Lake Water Quality Program

Environmental Planning Initiatives

2006 Annual Report

Greater Grand Sudbury

Canada

CITY OF LAKES

The City of Greater Sudbury is recognized as the "City of Lakes". With a geographic area of 3,627 square kilometers, 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 and our citizens continue to have a vested interest in the water quality and health of these rich community assets.

LAKE WATER QUALITY PROGRAM

In the wake of amalgamation of the new City of Greater Sudbury, important questions arose. Who is responsible for our lakes? What is the overall health of our lakes? In the summer of 2000, the Lake Water Quality Program was created to respond to these concerns. 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. The Lake Water Quality Program also helps to ensure Greater Sudbury is positively recognized as a City of Lakes.

PARTNERSHIPS (2006)

The Lake Water Quality Program is a partnership comprising the City of Greater Sudbury, Human Resources and Skills Development Canada (HRSDC), and the Centre for Sustainable Watersheds. It also partners with other public and private sector organizations including: Ministry of the Environment's Lake Partner Program, Nickel District Conservation Authority, Sudbury and District Health Unit, Co-operative Freshwater Ecology Unit and the many Lake Stewardship Groups.

STAFFING

Co-ordinator, Lake Water Quality Program, City of Greater Sudbury

The City of Greater Sudbury provides funding for the full-time position of the Program Co-ordinator. This position is responsible for the day-to-day program and activities including water quality monitoring, shoreline home visit program, technical assistance to lake stewardship groups and lake improvement advisory panel. Additional duties include the supervision of temporary interns and summer students, organizing the annual Living With Lakes Forum, website content and report writing.

Lake Water Quality Field Interns and Summer Student,

With the support of Human Resources & Skills Development Canada (HRSDC) and its Job Creation Partnership (JCP) and Summer Career Placement (SCP) Programs , the Lake Water Quality Program was able to hire two Field Work Interns for six months and a summer student for a 9-week duration.

Training

In July, the Lake Water Quality Interns attended a three-day training seminar at the Centre for Sustainable Watersheds in Portland. The Interns received comprehensive hands-on field training to carry out an effective educational campaign such as the Shoreline Home Visit Program.

2006 SUMMARY OF ACTIVITIES

In conjunction with its partners, the Lake Water Quality Program carried out the annual Spring Phosphorus Sampling, the Lake Stewardship Grant Program and co-ordinated the Shoreline Home Visit Program.

In summary:

44 lakes sampled for spring phosphorus
289 dock-to-dock/ door-to-door visits were conducted
7 shoreline visits conducted
306 information packages delivered
15 public request for lake information were fulfilled
11 Lake Stewardship Grants awarded

GREATER SUDBURY LAKE IMPROVEMENT ADVISORY PANEL

The Lake Improvement 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 2004. Their three- year term expire sat the end of November, 2006.

Members

The Lake Improvement Advisory Panel comprises two City Councillors, six community volunteers and six technical experts.

City Councillors
Janet Gasparin
Eldon Gainer

Community Volunteers
Austin Davey, Chair
Elin Maki Flora
André Ferron
Bernard Gervais
Graeme Spiers
Perry Kirkbride

Technical Experts
John Gunn, LU/Co-operative Freshwater Ecology Unit
Bill Keller, MOE/Co-operative Freshwater Ecology Unit
Paul Sajatovic, Nickel District Conservation Authority
Ed Gardner, Sudbury and District Health Unit
David Pearson, Laurentian University
Ministry Natural Resources respresentative

Recommendations

The Lake Improvement Advisory Panel made 22 recommendations to the City new Official Plan with all of the recommendations being adopted for inclusion. The major points brought forward by the Advisory Panel included: increase and maintain a shoreline buffer zone of 15 meters, increase the size of waterfront lots, preserve the natural environment, advocate for a septic system re-inspection program, support a pesticide management plan particularly around waterbodies, divert snow dumps away from watercourses, disallow manure storage, septic systems and new development within sensitive groundwater areas, and support a watershed approach to planning.

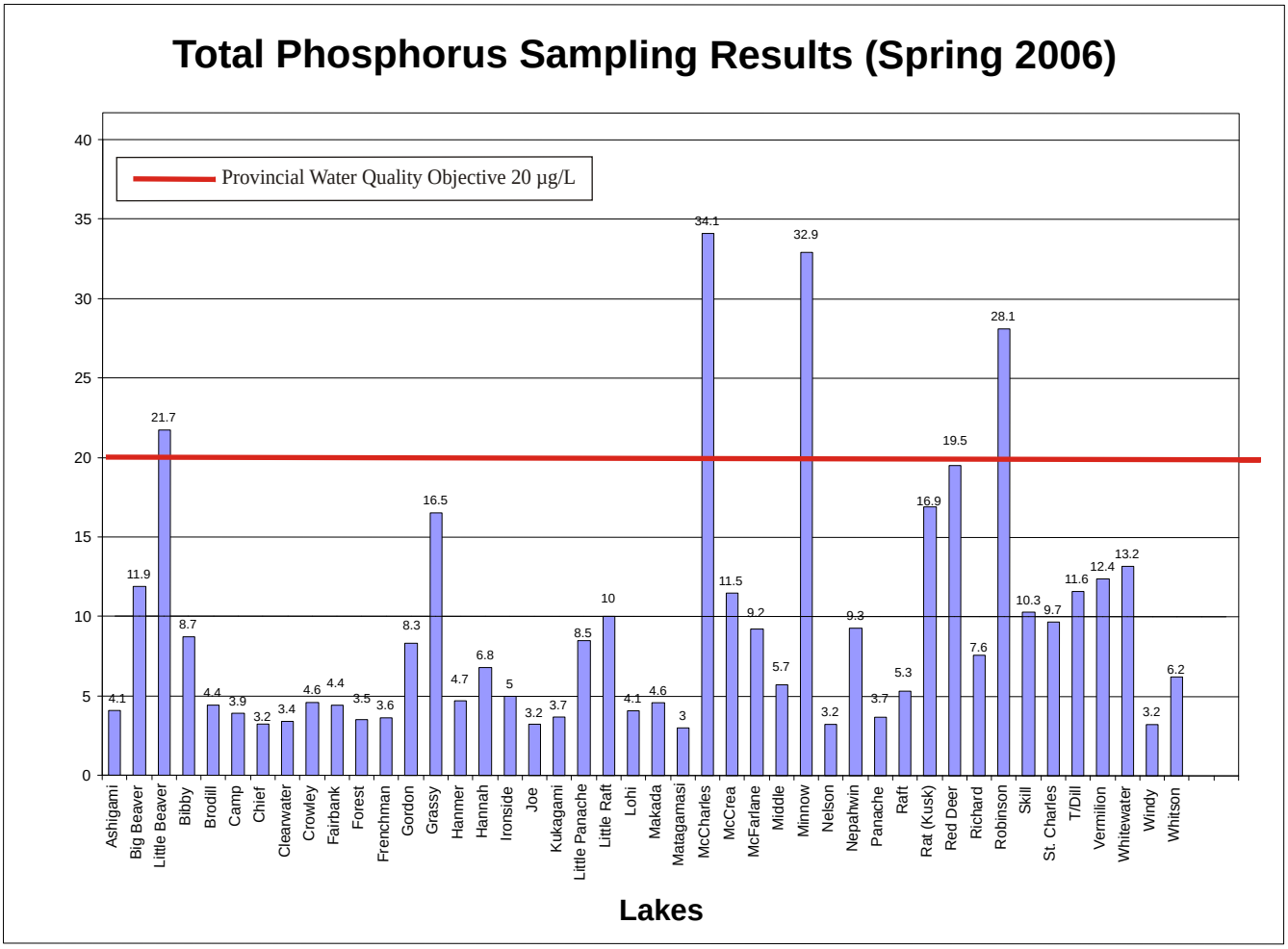
LAKE WATER QUALITY PROGRAM COMPONENTS

Spring Phosphorus Sampling Program

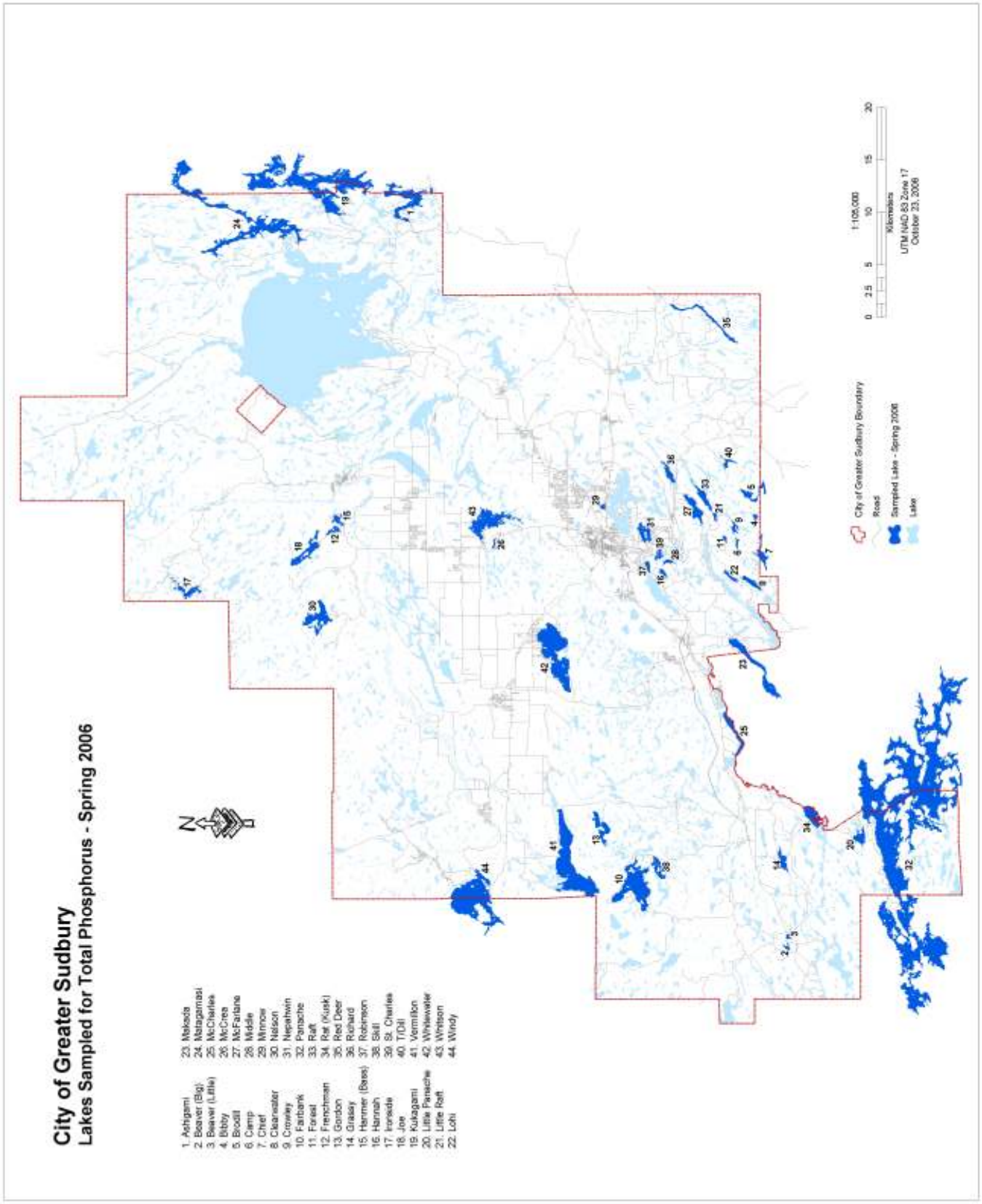
In May, the 2006 Spring Phosphorus Program sampled 44 lakes. These lakes were chosen based on their historical phosphorus levels, waterfront development pressures, and requests from lake stewardship groups. Phosphorus is the main nutrient (fertilizer) that controls the growth of algae. Phosphorus is sampled in the spring shortly after the ice has left the lake and after an episode called " spring turnover". Phosphorus enters a lake primarily through surface water runoff from human sources such as septic systems, fertilizers, agriculture practices, municipal and industrial wastewater and detergents. Also, depending on the type of ground cover, soil conditions and bedrock, phosphorus can enter a lake by way of natural sources. For the results of the lakes sampled, see Graph 1.

Spring Phosphorus Results

The following graph displays the 2006 spring phosphorus results of 44 lakes. Only 4 lakes had phosphorus concentrations greater than the Provincial Water Quality Objective of 20 µg/L (micrograms per litre). For more water quality information on these lakes, refer to Appendix 1.



Map 1: Lakes Sampled for Spring Phosphorus in 2006



SHORELINE HOME VISIT PROGRAM

Introduction

New summer cottages and year-round waterfront home development has increased over the past decade. Many people are moving in to some of the most sensitive and important ecosystems we have - our shorelines. As a result, there have been many shoreline alterations throughout the city that are impacting the health of our lakes and the flora and fauna.

For the second year in a row, the Lake Water Quality Program co-ordinated the Shoreline Home Visit Program to assist waterfront property owners in protecting, conserving, enhancing and restoring water quality and shorelines in Greater Sudbury.

Dock-to-Dock Visits

Interns conducted 50 dock-to-dock and 249 door-to-door visits and distributed 306 information packages to waterfront property owners.

These visits provided a great opportunity to engage the property owner in a discussion about their shoreline, encourage them to participate in the Shoreline Home Visit and provide advice about where they can obtain additional information and resources. Topics of interest to the homeowner included:

- Fish habitat identification and protection
- Erosion control techniques
- Septic system maintenance e.g.tips to reduce stress on your system
- Lakefront planning regulations and permits required
- Pesticides and fertilizer alternatives
- Drinking water treatment s for lake water
- Importance of natural shorelines
- Waterfront landscaping techniques
- Algae blooms
- Invasive species awareness e.g. Eurasian milfoil and purple loosestrife
- And much more

Shoreline Visits

The Lake Water Quality Interns conducted 7 Shoreline Home Visits. The visits provided waterfront homeowners with advice on healthy shoreline practices including how to best manage the shoreline, protect the lake water quality, and maintain the health of the ecosystem. The visit were free, confidential and non regulatory and ranged from 15 minutes to one hour depending on the individual interest and concerns. Homeowners received additional information specific to their needs as well as a complementary Nature Clean product and a “On the Living Edge” handbook for waterfront living. Following the visit, they received a written assessment of the home visit complete with helpful recommendations and suggestions.

Shoreline Visits Comments

Homeowners were asked to comment on the Shoreline Home Visit Program. The following is a sample of some of the comments received

"I feel more informed about factors affecting my shoreline" - Still Lake

"Thank you for the book. It will be most helpful in the future!" - Ramsey Lake

"More people should take advantage of this program" - Little Panache

"You girls (Interns) are doing a great job" - Ramsey Lake

Table 2: Summary of activities for the shoreline home visit program.

Lake	Dock-to-Dock	Door-to-Door	Home Visits	Packages
Fairbank	8	22	0	30
Little Panache	3	2	1	6
Long	24	0	0	24
McFarlane	5	41	0	46
Onwatin	0	51	0	51
Ramsey	0	35	4	39
Richard	8	0	1	9
Still	0	0	1	1
Vermilion	0	43	0	43
Whitewater	2	55	0	57
TOTAL	50	249	7	306

Findings from the Shoreline Home Visit Program

During the Shoreline Home Visits, homeowners expressed interest in a number of topics including hardened structures, construction permits, algae and aquatic plants, invasive species, vegetative buffer zones, erosion control and drinking water. For a list of the most frequently asked questions, refer to Appendix 2.

Hardened Structures

Hardened structures are often made out of concrete, rock and metal to form break walls, gabion baskets, and rip rap. These structures have been used in the past but do not work well in the long term, often causing more harm than good. A hardened shoreline will deflects waves, rather than absorbing them, causing sediment and plant life to be scoured away from the base of the structure. Food and habitat is almost always destroyed since these structures require the use of heavy machinery that is costly and environmentally damaging.

Installing alternatives to hardened structures will help control soil and shoreline erosion and allow natural vegetation to grow. Natural shorelines are aesthetically pleasing and entirely maintenance-free.

Construction Permits

Many of the shoreline home visits requested in 2006 were for new waterfront homeowners who were interested in altering their properties by adding docks, boathouses, second storey additions, beaches, and removing aquatic plants. Before a landowner begins a project near the shoreline, they require a permit. Depending on the exact type of activity, a permit may be needed from the federal, provincial or municipal government (or sometimes a combination).

Obtaining a permit is critical because it helps protect against water quality violations that may lead to the degradation of water bodies and harm aquatic life. Failing to obtain a permit can result in heavy fines and in some cases a property owner may be obligated to "undo" the project.

Algae and Aquatic Plants

Vegetation is just as important below the high water mark as it is above the high water mark.

Aquatic plants stabilize the soil, trap sediments, and protect your shoreline from erosion. They also keep your water clean by absorbing nutrients and toxins, supply oxygen and provide habitat and food for wildlife. Large amounts of aquatic vegetation can be caused by several different factors including light availability, water levels, water temperature, type of lake bottom sediments, current or wave action, and concentration of dissolved gases and nutrients such as chemicals found in fertilizers, pesticides and leaking septic systems.

Algae are tiny aquatic plants containing chlorophyll, which are normally green in colour. Algae are critical to the life of our lakes because they are the base of our food chain, they convert nutrients to organic matter and they oxygenate the water. If there were no algae, there would be no fish.

Unfortunately, nutrient enrichment (eutrophication) of our lakes and water bodies is enhanced by human activity. Excessive eutrophication can destroy the appearance of water, result in unpleasant tastes and odours, reduce water clarity, and can leave the water unsafe to drink or swim in.

Invasive Species

Some lakes within the City of Greater Sudbury are home to invasive species, such as the spiny waterflea, Eurasian milfoil, and purple loosestrife.

The spiny waterflea is disruptive because it competes with the native zooplankton in our lakes. Eurasian milfoil decreases plant diversity because of their ability to grow quickly and in thick mats. It can alter the water quality by adding more phosphorus and nitrogen to the water, raise the pH and temperature levels and decrease the dissolved oxygen, resulting in a poor habitat for aquatic life. When purple loosestrife expands into a colony, it suffocates all native wetland species and destroys most of the wetland ecosystem. These invasive species often thrive when the proper climatic and site conditions are met. They are transported into our lakes through recreational activities such as boating and fishing. Preventative measures can be taken to control the spread of these species by learning how to identify them, drain live wells and bilges before leaving a water body, dispose of unwanted live bait in the trash, rinse equipment well with high pressured water, and report any new sighting to the local authorities.

Vegetative Buffer Zones

One of the most important and beneficial factors of a healthy shoreline is the buffer zone. A buffer zone is the area of natural vegetation including shrubs, fallen trees, grasses, branches, logs, and natural rocks and pebbles, that run along the length of your shoreline. A buffer zone includes both the area above the high water mark (the riparian zone) and the area below the high water mark (the aquatic zone). Ideally, a buffer zone contains vegetation which is native to the specific geographic location and climatic conditions.

Over the years, many property owners have cleared their shoreline to improve their view, for recreational activities, or to simply make their property look "tidy". Unfortunately, this has gradually eliminated the function of the buffer zone. Alterations to a buffer zone can result in silted up spawning beds, pollution entering the water body, shoreline erosion and flooding, eventually causing a loss in property value and overall water quality.

A vegetative buffer zone is vital in maintaining the water quality of a lake. Keeping your shoreline natural will require less work and more enjoyment for future generations.

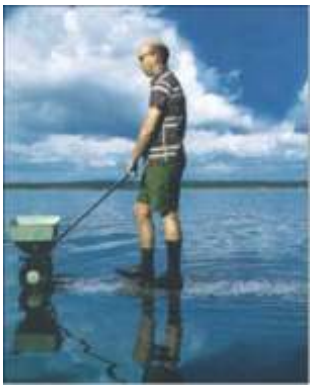
Erosion Control

A challenge for a lot of shoreline property owners is trying to prevent erosion. Erosion is a natural process caused by wind, water and gravity that scours away at soil and rock. Combined with human activity, erosion can have devastating effects. Erosion can be prevented using different methods. The most natural method is to allow a natural buffer zone.

A natural shoreline will absorb waves and improve drainage. Other preventative measures include applying soil bioengineering techniques which are used in areas requiring a more active approach, such as live staking, fascines, brush layers and mattresses, fibre rolls, brush bundles, plant anchors, fibre mats, and fibre bags.

Drinking Water

In the City of Greater Sudbury, homeowners receive their water through both public and private drinking water systems. Wanapitei River, Ramsey Lake, and Vermilion River are the three surface water treatment plants that supply the city with public drinking water. The areas of Garson, Falconbridge, Valley East, Capreol, and Dowling receive their drinking water through over 20 municipal wells. Municipal drinking water is strictly regulated by the Ministry of the Environmental under the Safe Drinking Water Act. On the other hand, private sources of drinking water are solely regulated by the homeowner. Their water is received through lakes, rivers, and groundwater wells. Whether contaminants occur naturally, or whether they are caused by human activity, private sources of drinking water should be tested regularly. There are many different options of water treatment available for a private system, ranging from simple filters and chemical additives to more complex distillation or ultraviolet irradiation systems.



One of the simplest and most natural way to fight against drinking water contamination is to maintain a healthy shoreline. A vegetative buffer zone is important because it absorbs and filters water before entering a body of water. Without the ability to absorb water, groundwater wells can dry out or become contaminated if not properly maintained.

LAKE REPORT CARD PROJECT

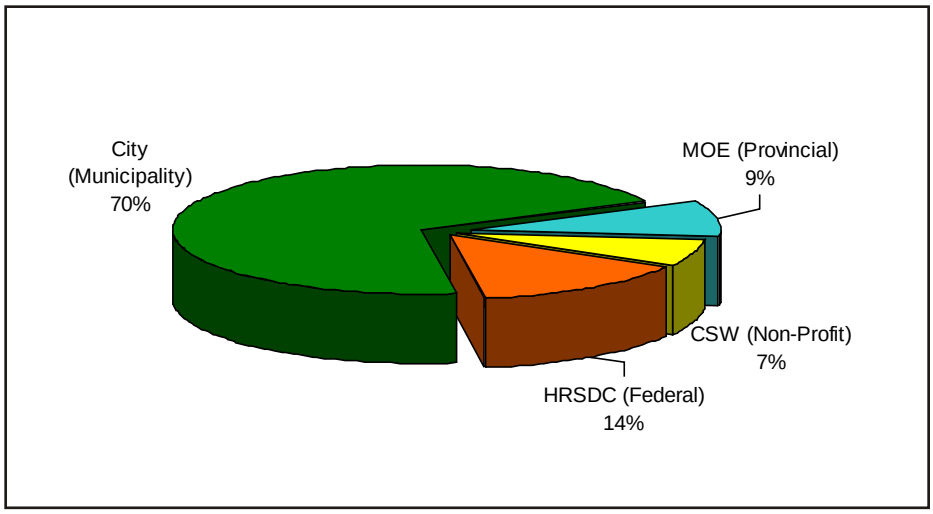
A summer student was hired to create Lake Report Cards. A survey was created and distributed to gather information about popular types of water recreation activities and determine which lake indicators should be included in the Report Card. A section was included to address the specific concerns of waterfront property owners. Information was collected from various sources such as the City's Lake Water Quality Program, the Co-operative Freshwater Ecology Unit, the Sudbury and District Health Unit, the Ministry of the Environment, and Provincial Parks. To date, 17 lake report cards have been produced.

FINANCIAL SUMMARY

The Lake Water Quality Program received funding from partner agencies to assist with the operating costs. The total cost of the 2006 Lake Water Quality Program was $148,228 with 30% of the program cost funded by contributing partners.

CONTRIBUTORS	# OF POSITIONS	# OF WEEKS	SOURCE	AMOUNT
LABOUR - IN KIND				
Human Resources Skills Development Canada	2	26	Federal	$ 21,476
SERVICES - IN KIND				
Ministry of Environment - Lake Partner Program			Provincial	$ 12,960
Centre for Sustainable Watersheds			Non-profit	$ 10,000
		SUB TOTAL		$ 44,436
City of Greater Sudbury			Municipal	$103,796
		TOTAL		$148,228

Funding Contribution Chart



LAKE STEWARDSHIP GRANT ASSISTANCE PROGRAM

Introduction

The Lake Stewardship Grant Assistance Program is funded by the Lake Water Quality Program and the Lake Improvement Advisory Panel. Established as a pilot project in 2005, the Program assists Lake Stewardship Groups in carrying out projects that protect and improve the water quality and natural environment of the lakes. There are currently 35 Lake Stewardship Groups eligible for the Grant Program. For a list of all lake stewardship groups in Greater Sudbury, refer to Appendix 3.

Background

In fulfilling its mission to, "*serve as a watchdog on behalf of all citizens in the community and actively promote and protect the ecological health of the lakes",* the Lake Improvement Advisory Panel decide to initiate the Lake Stewardship Grant Assistance Program initiated the Lake Stewardship Grant Assistance Program to encourage and support the development and activities of Lake Stewardship Groups. City Council approved recommendations to earmark funds from the Lake Water Quality Program's budget to be used for the grant program.

The Lake Stewardship Grant Assistance Program was advertized throughout the community, both in traditional formal media such as the Sudbury Star, Northern Life and Le Vogageur as well as emails and mail outs. The application and funding criteria were drafted by members of the Lake Improvement Advisory Panel with input from City staff. Proposed projects were required to demonstrate how they would improve or protect he water quality of the lake and/or watershed and support from the lake community. Successful applicants were chosen by the Lake Improvement Advisory Panel.

In total, 11 applications for funding were received and the total amount of funds allocated was $8,430. The following is a list of the activities and accomplishments of these successful projects.

Fairbank Lake Camp Owners Association Inc.

Project Name: Shoreline Enhancement Time line: Fall 2006 -Spring 2007

The project goal is to enhance the shoreline of Fairbank Lake by planting seedlings of native plants. The $ 500.00 grant received from the City in 2005 was used to purchase seedlings for planting by our members to enhance the lake shoreline. The plants were distributed in the spring of 2006 and by all accounts were very well received.

As a result of this experience, the Association placed a purchase order for delivery in mid May 2007 with Richardson Pineneedle Farms for 2 Highbush Cranberry and 3 Ninebark seedlings for each member. The total cost of this is approximately $ 1000 and the Association will provide the funds for the balance.

In the next few years we will check the progress of a sample of these seedlings to determine the overall success of this endeavor.

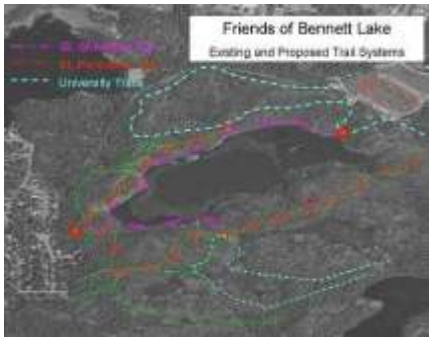
Friends of Bennett Lake

Project Name: Improving Bennett Lake Water Quality To Enhance the Habitat for Flora and Fauna

Time line: Summer - Fall 2006

The project objective is to improve the water quality of Bennett Lake by reducing the erosion in the Bennett Lake watershed. Bennett Lake is a shallow lake that empties into Nepawhin Lake. It has a clearly defined watershed with steep slopes that lead directly to the lake with little opportunity for filtration or diversion. As such the slopes are susceptible to erosion with the silt washing into the lake. The trails (7 - 10 km) around Bennett Lake are being used more each year for skiing, snowshoeing, hiking, and mountain biking. Compaction of the soil with the resulting loss in vegetation and erosion has been observed in several sensitive areas.

Siltation of Bennett Lake will affect the water quality of both Bennett and Nepawhin Lakes and may lead to the destruction of wildlife habitat areas in both lakes.



Project Plan Summary

1. Identify Areas Susceptible to Erosion
2. Develop a Plan to Reduce Erosion
3. Propose Plan to Landowner (Laurentian University)
4. Design Signage and get Landowner approval
5. Purchase Materials and Seek Donations
6. Implement Plan to plant shrubs and trees as erosion control structures
7. Place signs

The Friends of Bennett Lake Stewardship Committee had fruitful discussions with Laurentian University and received permission to proceed with the project. It is expected that materials will be purchased in November and, weather permitting construction will begin before freeze-up. The critical area for the spring will be placement of the posts at the creek so that a boardwalk can be in place for spring run-off. Signs have been designed and will be submitted for approval by the landowner. These should be ready before year end.

Kukagami Lake Campers Association

Project Name: Water Quality Monitoring

Time line: Summer - Fall 2006

The Water Quality Committee for Kukagami Lake Campers Association (KLCA), that includes the campers and residents of Kukagami, Matagamasi, Ashigami, Portage, Bugg and the east shore of Wanapitei Lakes, is greatly concerned with the water quality of these lakes for the purpose of swimming and drinking and for the health of wildlife species. The Water Quality Committee was given the direction to test these lakes. The grant obtained by the City of Greater Sudbury was used to cover water testing expenses for e.coli and phosphorus levels. The Association also participated in the Ministry of the Environment's Lake Partner Program to record water clarity readings. The purpose of the water quality testing is to determine if the lake has acceptable levels of e-coli for recreational activities. They are tracking air and water temperature to compare year to year and keeping records of phosphorous levels to show the health of the lake in relation to the kind of vegetation and fish life. They are also recording water clarity readings to determine how much sediment and how much algae are present in the whole lake. The committee has done extensive research to establish the best guidelines to use for interpreting their work.

The Association used the protocol for the Township of Georgian Bay as our guideline. which tracks the amounts of all e-coli in the lakes. The acceptable average determined by the Township of Georgian Bay is 20 parts per 100 ml. So far the Kukagamie Lake Campers Association has been well below this average for most of the time. The Kukagami Lake Campers Association has followed the Public Health guidelines for safe swimming and recreational water, the Township of Georgian Bay monitoring protocol, the Muskoka water monitoring protocol, the Australia Yarra Watch, and the USA Environmental Protection Agency guidelines as outlined by the state of Wisconsin. These protocols/guidelines agree that a number that is below 100 is safe for swimming and recreational activities. The Kukagami Lake Campers Association will follow up with more testing in May of next year.

Friends of McFarlane Lake Stewardship Group

Project Name: Enhanced Water Quality Monitoring and Newsletter Time line: Summer - Fall 2006

The Friends of McFarlane Lake Stewardship Committee mission is to protect and keep our lake healthy and to understand those contributing factors affecting the water quality of McFarlane Lake and the watershed. Through funding from the Lake Water Quality program, they continue to make every effort to maintain this crucial mission towards healthy waters in our community.

In 2006, the Friends of McFarlane Lake applied for two separate projects. The Friends of McFarlane Lake community newsletter is now into it's fourth issue. The latest issue was delivered in October door to door by volunteers who also contribute to writing articles about the community history, lake quality education, fishing facts, local announcements, healthy recreation hobbies and more. Distribution of 225 newsletters (hardcopy) cover the following streets Leedale, Levina, Ranger, CKSO Road, Southlane Road (including some Raft Lake residents), Cawthorpe and Henri Street. Approximately 50 letters are sent via Canada Post to major stakeholders in the community. The newsletters are also posted on the Greater City of Sudbury - Lake Quality website for a broader community and worldwide distribution. In the spring of 2006, Lin Gibson & Andrea Zizman presented an update to the newsletter status and residential survey completed in late 2005. A second presentation was made later in the year to the Lake Improvement Advisory Panel. In addition to our formal projects, a team of volunteers is currently engaged in arranging the first annual 'Winter Family Fun Day' tentatively scheduled in mid February.

The second project applied for was for continued work on the Enhanced Water Quality Monitoring project on McFarlane Lake. Water quality monitoring has been conducted on McFarlane Lake since the 1970s, using total phosphorus (TP) levels in the Spring as a measure of the lake's health. However, changes in water quality are appearing in recent years that are not reflected in the TP results. These changes include the occurrence of algal blooms, particularly in the fall, and the complete disappearance of Eurasian milfoil and all aquatic macrophytes in the lake in 2005. Of particular concern with the occurrence of algal blooms is the potential for blue-green species, which have been identified as historically present in the lake. Blue-greens are associated with causing taste and odour problems in surface waters, which is significant to the majority of residents who use McFarlane Lake as their source of drinking water.

To address this, an enhanced water quality monitoring program was initiated in Spring 2006 through the support of the City of Greater Sudbury's Lake Water Quality Program. From Spring to mid-October, samples were collected in the central basin of McFarlane Lake and submitted to Testmark Laboratories Ltd. of Sudbury for TP analysis. Phytoplankton samples were collected at the same station and at the same frequency and preserved.

These samples will be submitted in November to a recognized taxonomist for analysis of community composition and biomass estimates. All results will be summarized and compared to MOE's lake classification criteria and to historic results to confirm the current trophic status of McFarlane Lake. Phytoplankton composition will allow for the tracking of trends and changes in species present, such as the dominance of blue-green algae in the community composition. These results will be provided to residents of the lake through the existing newsletters.

Minnow Lake Restoration Group

Project Name: Minnow Lake Eco-pamphlet Time line: Summer - Fall 2006

1. Follow up on shoreline plantings which took place in 2005.
Not all plants appeared to have survived the winter, however several that seemed "dead" did "came to life" later in the spring. It seems that the False Spiria did the best, growing healthy and green. The Cotton Easter was the most disappointing, but we were advised that it would do better in the second season, and begin to spread. Not all the supposedly "hardy" rugosa roses survived, but those that did flowered several times during the season, but still remained small. We will be most interested to see what grows and how much next year. It was necessary on several occasions to cultivate around the plants, some of which did not like to be in a grass environment.

2. Development of Minnow Lake Waterfront Park at Minnow Lake Place
Working with the Minnow Lake Community Action Network and the Minnow Lake Lions Club the Restoration Group assisted the City of Greater Sudbury in the development of a new waterfront park on the grounds of Minnow Lake Place, the former St. Jean School on the corner of Lonsdale and Bancroft (about a kilometer from the Kingsway) on the north shore of Minnow Lake. Pictures of this park are posted on our website www.minnowlake.ca.

3. Creation of Eco-Pamphlet. Surface runoff into our area lakes and streams is the source of most of the "pollution" affecting our water resources. The Minnow Lake Restoration Group is in the final stages of developing and printing an information eco-guide to distribute to those in the watershed of area lakes to make them aware of the importance of limiting or eliminating harmful contaminates. This pamphlet will be distributed in the spring to area residents in the watershed of Minnow Lake, and a generic copy will be available in PDF format at www.minnowlake.ca for those other groups wishing to use. Also print copies will be on display at the Living with Lakes forum on Nov. 28th.

Rayside Belfour Community Action Network - Whitewater Lake

Project Name: Whitewater Lake Clean Up and Invasive Species Awareness Time line: Summer 2006

The group originally applied for the grant in order to defer the costs of hosting this event. "The Clean Up" was held on September 17th at Whitewater Lake Park in Azilda. This is the second time they have hosted this event and were once again successful, with over 18 registered volunteers, including City Councilor Claude Berthaiume. The group collected over 100 pounds of garbage ranging from litter and glass, to clothing and was able to recycle a significant amount of cans, glass bottles and plastic items. Upon completion of our duties, the volunteers were treated to a complementary lunch. Everything came together for a successful event that engaged the public and raised the profile of the Lake within the community. The committee is looking forward to holding this event again next year. The good news was the group was able to fund this event through other monies provided by the City. Our grant money is still available for other stewardship projects.

The group purchased Invasive Species Awareness signs to be posted at the various boat launches on Whitewater and Vermillion Lakes. The signs are available through the Ontario Federation of Anglers and Hunters at a cost of $10 each. These signs are available in both English and French and warn against and give precautions to prevent boaters from spreading potentially harmful species. The group has identified 8 locations to post these signs, and therefore require 16 for a cost of $160 plus shipping. As of 1999, the last time the Federation sampled Whitewater, no invasive species were known to exist. Vermillion has not been sampled. The Federation has no reports on file of any invasive species. Members of the committee have volunteered to test the lakes in the spring. With the committee's grace, we would like to complete this project. The group will commit to the sign installation by early Spring 2007, and will also commit to filling a supplementary report upon the projects completion.

Richard Lake Stewardship Committee

Project Name: 2nd Annual Richard Lake Clean Up

Time line: Summer 2006

The Richard Lake Clean Up and BBQ was a great success with lots of food, music and good clean fun. The local media, MCTV, Channel 10, Sudbury Star and the radio station were on hand to cover the event. The scuba divers were out once again this year and swam the area in front of Ukrainian Camp. Most garbage collected was from ice huts like water cans, rods, tools etc. The residents also gathered some garbage like kitchen chairs and tires The event had lot of awareness. The group offered free bags of environmentally friendly fertilizers to everyone who brought bags of garbage from the lake. The Lake Water Quality Interns from the City of Greater Sudbury attended the event to hand out lots of information for the residents with regards to fertilizers/pesticides. The event also had children's games and a fish pond. The Sudbury Fish and Game were quite active managed to give out fishing licenses to the kids as part of the fish pond. The Richard Lake Clean Up had almost 100 sponsors and thanks to them, most of supplies for the picnics were either donated or purchased with the gift certificates offered to us. The penny table helped pay for miscellaneous expenses so we came out good. The picnic is improving and more of the residents in the area are getting more involved. Next year the group is planning tree planting at and involving their group as part of the Clean Up BBQ.

For more information on the Richard Lake Stewardship Group, visit their website at www.richardlake2005.tripod.com.

Valley East Ratepayers's Association

Project Name: Water and Algae Sampling

Time line: Fall 2006

The Valley East Ratepayer's Association requested grant money to identify the cause of "fish smell" in Frenchman and Hanmer lakes. Water and algae sampling was conducted in both lakes. Based on previous years, the smell usually occurs in late fall or early spring. So far the smell has not returned, and if it does not return by winter freeze up, the

Windy Lake Stewardship Committee

Project Name: Water Quality Sampling

Time line: Summer 2006

The Windy Lake Stewardship Committee is a volunteer non-profit organization with clear objectives to monitor water quality and protect their valuable resource for generations to come. They currently have 50 members - all with a vested interest in the future of Windy Lake. The water quality sampling program was completed in August. With the grant money provided by the Lake Water Quality Program, water samples were collected for E.coli and phosphorus at ten locations on Windy Lake and analyzed at Testmark Laboratories Ltd. in Garson.

APPENDIX 1

Trophic State of Lakes and 2006 Lake Profiles

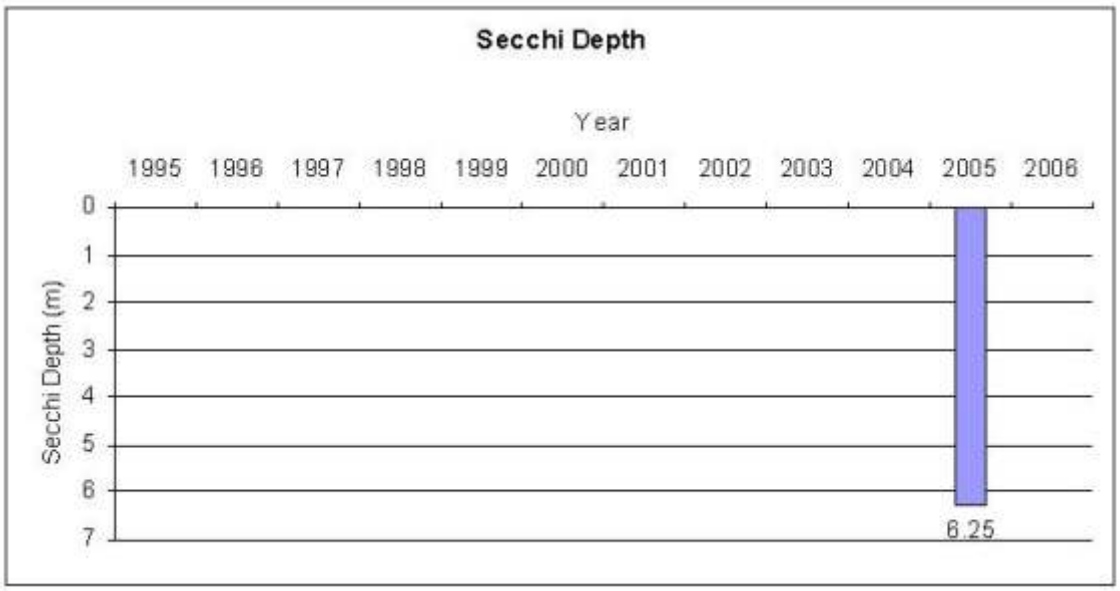
TROPHIC STATE OF LAKES

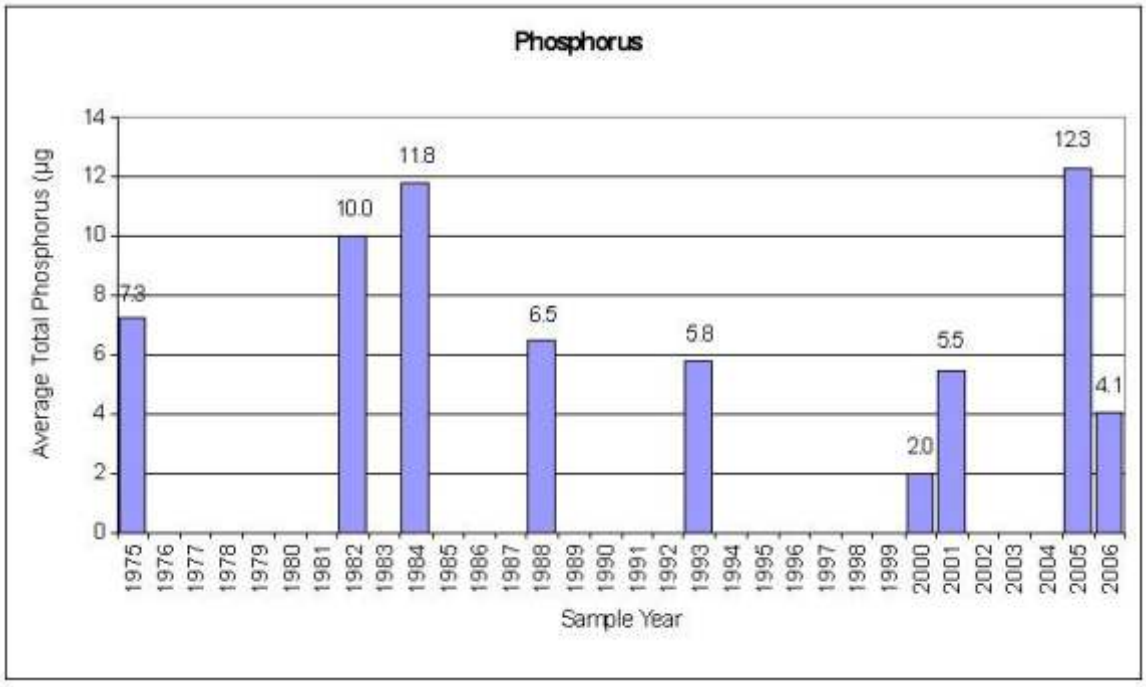
Trophic state is an indicator of water quality. Lakes are classified into three categories based on trophic state: oligotrophic, mesotrophic and eutrophic. These categories reflect a lake's nutrient and water clarity levels. An increase in the trophic state can result in adverse ecological changes in a lake. This increase is known as eutrophication and usually occurs naturally at very slow rates but does occur faster due to human activities in a watershed.

Trophic Level	Phosphorus Concentration (µg/L)	Secchi Disc Depth (m)	Characteristics
Oligotrophic	<10	>5	•Clear, deep and free of weeds and large algae blooms •Low in nutrients, have low primary production, and do not support large fish populations •May be a lake trout lake •Watershed usually contains few wetlands
Mesotrophic	11-20	3 - 4.9	• More nutrients and production than oligotrophic lakes, but not as much a eutrophic lakes •Some aquatic vegetation and wetland areas that support a wide variety of wildlife • Able to support a wide variety of fish
Eutrophic	>21	<2.9	•Most productive lakes and tend to be shallow •Have larger areas of aquatic vegetation •Have large wetland areas • May be susceptible to algae blooms • Support large fish populations •Prone to oxygen depletion in the hypolimnion

Ashigami Lake

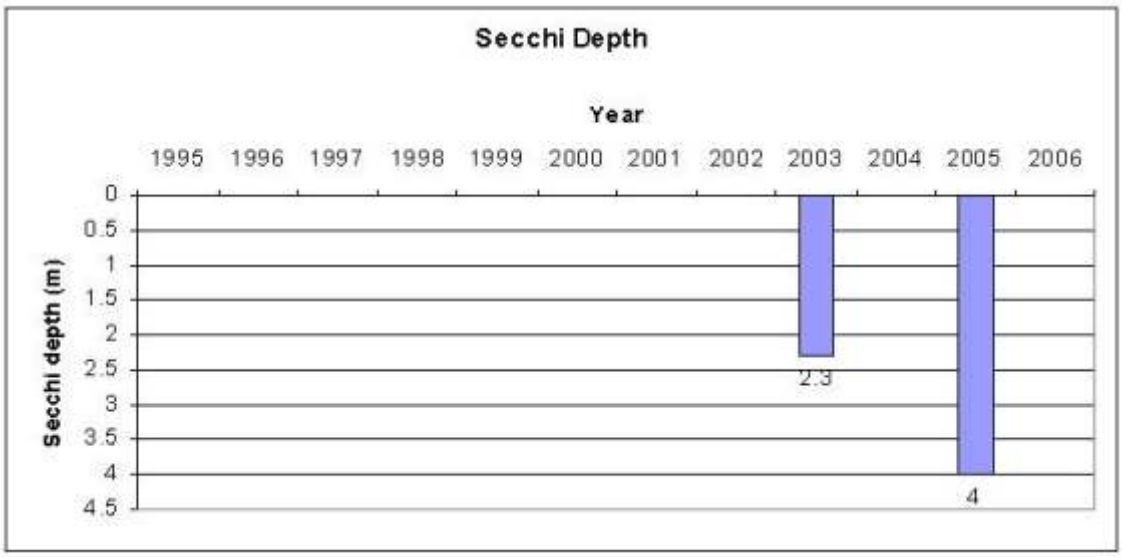
Township:	**Scadding**	**Phosphorus:**	**4.1 µG/L**
Watershed Unit:	**Sturgeon River**	**Secchi Depth (2005):**	**6.25 m (20.5 ft)**
Surface Area:	**434.7 ha**	**Maximum Depth:**	**n/a**
Perimeter:	**39.8 km**	**Average No. of residents**	**n/a**

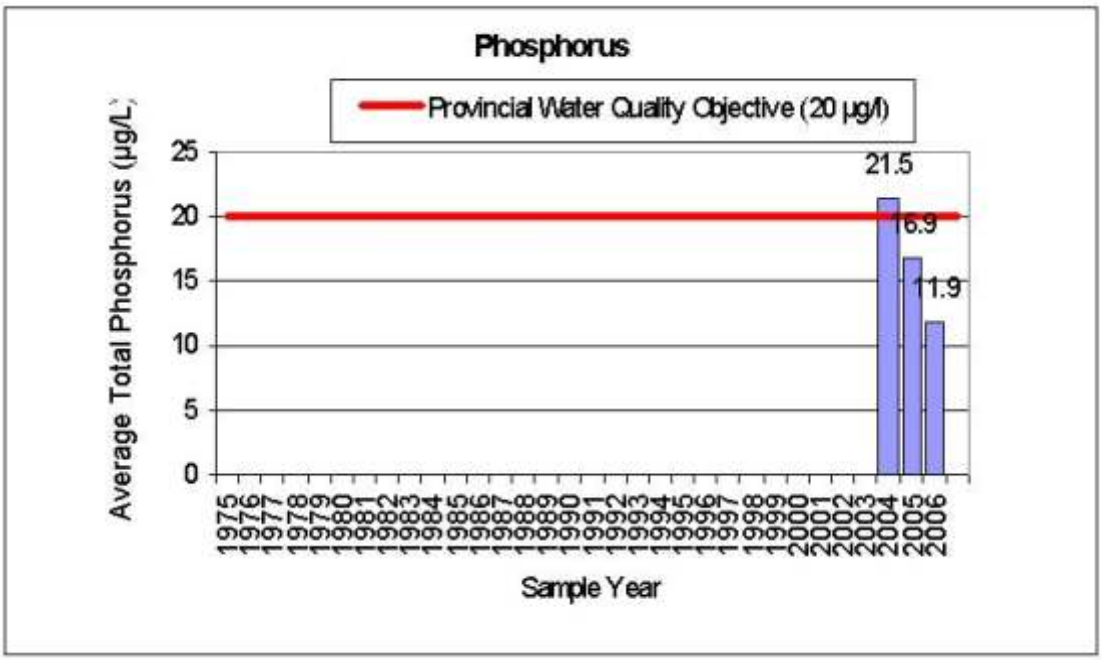




Beaver (Big)

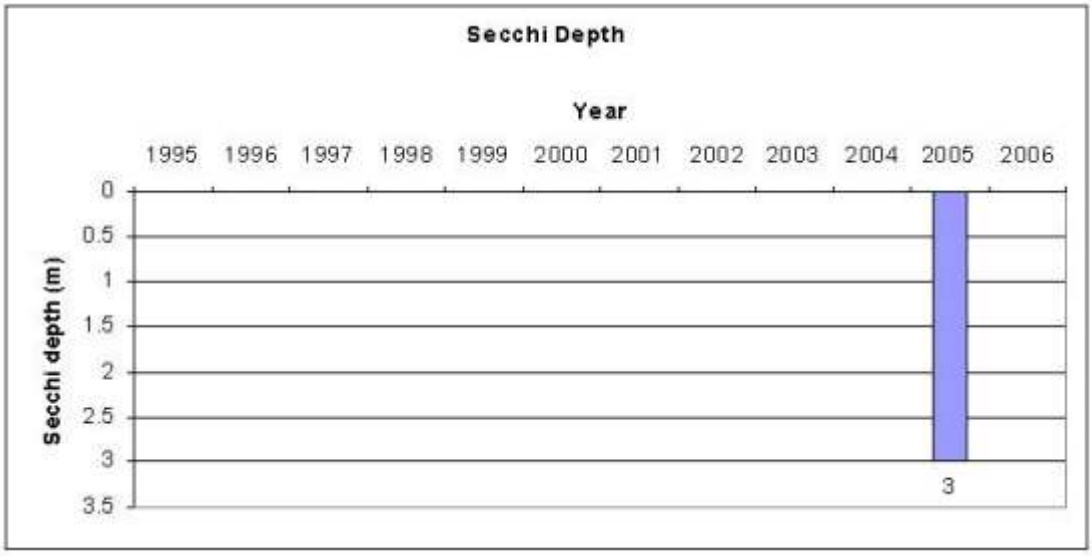
Township:	**Lorne**	Phosphorus:	**11.9 µG/L**
Watershed Unit:	**Lower Vermilion**	Secchi depth (2005):	**4.0 m (13.1 ft)**
Surface Area:	**20.1 ha**	Maximum depth:	**n/a**
Perimeter:	**2.9 km**	Average No. of residents:	**n/a**

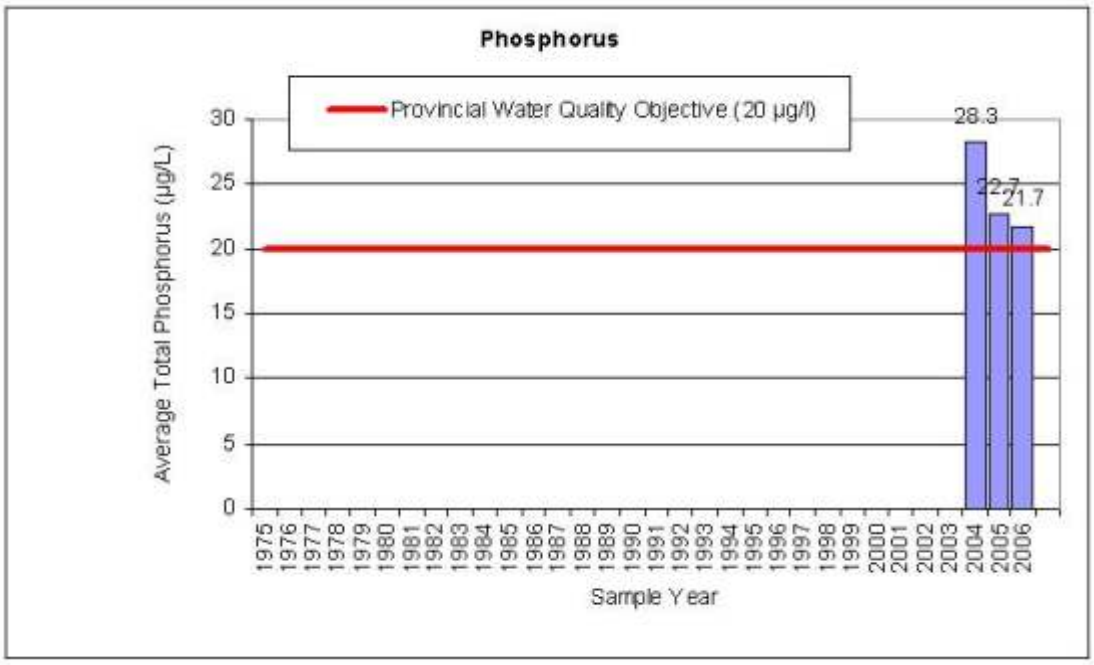




Beaver (Little)

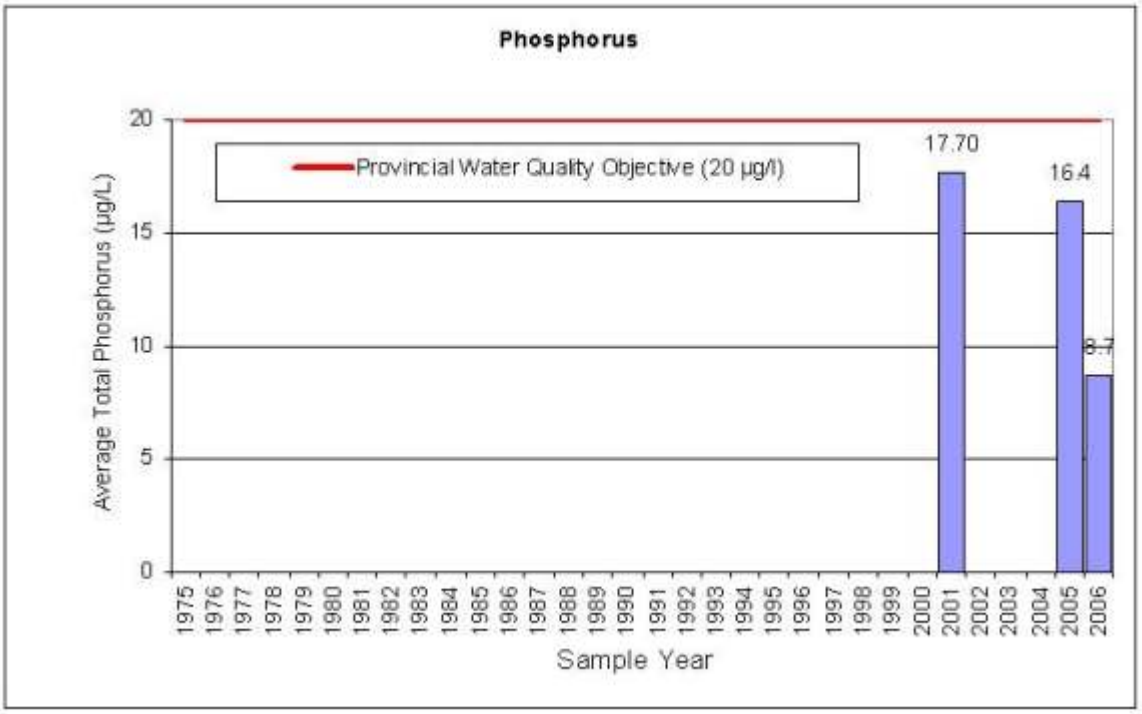
Township:	**Lorne**	Phosphorus:	**21.7 µG/L**
Watershed Unit:	**Lower Vermilion**	Secchi Depth (2005):	**3.0 m (9.8 ft)**
Surface Area:	**16.9 ha**	Maximum Depth:	**n/a**
Perimeter:	**2.4 km**	Average No. of residents:	**n/a**





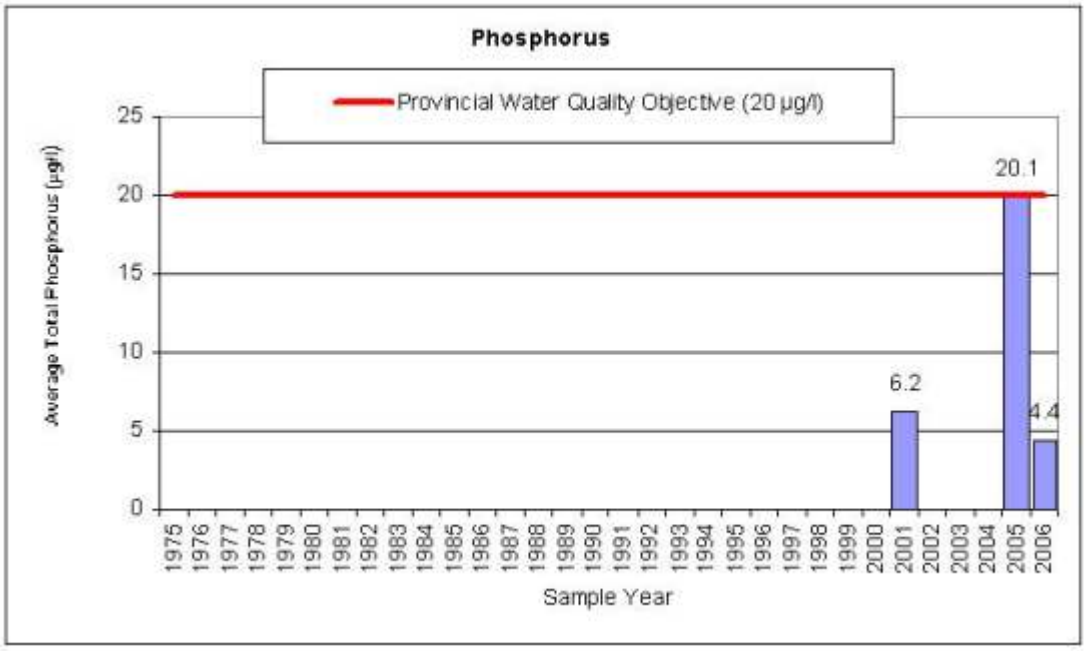
Bibby

Township:	**Broder**	Phosphorus:	**8.7 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth:	**n/a**
Surface Area:	**17.4 ha**	Maximum Depth:	**8 m (26.2 ft)**
Perimeter:	**2.3 km**	Average No. of residents:	**2**



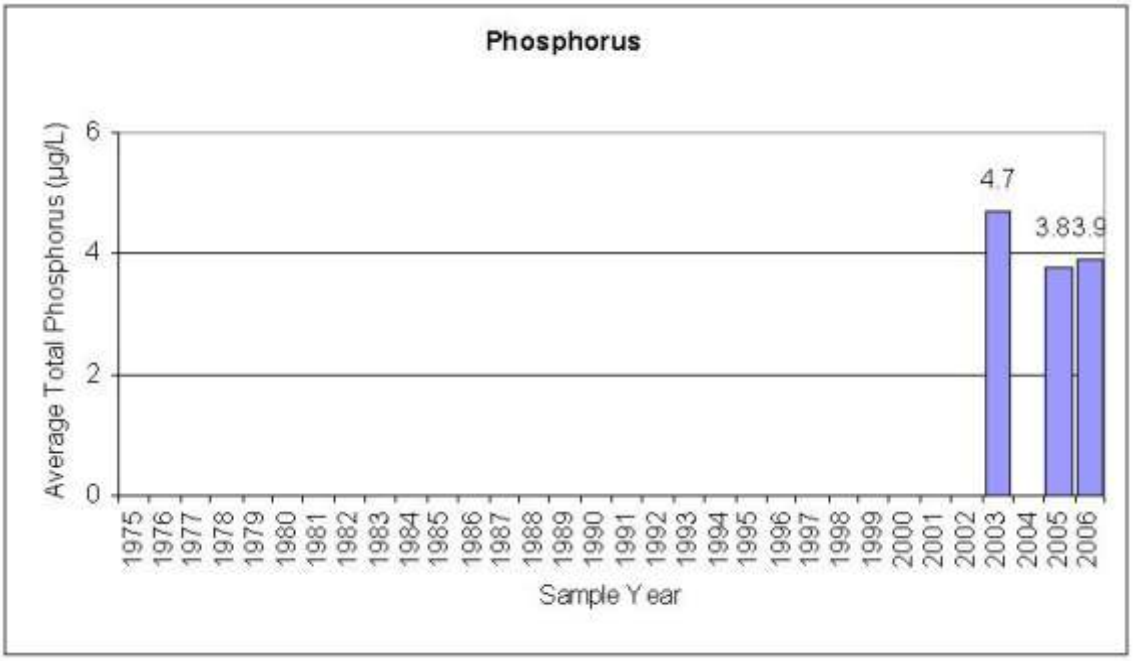
Brodill

Township:	**Broder**	Phosphorus:	**4.4 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth:	**n/a**
Surface Area:	**112.1 ha**	Maximum Depth:	**30 m (98.4 ft)**
Perimeter:	**12.9 km**	Average No. of residents:	**2**



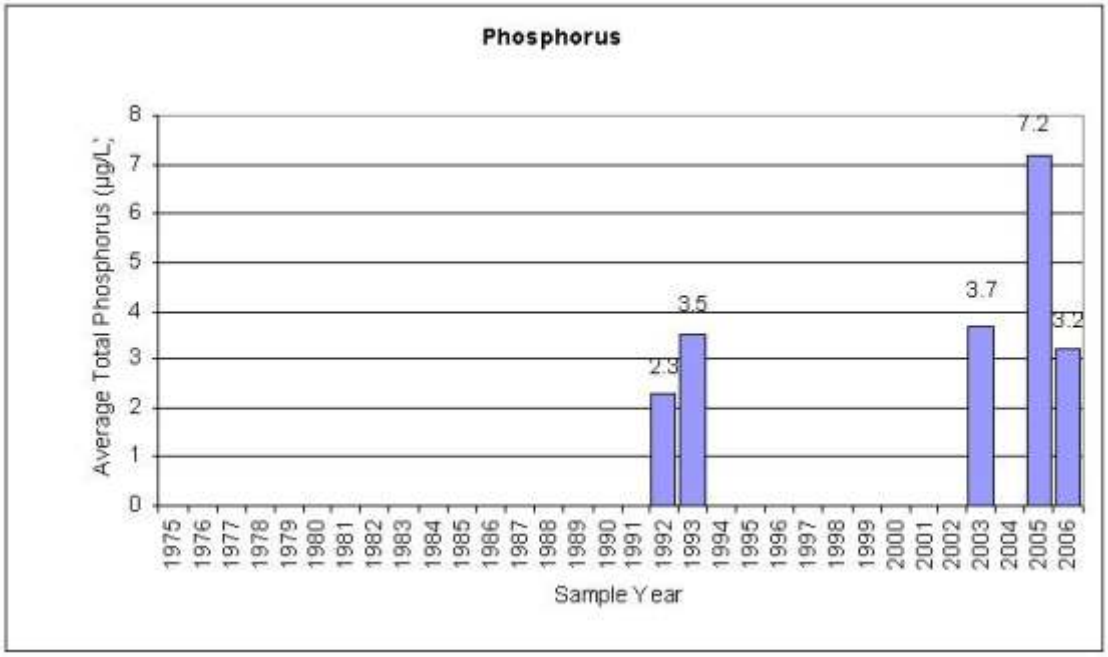
Camp

Township:	**Broder**	Phosphorus:	**3.9 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth:	**n/a**
Surface Area:	**19.9 ha**	Maximum Depth:	**14 m (45.9 ft)**
Perimeter:	**3.0 km**	Average No. of residents:	**0**



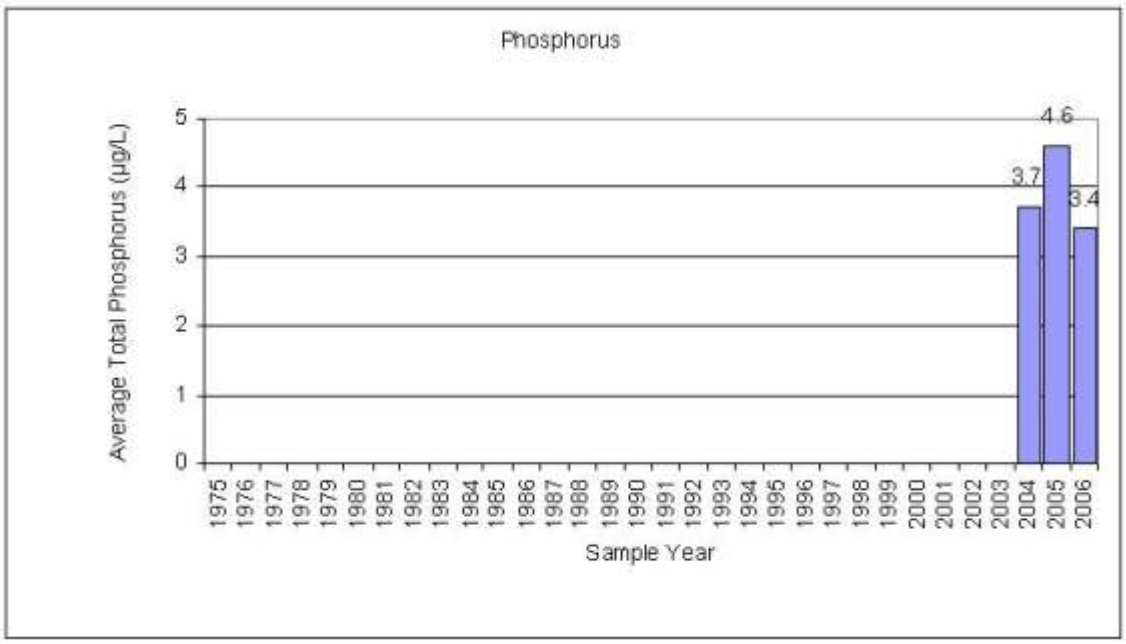
Chief

Township:	**Tilton**	Phosphorus:	**3.2 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth:	**n/a**
Surface Area:	**105.2 ha**	Maximum Depth:	**34 m (111.6 ft)**
Perimeter:	**12.6 km**	Average No. of residents:	**1**



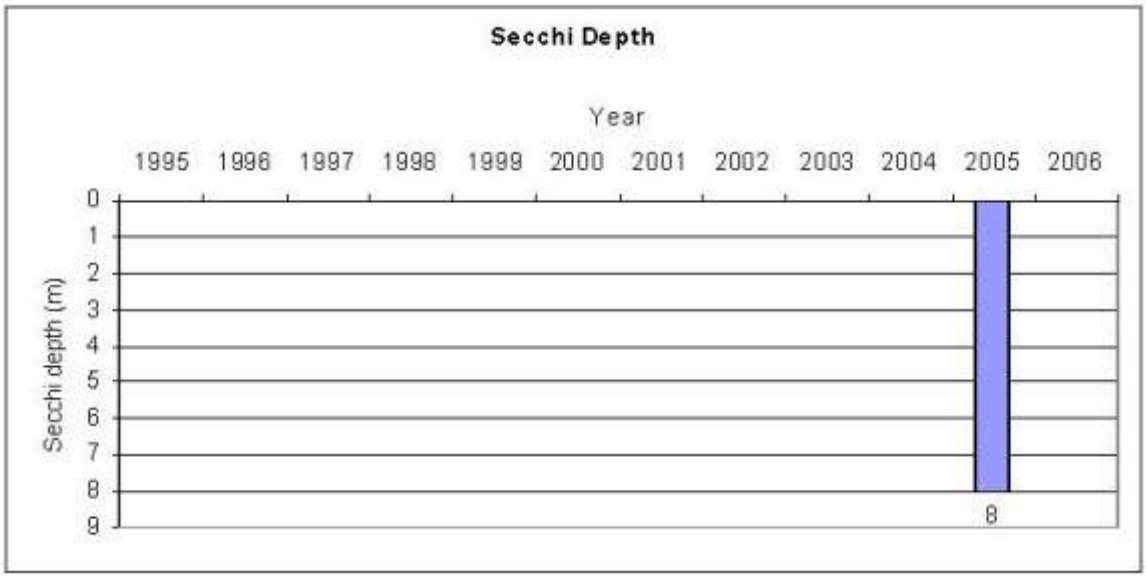
Clearwater

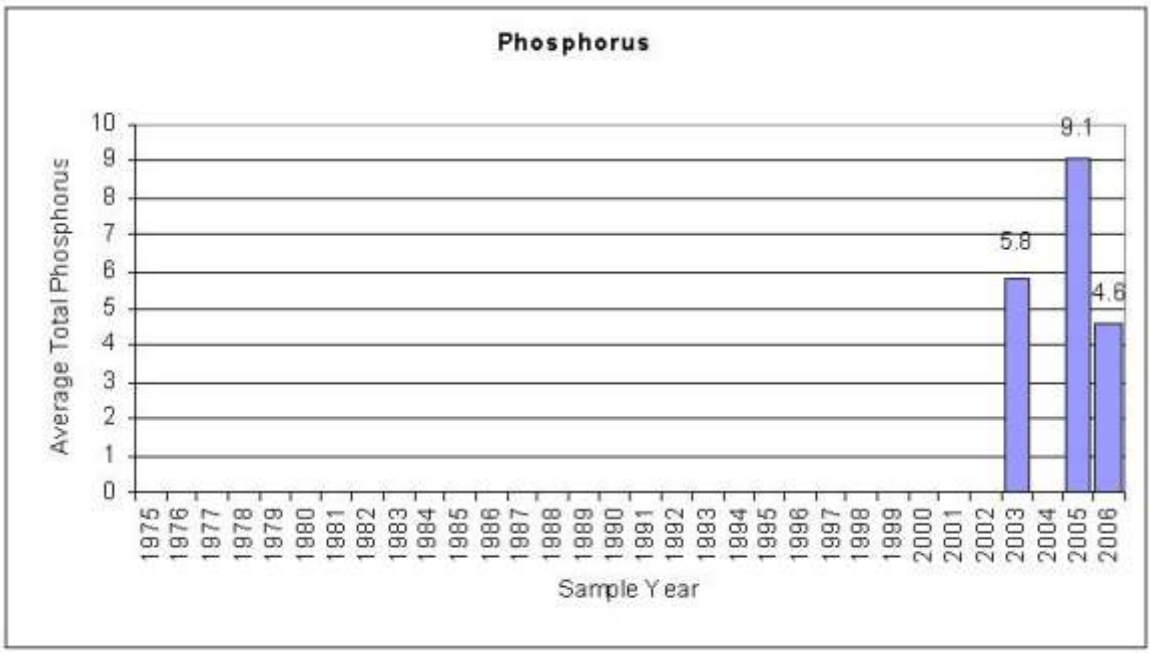
Township:	**Broder**	Phosphorus:	**3.4 µG/L**
Watershed Unit:	**Panache**	Secchi Depth:	**n/a**
Surface Area:	**76.0 ha**	Maximum Depth:	**18.3m (60ft)**
Perimeter:	**5.0 km**	Average No. of residents:	**128**



Crowley

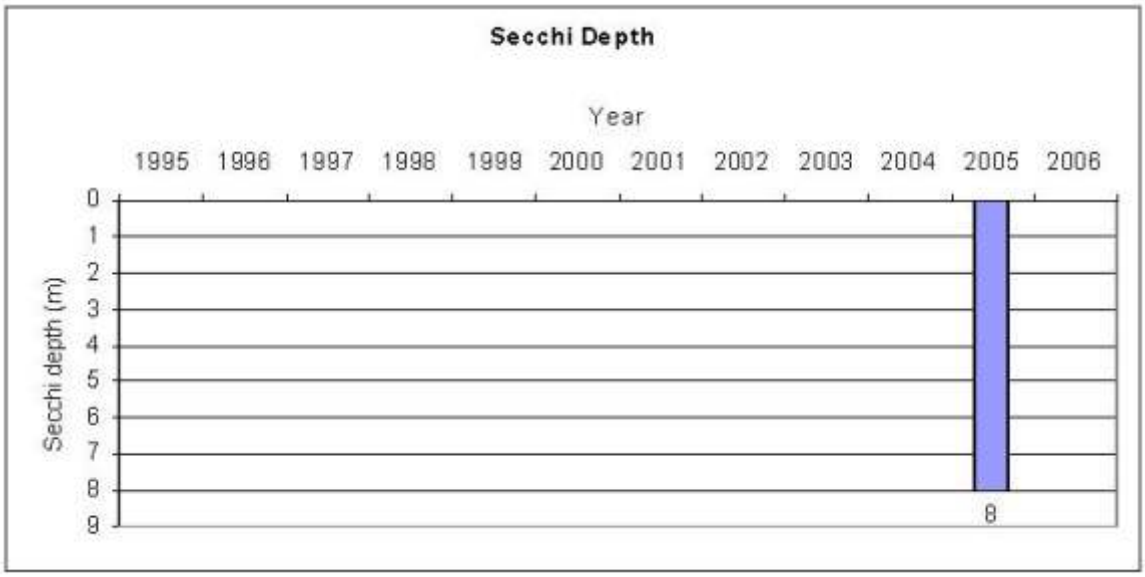
Township:	**Broder**	Phosphorus:	**4.6 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth (2005):	**8 m (26.2 ft.)**
Surface Area:	**43.5 ha**	Maximum Depth:	**16 m (52.5 ft)**
Perimeter:	**6.2 km**	Average No. of residents:	**0**

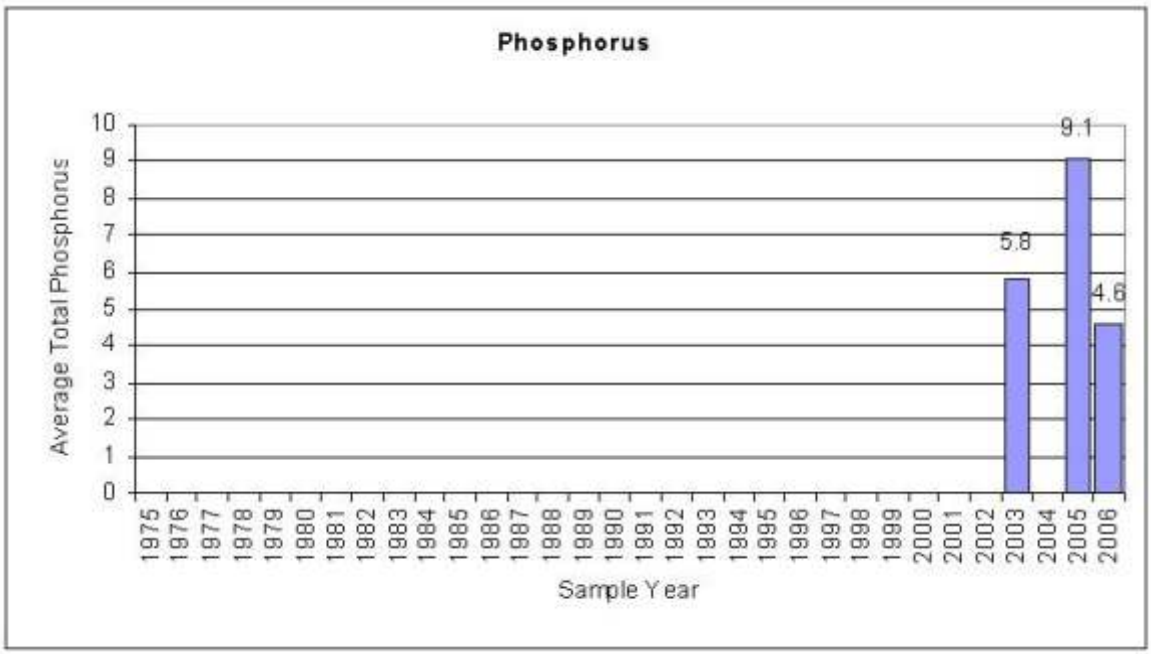




Crowley

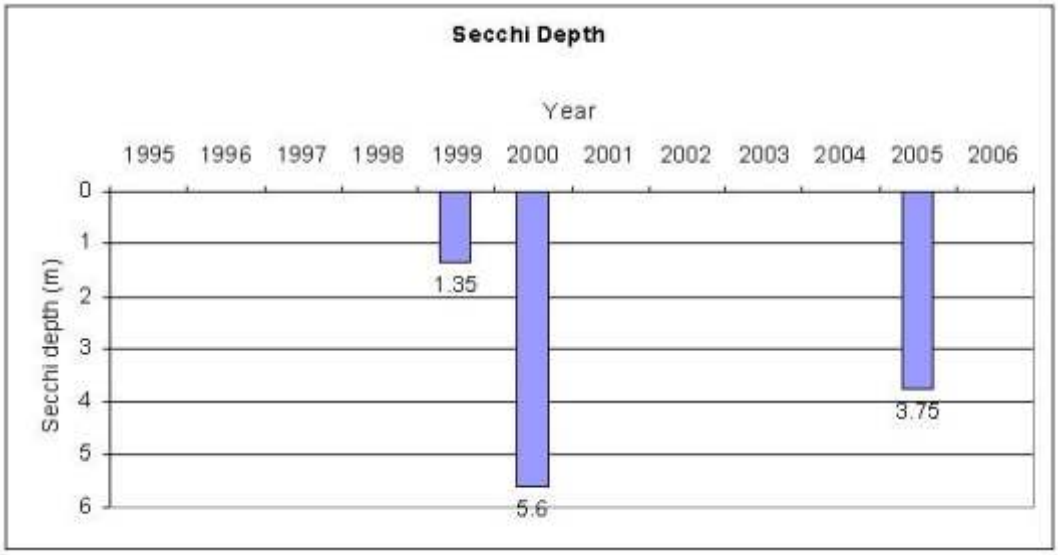
Township:	**Broder**	Phosphorus:	**4.6 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth (2005):	**8 m (26.2 ft.)**
Surface Area:	**43.5 ha**	Maximum Depth:	**16 m (52.5 ft)**
Perimeter:	**6.2 km**	Average No. of residents:	**0**

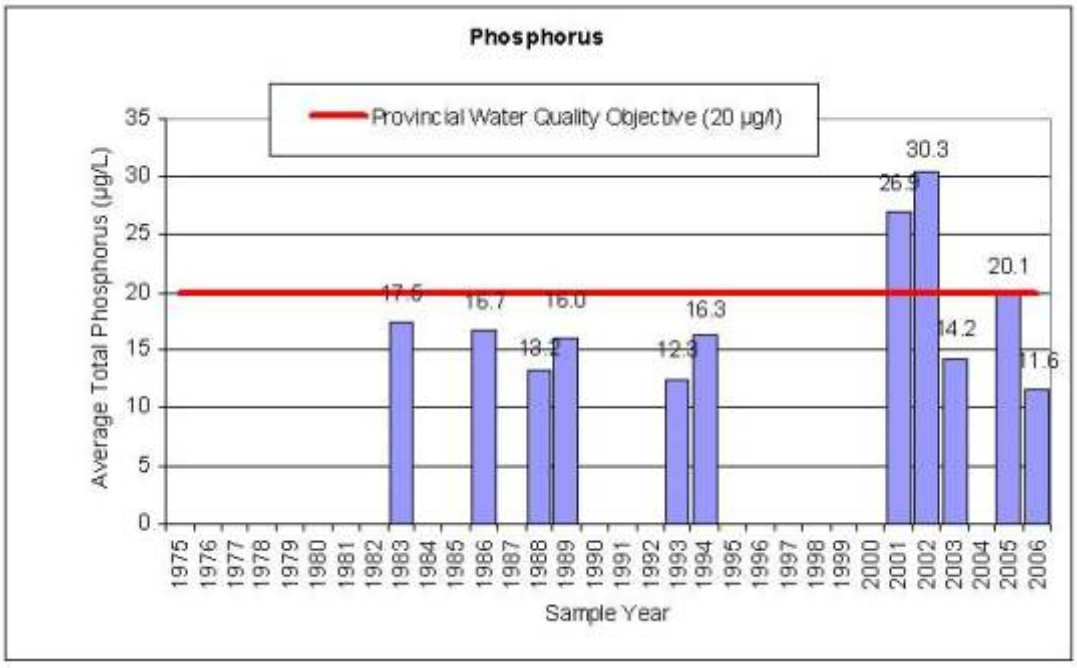




Dill (T)

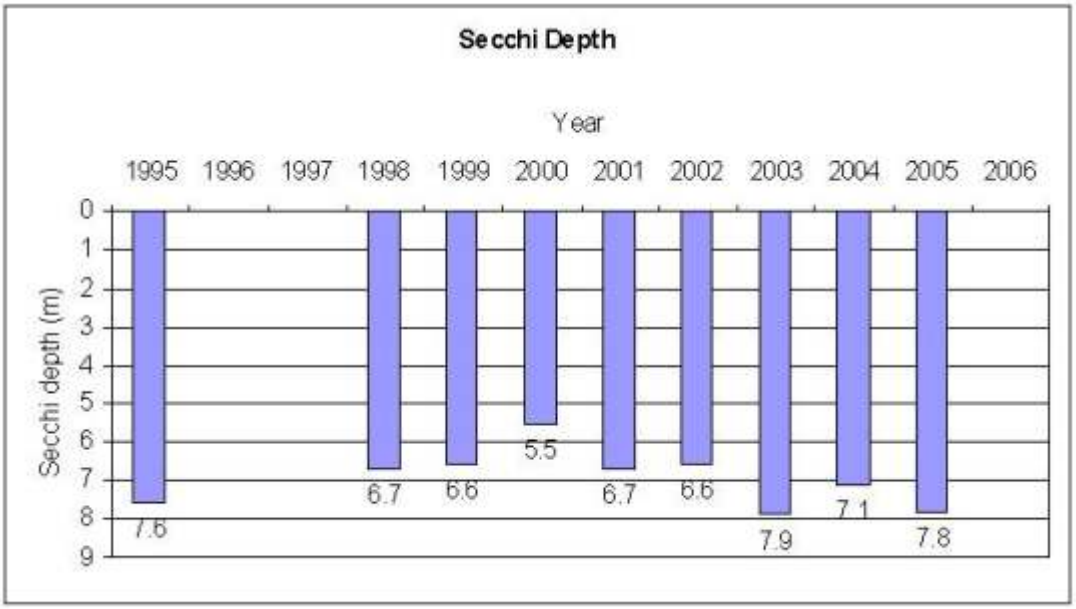
Township:	**Dill**	Phosphorus:	**11.6 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth (2005):	**3.75 m (12.3 ft.)**
Surface Area:	**44.4 ha**	Maximum Depth:	**4 m (13.1 ft.)**
Perimeter:	**8.2 km**	Average No. of residents:	**49**

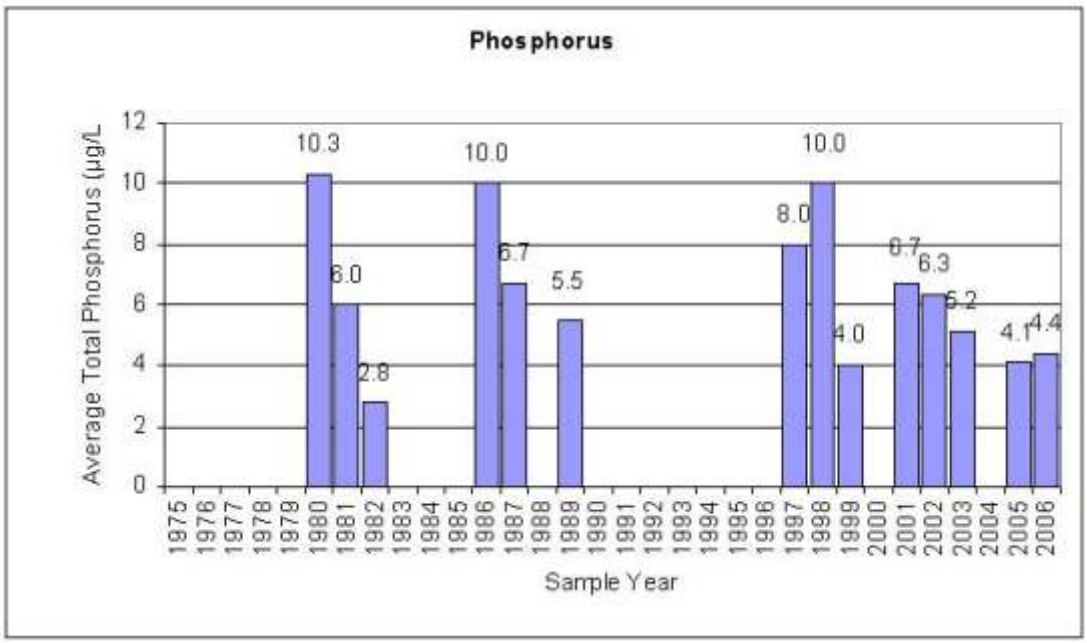




Fairbank

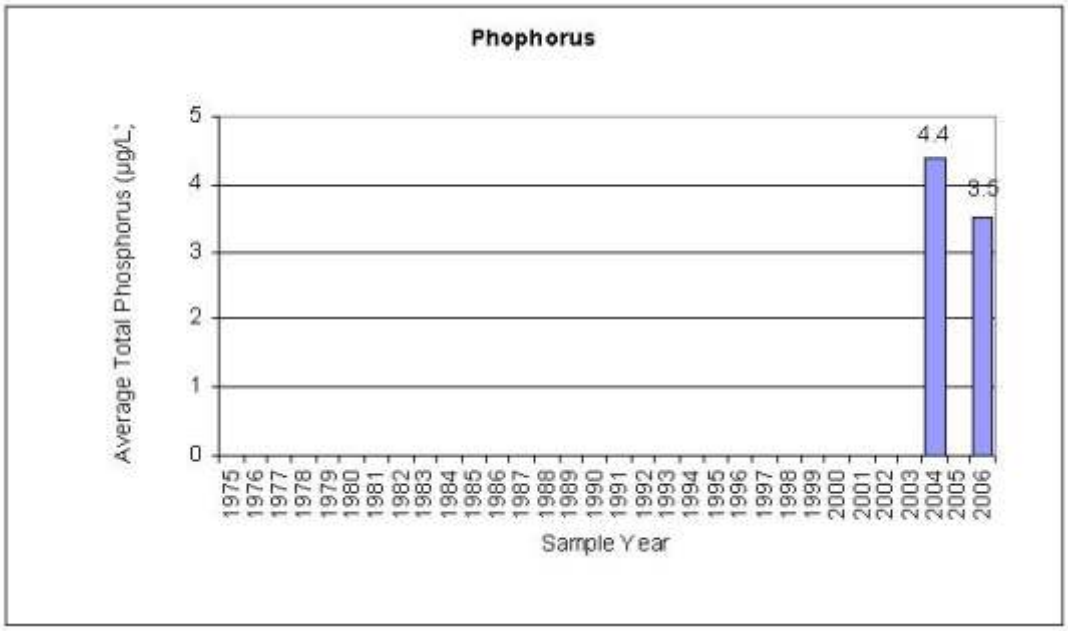
Township:	**Fairbanks**	Phosphorus:	**4.4 µG/L**
Watershed Unit:	**Fairbank**	Secchi Depth (2005):	**7.8 m (25.6 ft.)**
Surface Area:	**705.1 ha**	Maximum Depth:	**42.7 m (140 ft.)**
Perimeter:	**28.2 km**	Average No. of residents:	**417**





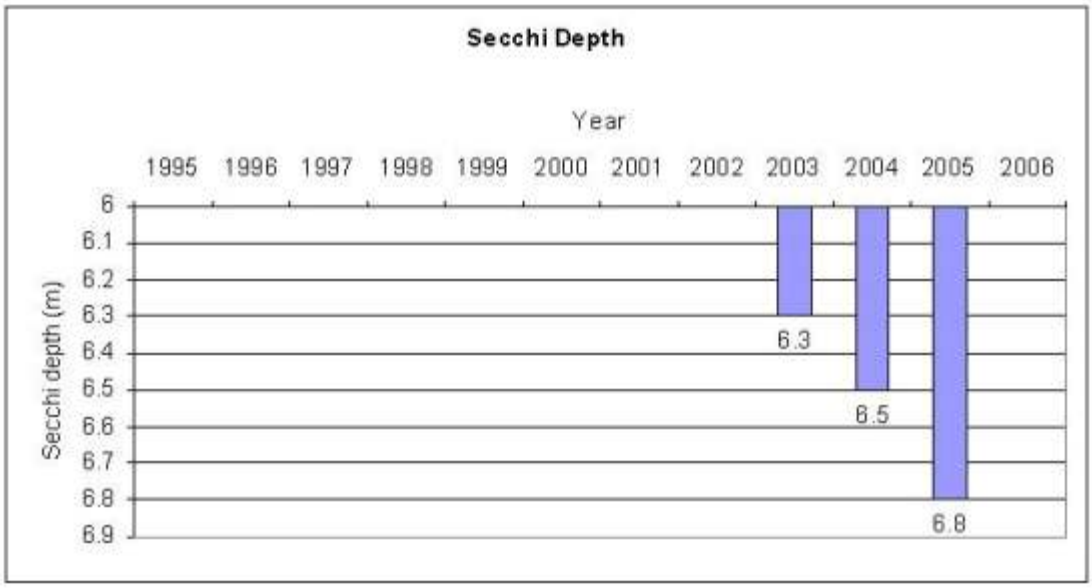
Forest

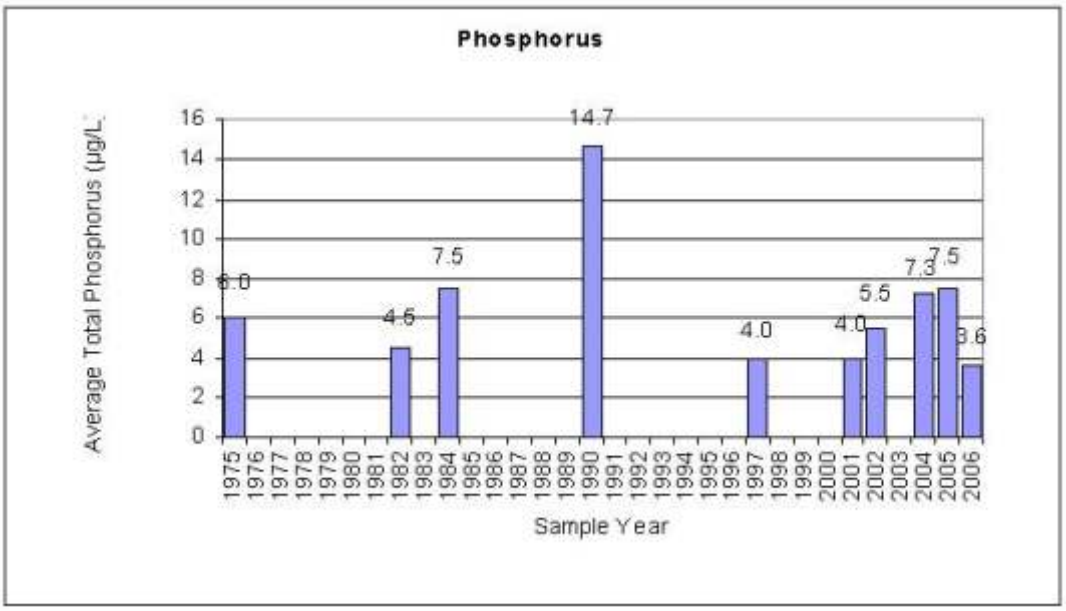
Township:	**Broder**	Phosphorus:	**3.5 µG/L**
Watershed Unit:	**Panache**	Secchi Depth:	**n/a**
Surface Area:	**15.8 ha**	Maximum Depth:	**12 m (39.4 ft.)**
Perimeter:	**2.2 km**	Average No. of residents:	**21**



Frenchman

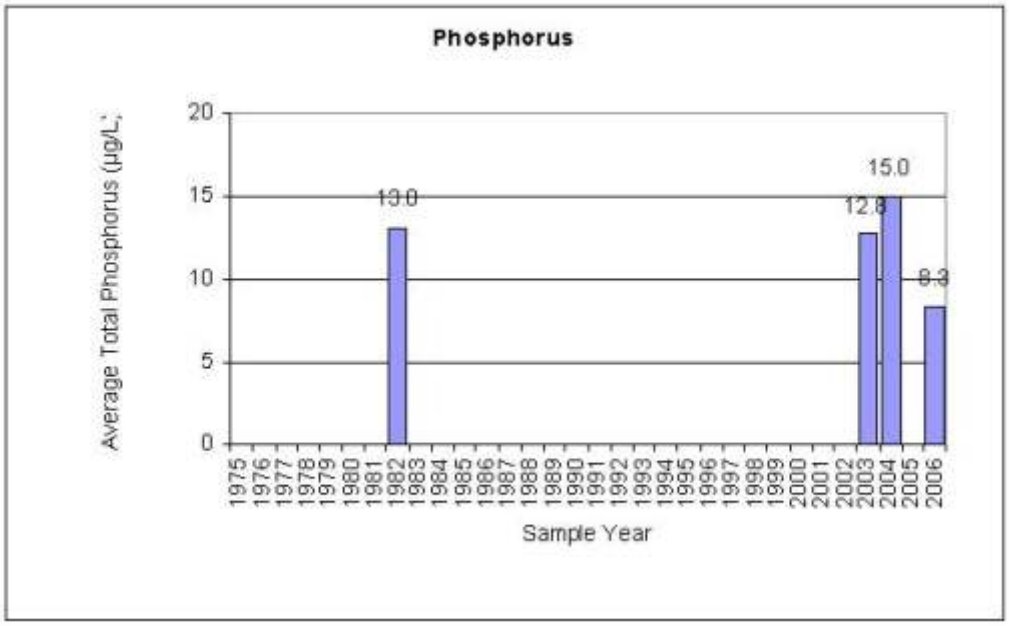
Township:	**Wisner**	Phosphorus:	**3.6 µG/L**
Watershed Unit:	**Upper Vermilion**	Secchi Dept h (2005) :	**6.8 m (22.3 ft)**
Surface Area:	**43.8 ha**	Maximum Depth:	**18.3 m (60 ft)**
Perimeter:	**5.3 km**	Average No. of residents:	**65**





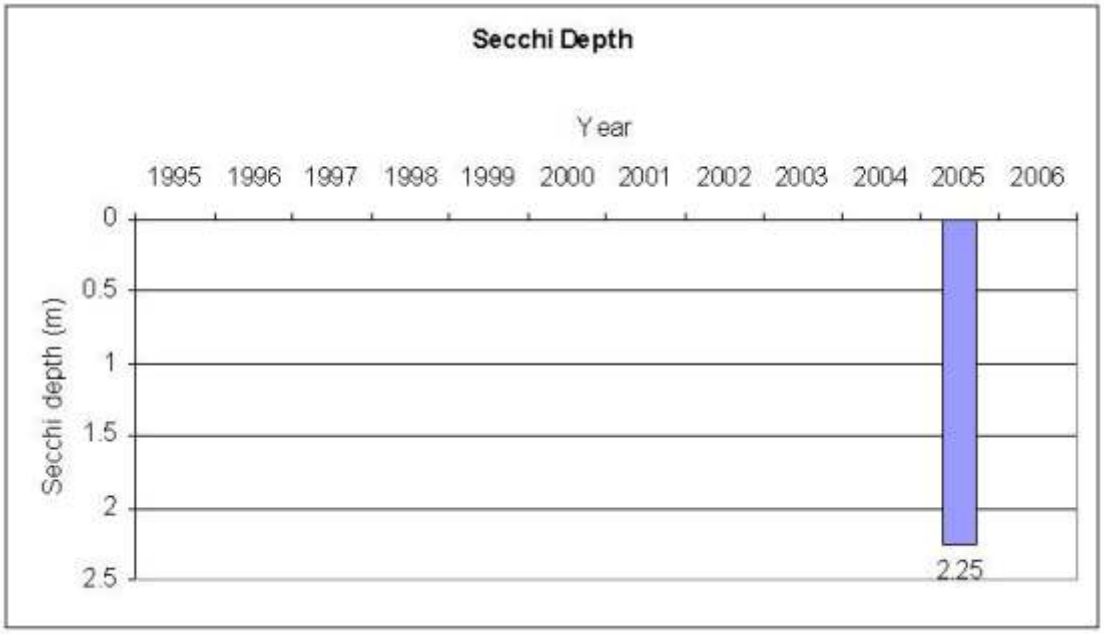
Gordon

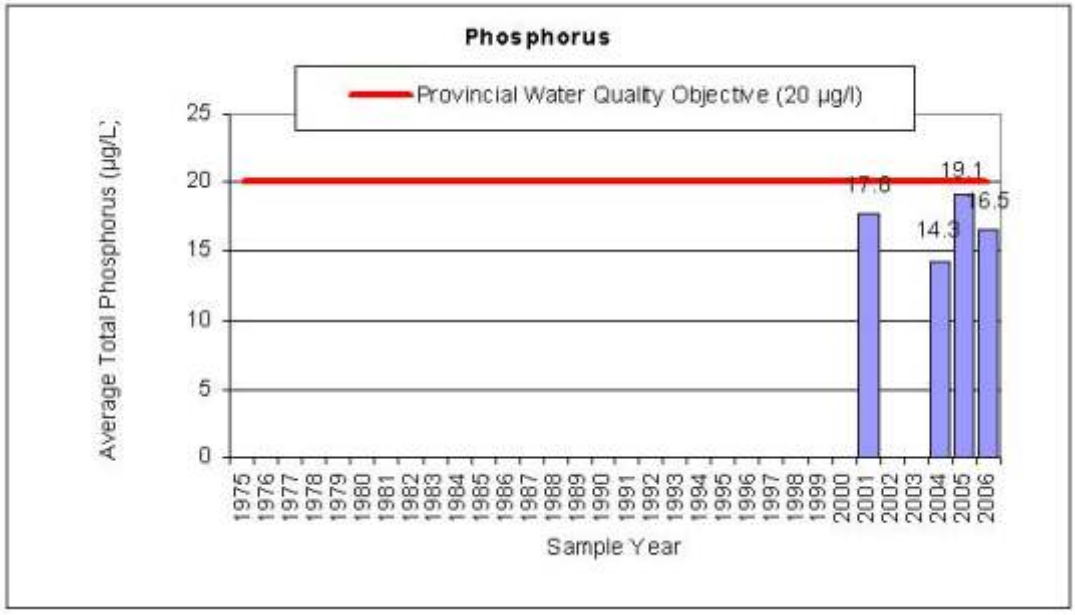
Township:	**Fairbanks**	Phosphorus:	**8.3 µG/L**
Watershed Unit:	**Mid Vermilion**	Secchi Depth:	**n/a**
Surface Area:	**180 ha**	Maximum Depth:	**n/a**
Perimeter:	**13.7 km**	Average No. of residents:	**2**



Grassy

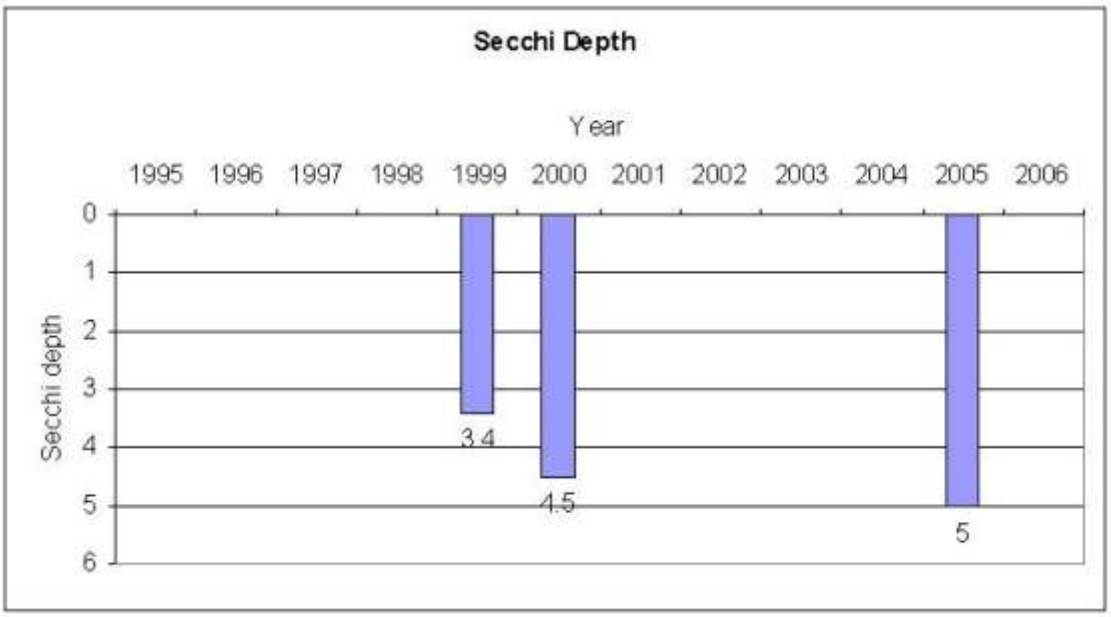
Township:	**Louise**	Phosphorus:	**16.5 µG/L**
Watershed Unit:	**Lower Vermilion**	Secchi Depth (2005):	**2.24 m (7.4 ft)**
Surface Area:	**94.9 ha**	Maximum Depth:	**n/a**
Perimeter:	**8.2 km**	Average No. of residents:	**n/a**

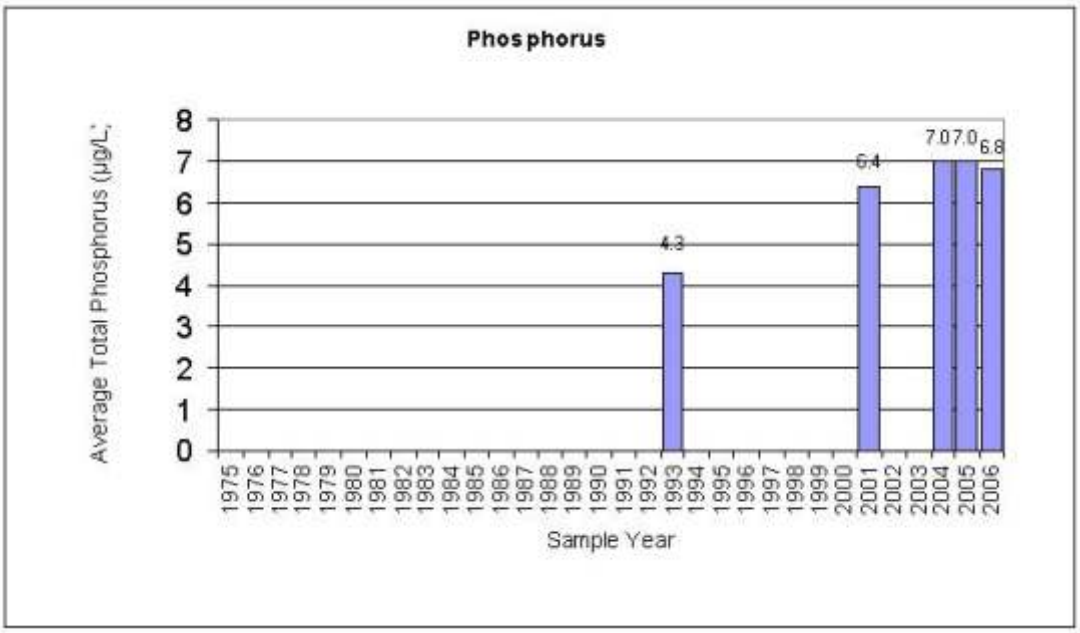




Hannah

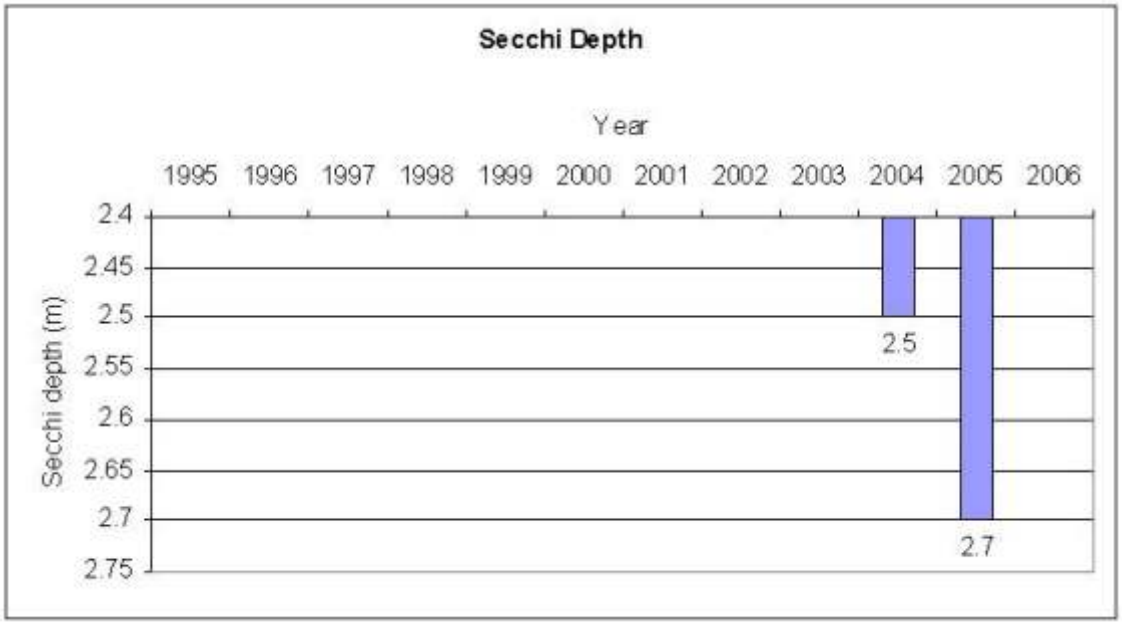
Township:	**Broder**	Phosphorus:	**6.8 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth:	**5.0 m (16.4 ft)**
Surface Area:	**27.7 ha**	Maximum Depth:	**7.62 m (25 ft)**
Perimeter:	**2.8 km**	Average No. of residents:	**42**

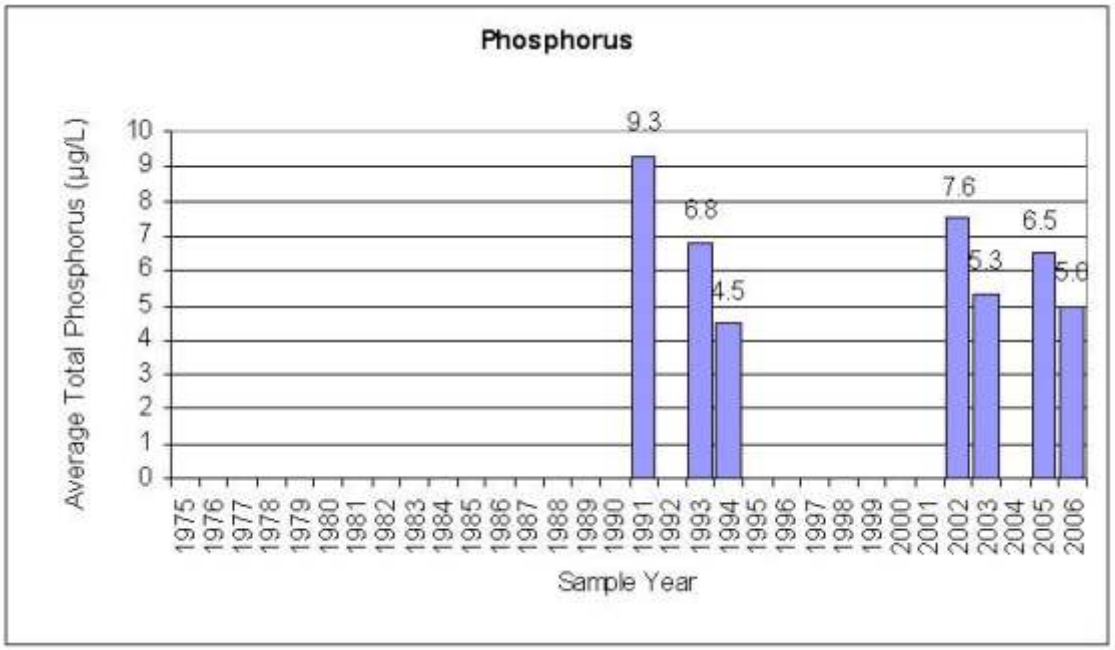




Ironside

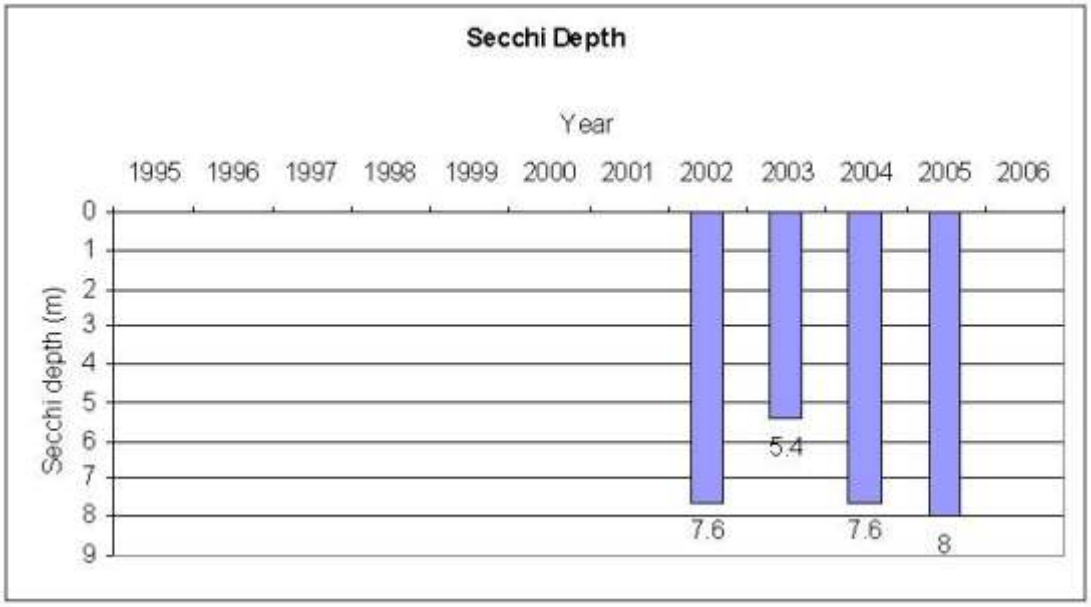
Township:	**Hutton**	Phosphorus:	**5.0 µG/L**
Watershed Unit:	**Roberts River**	Secchi Depth (2005):	**2.7 m (8.9 ft)**
Surface Area:	**80.4 ha**	Maximum Depth:	**n/a**
Perimeter:	**10.8 km**	Average No. of residents:	**n/a**

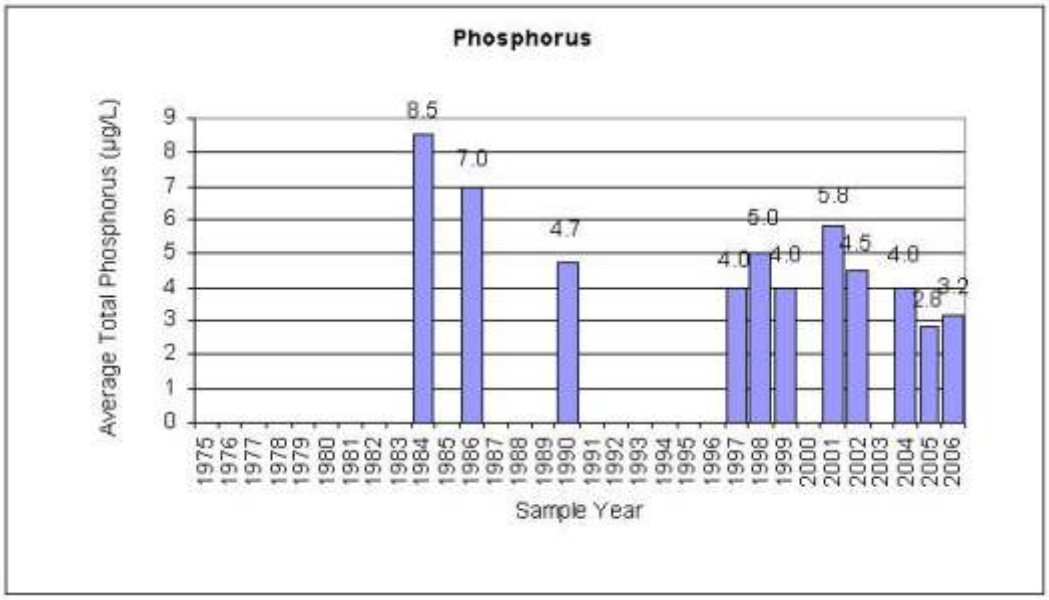




Joe

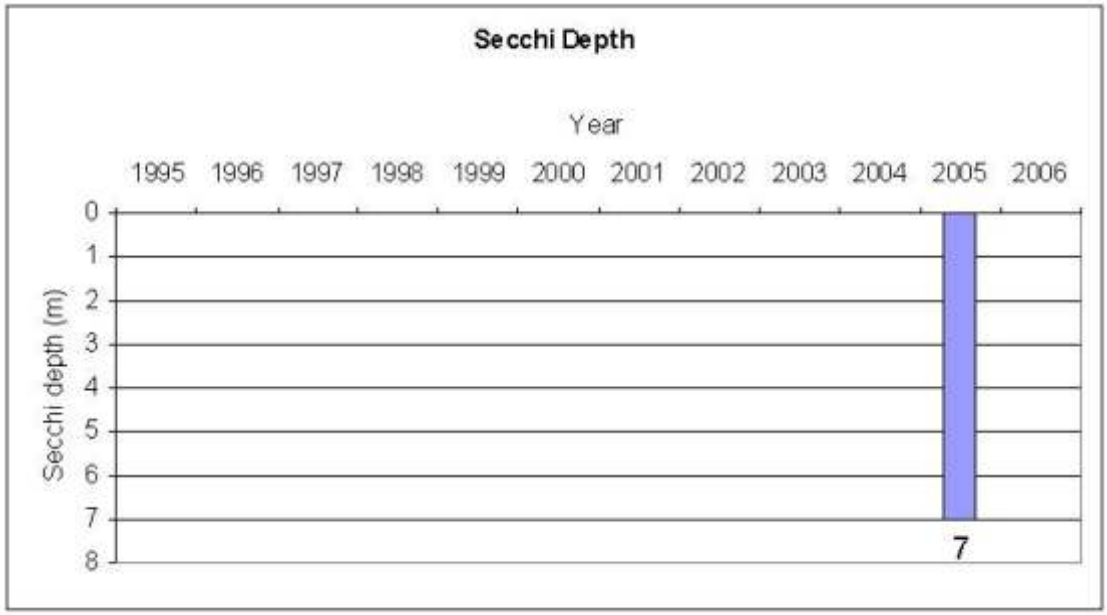
Township:	**Wisner**	Phosphorus:	**3.2 µG/L**
Watershed Unit:	**Rapid River**	Secchi Depth (2005):	**8.0 m (26.2 ft)**
Surface Area:	**216.2 ha**	Maximum Depth:	**33.5 m (110 ft)**
Perimeter:	**18.7 km**	Average No. of residents:	**75**

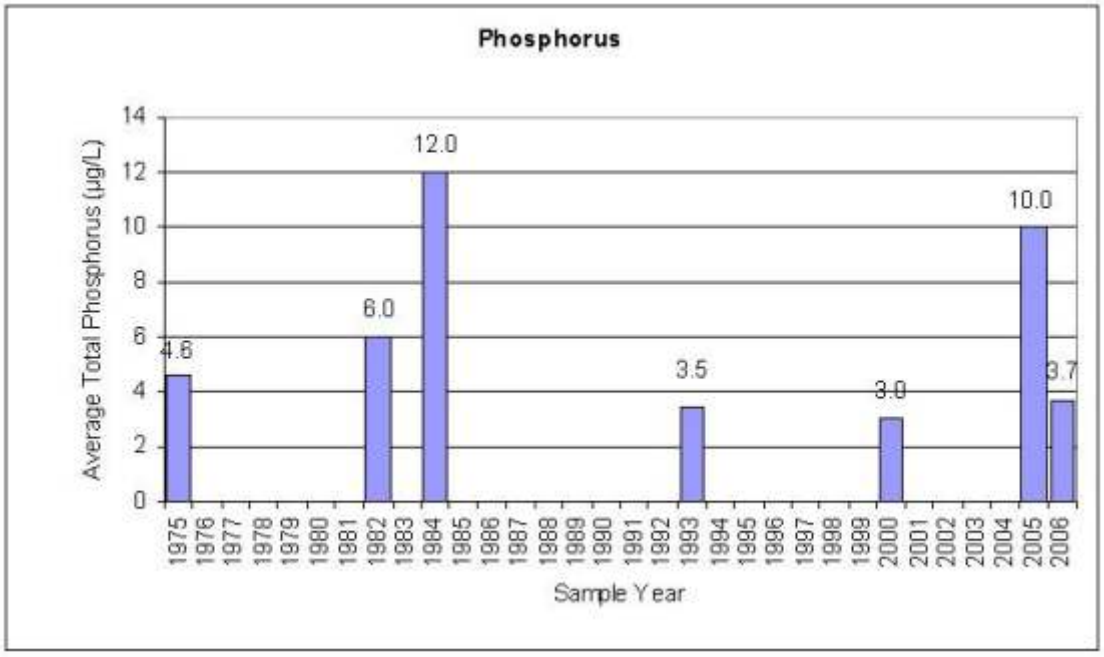




Kukagami

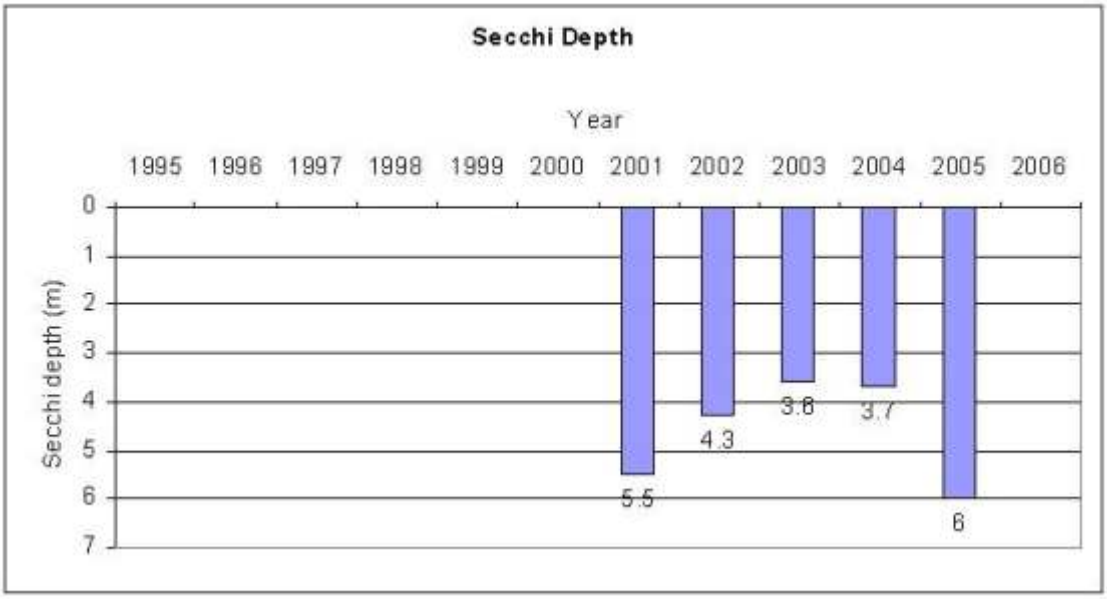
Township:	**Kelly**	Phosphorus:	**3.7 µG/L**
Watershed Unit:	**Kukagami**	Secchi Depth (2005):	**7.0 m (23 ft)**
Surface Area:	**1864.8 ha**	Maximum Depth:	**n/a**
Perimeter:	**130.9 km**	Average No. of residents:	**n/a**

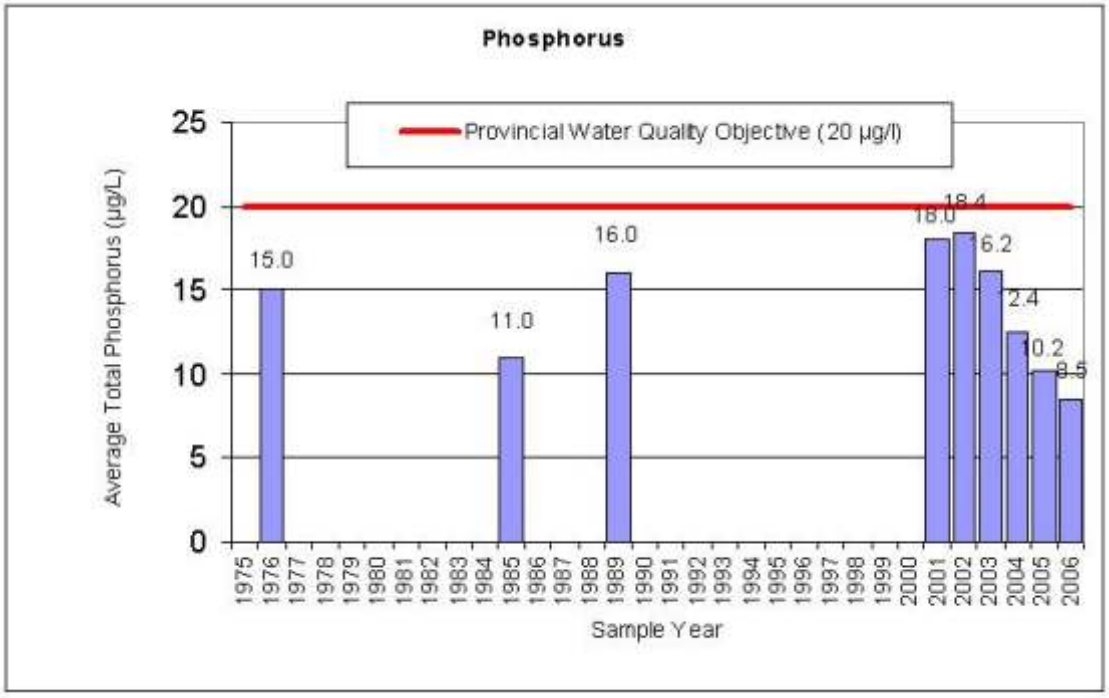




Little Panache

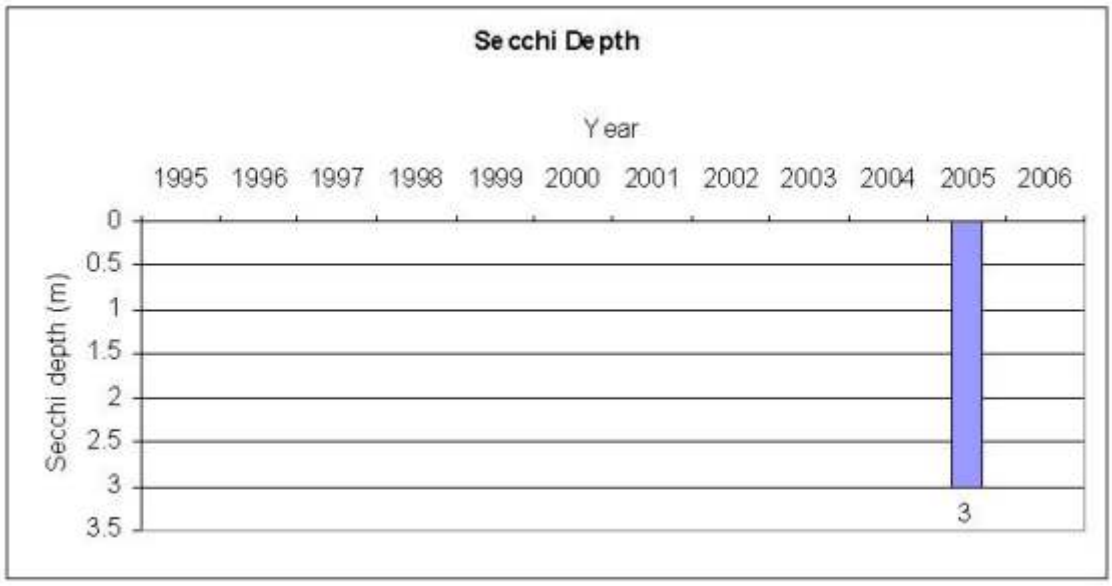
Township:	**Louise**	Phosphorus:	**8.5 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2005):	**6.0 m (19.7 ft)**
Surface Area:	**102.9 ha**	Maximum Depth:	**27.4 m (90 ft)**
Perimeter:	**6.9 km**	Average No. of residents:	**119**

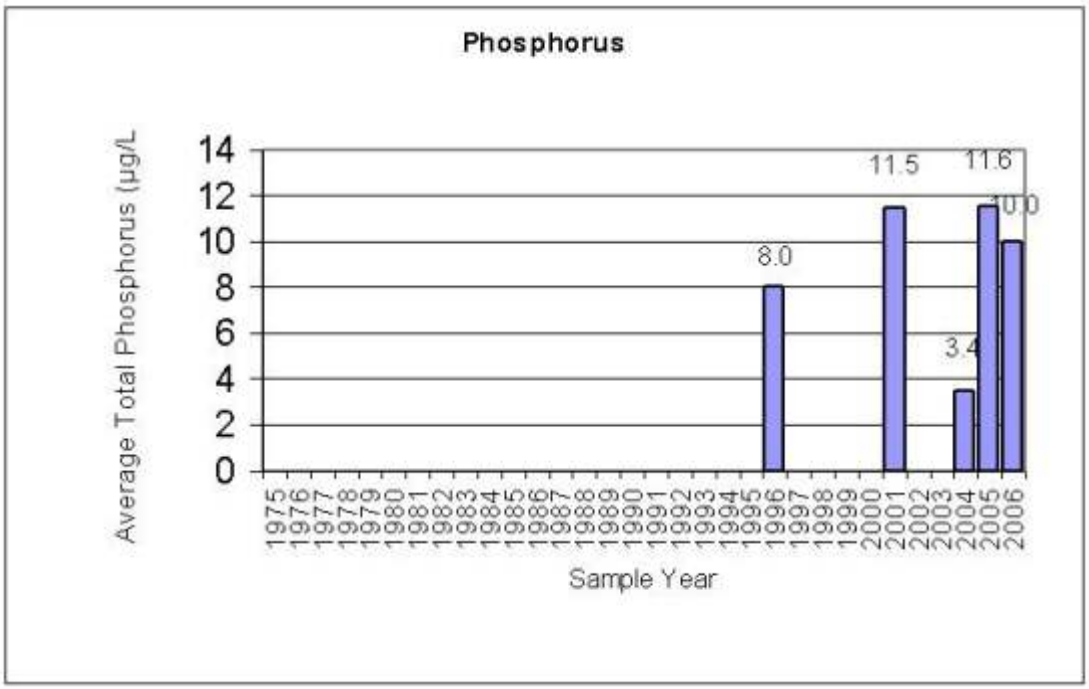




Little Raft

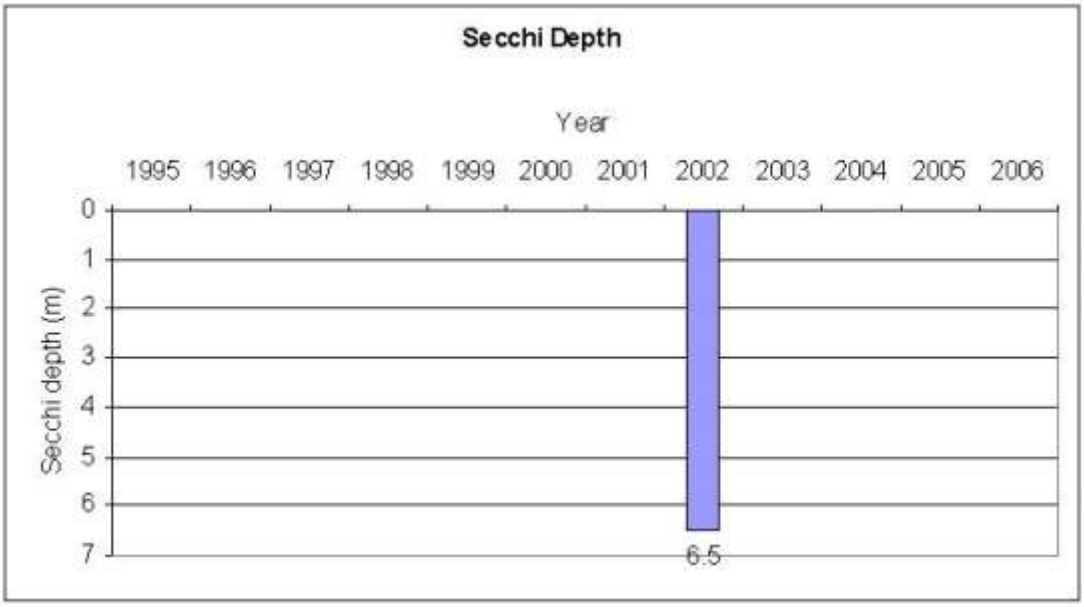
Township:	**Broder/Dill**	Phosphorus:	**10.0 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth (2005):	**3.0 m (32.8 ft)**
Surface Area:	**19.7 ha**	Maximum Depth:	**3.0 m (32.8 ft)**
Perimeter:	**2.3 km**	Average No. of residents:	**8**

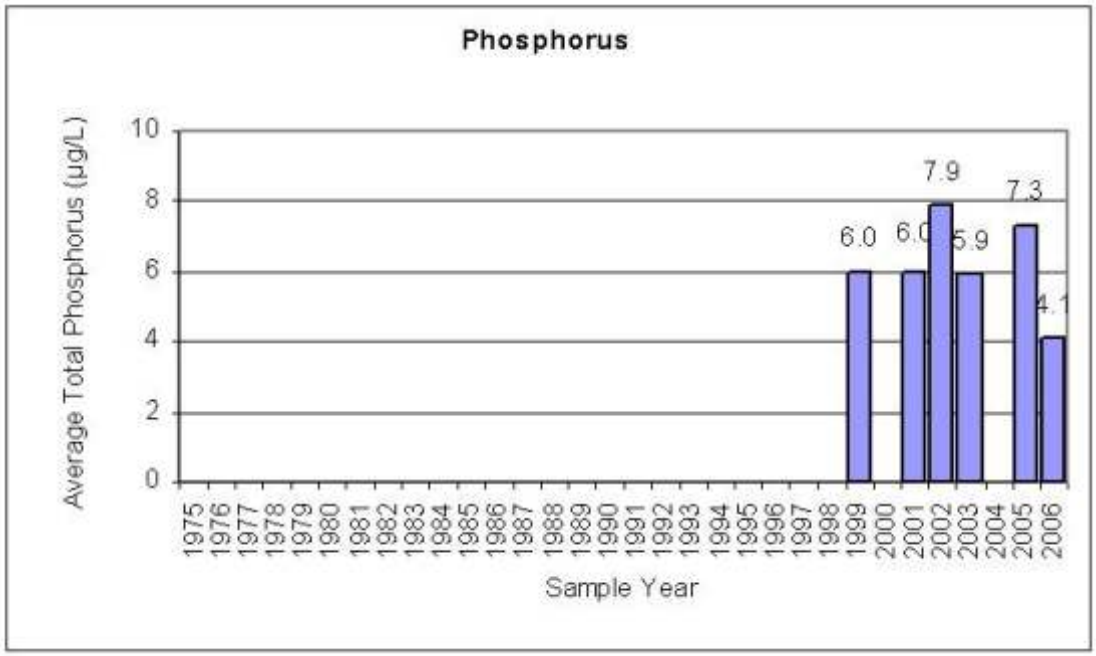




Lohi

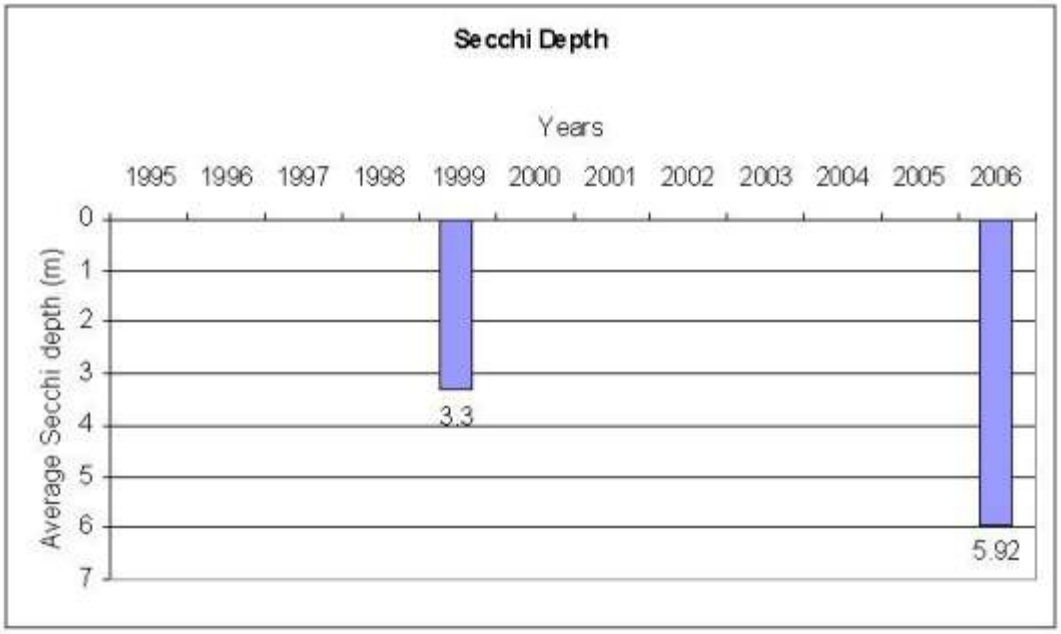
Township:	**Broder**	Phosphorus:	**4.1 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2002):	**6.5 m (21.3 ft)**
Surface Area:	**41.6 ha**	Maximum Depth:	**19 m (62.3 ft)**
Perimeter:	**4.4 km**	Average No. of residents:	**65**

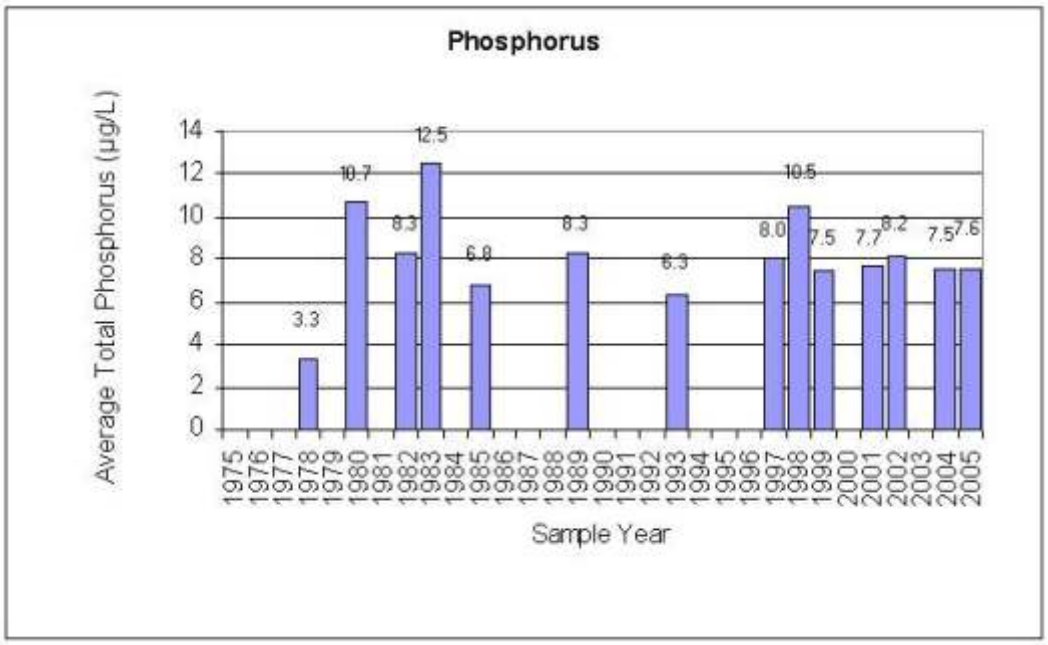




Long

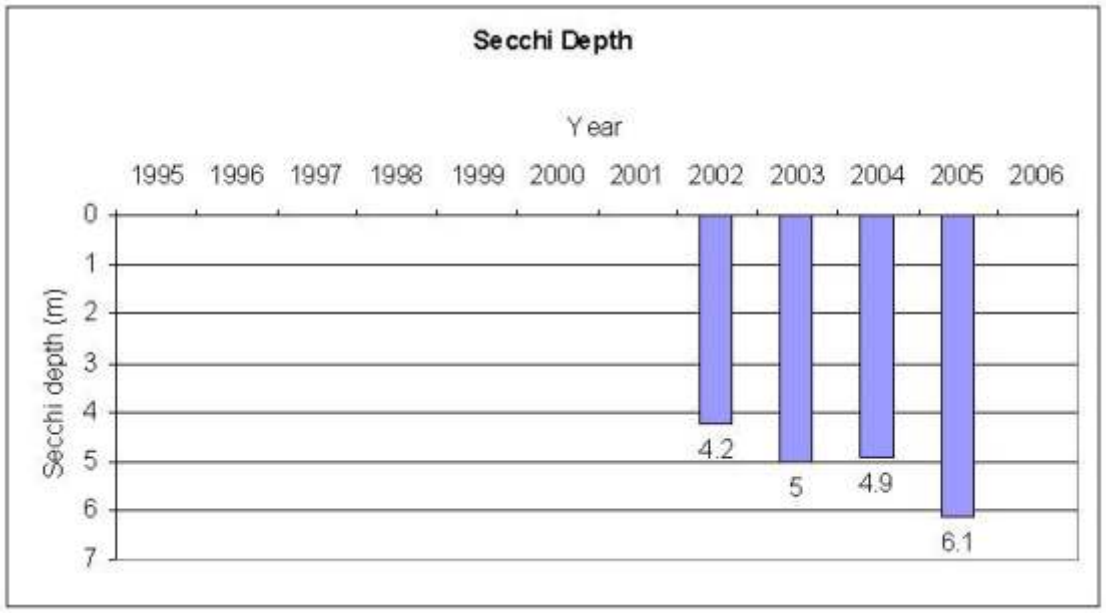
Township:	**Eden**	Phosphorus:	**7.6µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2006):	**5.92 m (19.4 ft)**
Surface Area:	**861.3 ha**	Maximum Depth:	**36.6 m(120ft)**
Perimeter:	**52.9 km**	Average No. of residents:	**1083**

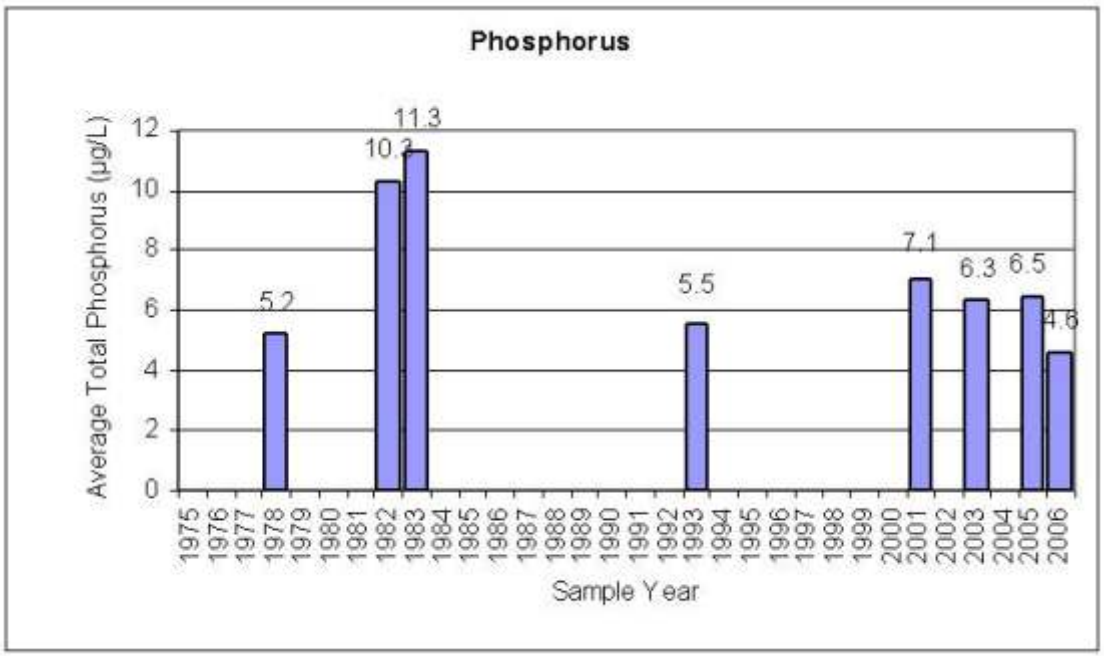




Makada (Black)

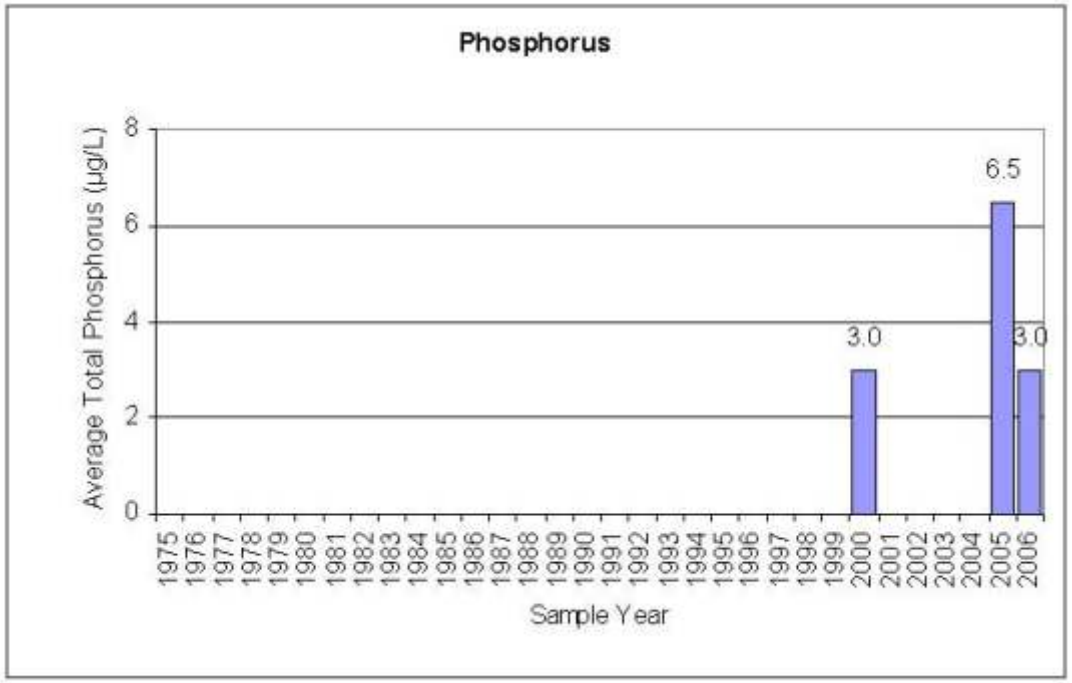
Township:	**Waters**	Phosphorus:	**4.6µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2005):	**6.1 m**
Surface Area:	**353.8 ha**	Maximum Depth:	**n/a**
Perimeter:	**18.9 km**	Average No. of residents:	**137**





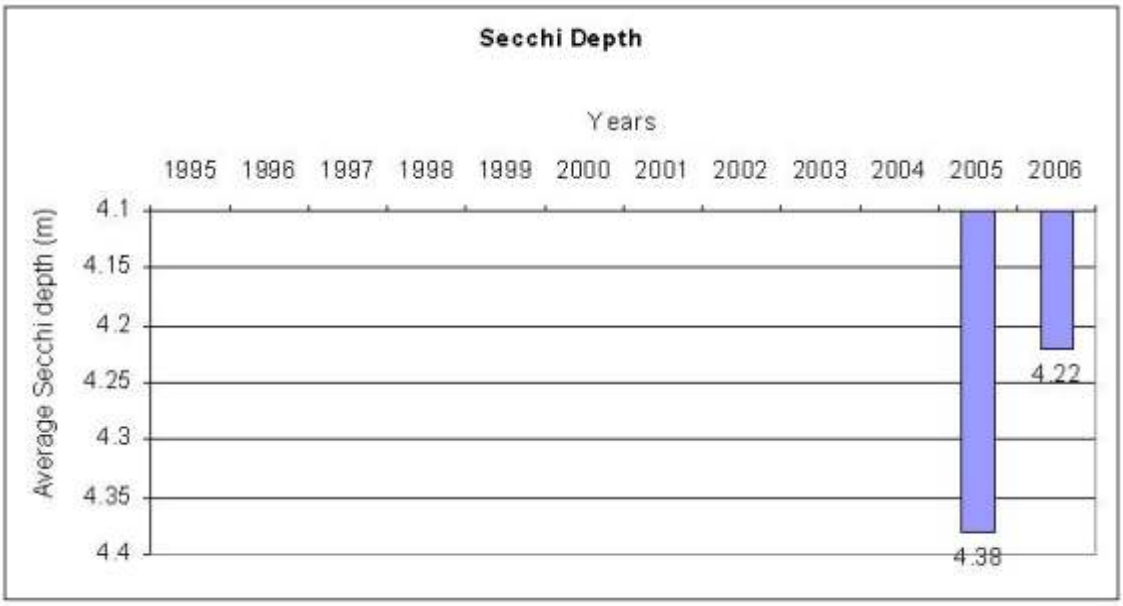
Matagamasi

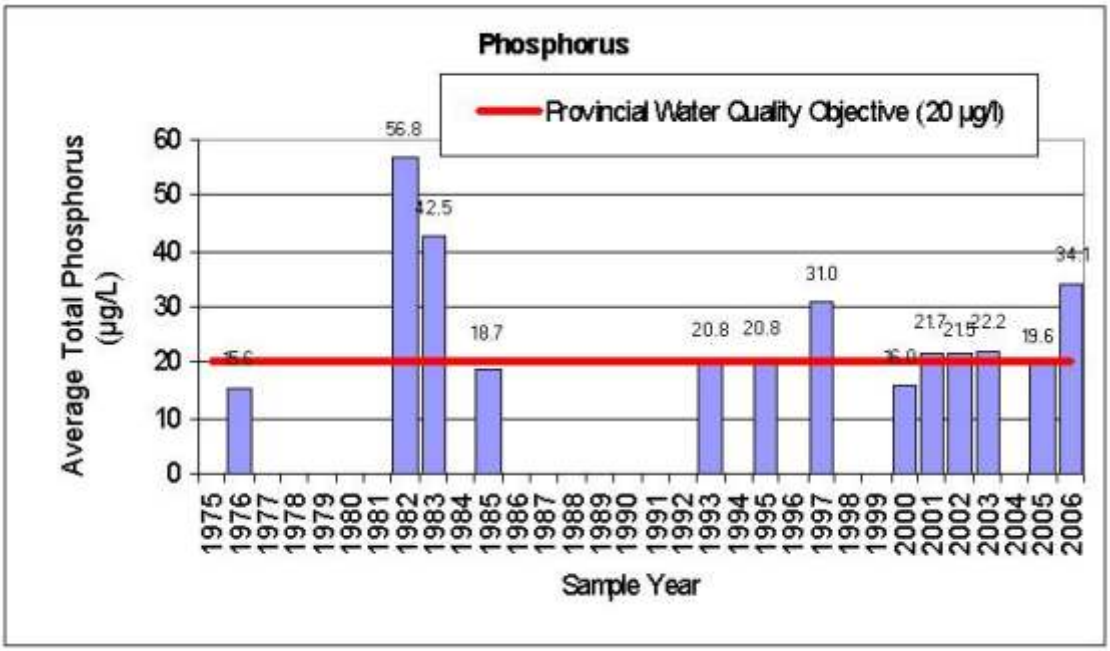
Township:	**Rathburn**	Phosphorus:	**3.0 µG/L**
Watershed Unit:	**Kukagami**	Secchi Depth (2005):	**n/a**
Surface Area:	**1317.1 ha**	Maximum Depth:	**n/a**
Perimeter:	**107.9 km**	Average No. of residents:	**n/a**



McCharles

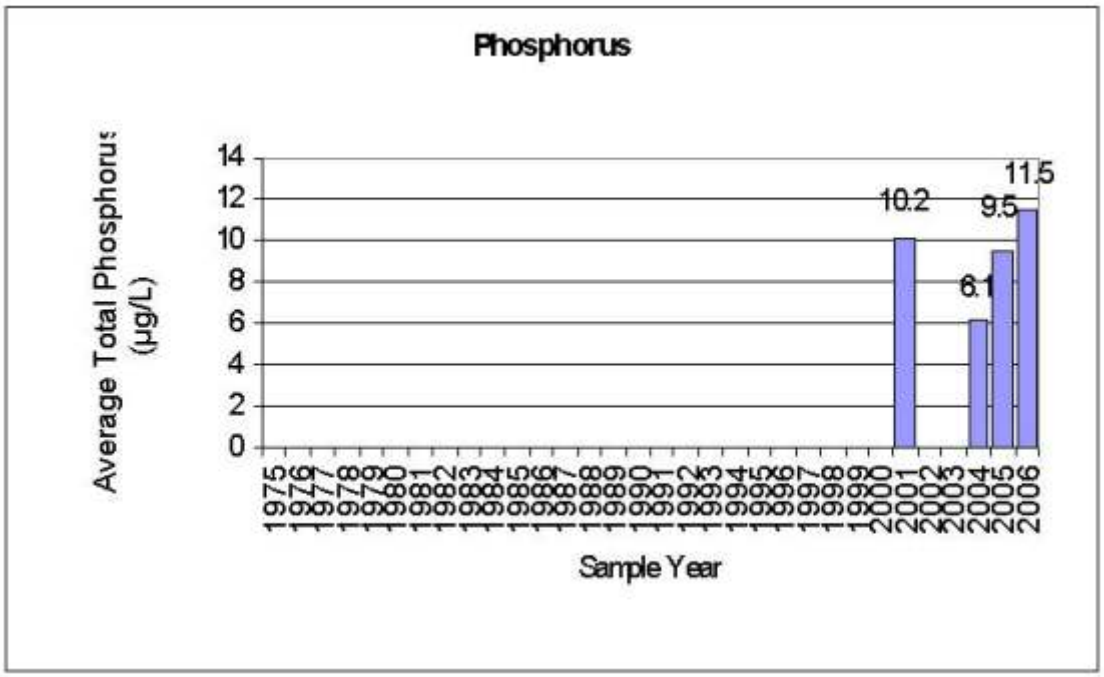
Township:	**Graham**	Phosphorus:	**34.1µG/L**
Watershed Unit:	**Lower Junction Creek**	Secchi Depth (2006):	**4.22 m (13.8 ft)**
Surface Area:	**150.1 ha**	Maximum Depth:	**12.2 m (40 ft)**
Perimeter:	**12.7 km**	Average No. of residents:	**121**





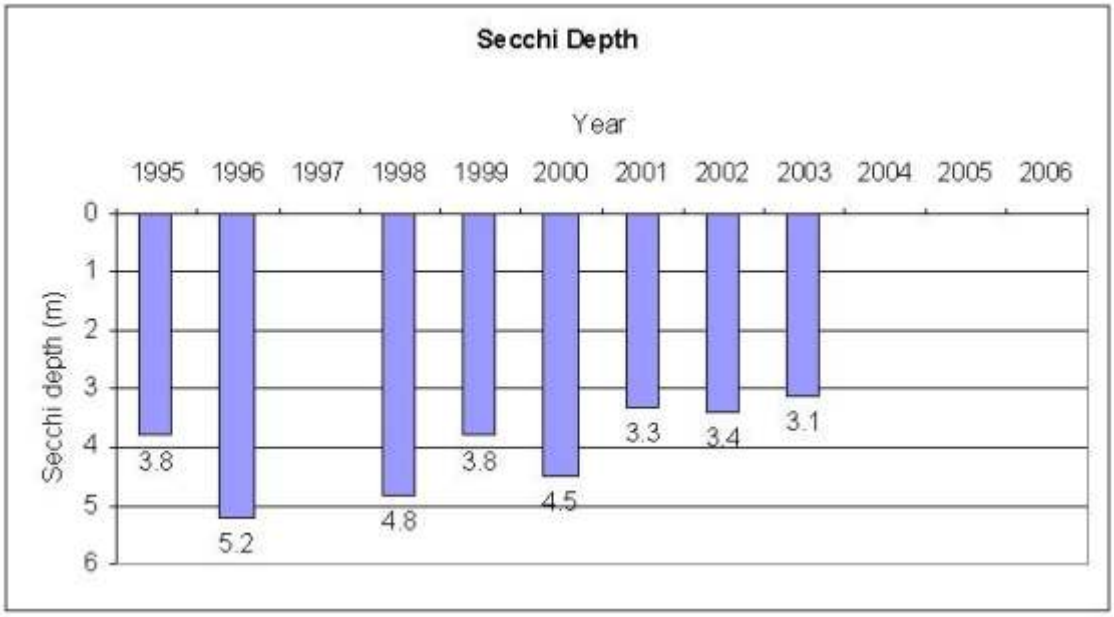
McCrea

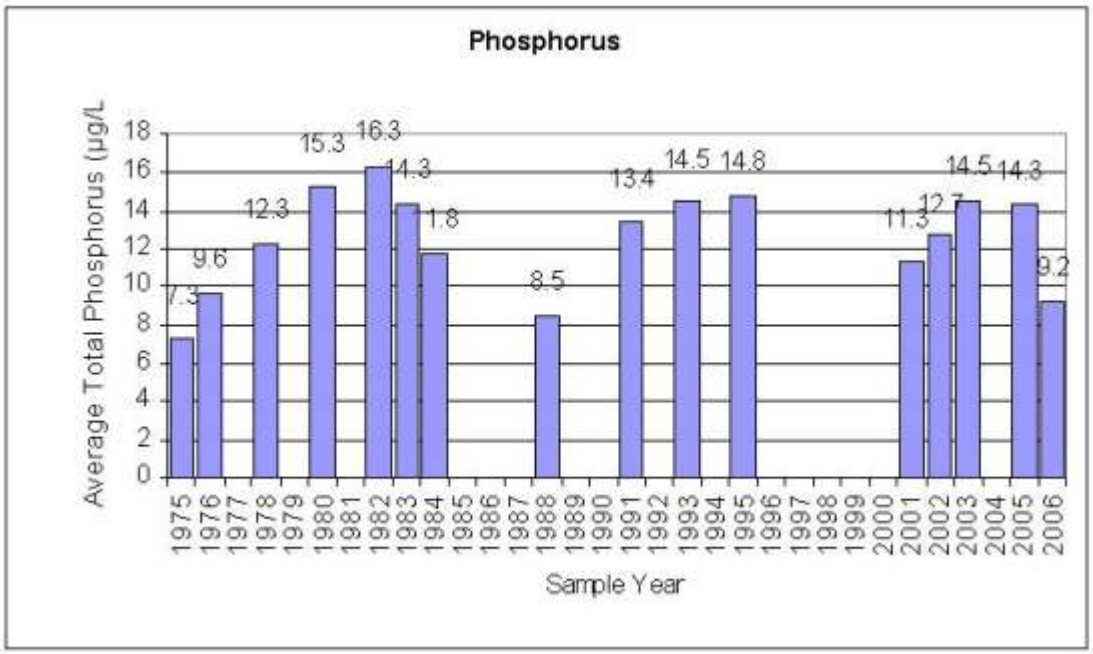
Township:	**Blezard**	Phosphorus:	**11.5 µG/L**
Watershed Unit:	**Whitson River**	Secchi Depth:	**n/a**
Surface Area:	**15.7 ha**	Maximum Depth:	**4 m (13 ft)**
Perimeter:	**2.6 km**	Average No. of residents:	**84**



McFarlane

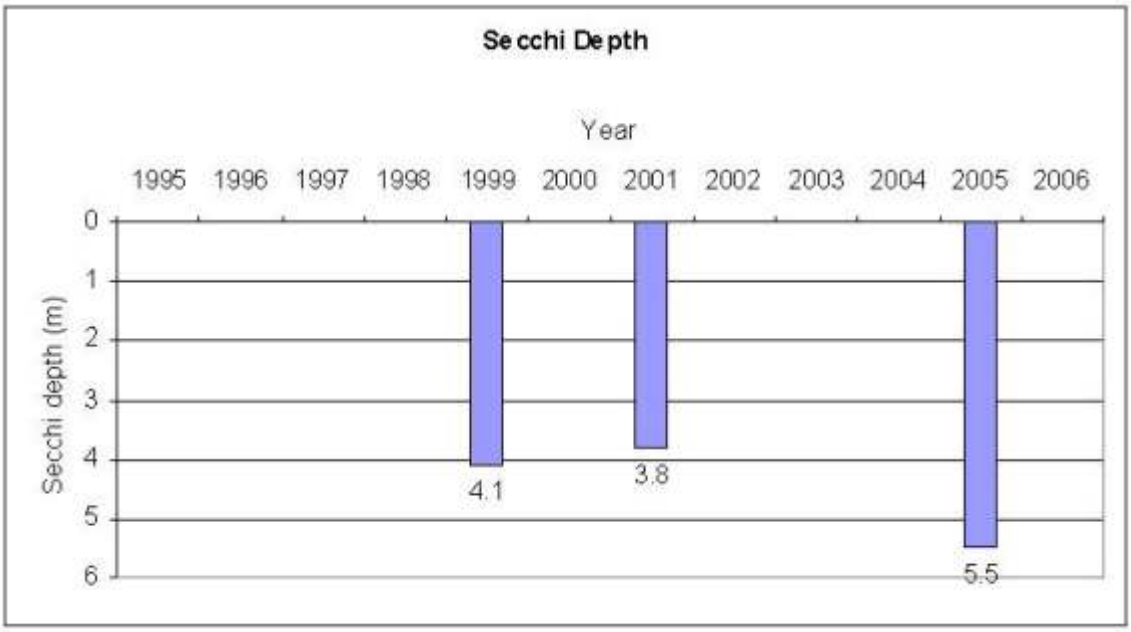
Township:	**Broder**	Phosphorus:	**9.2 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2003):	**3.1 m (10.2 ft)**
Surface Area:	**166.1 ha**	Maximum Depth:	**18.3 m (60 ft)**
Perimeter:	**9.6 km**	Average No. of residents:	**283**

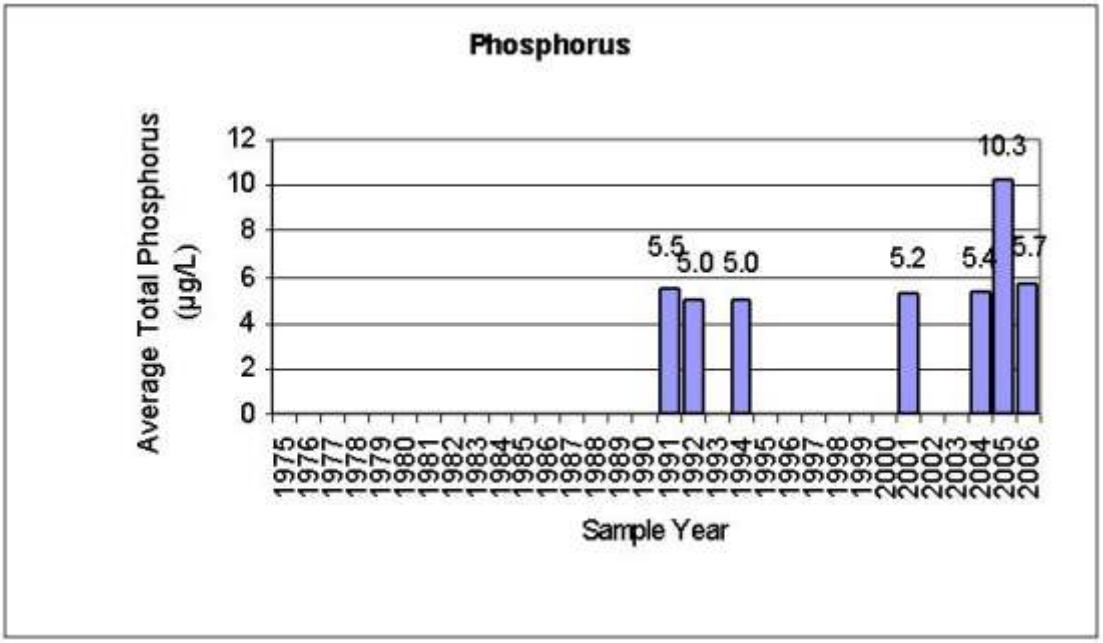




Middle

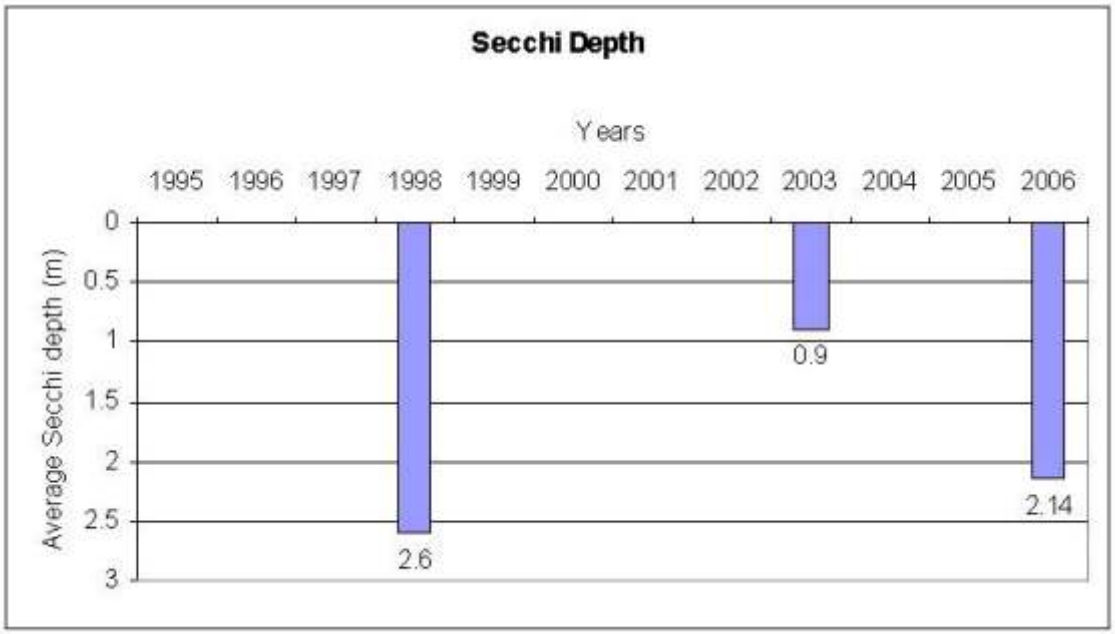
Township:	**Broder**	Phosphorus:	**5.7 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth (2005):	**5.5 m (18 ft)**
Surface Area:	**28.1 ha**	Maximum Depth:	**12 m (39.4 ft)**
Perimeter:	**3.4 km**	Average No. of residents:	**61**

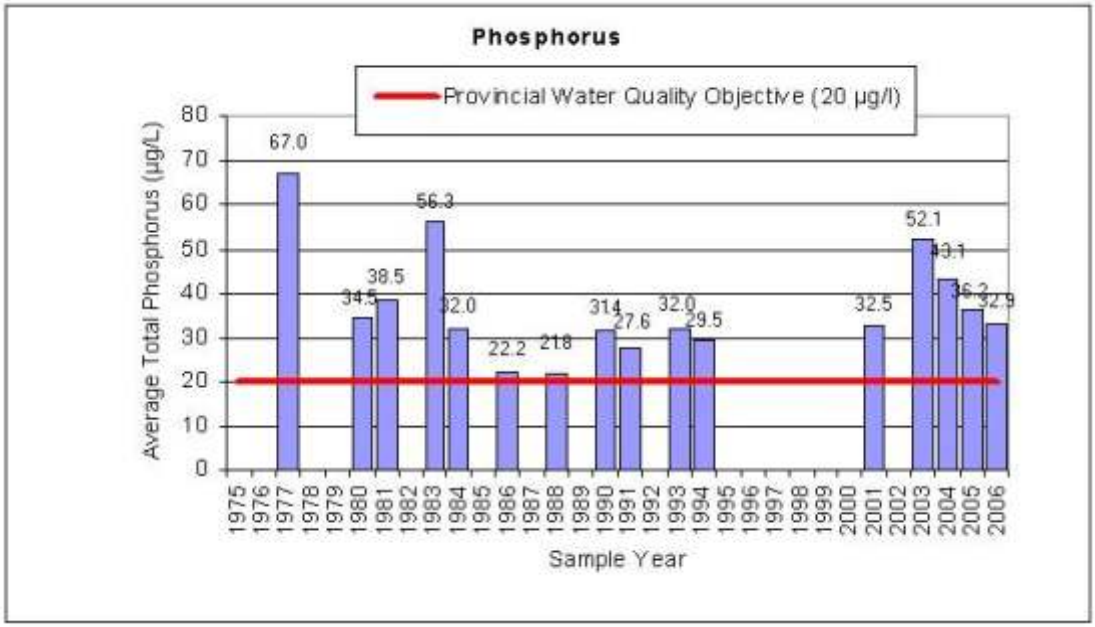




Minnow

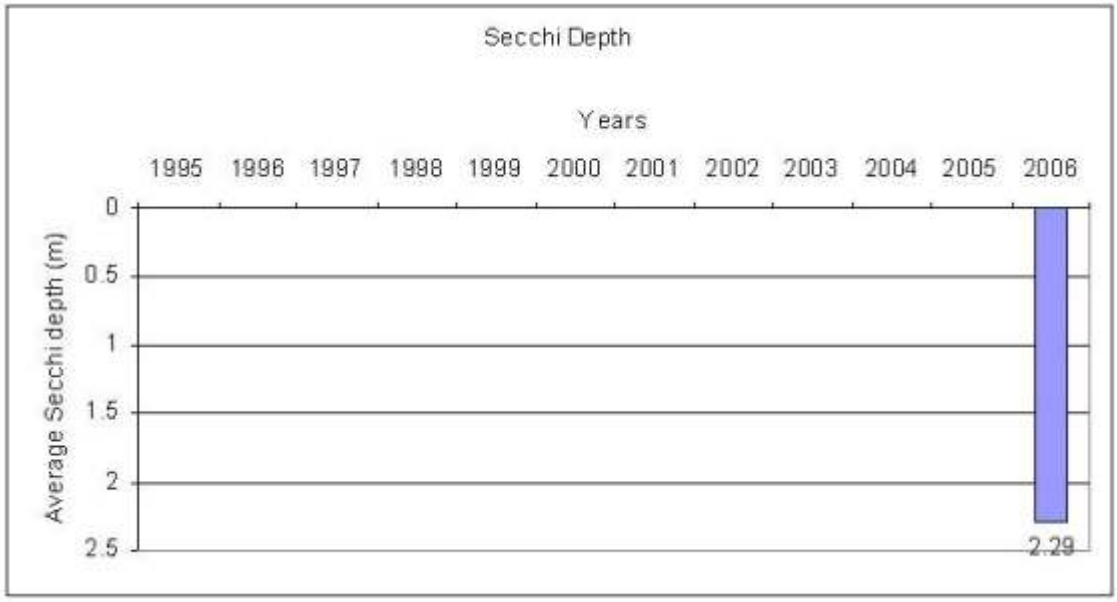
Township:	**McKim**	Phosphorus:	**32.9 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth (2006):	**2.14 m (7.0 ft)**
Surface Area:	**20.9 ha**	Maximum Depth:	**n/a**
Perimeter:	**2.1 km**	Average No. of residents:	**105**

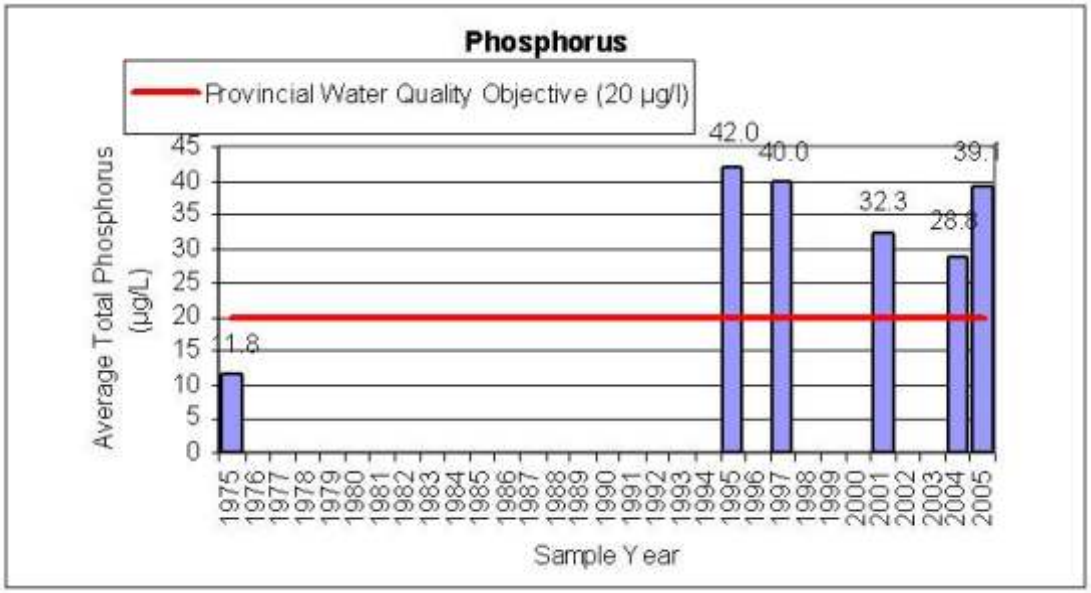




Mud

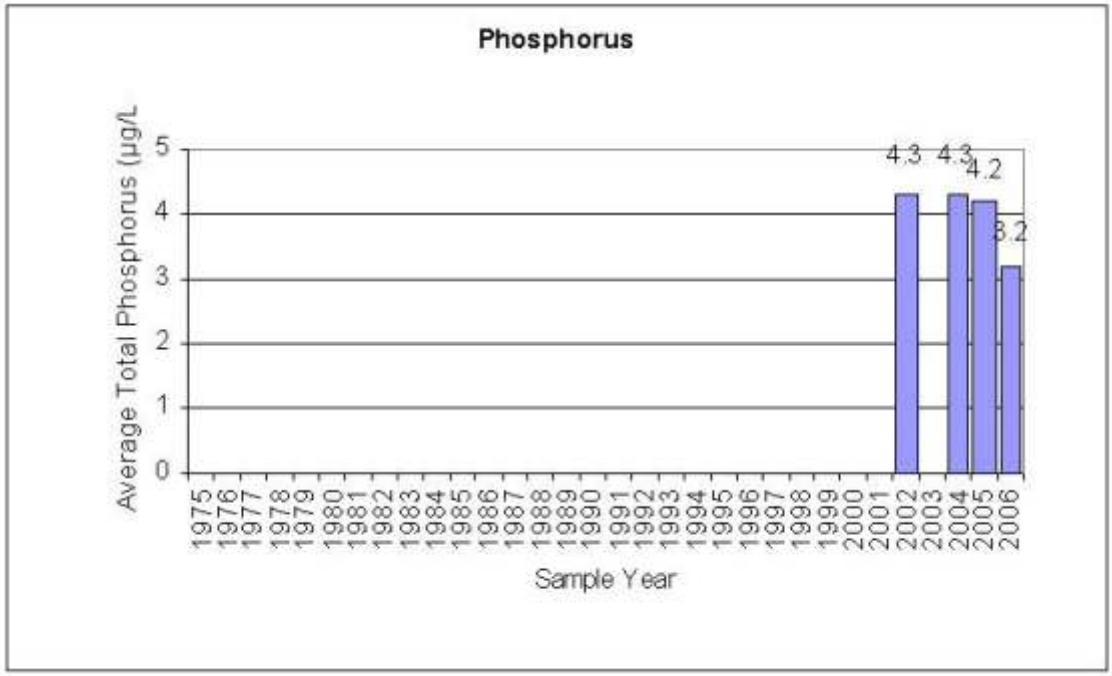
Township:	**Waters**	Phosphorus:	**39.1 µG/L**
Watershed Unit:	**Lower Junction Creek**	Secchi Depth:	**2.29 m (7.5 ft)**
Surface Area:	**47.8 ha**	Maximum Depth:	**n/a**
Perimeter:	**4.2 km**	Average No. of residents:	**n/a**





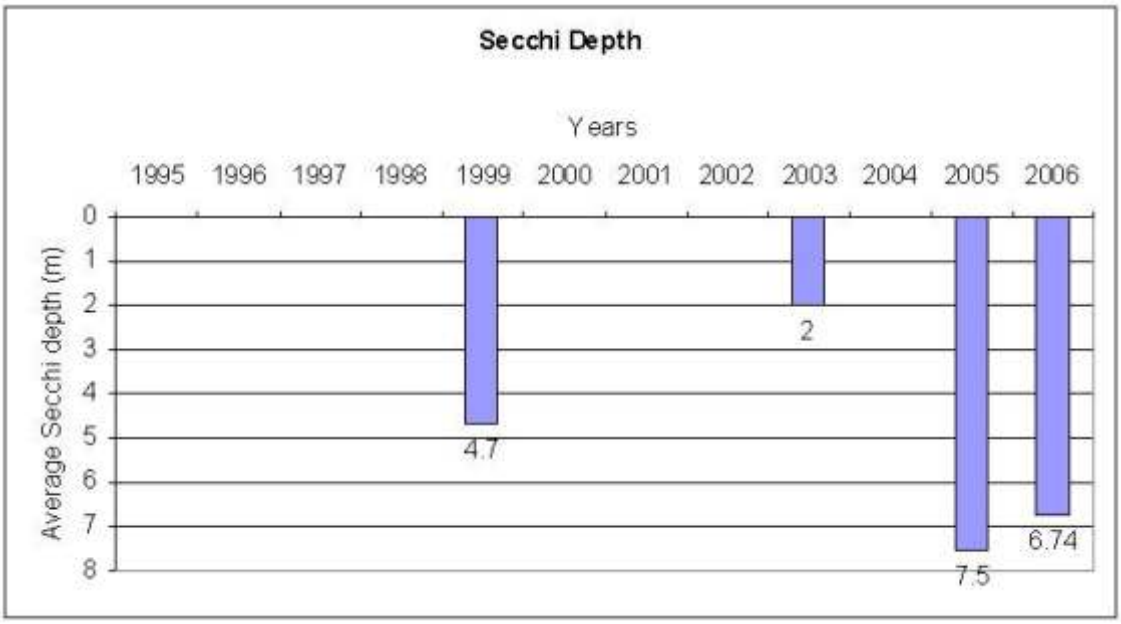
Nelson

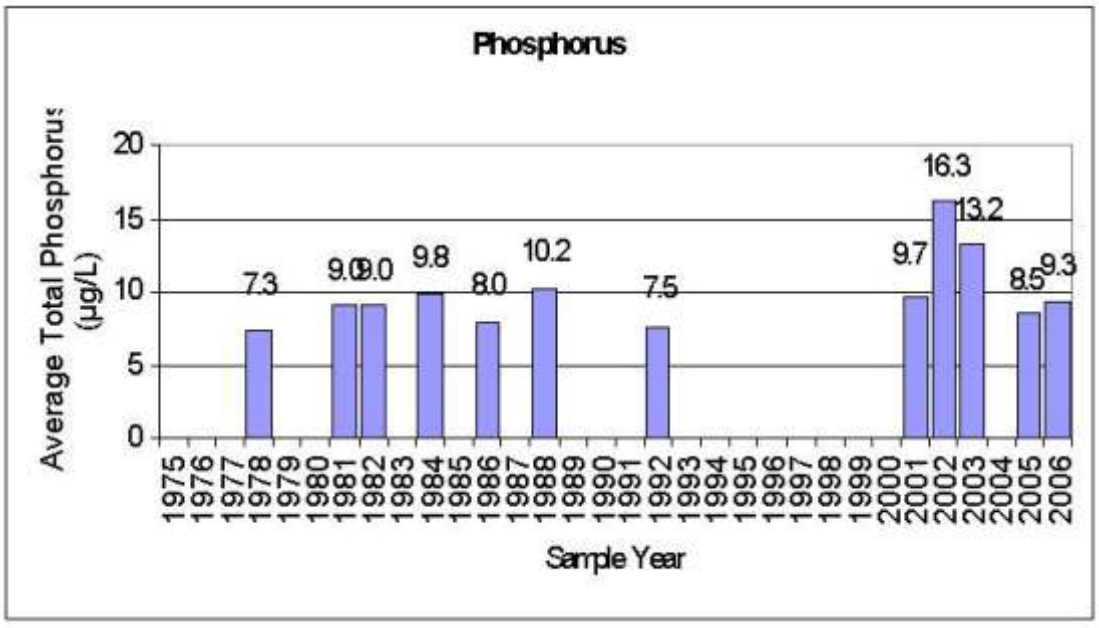
Township:	**Bowell**	Phosphorus:	**3.2 µG/L**
Watershed Unit:	**Nelson River**	Secchi Depth:	**n/a**
Surface Area:	**308.8 ha**	Maximum Depth:	**n/a**
Perimeter:	**21.2 km**	Average No. of residents:	**35**



Nepahwin

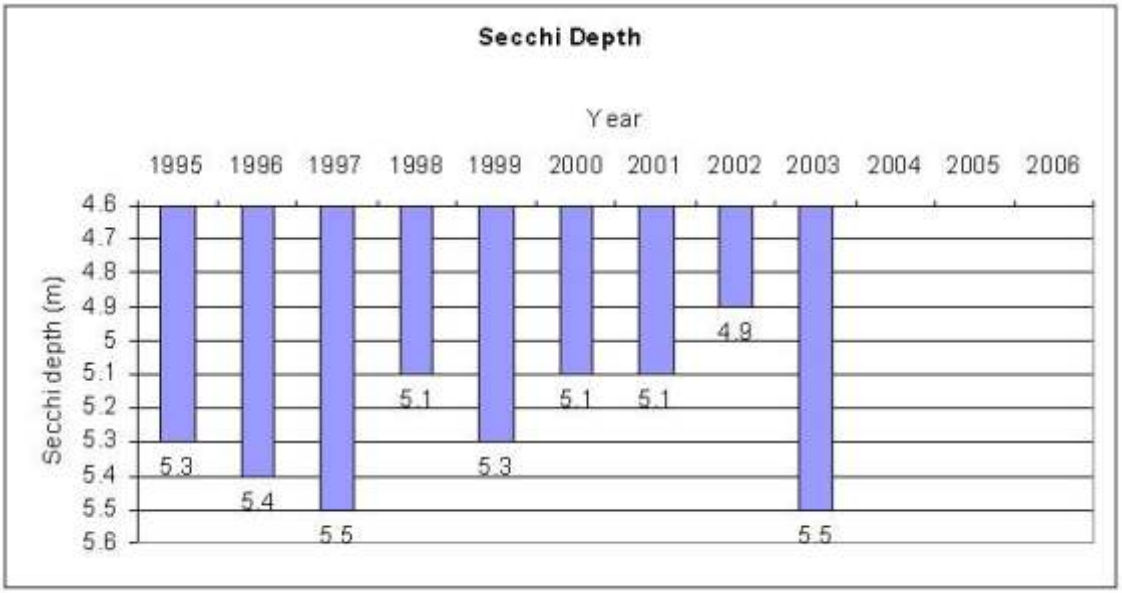
Township:	**McKim**	Phosphorus:	**9.3 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth:	**6.74 m (22.1 ft)**
Surface Area:	**127 ha**	Maximum Depth:	**18.3 m (60 ft)**
Perimeter:	**11.8 km**	Average No. of residents:	**1825**

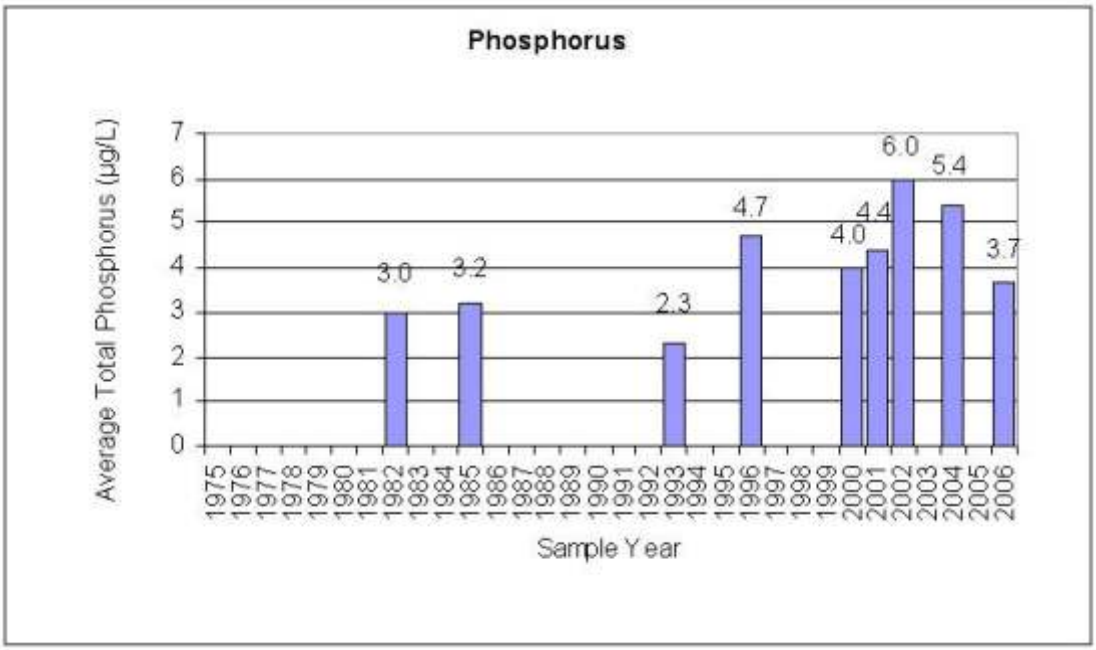




Panache

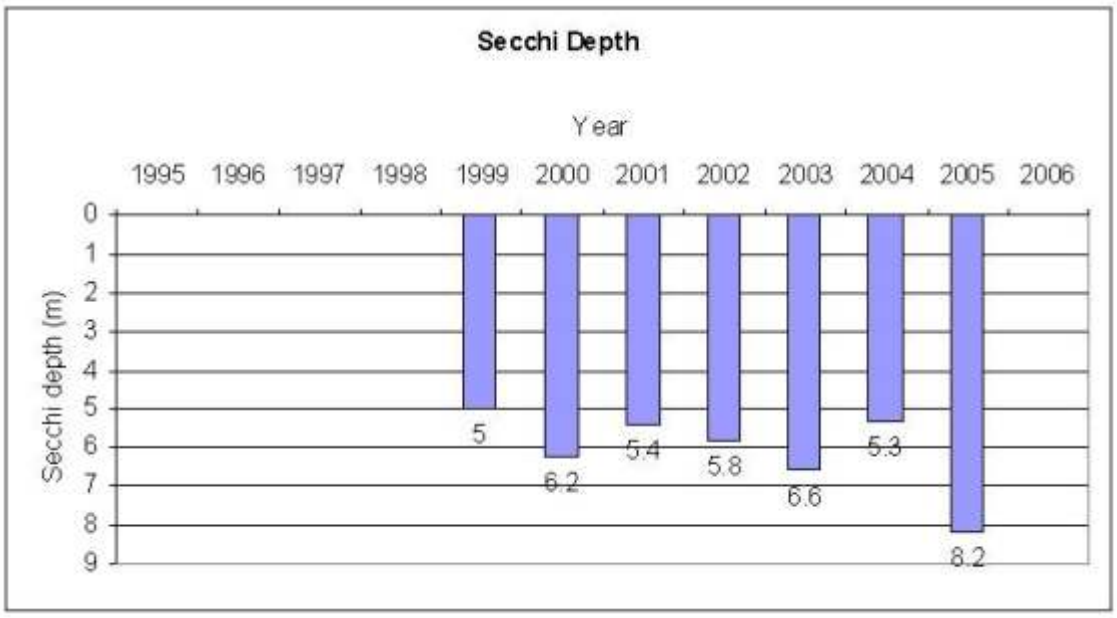
Township:	**Dieppe**	Phosphorus:	**3.7 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2003):	**5.5 m (18 ft)**
Surface Area:	**8034.1 ha**	Maximum Depth:	**54.9 m (180 ft)**
Perimeter:	**417.9**	Average No. of residents:	**515**

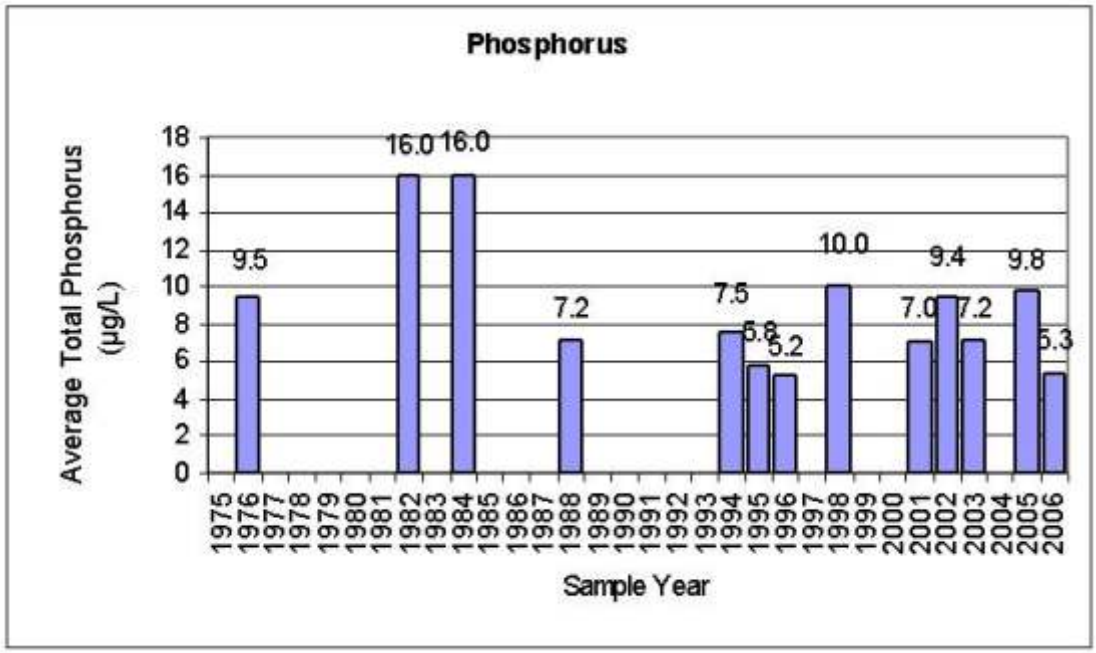




Raft

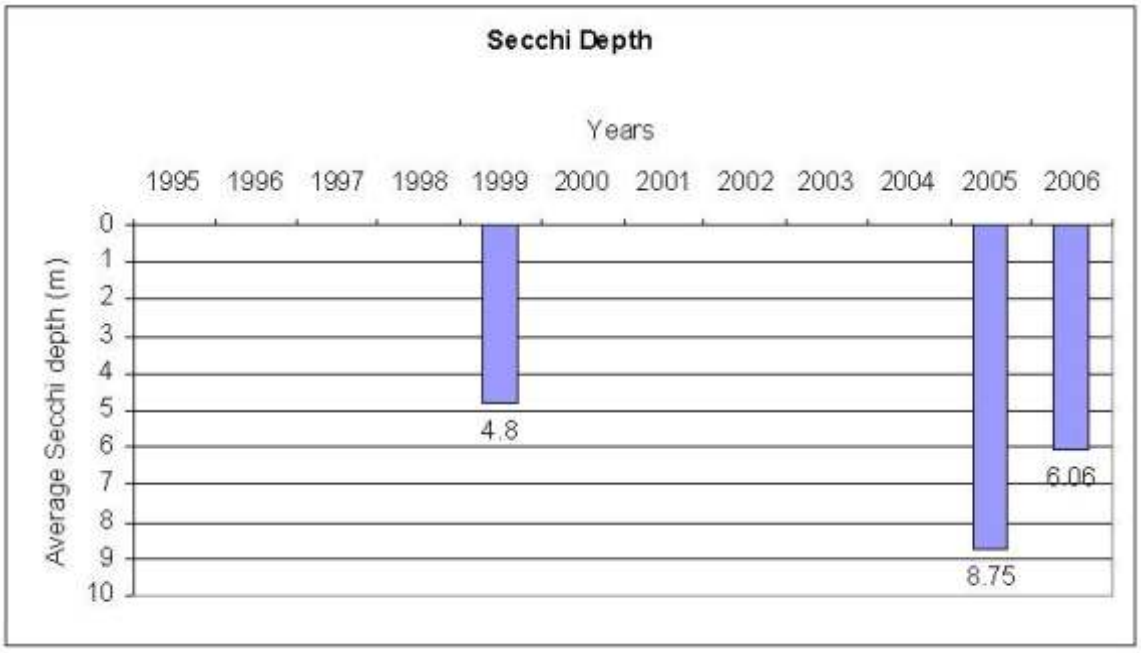
Township:	**Broder/Dill**	Phosphorus:	**5.3 µG/L**
Watershed Unit:	**East Wannipitae River**	Secchi Depth (2005):	**8.2 m (26.9 ft)**
Surface Area:	**109.6 ha**	Maximum Depth:	**14 m (45.9 ft)**
Perimeter:	**9.3 km**	Average No. of residents:	**29**

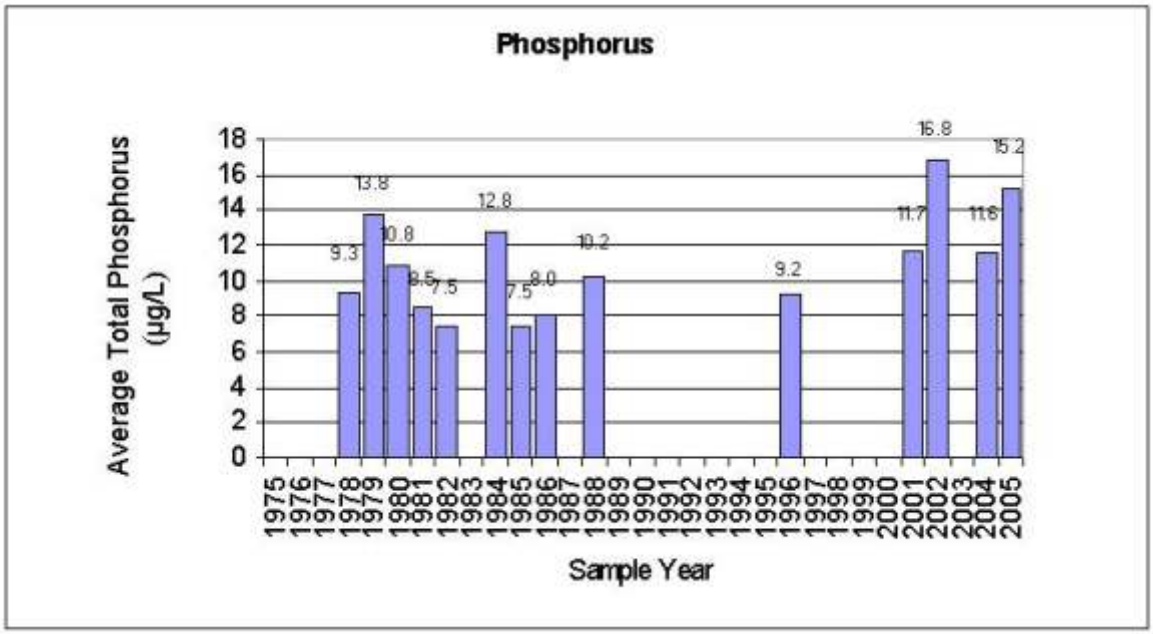




Ramsey

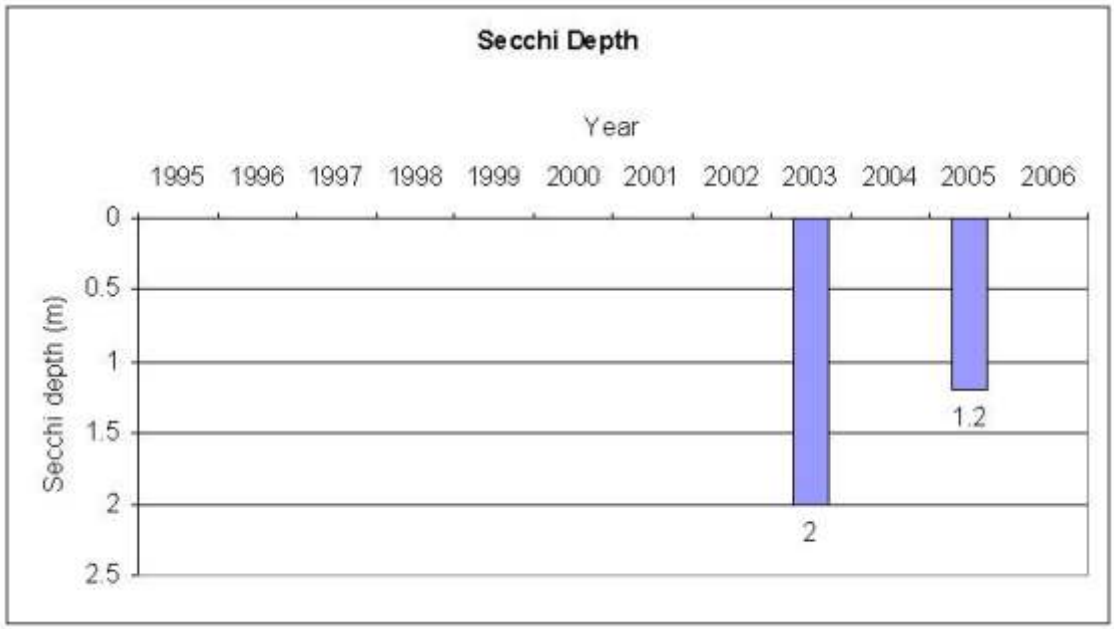
Township:	**McKim**	Phosphorus:	**15.2 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth (2006):	**6.06 m (19.9 ft)**
Surface Area:	**792.2 ha**	Maximum Depth:	**18.3 m (60 ft)**
Perimeter:	**34 km**	Average No. of residents:	**882**

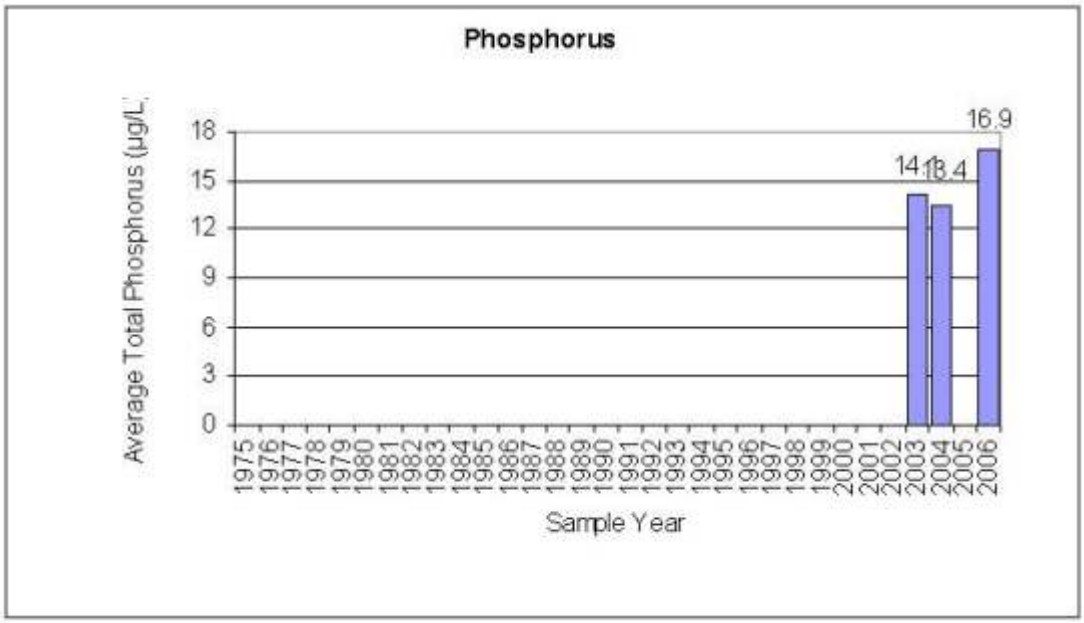




Rat (Kusk)

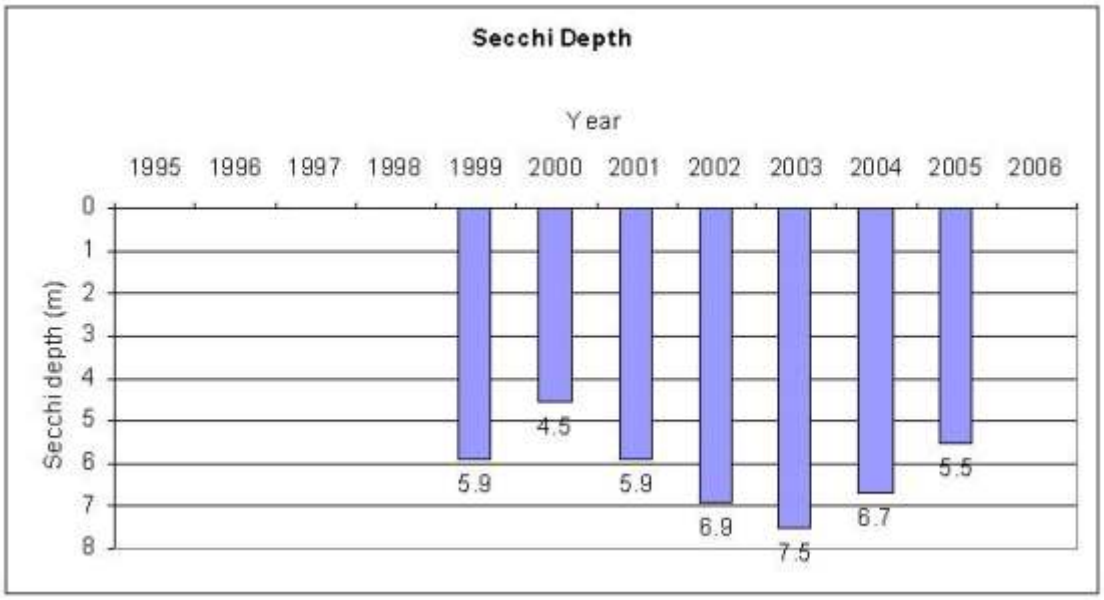
Township:	**Louise**	Phosphorus:	**16.9 µG/L**
Watershed Unit:	**Lower Vermilion**	Secchi Depth (2005):	**1.2 m (3.9 ft)**
Surface Area:	**174.9 ha**	Maximum Depth:	**n/a**
Perimeter:	**10.5 km**	Average No. of residents:	**41**

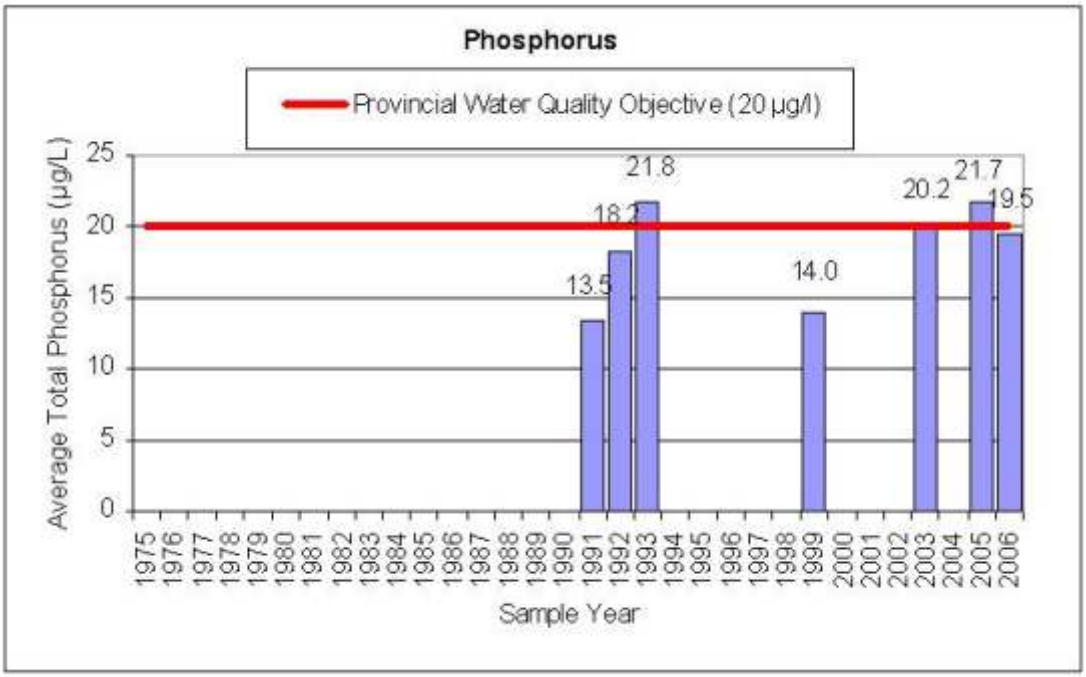




Red Deer

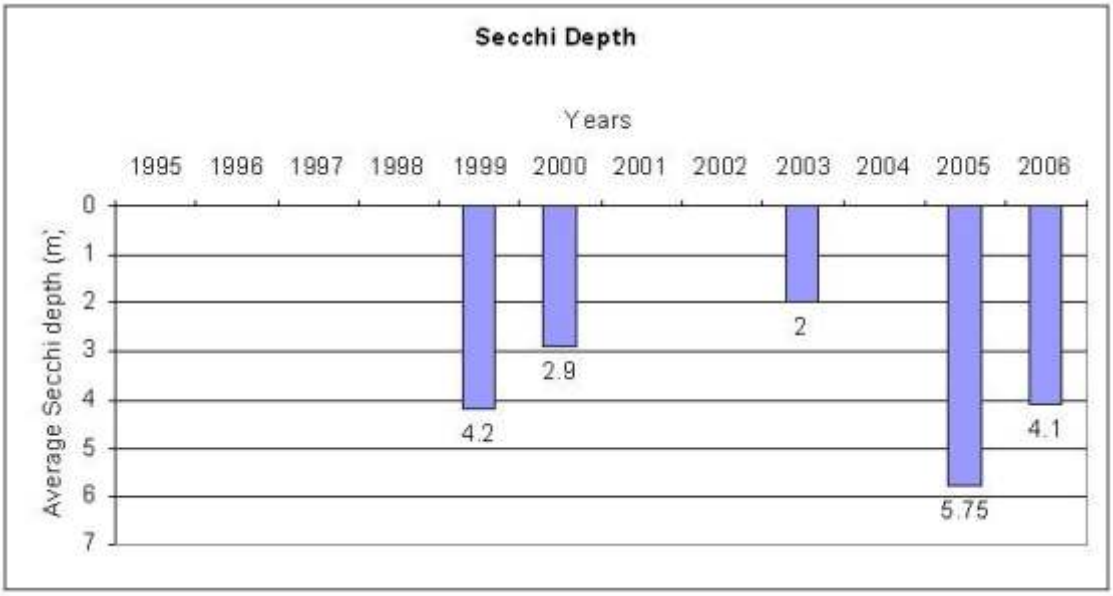
Township:	**Cleland**	Phosphorus:	**19.5 µG/L**
Watershed Unit:	**Red Deer**	Secchi Depth (2005):	**5.5 m (18 ft)**
Surface Area:	**158.1 ha**	Maximum Depth:	**n/a**
Perimeter:	**19.0 km**	Average No. of residents:	**112**

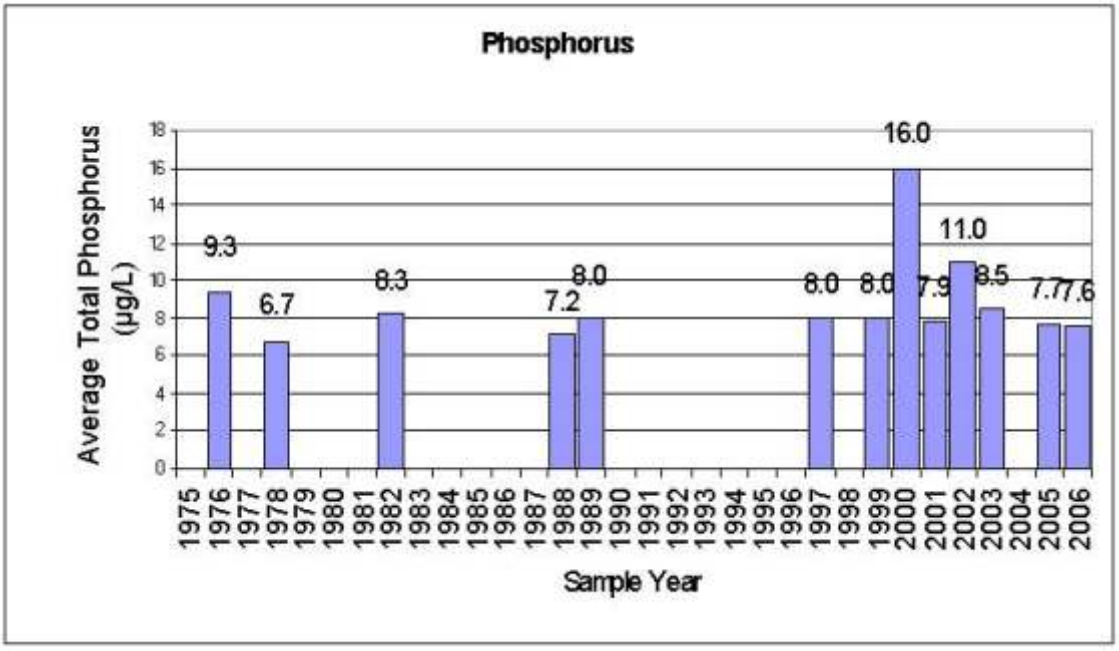




Richard

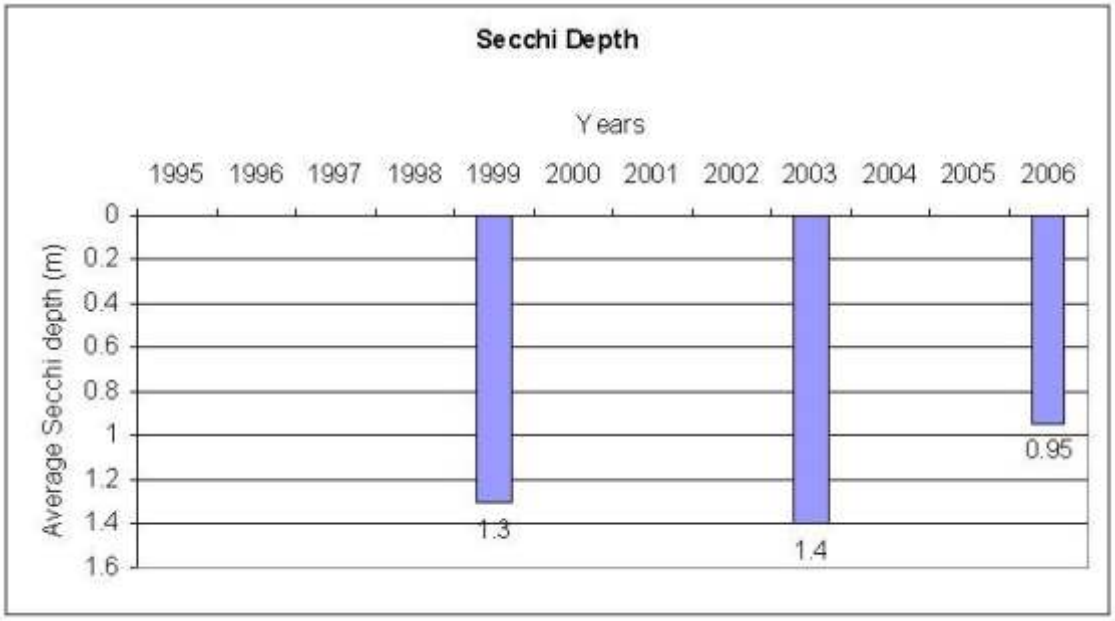
Township:	**Dill**	Phosphorus:	**7.6 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2006):	**4.1 m (13.5 ft)**
Surface Area:	**83.6 ha**	Maximum Depth:	**9 m (30ft)**
Perimeter:	**6.7 km**	Average No. of residents:	**121**

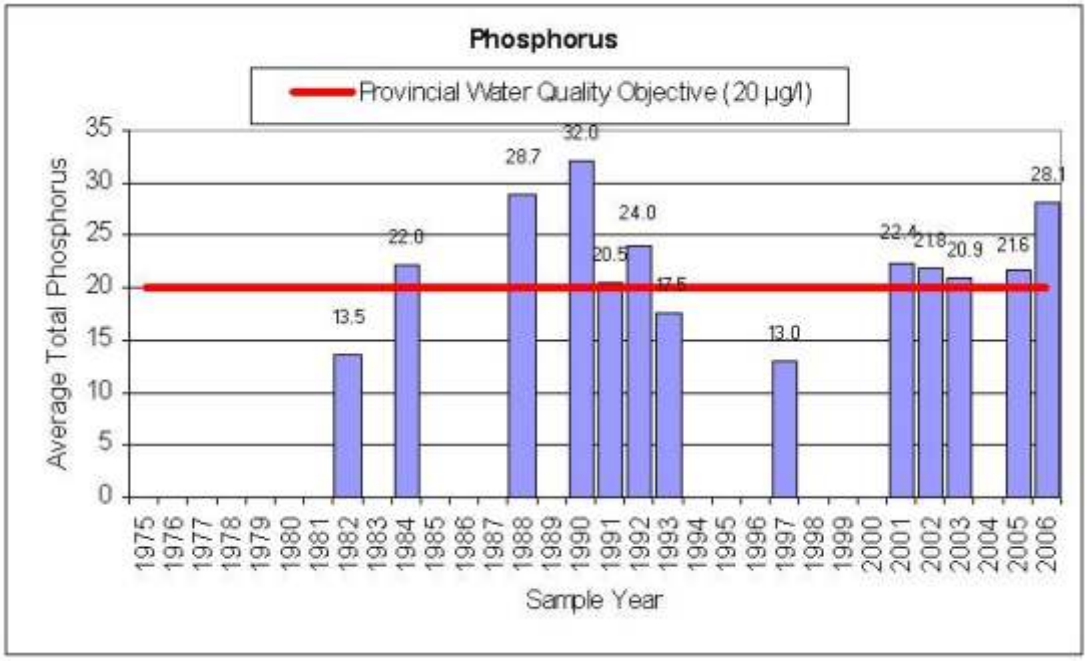




Robinson

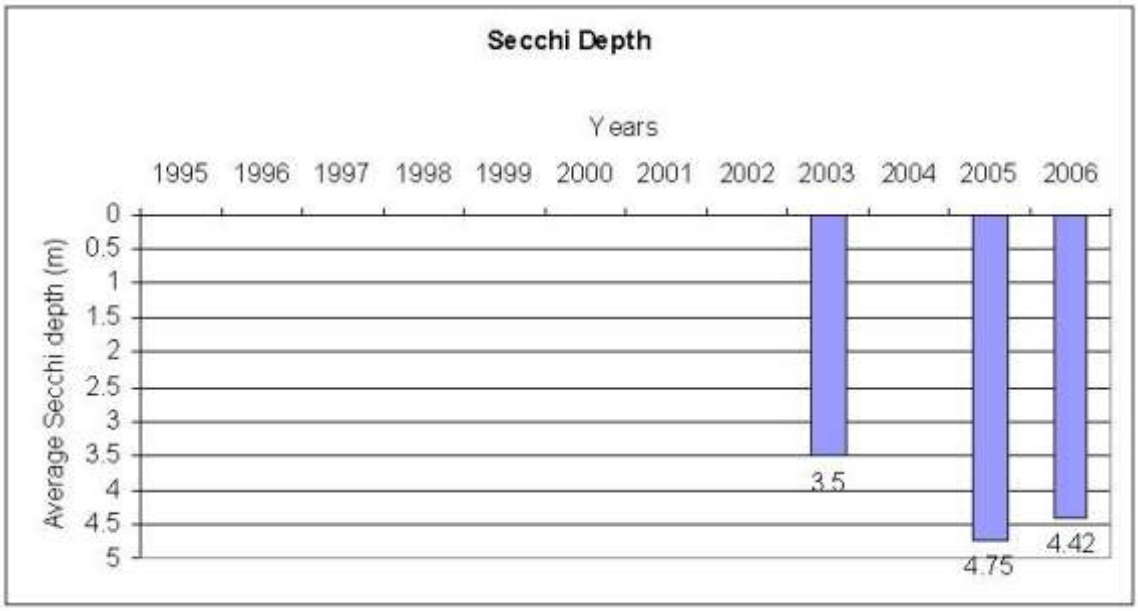
Township:	**McKim**	Phosphorus:	**28.1 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth (2006):	**0.95 m (3.1 ft)**
Surface Area:	**33.6 ha**	Maximum Depth:	**2m (6.5 ft)**
Perimeter:	**2.8 km**	Average No. of residents:	**38**

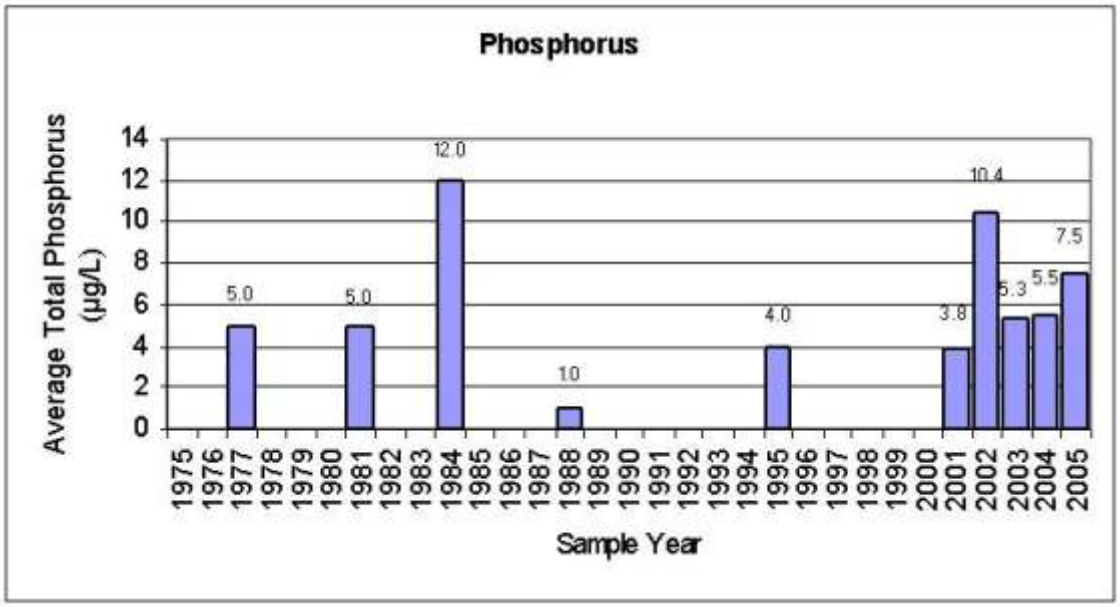




Silver

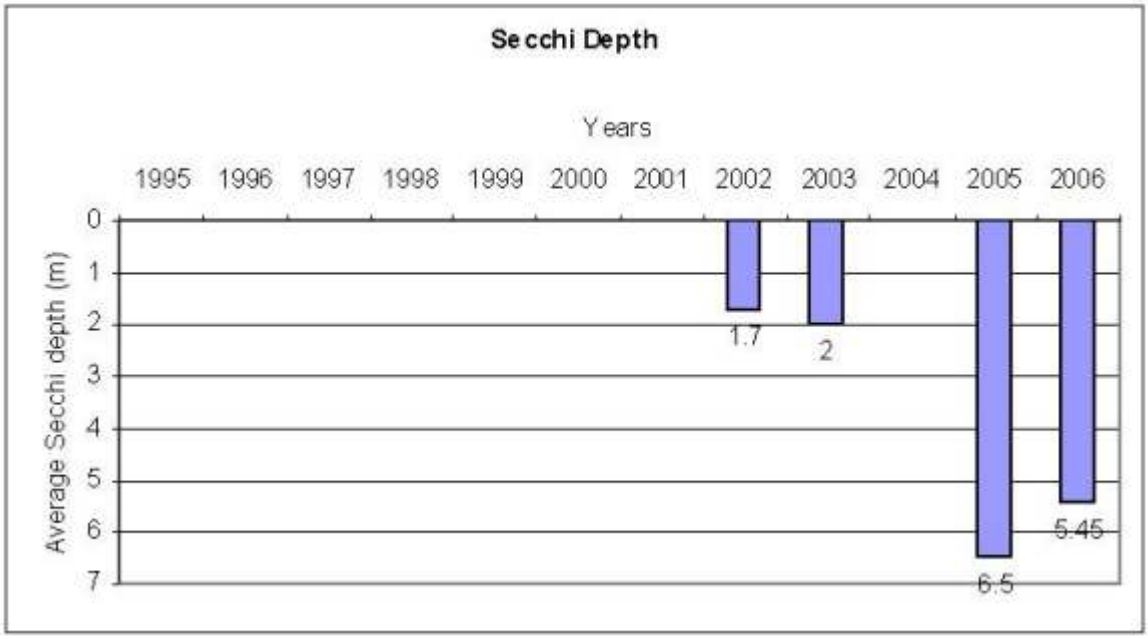
Township:	**Broder**	Phosphorus:	**7.5 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2006):	**4.42 m (14.5 ft)**
Surface Area:	**21.8 ha**	Maximum Depth:	**10 m (32.8 ft)**
Perimeter:	**3.6 km**	Average No. of residents:	**31**

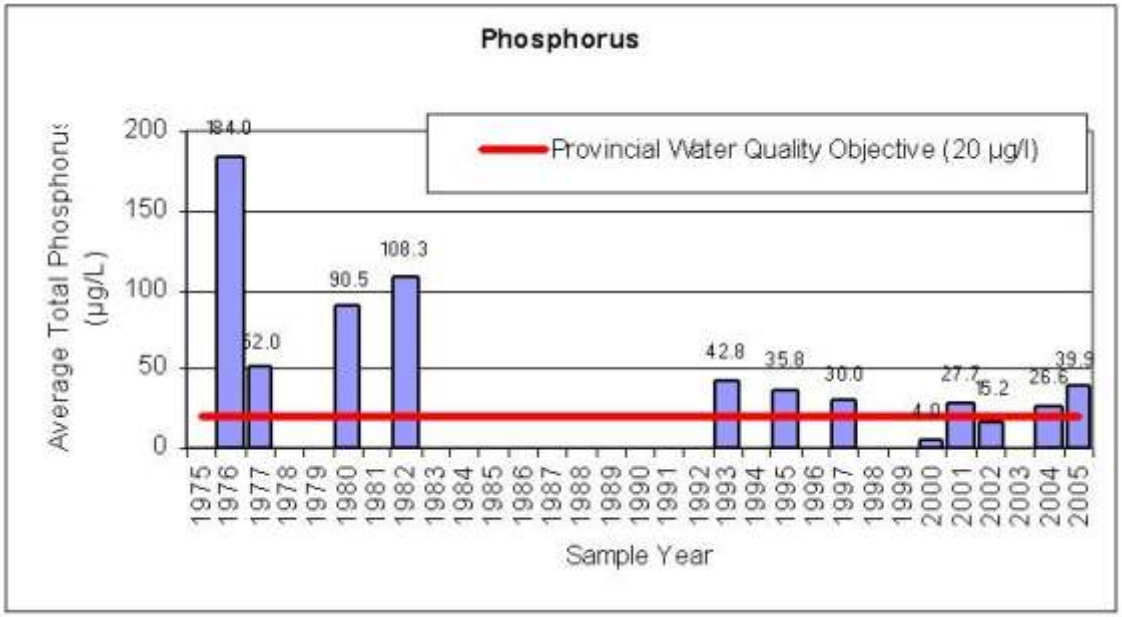




Simon

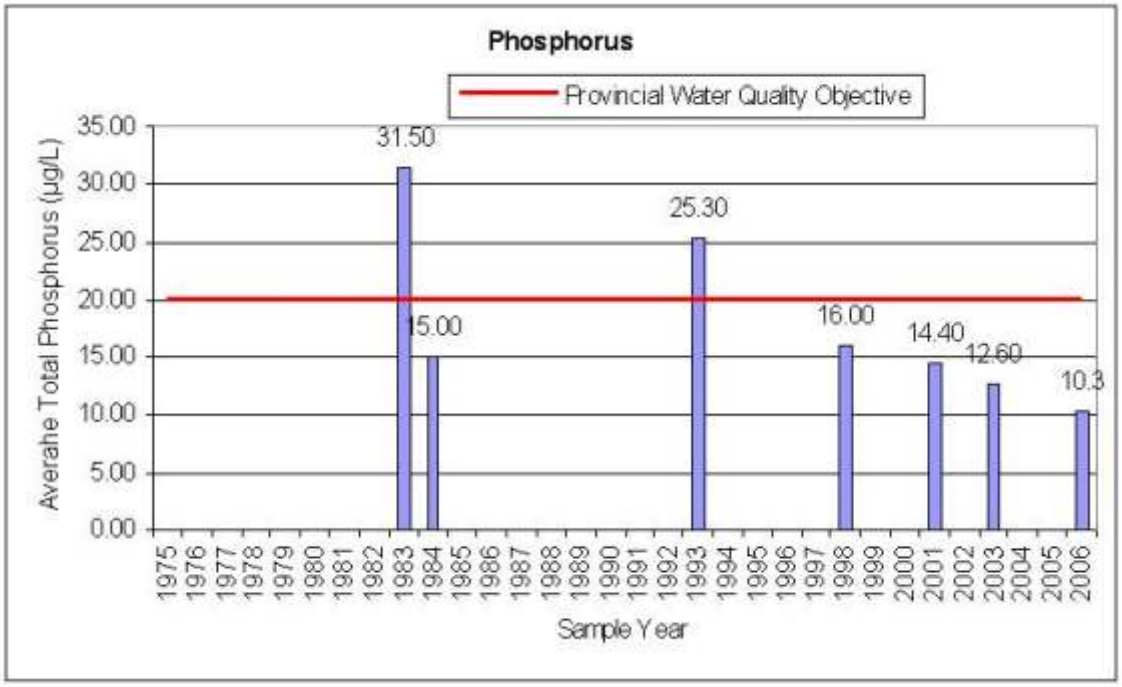
Township:	**Graham**	Phosphorus:	**39.9 µG/L**
Watershed Unit:	**Lower Junciton Creek**	Secchi Depth (2006):	**5.45 m (17.9 ft)**
Surface Area:	**102 ha**	Maximum Depth:	**12.2 m (40 ft)**
Perimeter:	**6.2 km**	Average No. of residents:	**155**





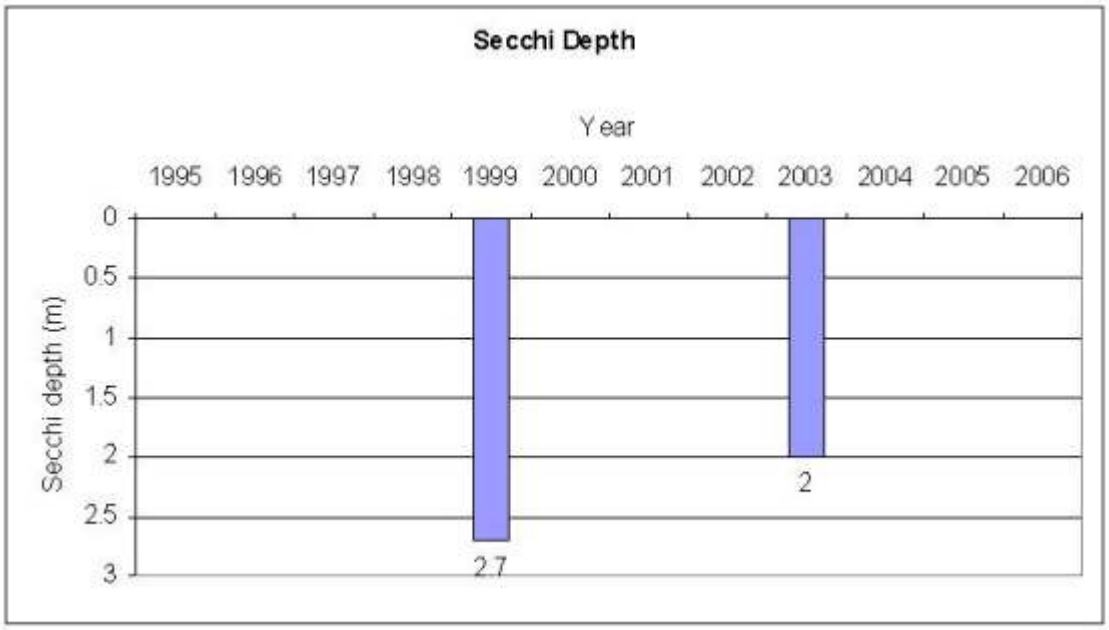
Skill

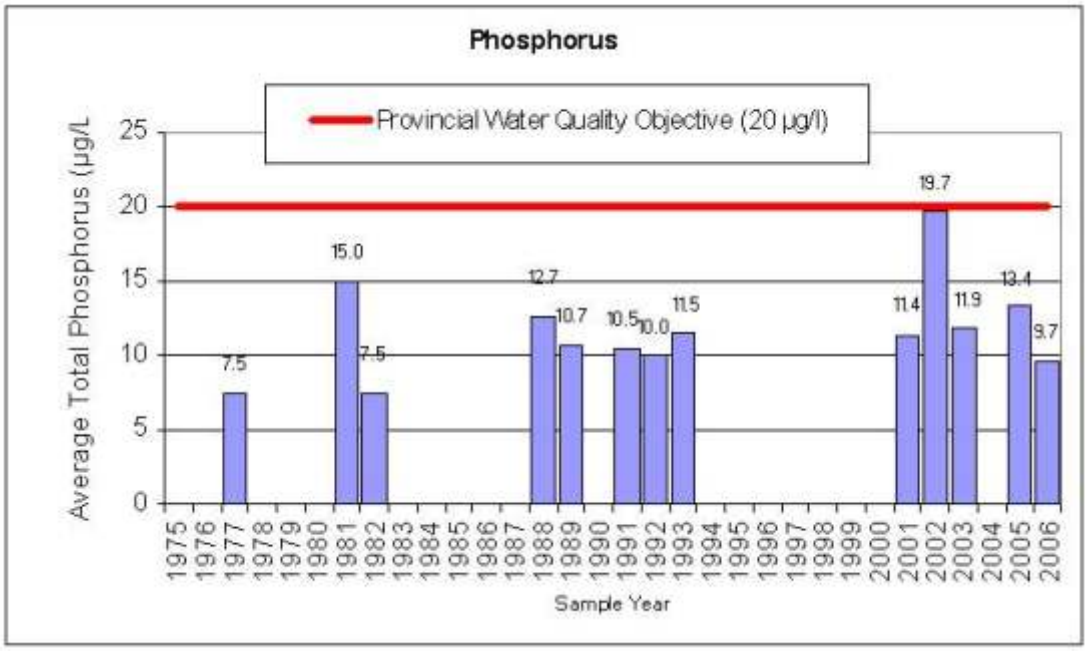
Township:	**Denison**	Phosphorus:	**10.3 µG/L**
Watershed Unit:	**Fairbank**	Secchi Depth:	**n/a**
Surface Area:	**112.7 ha**	Maximum Depth:	**n/a**
Perimeter:	**10.0 km**	Average No. of residents:	**n/a**



St. Charles

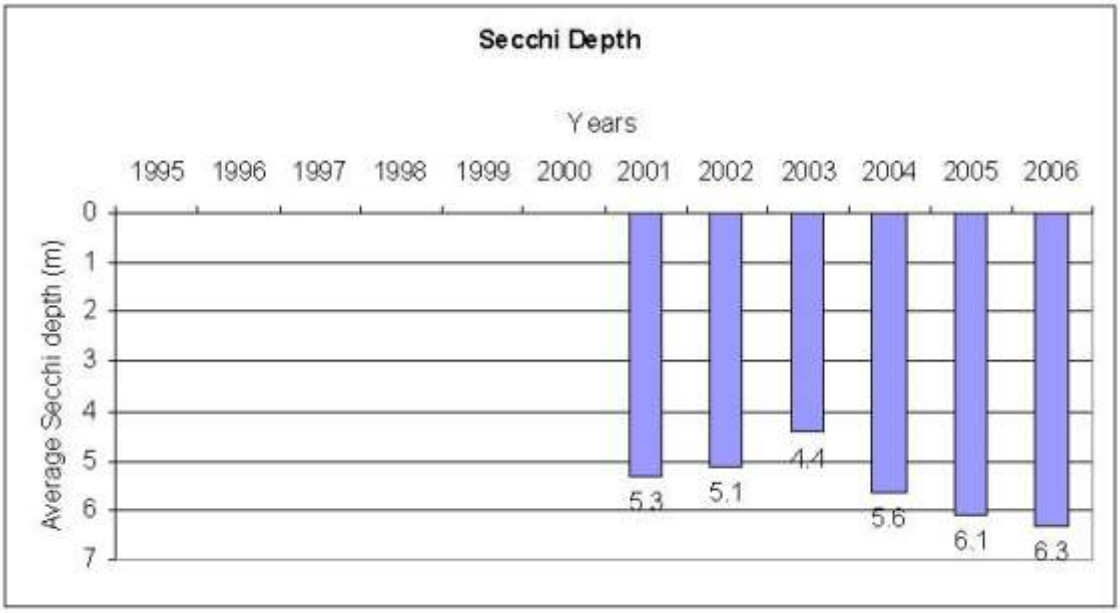
Township:	**Broder**	Phosphorus:	**9.7 µG/L**
Watershed Unit:	**Ramsey**	Secchi Depth (2003):	**2.0 m (6.6 ft)**
Surface Area:	**41.3 ha**	Maximum Depth:	**n/a**
Perimeter:	**5.1 km**	Average No. of residents:	**268**

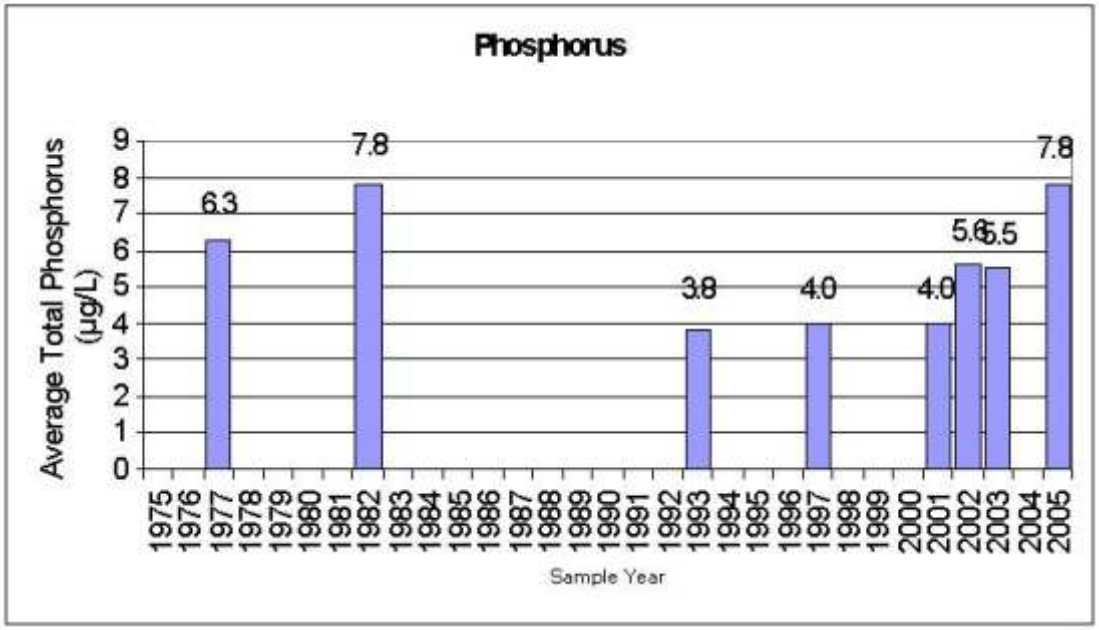




Tilton

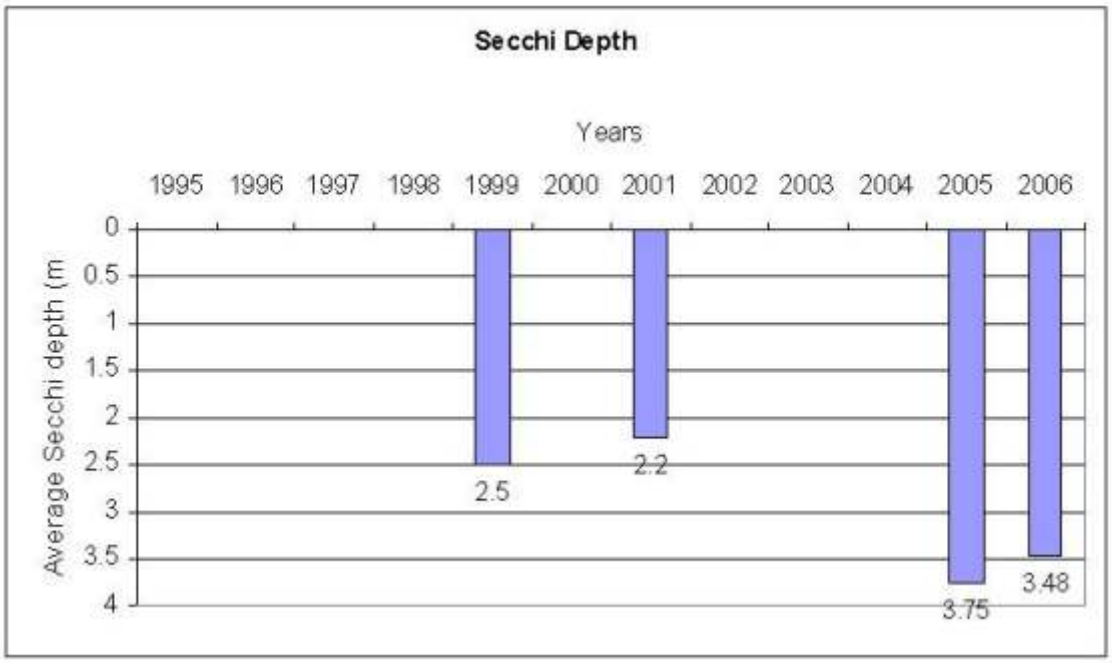
Township:	**Tilton**	Phosphorus (2005):	**7.8 µG/L**
Watershed Unit:	**Panache**	Secchi Depth (2006):	**6.3 m**
Surface Area:	**51.7 ha**	Maximum Depth:	**n/a**
Perimeter:	**3.1 km**	Average No. of residents:	**73**

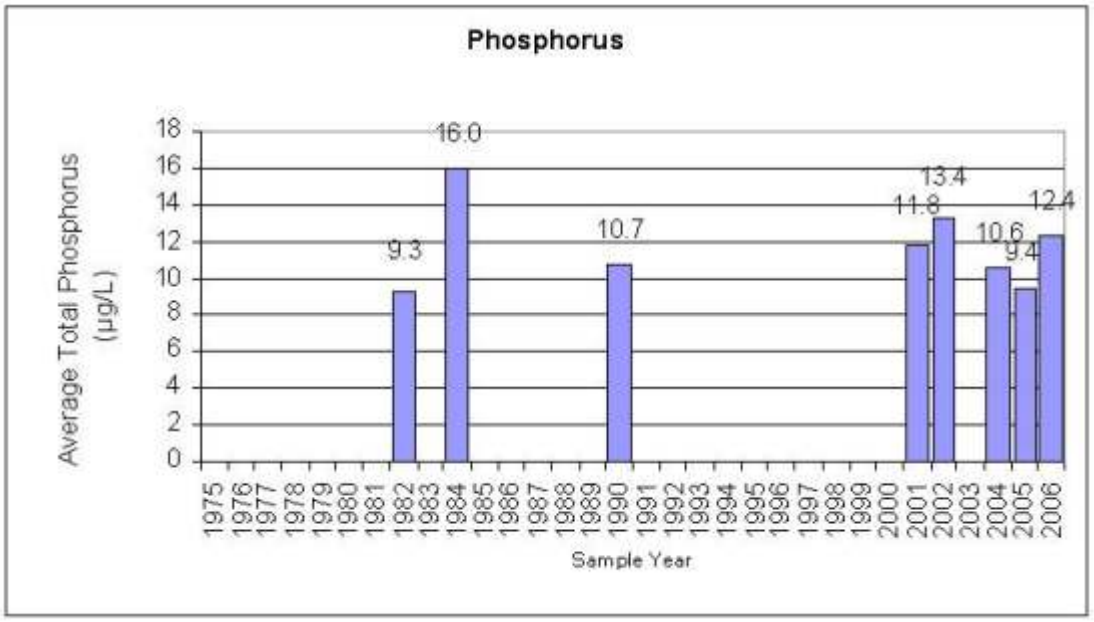




Vermilion

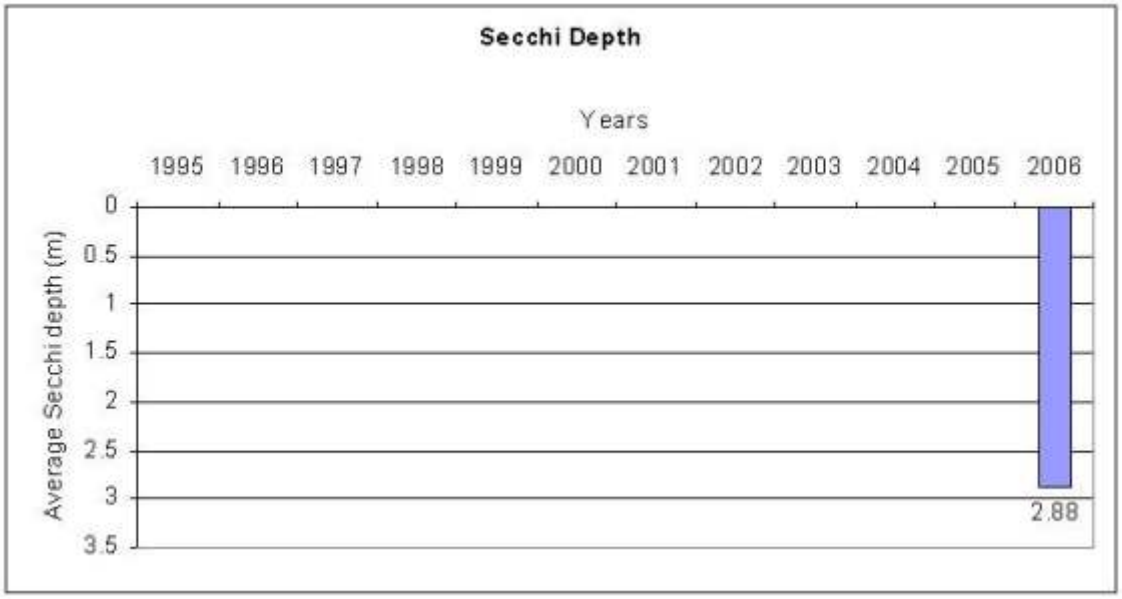
Township:	**Fairbanks**	Phosphorus:	**12.4 µG/L**
Watershed Unit:	**Mid Vermilion**	Secchi Depth (2006):	**3.43 m (11.25 ft)**
Surface Area:	**1126.6 ha**	Maximum Depth:	**12.2 m (40 ft)**
Perimeter:	**32.4 km**	Average No. of residents:	**234**

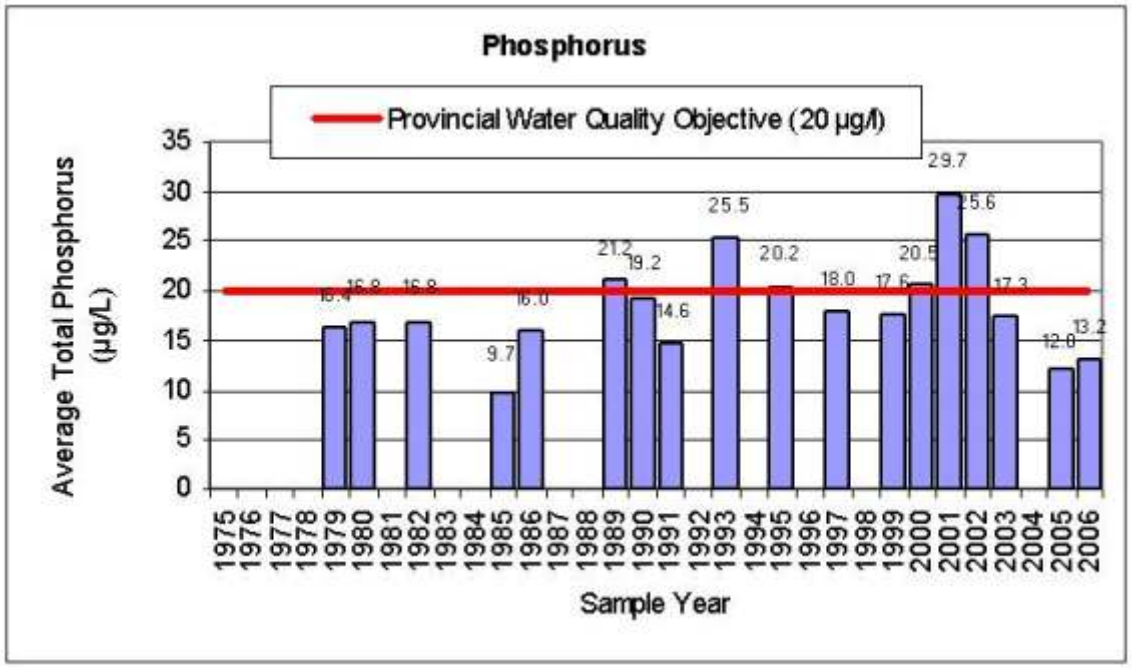




Whitewater

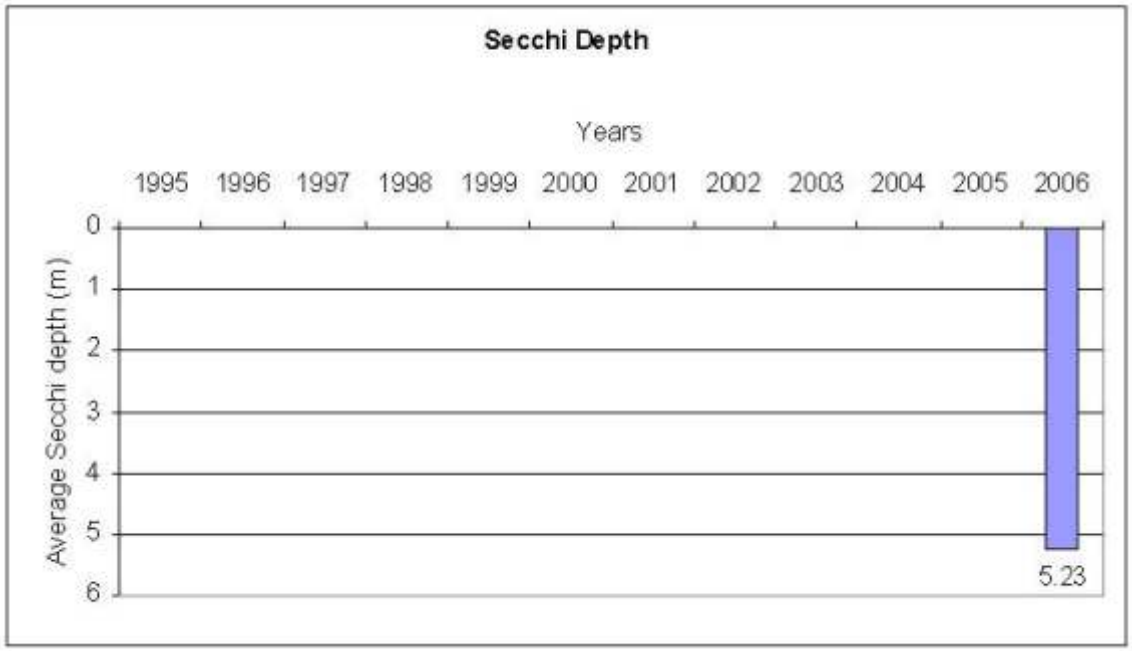
Township:	**Snider**	Phosphorus (2006):	**13.2 µG/L**
Watershed Unit:	**Whitewater**	Secchi Depth (2006):	**2.88 m (9.5 ft)**
Surface Area:	**949.1 ha**	Maximum Depth:	**10.7 m (35 ft)**
Perimeter:	**29.5 km**	Average No. of residents:	**447**

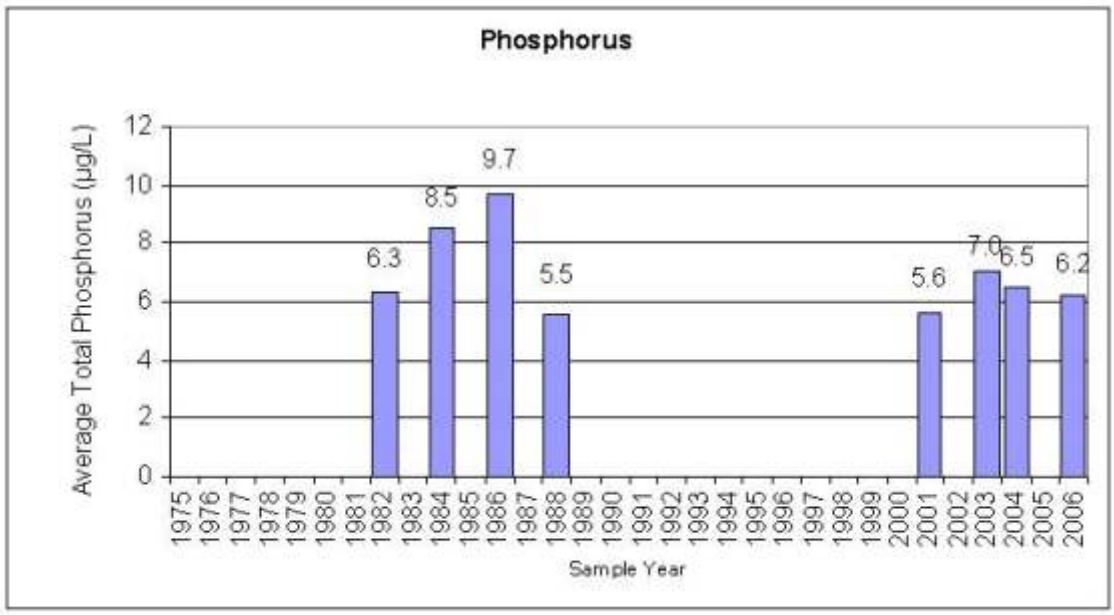




Whitson

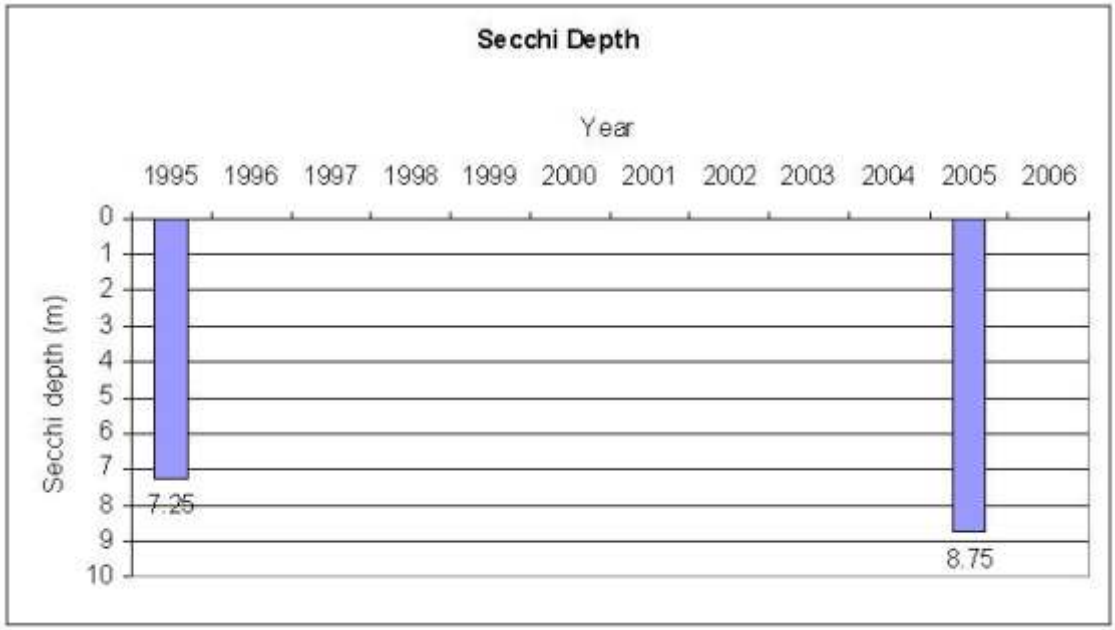
Township:	**Blezard**	Phosphorus (2006):	**6.2 µG/L**
Watershed Unit:	**Whitson River**	Secchi Depth (2006):	**5.23 m (17.2 ft)**
Surface Area:	**473.4 ha**	Maximum Depth:	**16.8 m (55 ft)**
Perimeter:	**45.9 km**	Average No. of residents:	**61**

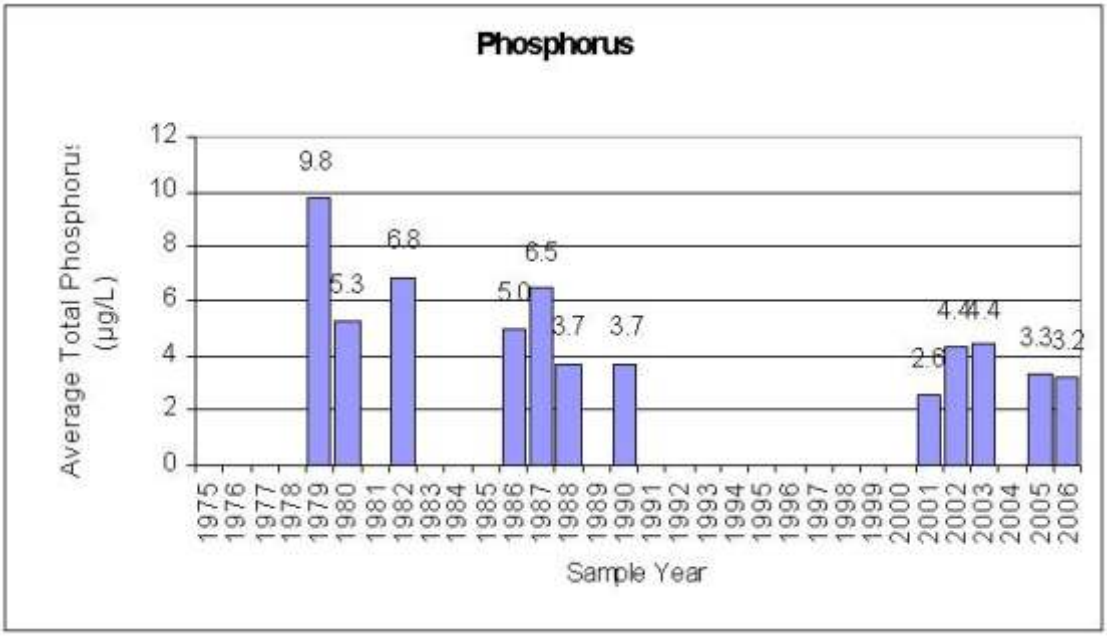




Windy

Township:	**Cascaden**	Phosphorus:	**3.2 µG/L**
Watershed Unit:	**Onaping River**	Secchi Depth (2005):	**8.75 m**
Surface Area:	**1129 ha**	Maximum Depth:	**n/a**
Perimeter:	**40.4 km**	Average No. of residents:	**148**





APPENDIX 2

Frequently Asked Questions from the Shoreline Home Visits

Frequently Asked Questions

How can I inform neighbors and visitors who own and operate speedboat on the lake?
Spread the word. Speedboats that drive too fast through narrow waterways create large waves that scour away at the shoreline and harm wildlife habitat, as well as create unsafe boating conditions for smaller crafts and swimmers. Contact the Greater Sudbury Police Service to address any major concerns.

What are the rules and regulations for ice huts?
All ice huts need to be registered with the Ministry of Natural Resources and depending on your location they need to be removed before a certain date. Unfortunately, many ice hut owners are not disposing of their trash properly and do not always remove their huts in the spring, resulting in polluted waters and shorelines. This raises concern for stronger enforcement.

How can I control invasive species in my area?
Invasive species can be easily spread through out the lakes by water crafts. Get to know the invasive species in your area and make sure to contact the Invasive Species Hotline (1-800-563-7711) for more information.

Am I allowed to remove aquatic weeds and leeches from my shoreline?
Some weeds, which are aquatic plants, have more benefits then disadvantages. Leeches normally live in waters with low dissolved oxygen, but can be an abundant food source for many shoreline animals. Make sure to contact the Nickel District Conservation Authority (705-674-5249) before attempting to remove any plants or leeches. What steps do I take in creating a sand beach on my shoreline?
Building a beach near the shoreline of your lake property may be harmful to fish and other aquatic species. Beach building efforts are usually unsuccessful, especially in area with high waves. Think about creating an upland beach above the high water mark, which will provide the same enjoyment as a lowland beach.

Why are there so many aquatic plants in my lake?
Large amounts of aquatic vegetation can be caused by several different factors including the amount of light available, water levels, water temperature, type of lake bottom sediments, current or wave action, and the concentration of dissolved gases and nutrients such as chemicals found n fertilizers, pesticides and leaking septic systems.

What affect is the increasing number of Cormorants having on our lakes?
Cormorants are a native species to Ontario that almost vanished in the 60's and 70's but has dramatically made a healthy return. Although there is a lot of controversy regarding whether or not these birds are a threat to our lakes, rivers and streams, there is no sufficient evidence that they have become a problem at this time. For more information contact your local Ministry of Natural Resources Office.

What types of alternatives to chemical fertilizers and pesticides can I use?
Corn gluten is a healthy and natural fertilizer that helps to feed the lawn and eliminate weeds. Scalding the weeds with hot water is also another viable option. Insects can be removed more naturally using pressure sprays of air or water. Pheromone traps, baits and lures, or physical barriers such as mulch can also be used to deter unwanted pests.

Where can I find native plant species to help restore my shoreline?
Do some research to find out what grows best in your area according to soil, rock and light conditions. Your local nursery should sell most native species, but make sure to try and locate your plant specie according to its scientific (Latin) name, rather than its common name.

Should I be worried about blue-green algae on my lake?
Although it is not likely that you will drink water contaminated with blue-green algae (cyanobacteria), boiling water does not remove the toxins. Blue-green algae can have unpleasant odours and should be avoided because it can cause illness, skin irritations, and allergic reactions.

APPENDIX 3

Lake Stewardship Groups in Greater Sudbury

Table 3: Lake Stewardship Groups in Greater Sudbury

STEWARDSHIP GROUP	LAKE(S)	TOWNSHIP	WATERSHED UNIT
Bass Lake	Bass	Fairbank	Fairbank
Beaver Lake	Beaver (Big)	Lorne	Lower Vermilion
Beaver Lake	Beaver (Little)	Lorne	Lower Vermilion
Broder 23 Lake	Broder 23	Broder	East Wanapitei River
Clearwater Lake	Clearwater	Broder	Panache
Ella Lake	Ella	Lorne	Lower Vermilion
Ella Lake	Ella (Capreol)	Capreol, Norman	Wanapitei
Fairbank Lake Cottagers Association	Fairbank	Fairbank, Trill, Drury,	Fairbank
Forest Lake	Forest	Broder	Panache
Friends of McFarlane Lake	McFarlane	Broder, Dill	Panache
Ironside Lake	Ironside	Hutton	Roberts River
Kusk (Rat) Lake	Kusk (Rat)	Louise	Lower Vermilion
Lake Panache Camper's Association www.lakepanachecampers.com	Panache	Dieppe	Panache
Little Lake Panache Property Owners Association	Little Panache	Louise, Dieppe	Panache
Little Round Lake	Little Round	Waters	Panache
Lohi Lake	Lohi	Broder	Panache
Makada (Black) Lake	Makada	Waters	Panache
Minnow Lake Restoration Group www.minnowlake.ca	Minnow	McKim	Ramsey
Nepahwin Lake	Nepahwin	McKim	Ramsey
Raft Lake Ratepayers Association	Raft	Dill, Broder	East Wanapitei River
Ramsey Lake Advisory Panel	Ramsey	McKim	Ramsey
Richard Lake Stewardship Committee www.richardlake2005.tripod.com	Richard	Dill	Panache
St. Charles Lake	St. Charles	Broder	Ramsey
Silver Lake Committee	Silver	Broder	Panache
Simon Lake	Simon	Graham	Lower Junction Creek
Skill Lake	Skill	Denison	Fairbank
Tilton Lake	Tilton	Tilton	Panache
Valley East Ratepayers Association	Dixon	Wisner	Upper Vermilion
	Frenchman	Wisner	Upper Vermilion
	Hanmer (Bass)	Hanmer	Upper Vermilion
	Joe	Wisner	Rapid River
	Nelson	Bowell	Nelson River
Vermilion Lake	Vermilion	Fairbank	Mid Vermilion
Wanapitei Lake	Wanapitei	Rathburn,Mackelcan, Scadding, Maclennan,	Wanapitei
Whitewater Lake	Whitewater	Snider, Rayside, Creighton	Whitewater
Windy Lake Stewardship Committee	Windy	Dowling	Onaping River

Contact Us

Lake Water Quality Program
Environmental Planning Initiatives
City of Greater Sudbury
P.O. Box 5000, Station A
200 Brady Street
Sudbury, ON., P3A 5P3
TEL: (705) 671-2489, ext. 4604
FAX: (705) 673-2200
Email: lakewaterquality@greatersudbury.ca
Website: www.greatersudbury.ca/lakewaterquality

Canada

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