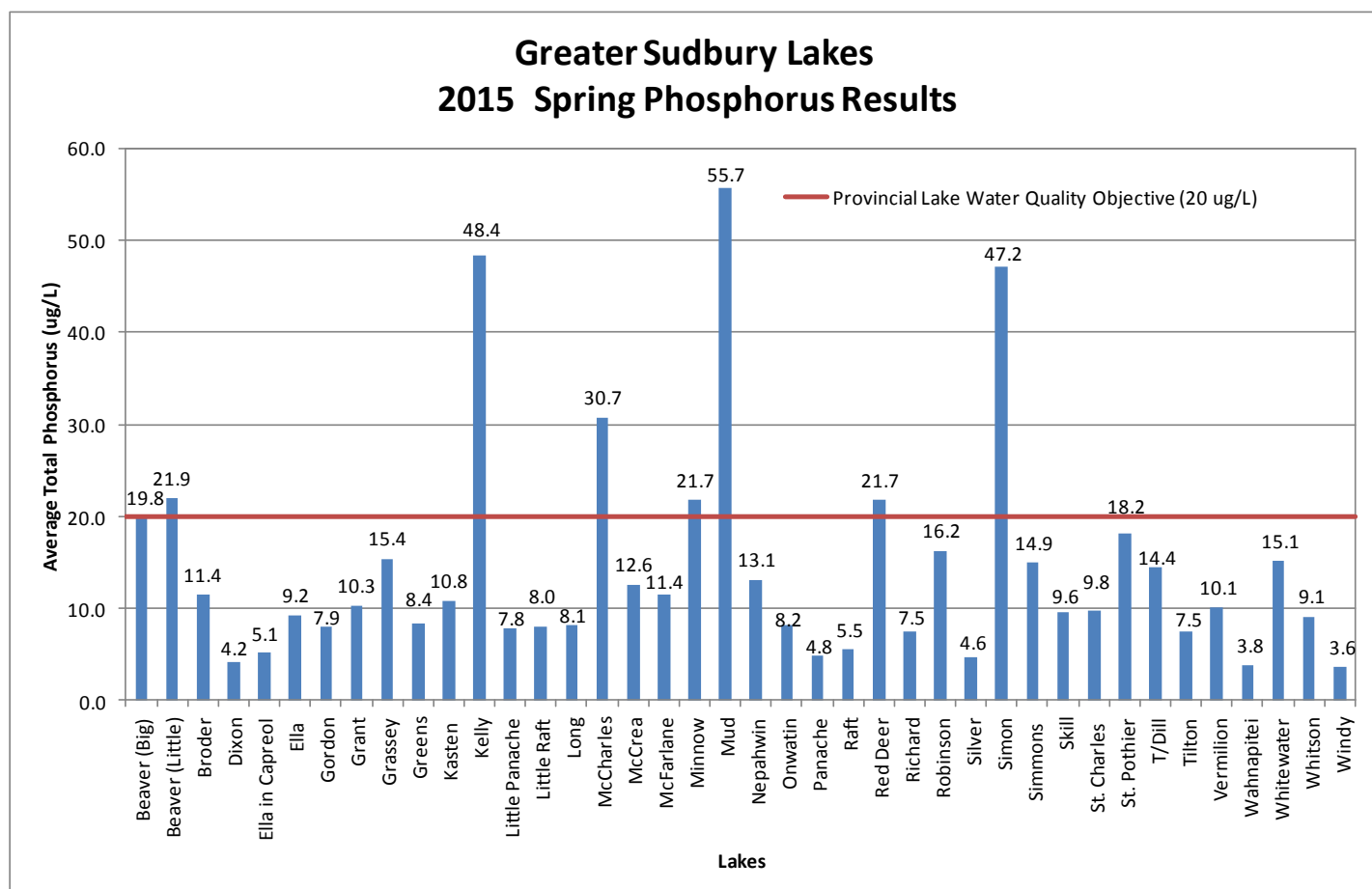
### Spring Phosphorus Sampling Program

The City of Greater Sudbury has been sampling a group of local lakes for spring phosphorus for the past 14 years. These lakes were chosen based on their historical phosphorus levels, waterfront development pressures, and requests from lake stewardship groups. Phosphorus is the main contributing nutrient that controls the growth and development of algae. Spring phosphorus samples are taken during a natural phenomenon called "spring turnover". This event occurs shortly after ice off in the early spring when the water on the surface warms up and becomes less dense than the water at the bottom of the lake. Through wind action the heavier surface water sinks to the bottom of the lake and the less dense water comes to the top. This is the optimal time for phosphorus samples in the Canadian Shield as it allows for the most accurate phosphorus readings for the lake. Phosphorus can enter a lake through a variety of means including many natural sources depending on vegetation cover, soil conditions and bedrock type. One of the main sources of phosphorus into our local lakes is caused by human activity through surface runoff. Surface runoff is a non-point source form of pollution, this type of phosphorus pollution comes from many different places including; failing septic systems, various fertilizers, agricultural practices, detergents and cleaners, as well as municipal and industrial wastewater.

### Spring Phosphorus Results

The spring phosphorus sampling was conducted on 40 lakes, 41 sites total, during the month of May 2015. Results for the lakes that were sampled are shown in the graph below. Individual spring phosphorus graphs for lakes sampled this year are found at the end of this report. Of the lakes sampled, seven lakes had phosphorus concentrations greater than the Interim Provincial Water Quality Objective of 20 µg/L (micrograms per litre). Phosphorus concentrations that are at or above this level indicate that the lake is eutrophic or nutrient rich.

The bar graph below indicates the  
2015 spring phosphorus sampling results for 40 local lakes.



## **Community Outreach**

### **Love Your Lake Program**

Love Your Lake is Canada's most comprehensive shoreline assessments and stewardship education program available to lake communities. It provides entire lakes with property-specific shoreline stewardship information, promotes shoreline stewardship and helps property owners protect and restore their shorelines, thereby improving the health of their lake.

In 2015, Clearwater Lake and Ramsey Lake Stewardship participated in the Love Your Lake program. On Clearwater Lake, 62 properties were assessed totaling about 5km of shoreline. On Ramsey Lake, 373 properties were assessed totaling approximately 32km of shoreline. For more information on the details in the Love Your Lake report, contact the City of Greater Sudbury's Lake Water Quality Program.

### **Shoreline Home Visit Program**

The Lake Water Quality Program co-ordinated the Shoreline Home Visit Program. These visits provided waterfront homeowners with advice on healthy shoreline practices including how to best manage their shoreline, protect the lake water quality, and maintain the health of the ecosystem. The visits are free, confidential and non-regulatory. Homeowners received additional information specific to their needs as well as a complementary Nature Clean product and waterfront living information.

### **Sudbury Children's Water Festival**

This was the 9th year that the Lake Water Quality Program participated in the water festival and it was a huge success with over 800 grade 3 students visiting the festival and attending bilingual activity centres. The Lake Water Quality Program staff present taught students the need for diversity in shorelines and the impacts and causes of erosion. Each teacher received posters and handouts for their classrooms. The Children's Water Festival in Greater Sudbury is organized by EarthCare Sudbury with the support of many community organizations.

### **Natural Shoreline Demonstration Site**

The City of Greater Sudbury's Lake Water Quality Program in partnership with Science North and the Nickel District Conservation Authority's Source Water Protection Program established a Natural Shoreline Demonstration site on Ramsey Lake. Funding for this educational project was received from the Ministry of Environment's Source Water Protection Program, the City of Greater Sudbury and Science North. Natural shoreline planting workshops and tours of the demonstration site are available to the community and shoreline homeowners to learn how they can improve the health of shorelines on their property.

### **Lakes Advisory Panel**

The Lakes Advisory Panel is appointed by City Council to provide advice and recommendations to the municipality on matters relating to lake water quality in Greater Sudbury. The current Panel members were appointed in 2015 for a four-year term, ending with the term of Council in 2018.

### **Members**

The Lakes Advisory Panel is made up of one City Councillors, eight community volunteers, six technical experts and two City staff.

**Community Volunteers**

Lin Gibson - Chair

Mary Henderson – Vice Chair

Jeffery Huska

Margaret McLaughlin

Lily Noble

Paul Truskoski

Wendy Wisniewski

Sarah Woods

**Technical Experts**

Burgess Hawkins – Sudbury &amp; District Health Unit

Derrick Luetchford - MNR

Dr. John Gunn – Vale Living With Lakes Centre

Ed Snucins – Ontario Ministry of Environment

Anoop Nail –Conservation Sudbury

Dr. Charles Ramcharan – Laurentian University

**City Councillors**

Mark Signoretti

**Lake Stewardship Grant Assistance Program****Introduction**

Established as a pilot project in 2005, Lake Stewardship Grant Program assists lake stewardship groups in carrying out projects that protect and improve the water quality and natural environment of the lakes. The Grant Program is funded by the City of Greater Sudbury through its Lake Water Quality Program. The Lakes Advisory Panel awards individual grants to stewardship groups in Greater Sudbury.

Grant applicants were required to demonstrate how their proposed project would improve or protect the water quality of the lake and/or watershed and increase support from the lake community. In total, 10 applications for funding were received with most applicants receiving \$500.00 and one receiving a requested \$300.00. The following is a list of the successful applicants.

**Funding recipients for 2015****Clearwater Lake Stewardship Group**

Project Name: Clearwater Lake Community Building and Clean-up Event

Amount Received: \$500

**Fairbank Lake Camp Owners' Association Inc**

Project Name: Water Safety Navigational Marker Lights (Solar-Powered)

Amount Received: \$500

**Four Lakes Community Association**

Project Name: Shoreline Reclamation and Naturalization

Amount Received: \$500

**Long Lake Stewardship**

Project Name: Community Building and Awareness of Lake Health Events

Amount Received: \$500

**Minnow Lake Restoration Group**

Project Name: Information Newsletter

Amount Received: \$300

**Lake Panache Camper's Association**

Project Name: Spiny Water Flea Hotline – Phase 1

Amount Received: \$500

**Richard Lake Stewardship**

Project Name: Lake Stewardship Awareness and Shoreline Plants

Amount Received: \$500

**Ramsey Lake Stewardship Committee**

Project Name: Planting Sweet Gale along Ramsey Lake Shoreline

Amount Received: \$500

**Vermilion River Stewardship**

Project Name: Simon Lake Sediment Sampling

Amount Received: \$500

**Lake Wahnapiatae Home and Campers Association**

Project Name: Fish Information and Invasive Species Billboard

Amount Received: \$500

**Stewardship Groups**

Currently, there are 28 lake stewardship groups throughout the Greater Sudbury area, acting as important agents for positive change in shoreline living practices.

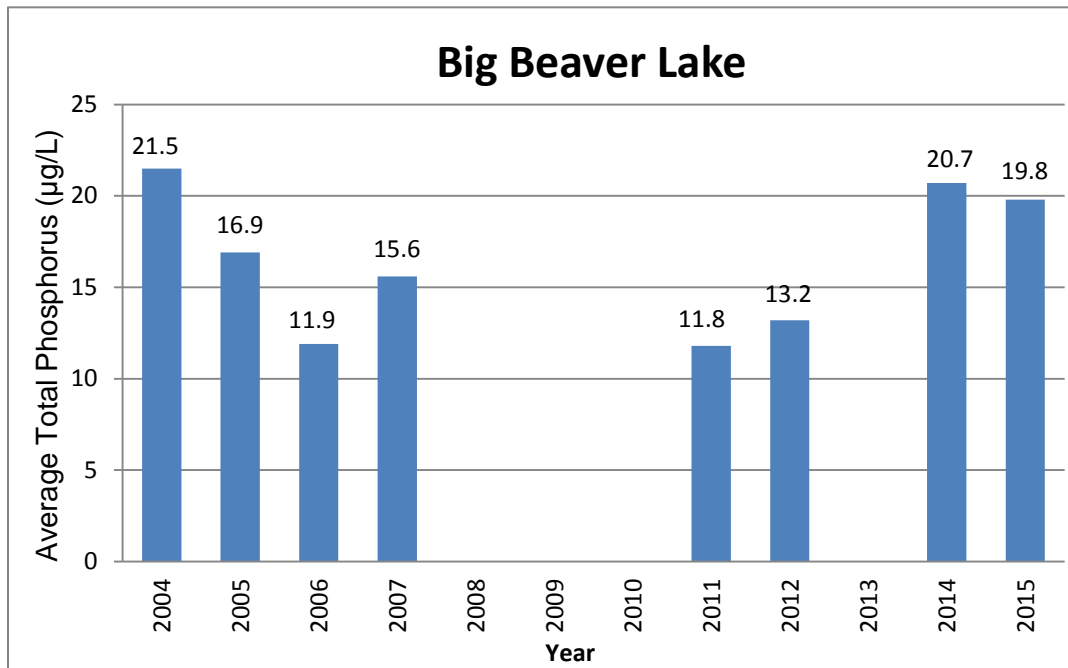
The following is a list of the active lake stewardship groups in Greater Sudbury.

<b>Stewardship Group</b>	<b>Lake(s)</b>	<b>Website</b>
Friends of Bennett Lake	Bennett Lake	
Black Lake	Black Lake	
Broder 23	Broder 23 Lake	
Crooked Lake	Crooked Lake	
Fairbank Lake Cottagers Association	Fairbank Lake	
Friends of McFarlane Lake	McFarlane Lake	
Grassy Lake	Grassy Lake	
Four Lakes Association	Joe, Hanmer, Frenchman and Dixon Lakes	
Ironside Lake	Ironside Lake	
Kukagami Lake Campers Ass.	Kukagami Lake	
Kusk (Rat) Lake	Kusk (Rat) Lake	
Lake Nepahwin Stewardship Group	Nepahwin Lake	
Lake Panache Campers Association	Panache Lake	<a href="#">Website</a>
Lohi Lake	Lohi Lake	
Long Lake Stewardship	Long Lake	
McCrea Lake Stewardship Group	McCrea Lake	
Minnow Lake Restoration Group	Minnow Lake	<a href="#">Website</a>
Richard Lake Stewardship	Richard Lake	<a href="#">Website</a>
St. Charles Lake	St. Charles Lake	<a href="#">Website</a>
Silver Lake	Silver Lake	
Simon Lake	Simon Lake	<a href="#">Website</a>
Vermilion Lake	Vermilion Lake	
Windy Lake Stewardship	Windy Lake	
Onwatin Lake Stewardship	Onwatin Lake	<a href="#">Website</a>
Ramsey Lake Stewardship Committee	Ramsey Lake	<a href="#">Website</a>
Vermillion River Stewardship	Vermillion River	<a href="#">Website</a>
Whitewater Lake	Whitewater Lake	<a href="#">Website</a>
Lake Wanapitei Lake Stewardship	Wanapitei Lake	

## **Spring Phosphorus Graphs for Lakes Sampled in 2015**

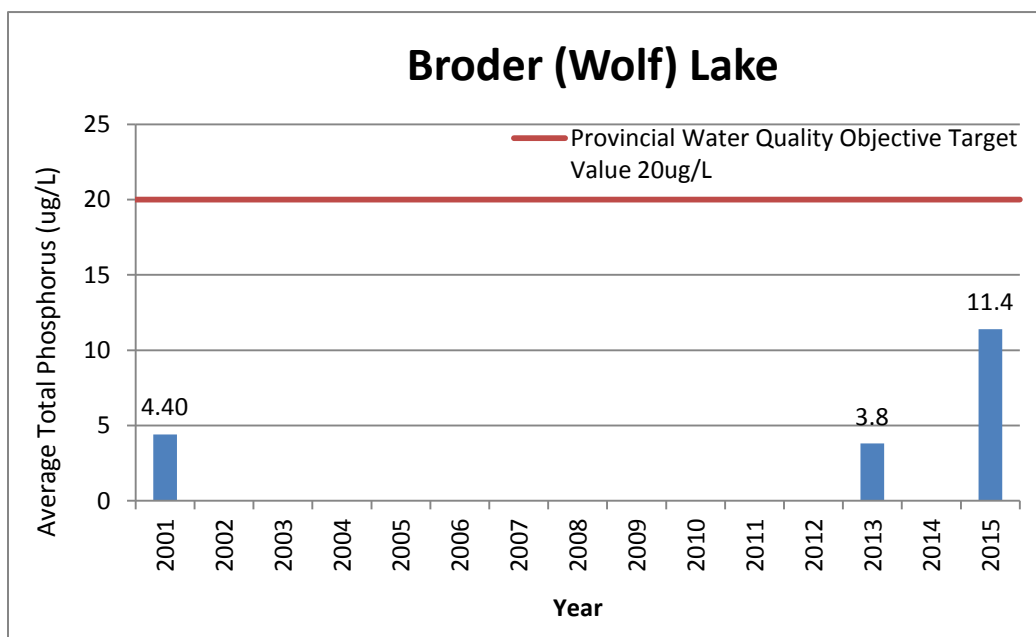
## Big Beaver Lake

The bar graph below indicates the spring phosphorus results for Big Beaver Lake from 2004 to 2015.



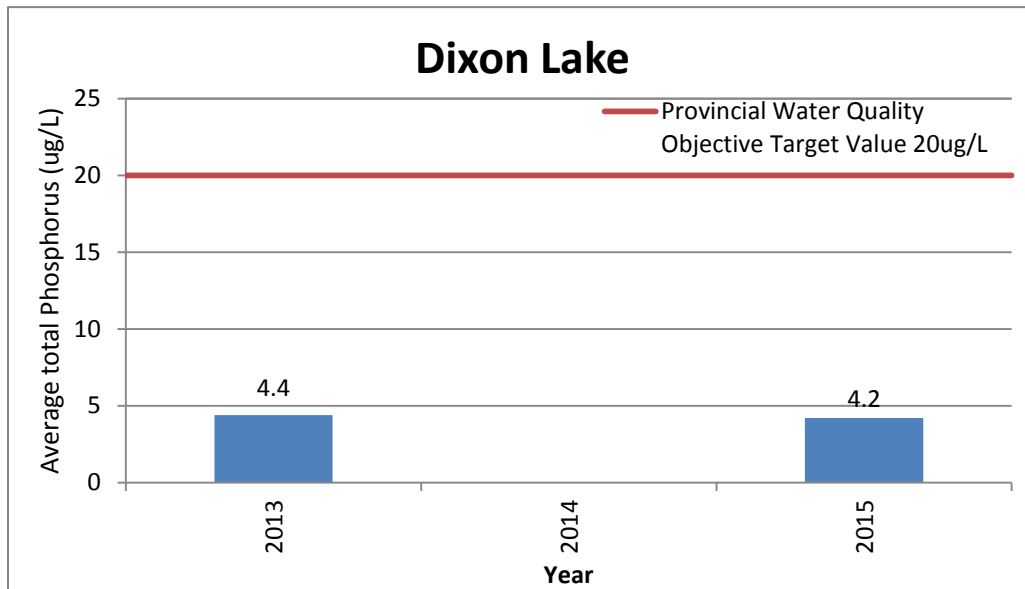
## Broder Lake

The bar graph below indicates the spring phosphorus results for Broder (Wolf) Lake from 2001 to 2015.



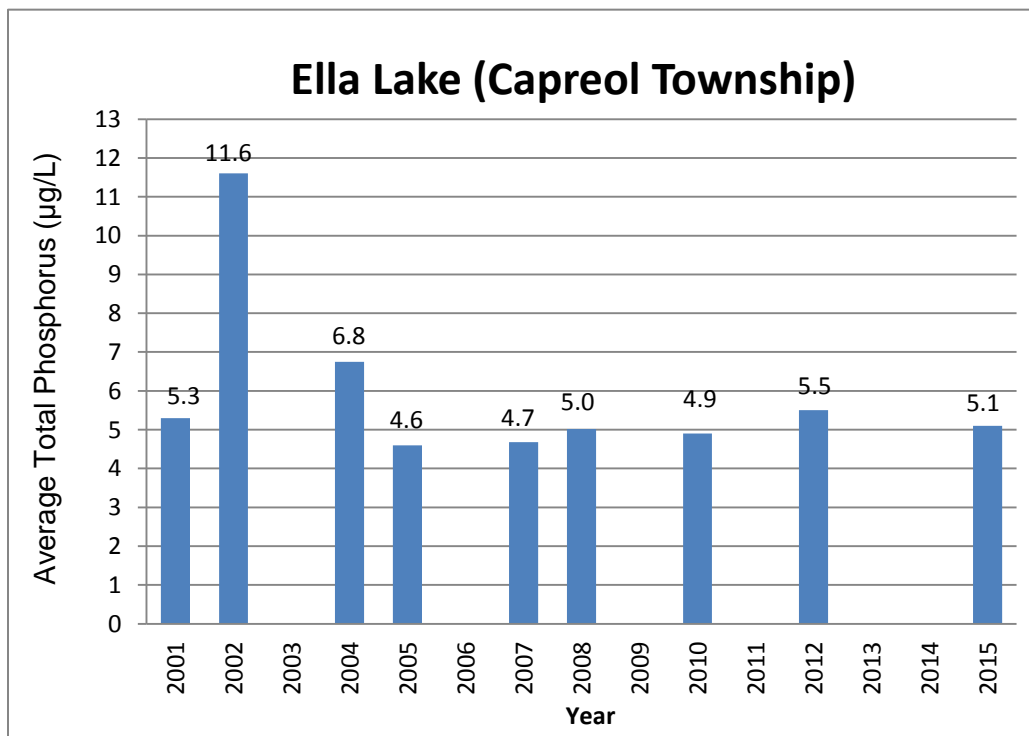
## Dixon Lake

The bar graph below indicates the spring phosphorus results for Dixon Lake from 2013 to 2015.



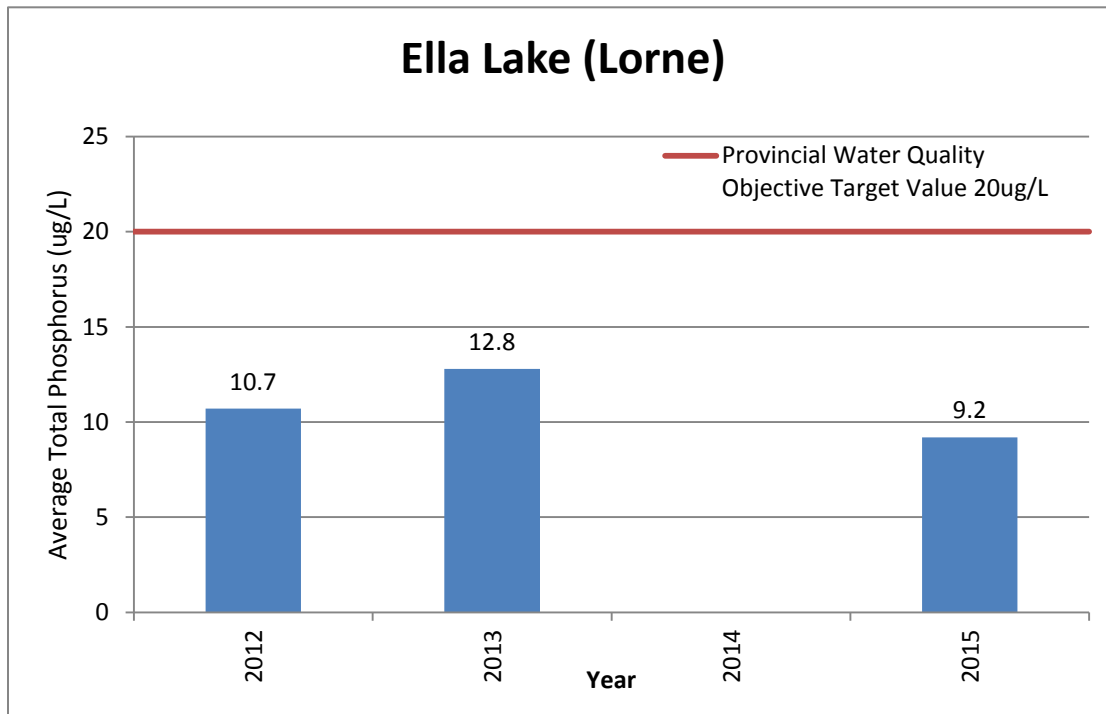
## Ella Lake (Capreol)

The bar graph below indicates the spring phosphorus results for Ella Lake (Capreol) from 2001 to 2015.



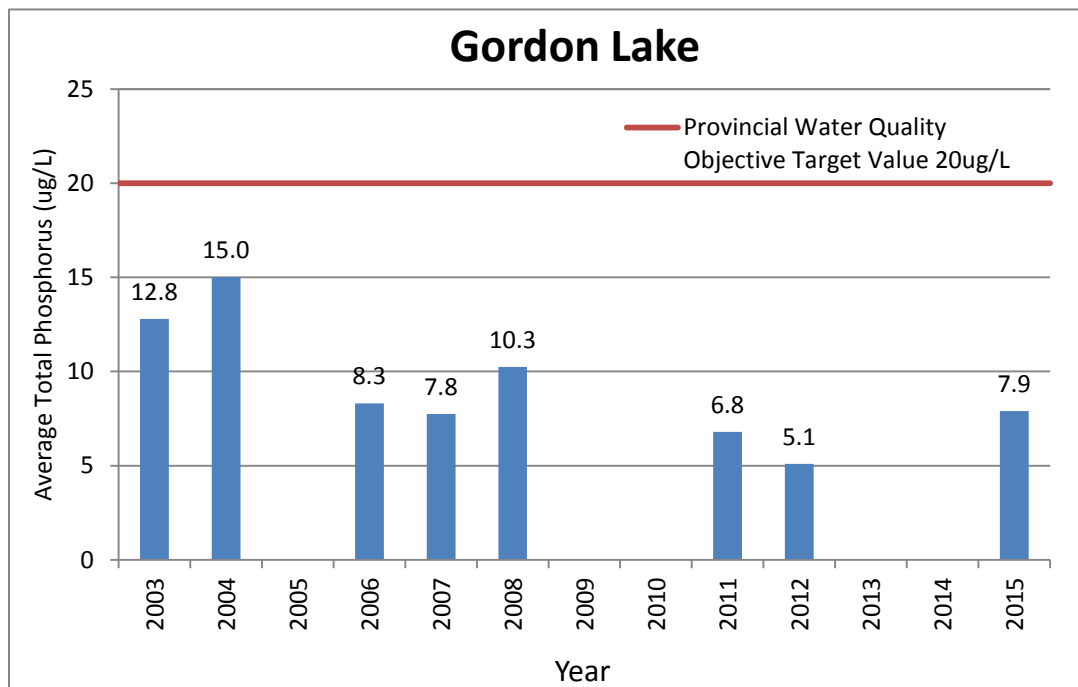
## Ella Lake (Lorne Township)

The bar graph below indicates the spring phosphorus results for Ella Lake from 2012 to 2015.



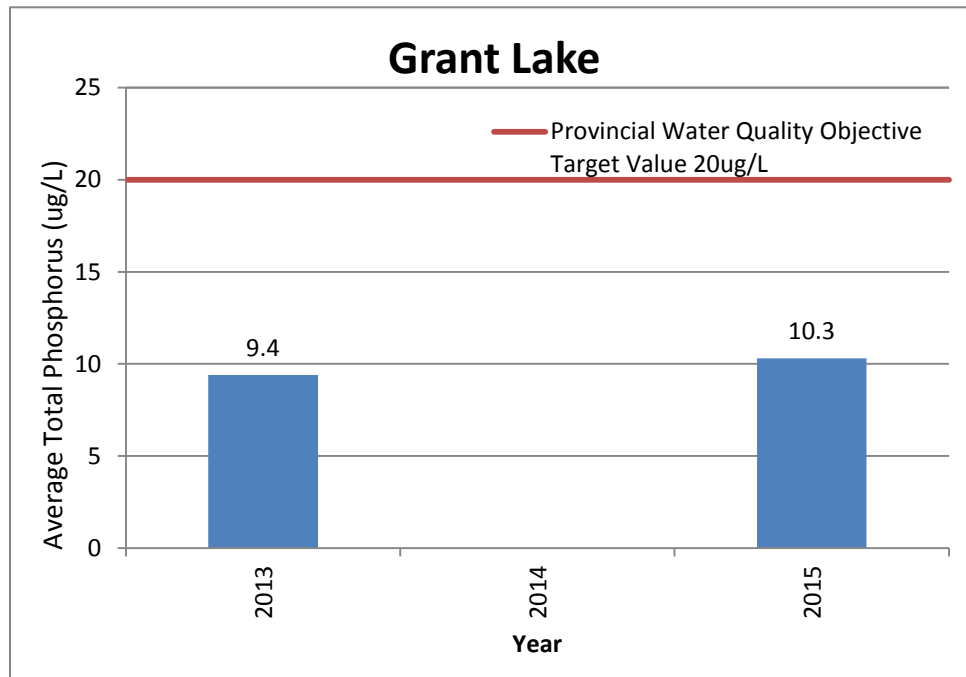
## Gordon Lake

The bar graph below indicates the spring phosphorus results for Gordon Lake from 2003 to 2015.



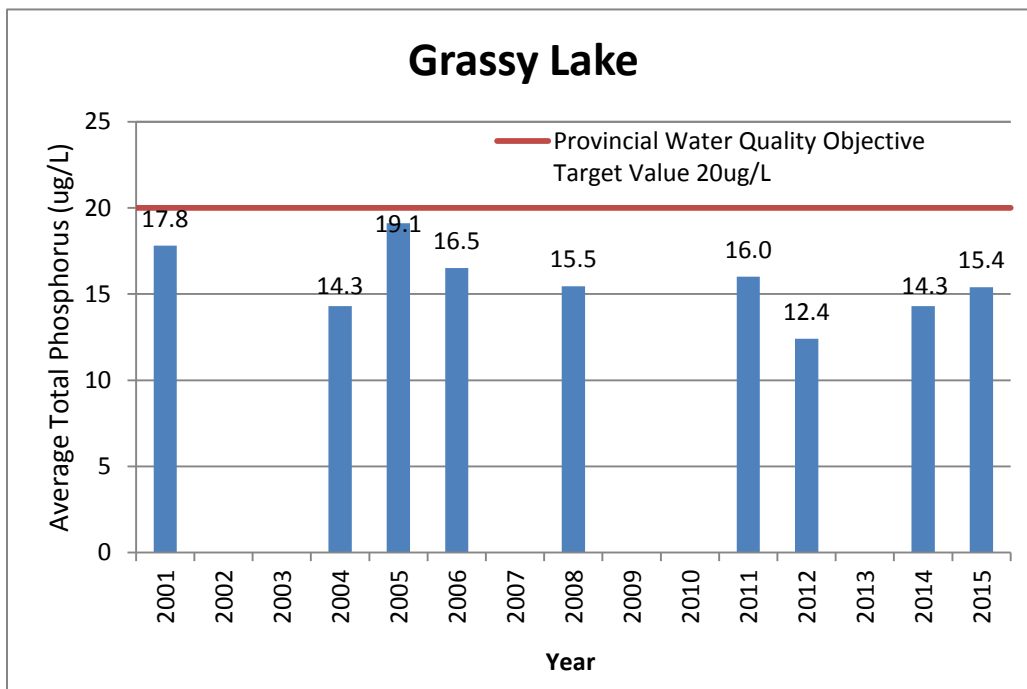
## Grant Lake

The bar graph below indicates the spring phosphorus results for Grant Lake from 2013 to 2015.



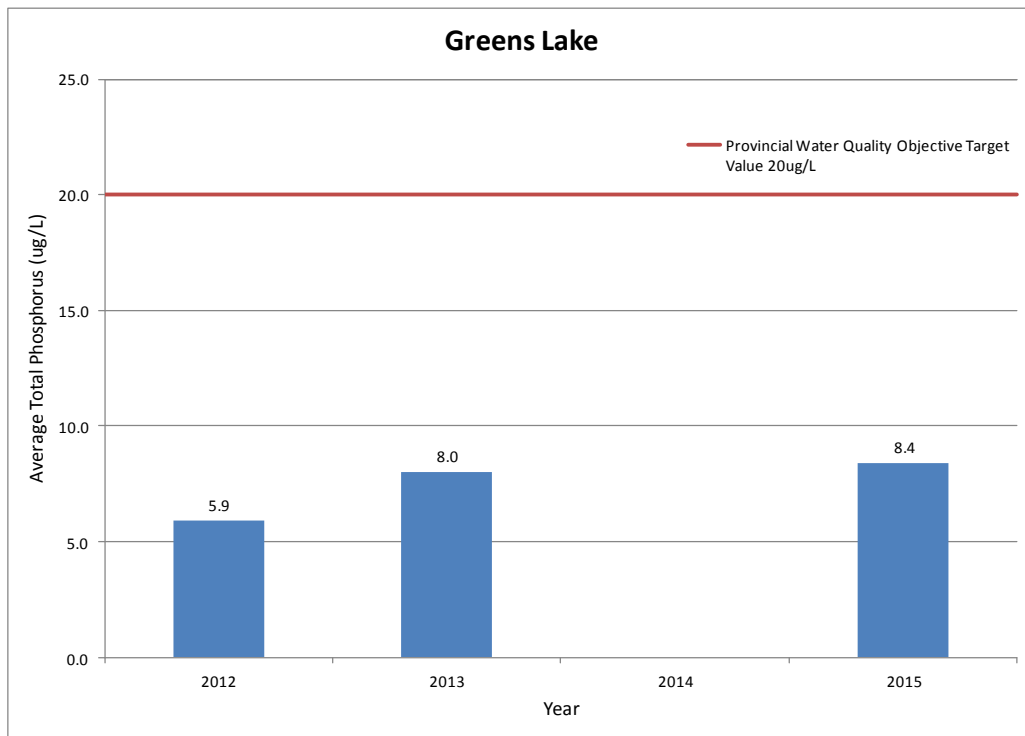
## Grassy Lake

The bar graph below indicates the spring phosphorus results for Grassy Lake from 2001 to 2015.



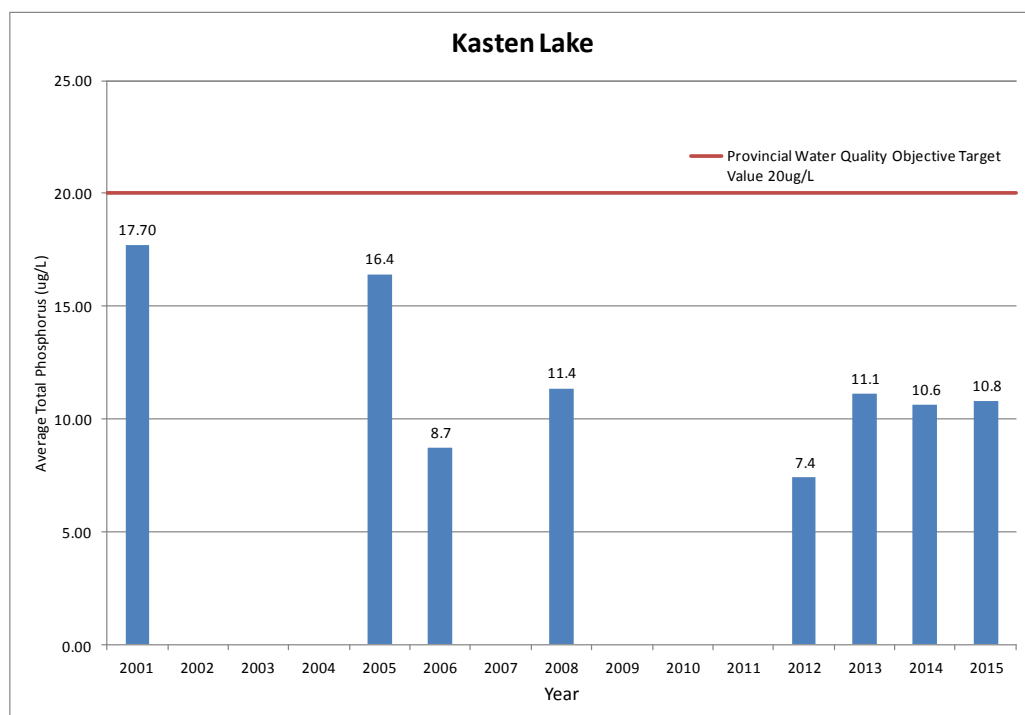
## Greens Lake

The bar graph below indicates the spring phosphorus results for Greens Lake from 2012 to 2015.



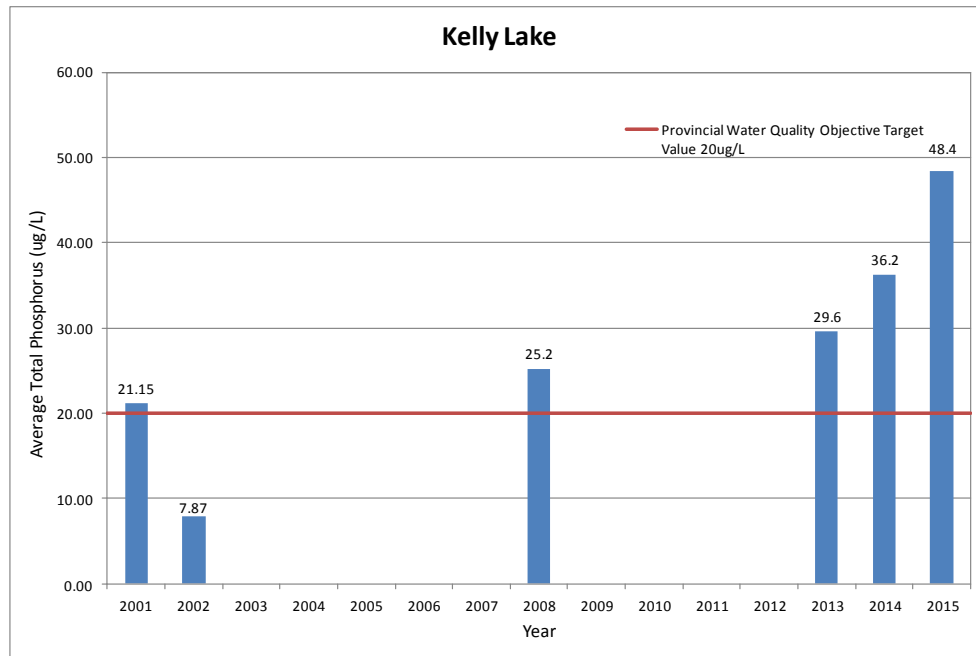
## Kasten Lake (Bibby)

The bar graph below indicates the spring phosphorus results for Kasten Lake from 2001 to 2015.



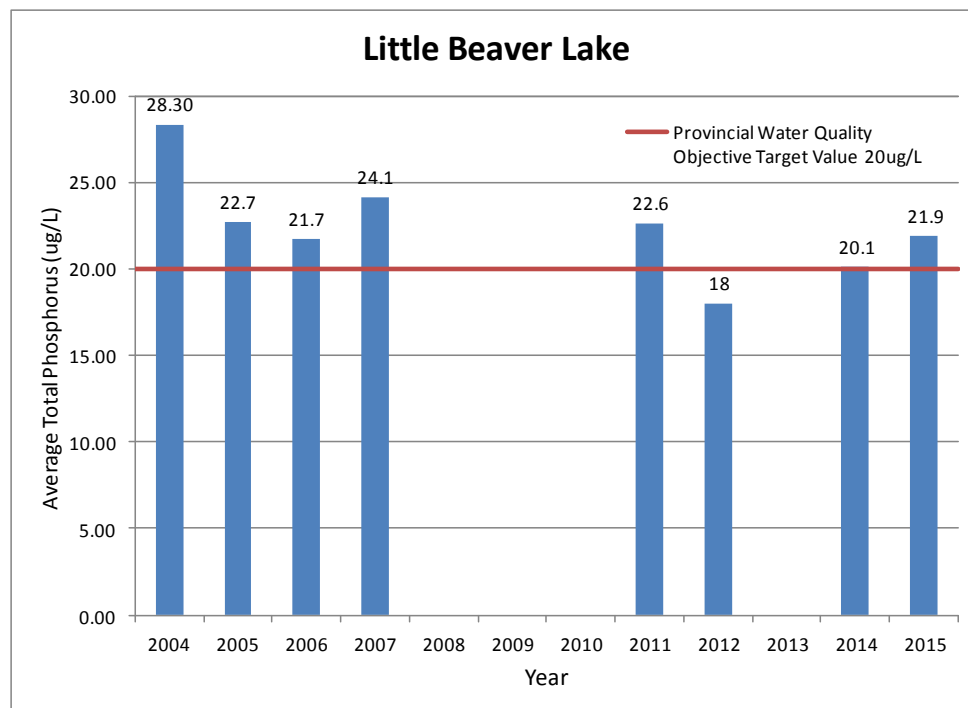
## Kelly Lake

The bar graph below indicates the spring phosphorus results for Kelly Lake from 2001 to 2015.



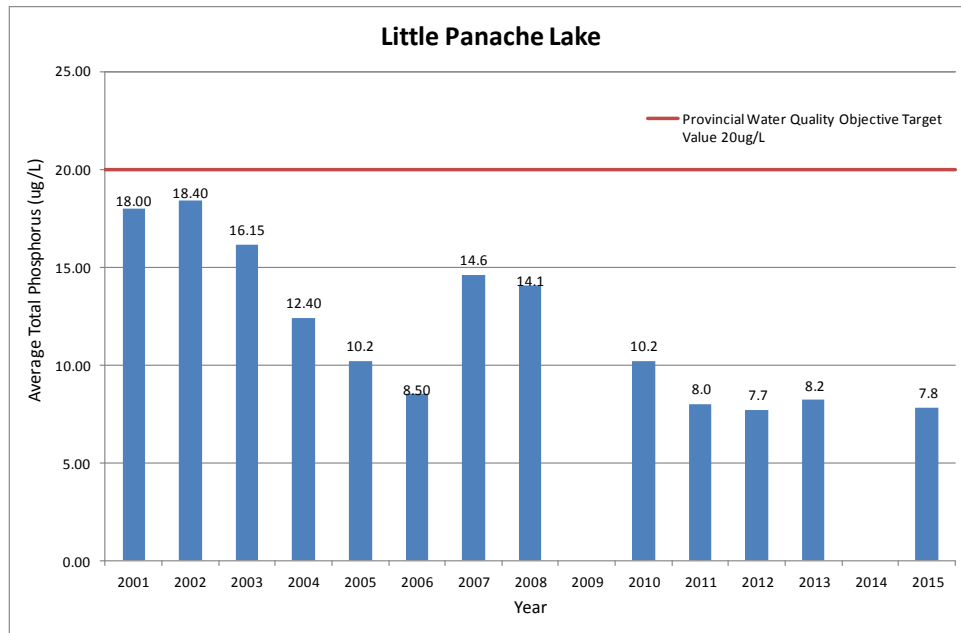
## Little Beaver Lake

The bar graph below indicates the spring phosphorus results for Little Beaver Lake from 2004 to 2015.



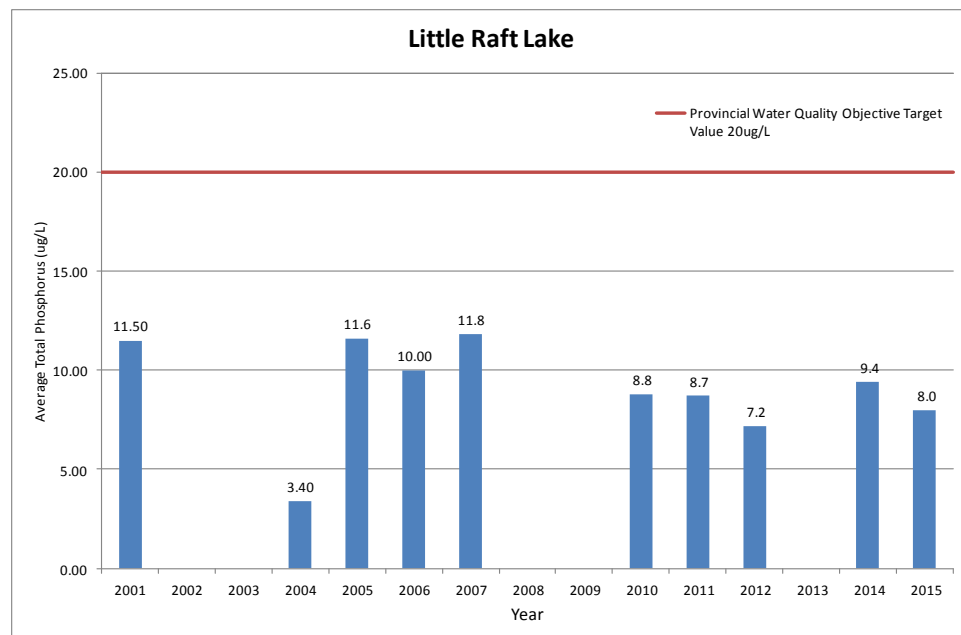
## Little Panache Lake

The bar graph below indicates the spring phosphorus results for Little Panache Lake from 2001 to 2015.



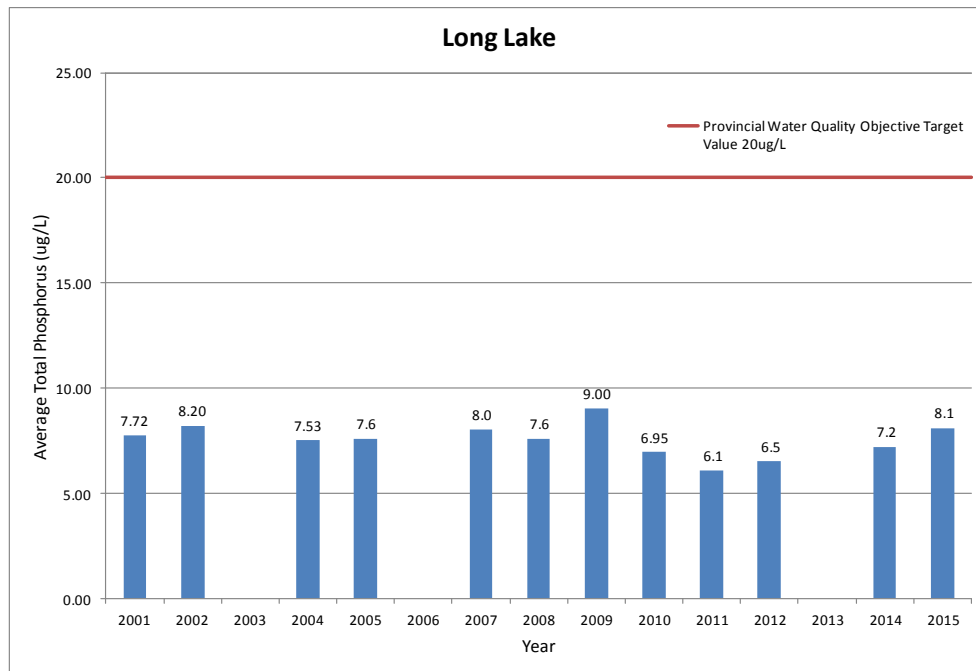
## Little Raft Lake

The bar graph below indicates the spring phosphorus results for Little Raft Lake from 2001 to 2015.



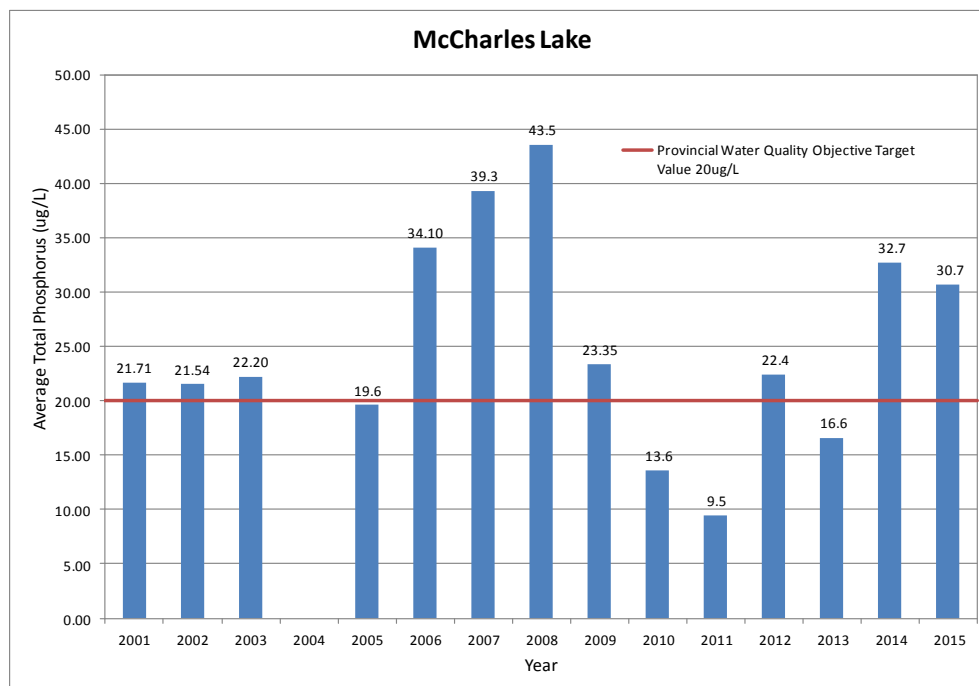
## Long Lake

The bar graph below indicates the spring phosphorus results for Long Lake from 2001 to 2015.



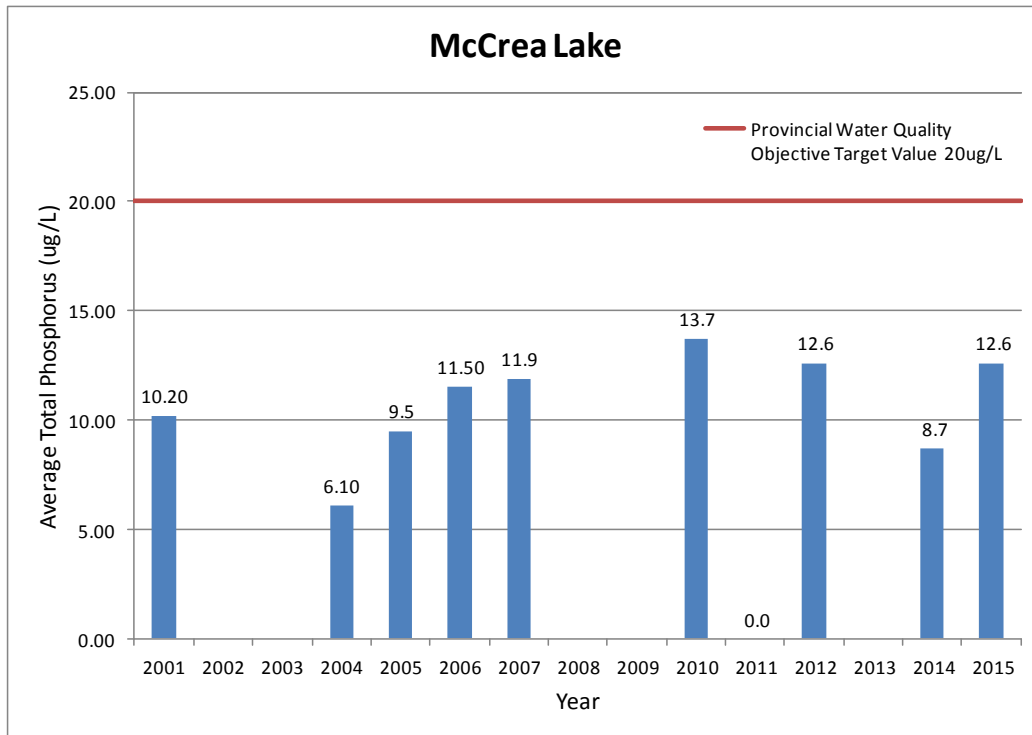
## McCharles Lake

The bar graph below indicates the spring phosphorus results for McCharles Lake from 2001 to 2015.



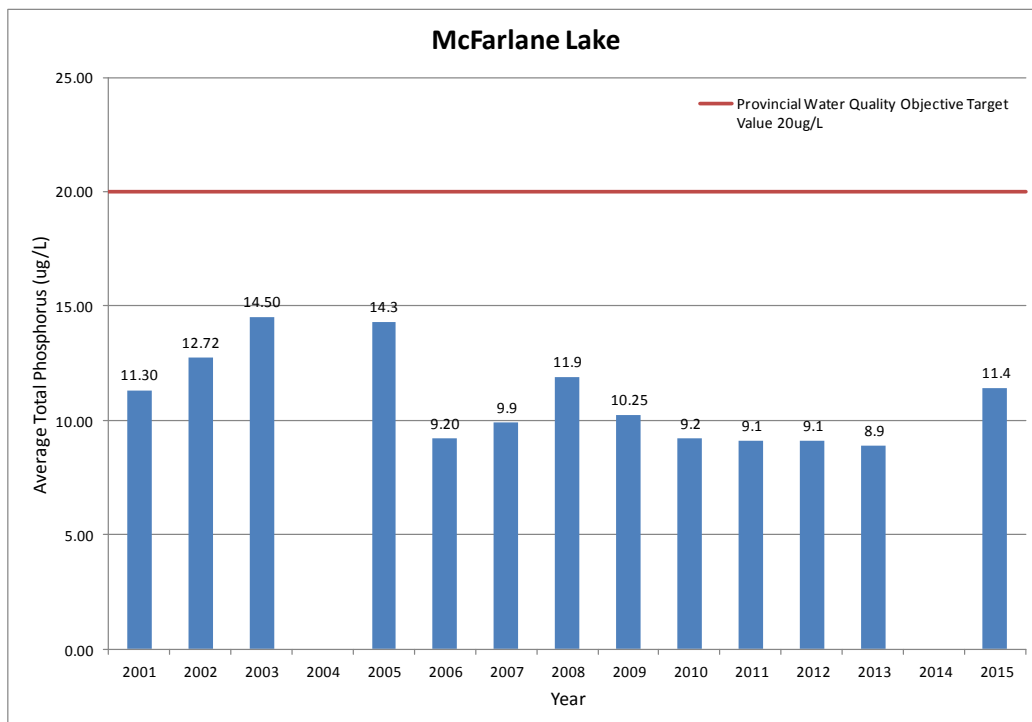
## McCrea Lake

The bar graph below indicates the spring phosphorus results for McCrea Lake from 2001 to 2015.



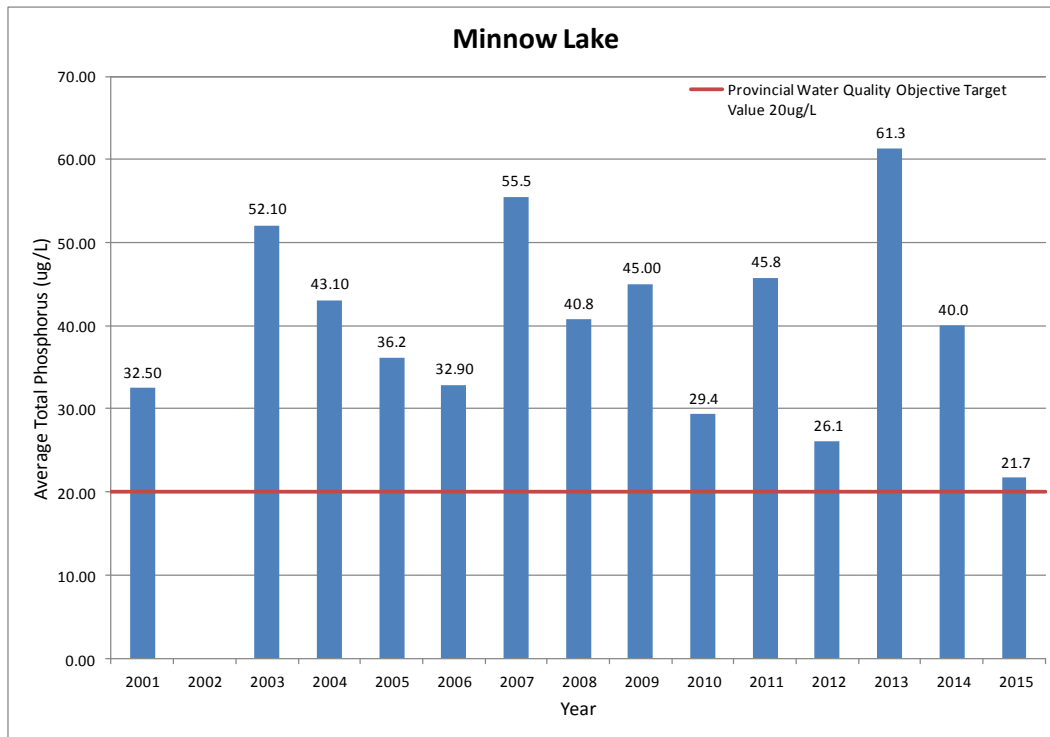
## McFarlane Lake

The bar graph below indicates the spring phosphorus results for McFarlane Lake from 2001 to 2015.



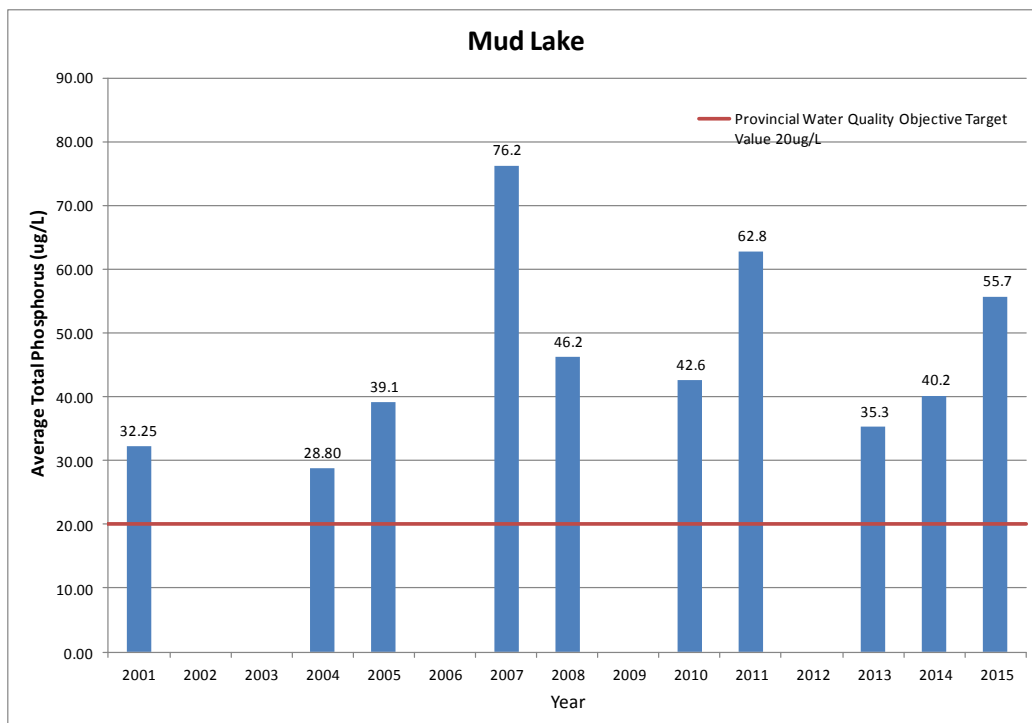
## Minnow Lake

The bar graph below indicates the spring phosphorus results for Minnow Lake from 2001 to 2015.



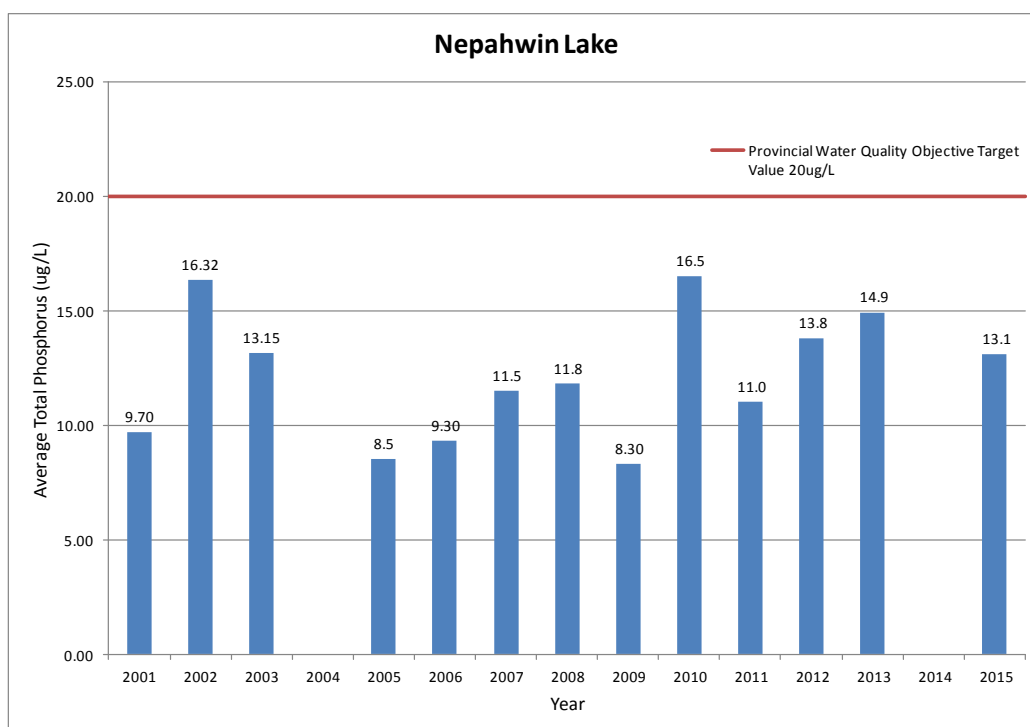
## Mud Lake

The bar graph below indicates the spring phosphorus results for Mud Lake from 2001 to 2015.



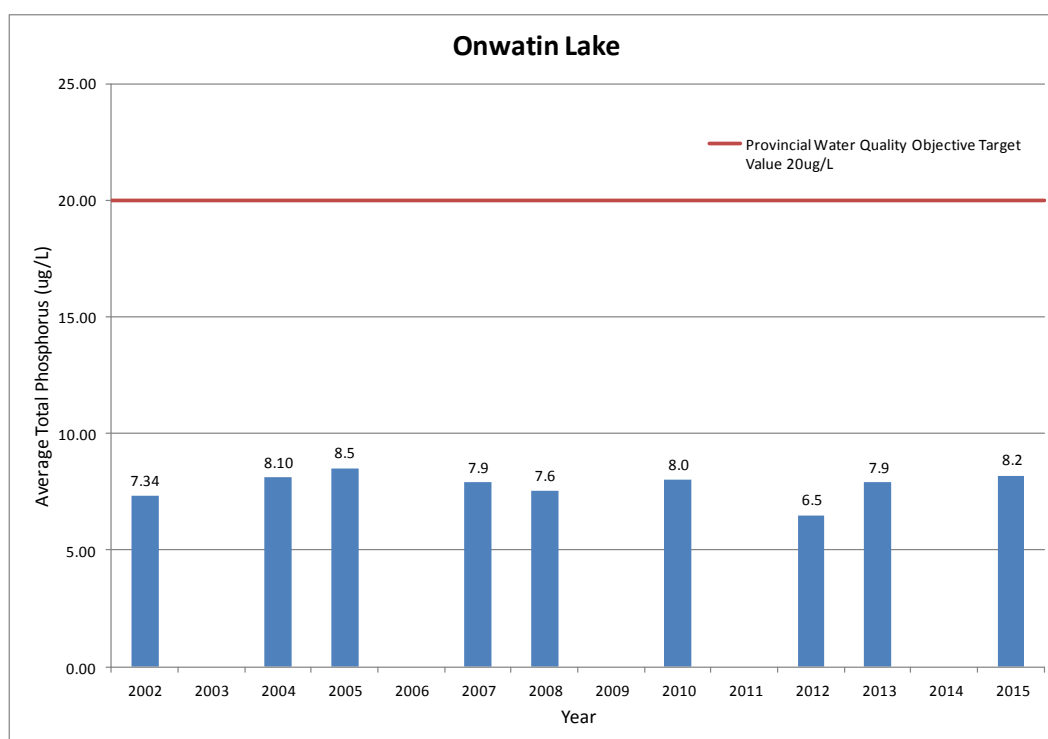
## Nepahwin Lake

The bar graph below indicates the spring phosphorus results for Nepahwin Lake from 2001 to 2015.



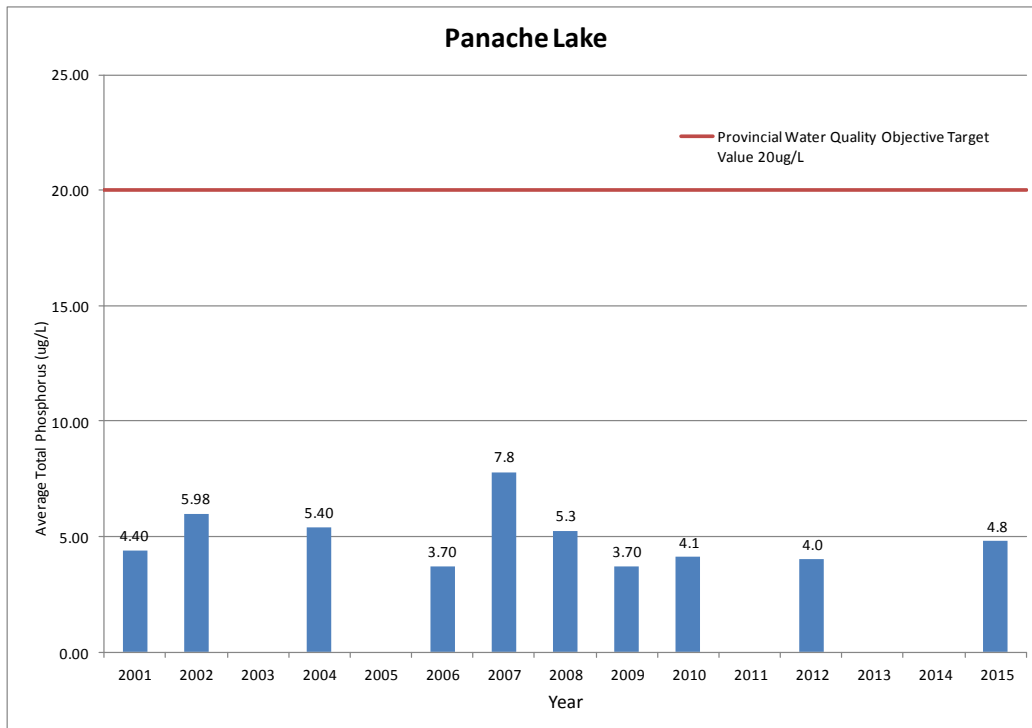
## Onwatin Lake

The bar graph below indicates the spring phosphorus results for Onwatin Lake from 2002 to 2015.



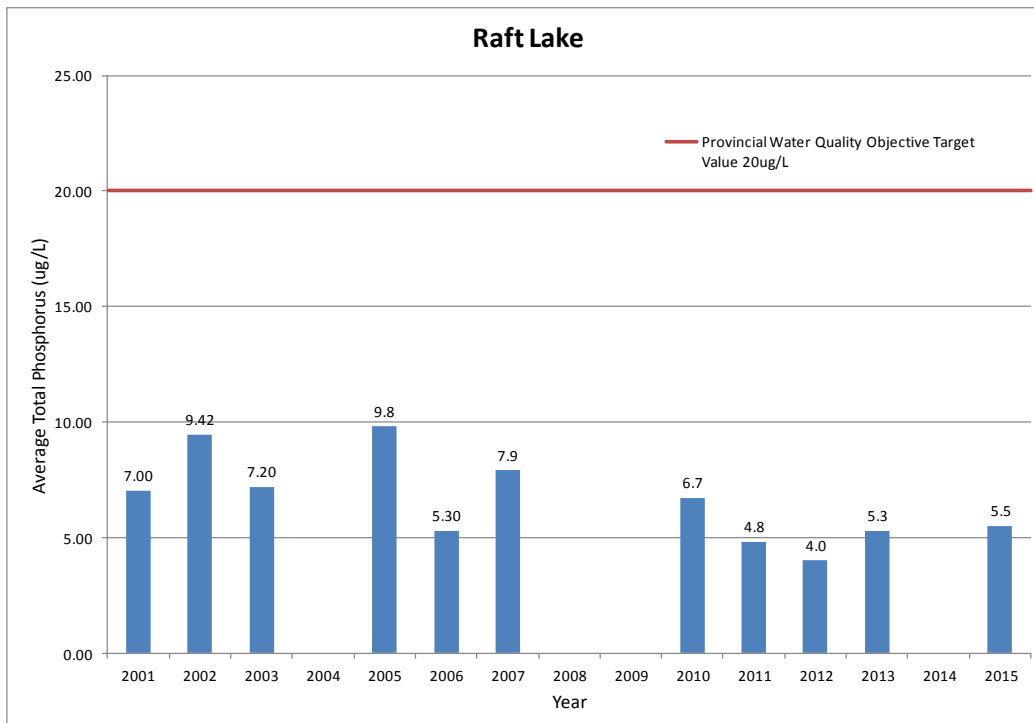
## Panache Lake

The bar graph below indicates the spring phosphorus results for Panache Lake from 2001 to 2015.



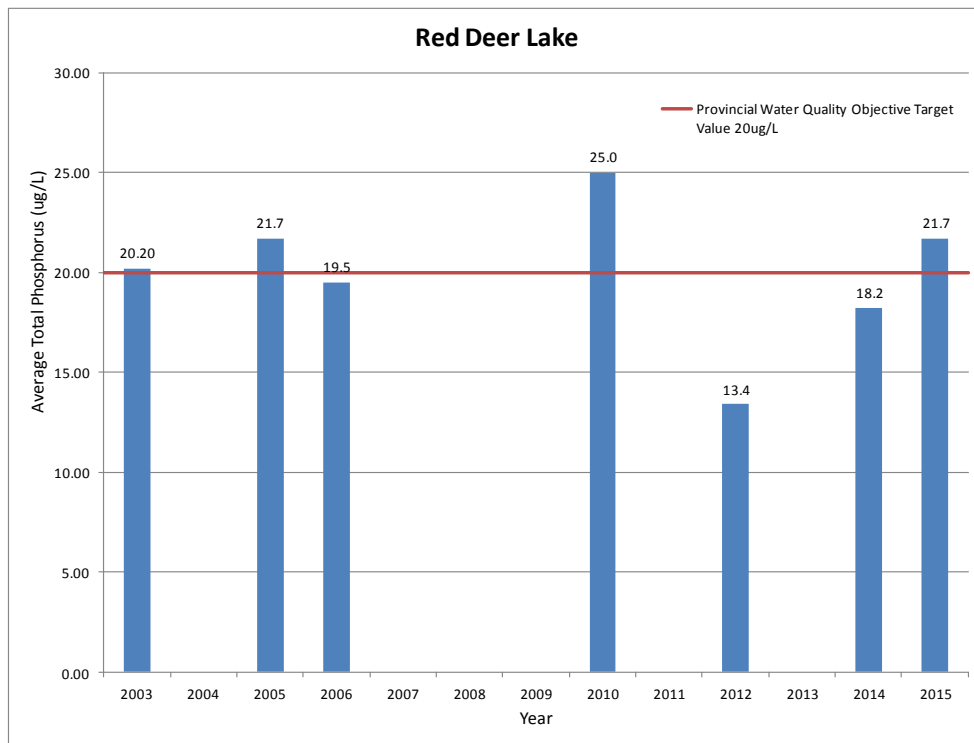
## Raft Lake

The bar graph below indicates the spring phosphorus results for Raft Lake from 2001 to 2015.



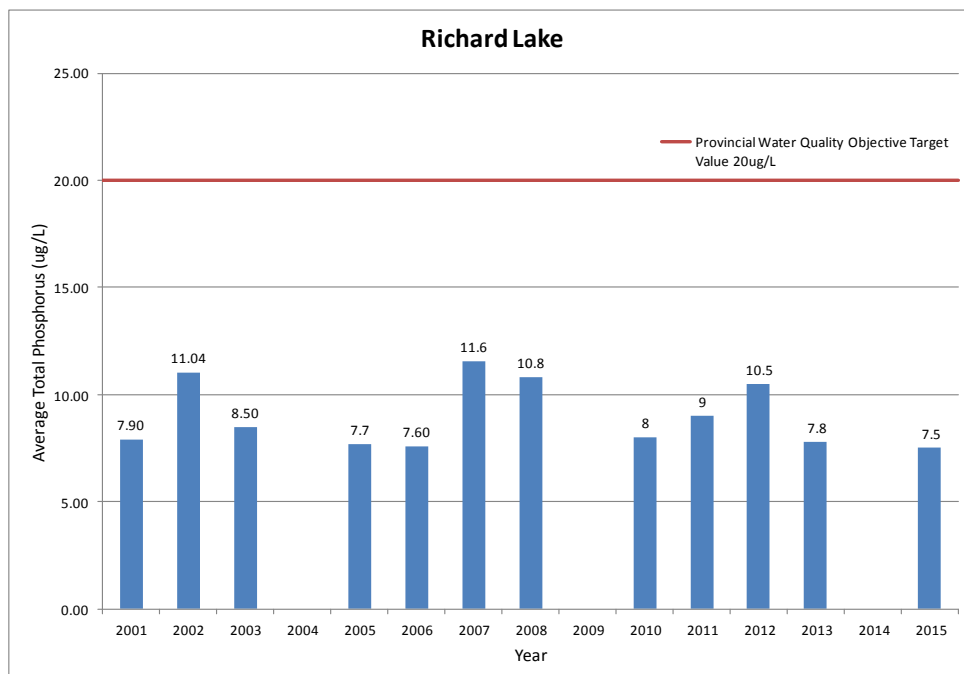
## Red Deer Lake

The bar graph below indicates the spring phosphorus results for Red Deer Lake from 2003 to 2015.



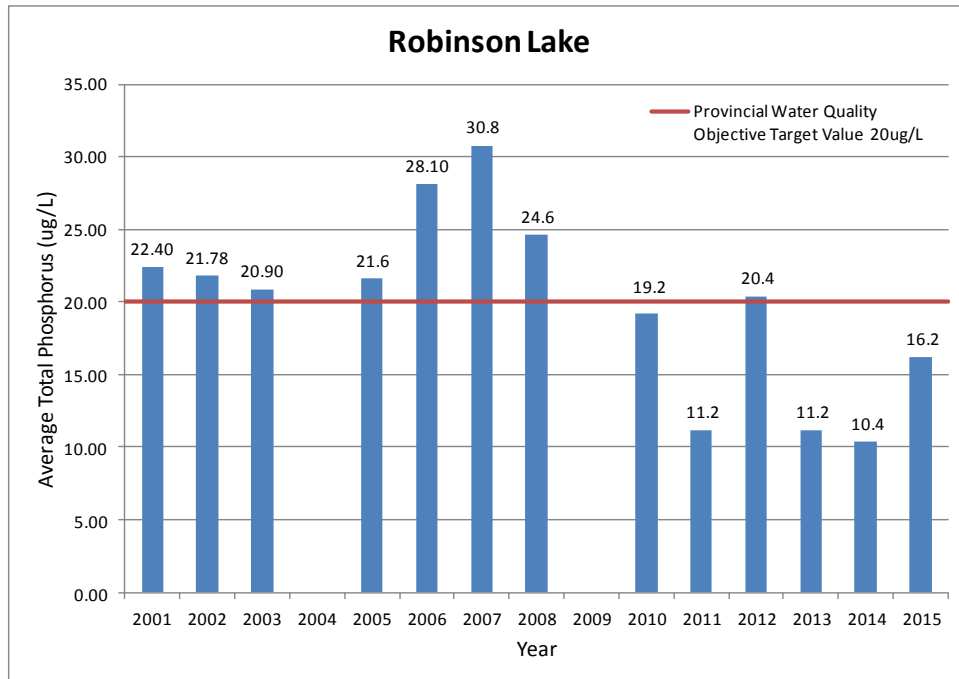
## Richard Lake

The bar graph below indicates the spring phosphorus results for Richard Lake from 2001 to 2015.



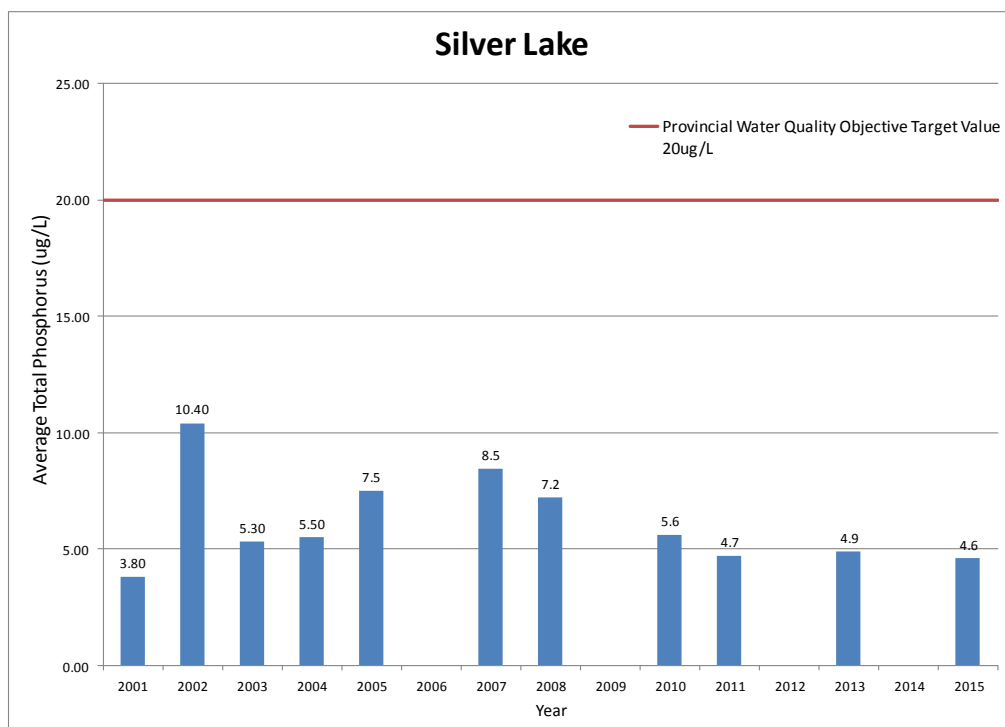
## Robinson Lake

The bar graph below indicates the spring phosphorus results for Robinson Lake from 2001 to 2015.



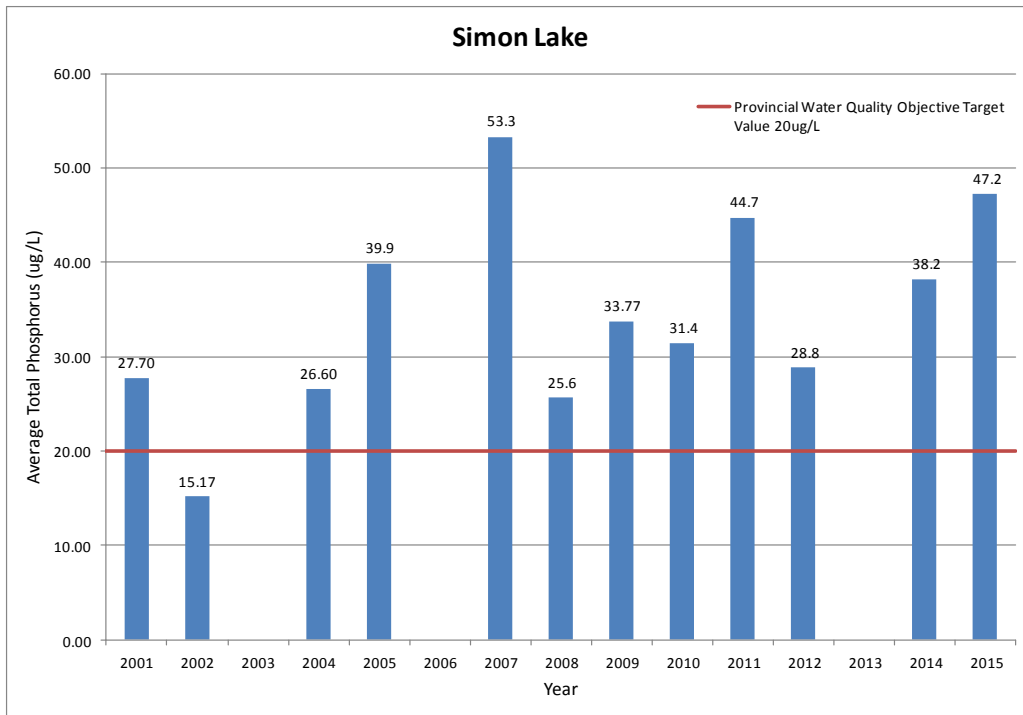
## Silver Lake

The bar graph below indicates the spring phosphorus results for Silver Lake from 2001 to 2015.



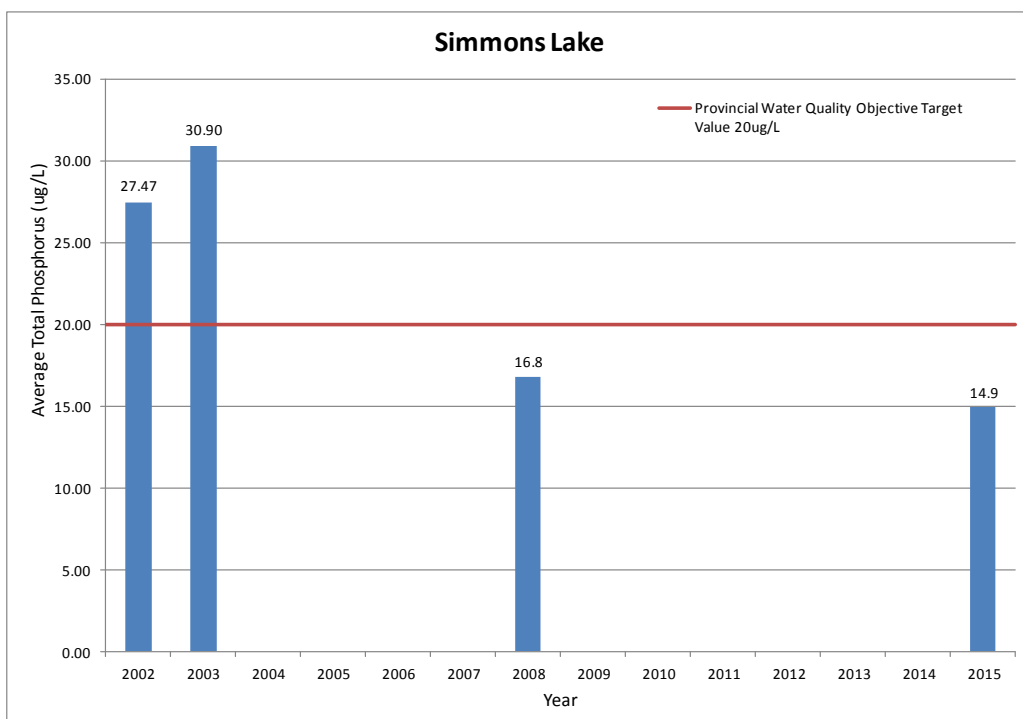
## Simon Lake

The bar graph below indicates the spring phosphorus results for Simon Lake from 2001 to 2015.



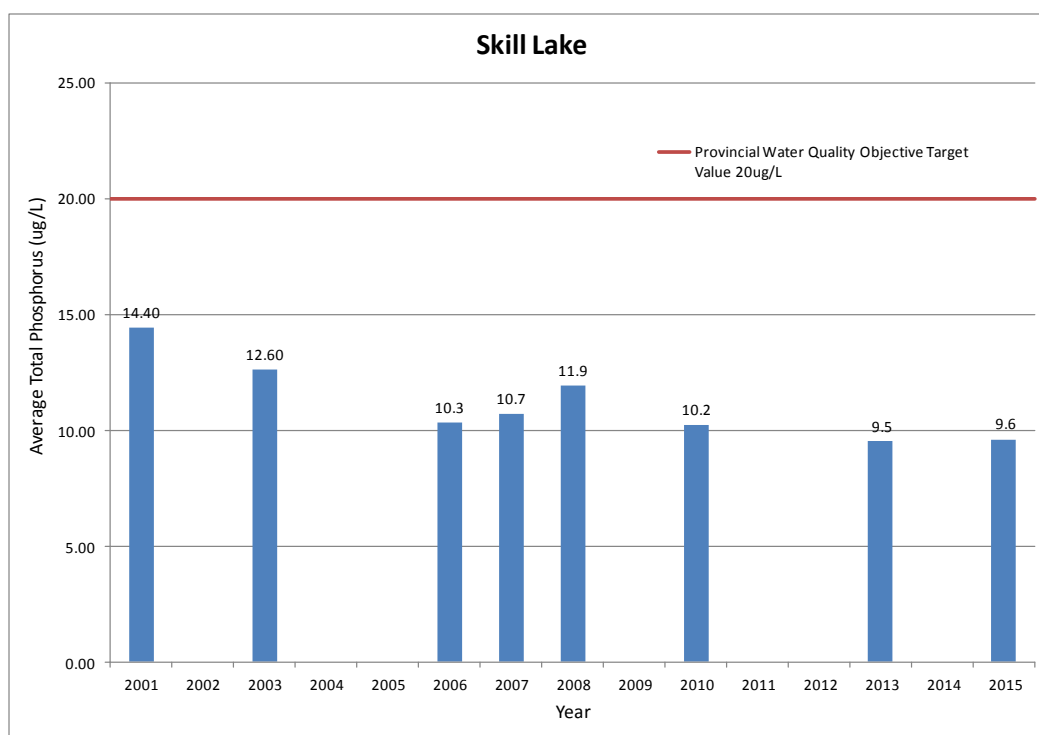
## Simmons Lake

The bar graph below indicates the spring phosphorus results for Simmons Lake from 2002 to 2015.



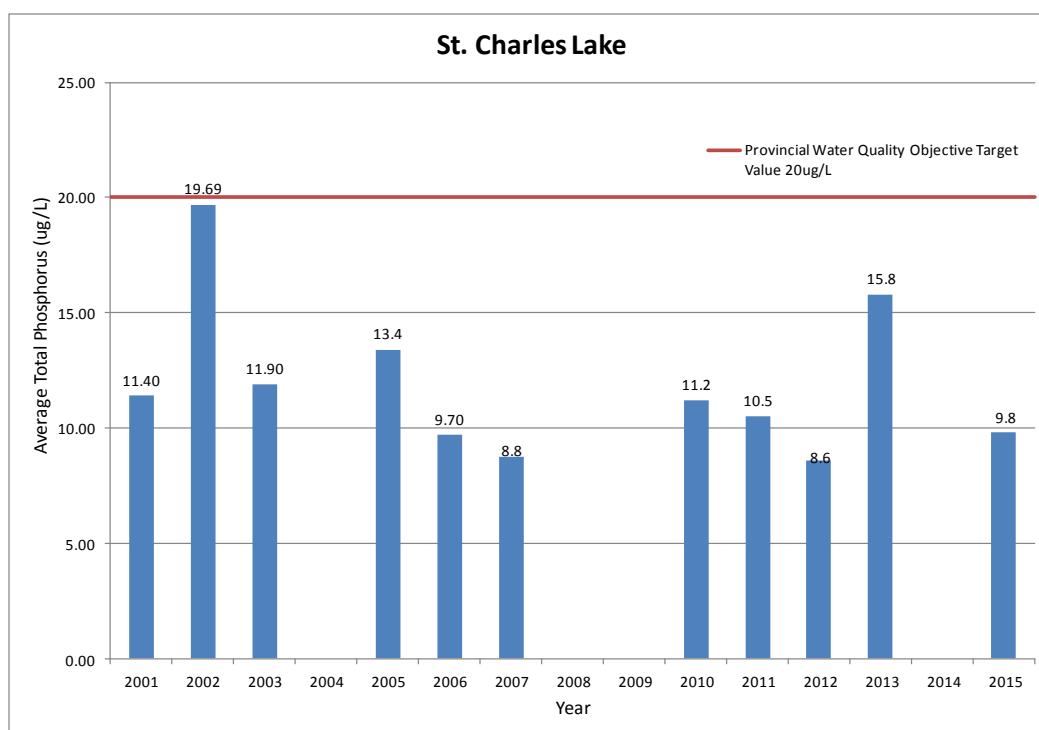
## Skill Lake

The bar graph below indicates the spring phosphorus results for Skill Lake from 2001 to 2015.



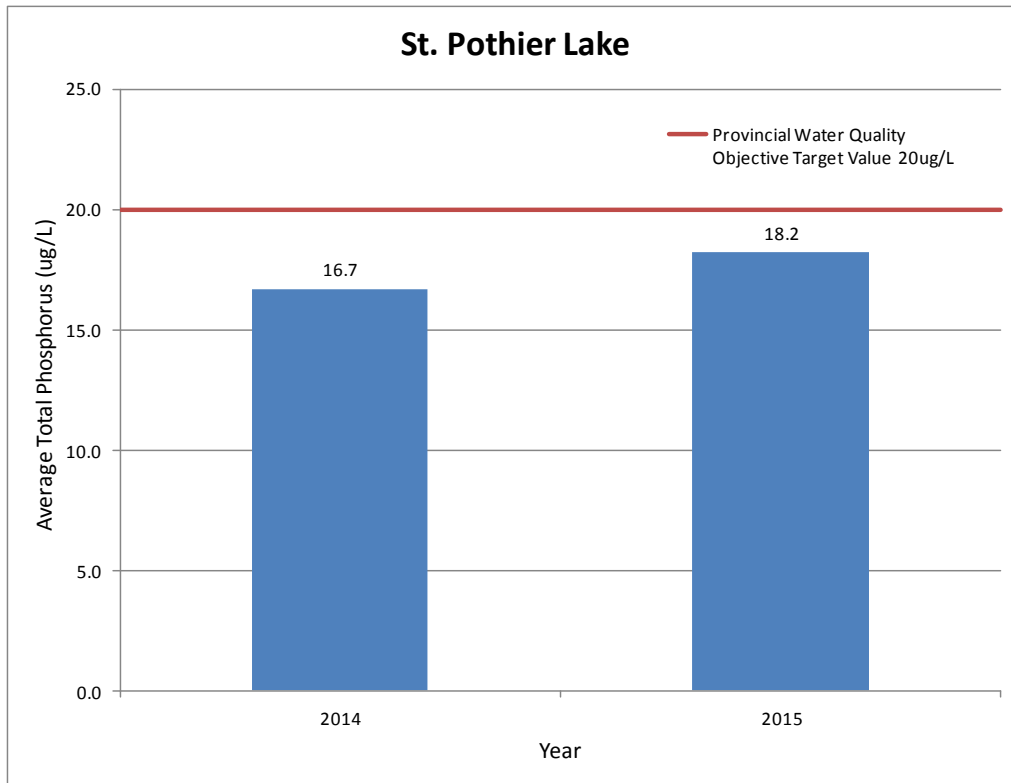
## St. Charles Lake

The bar graph below indicates the spring phosphorus results for St. Charles Lake from 2001 to 2015.



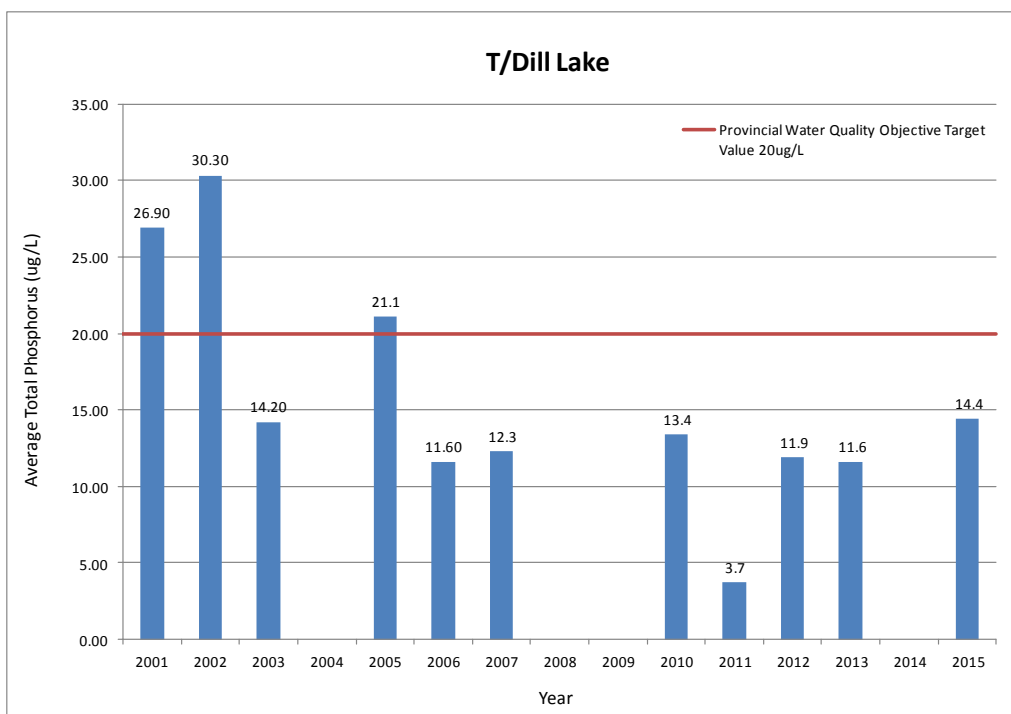
## St. Pothier Lake

The bar graph below indicates the spring phosphorus results for St. Pothier Lake from 2014 to 2015.



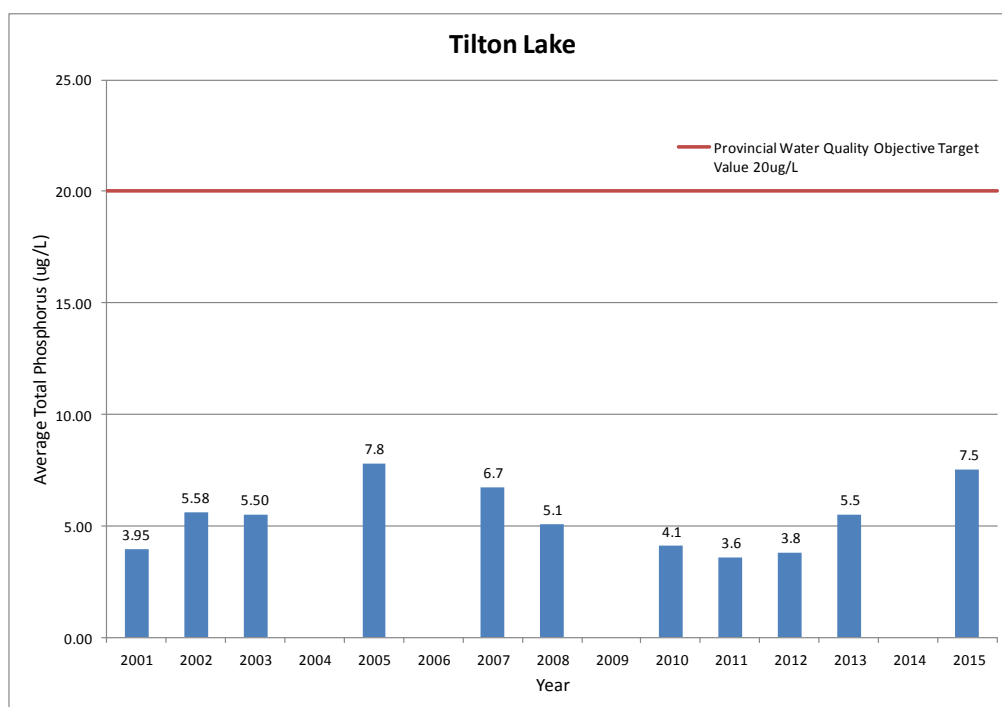
## T/Dill Lake

The bar graph below indicates the spring phosphorus results for T/Dill Lake from 2001 to 2015.



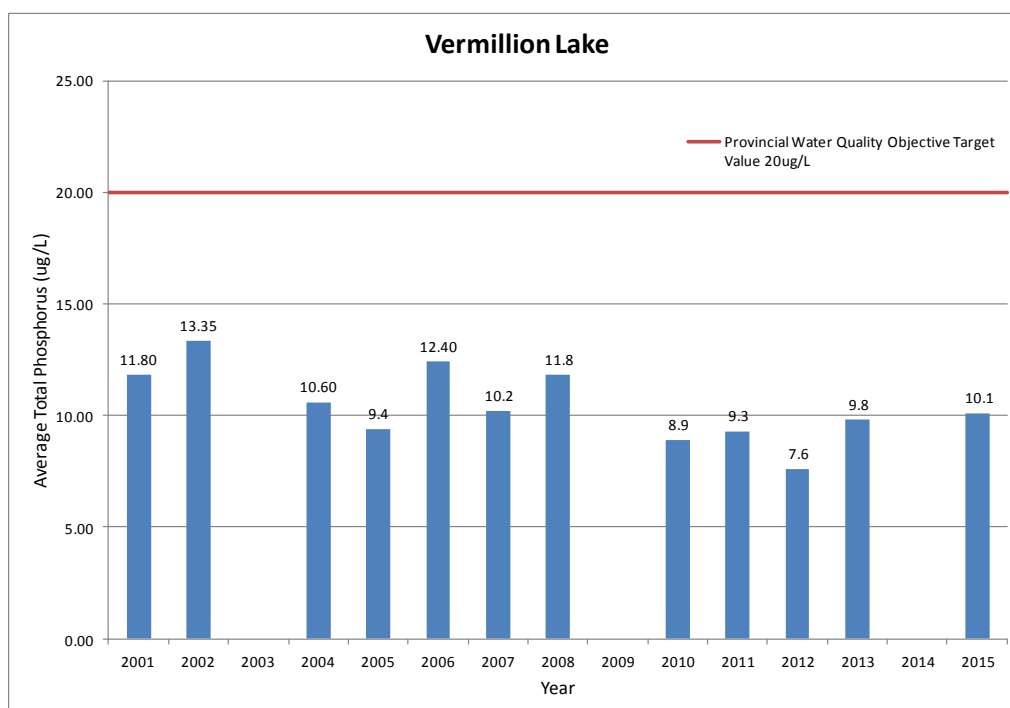
## Tilton Lake

The bar graph below indicates the spring phosphorus results for Tilton Lake from 2001 to 2015.



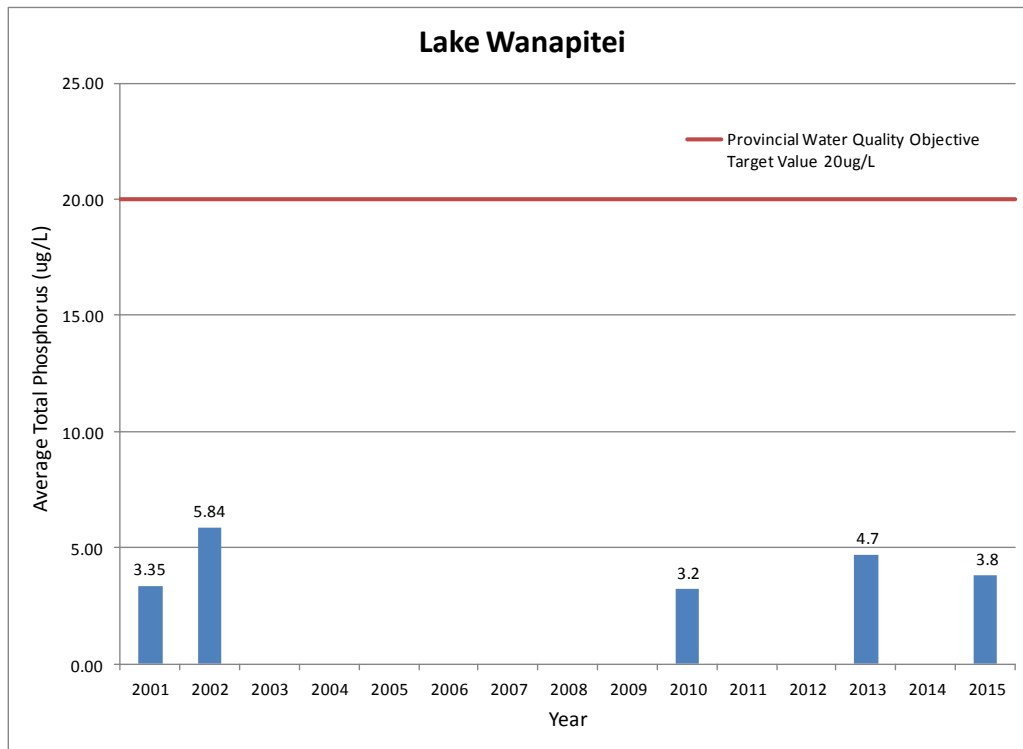
## Vermillion Lake

The bar graph below indicates the spring phosphorus results for Vermillion Lake from 2001 to 2015.



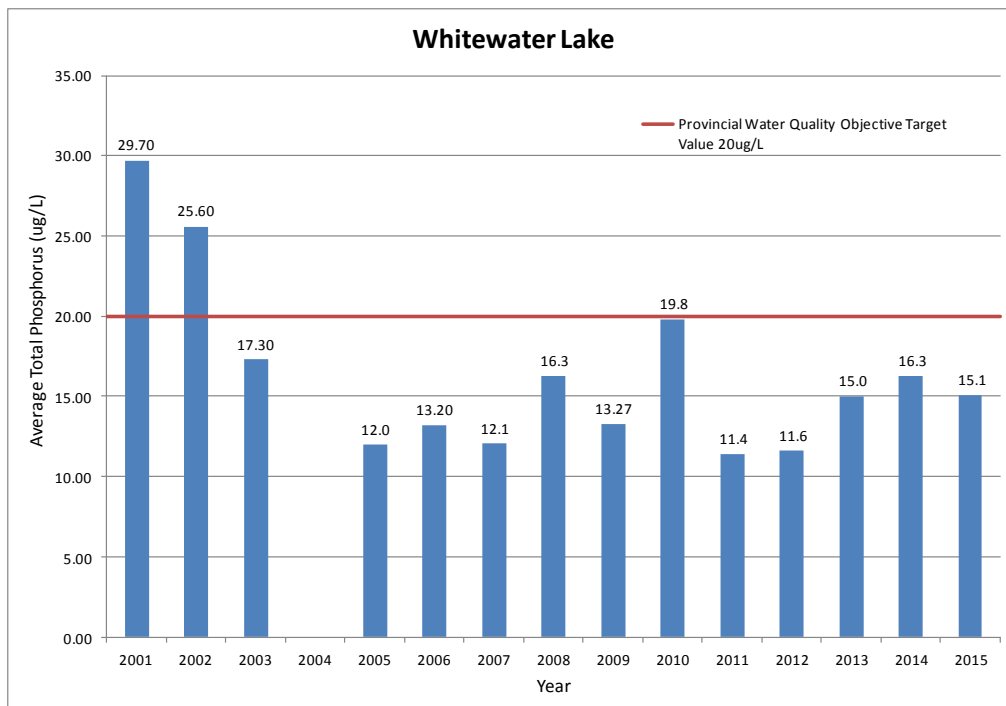
## Lake Wahnapeitei

The bar graph below indicates the spring phosphorus results for Lake Wahnapeitei from 2001 to 2015.



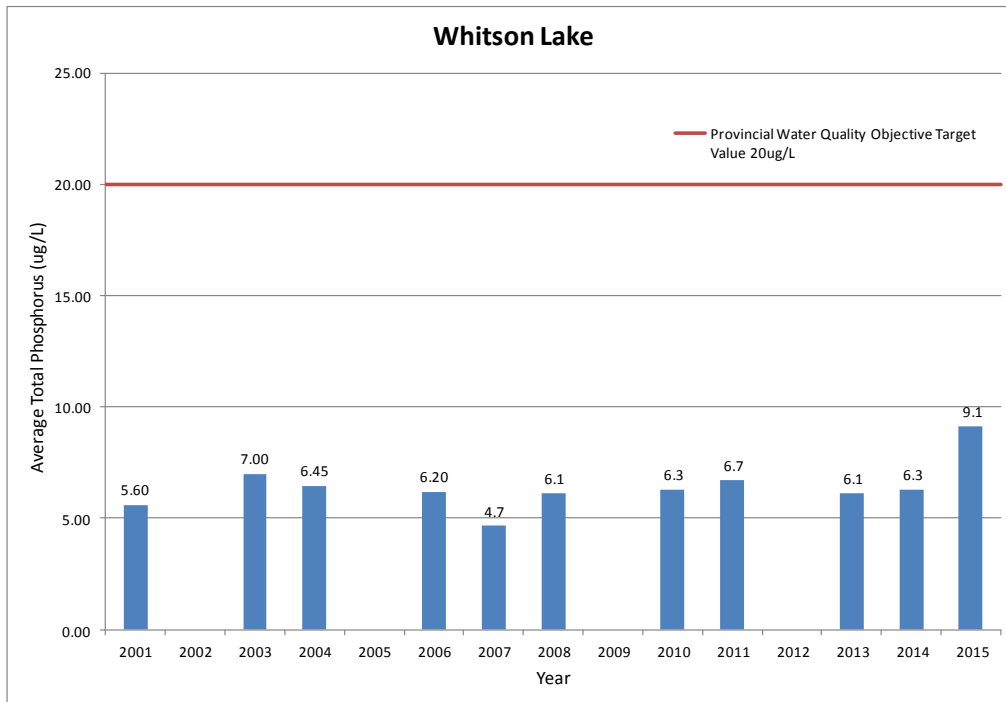
## Whitewater Lake

The bar graph below indicates the spring phosphorus results for Whitewater Lake from 2001 to 2015.



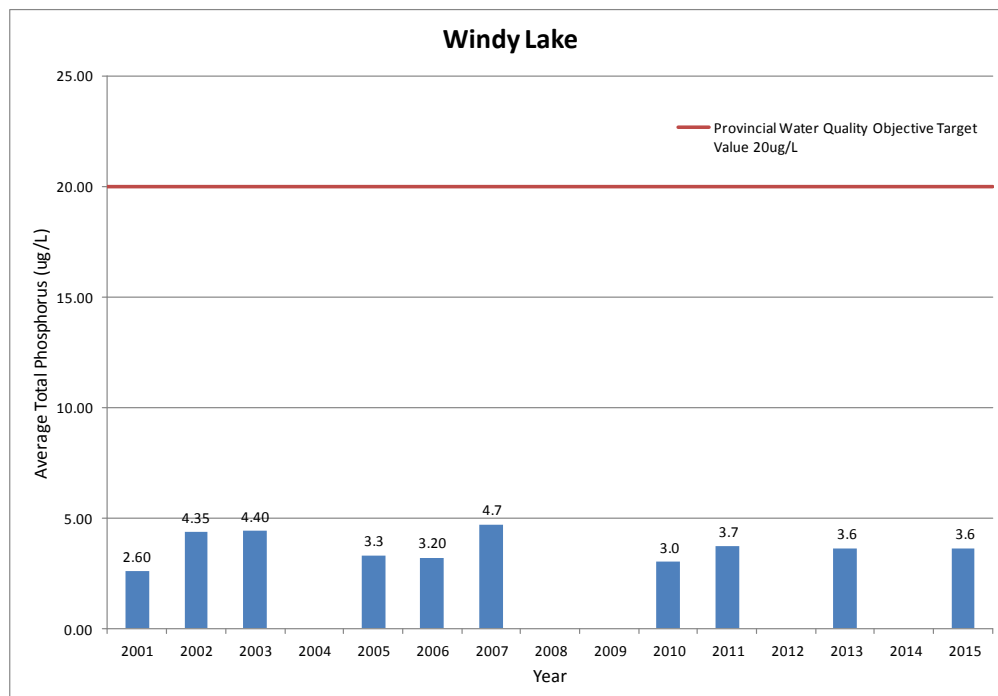
## Whitson Lake

The bar graph below indicates the spring phosphorus results for Whitson Lake from 2001 to 2015.



## Windy Lake

The bar graph below indicates the spring phosphorus results for Windy Lake from 2001 to 2015.



**For further information, contact**

Lake Water Quality Program  
Environmental Planning Initiatives  
City of Greater Sudbury  
200 Brady Street, Sudbury, ON P3A 5P3  
705-674-4455, Ext. 4604  
Email: [lakewaterquality@greatersudbury.ca](mailto:lakewaterquality@greatersudbury.ca)  
Website: [www.greatersudbury.ca/lakes](http://www.greatersudbury.ca/lakes)

**Accessible version available upon request.**