

# The Lake Sampler

Quarterly news and updates bulletin from the  
BC Lake Stewardship and Monitoring Program

July 24, 2023  
Issue: Summer  
2023

## Season in Review

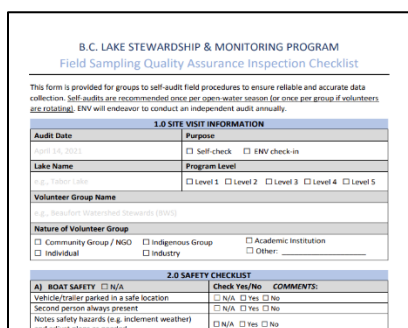
### A Mid-Season Summary

This season the BC Lake Stewardship and Monitoring Program (BCLSMP) is operating 60 programs across B.C. This includes 36 Level 1 programs (secchi depth and temperature), managed by the [BC Lake Stewardship Society](#) (BCLSS). Additionally, 12 Level 2 (secchi depth, lake profiles and ENV data) and 12 Level 3 (secchi depth, lake profiles, multi-depth sampling) monitoring programs are being managed by the Ministry.

An online training session was held on April 20 and several in-person training sessions were also conducted for individual lakes around the province.

The BCLSMP team is working to transition our volunteer service agreements to an online format to make the signing process easier for volunteers and Ministry staff alike. The agreements outline roles and responsibilities for both water stewards and the Ministry and ensure that volunteers are covered by our insurance while out sampling.

The Ministry and BCLSS are currently scheduling field sampling quality assurance (QA) inspections with our volunteers and stewardship groups. Annual inspections help to ensure the best possible data collection. A copy of the field sampling QA inspection checklist can be found on the BCLSMP [website](#) and will be included in the email from your program contact. Please keep an eye on your inboxes.



The form is titled 'B.C. LAKE STEWARDSHIP & MONITORING PROGRAM Field Sampling Quality Assurance Inspection Checklist'. It includes sections for '1.0 SITE VISIT INFORMATION' (Audit Date, Purpose, Lake Name, Program Level, Volunteer Group Name, Nature of Volunteer Group) and '2.0 SAFETY CHECKLIST' (Boat Safety, Vehicle/Trailer parked in a safe location, Second person always present, Home safety hazards).

Field Sampling QA Inspection Checklist.



Burns Lake. August 2022.

## Keeping Up

### Next steps for a successful monitoring program

Summer has arrived and brought varying conditions, with wildfires and smoke for some of us and floods and high-water issues for others.

We are excited that all our 2023 volunteer monitoring programs have begun, samples are being collected and analyzed and data is coming in.

As a reminder, volunteers are required to submit field data to the Ministry within 14 days of data collection. This is one of the quality assurance measures for the BCLSMP. Reviewing the data early allows us to catch any issues and ensure that we are collecting high quality data.

Data can be submitted by filling in the digital excel file, available on the BCLSMP [webpage](#), and emailing it to [volunteerlakes@gov.bc.ca](mailto:volunteerlakes@gov.bc.ca). Alternatively, volunteers can submit data using the online field data submission tool which can be accessed using the following weblink: <https://arccg.is/juOC8>. Please include

photos of completed field sheets and completed requisition forms (Level 3 only) with all data submissions.

Another QA measure is field sampling inspections. This is where a Ministry or BCLSS staff person will come on a sampling trip with each stewardship group to help answer any questions about the monitoring process, equipment, or the data submission in real time. It also allows us to see how sampling is done and confirm that all protocols are being followed to ensure the highest quality data collection.

If you want to do a self-assessment of your sampling protocols, or would like to use the checklist for your sampling, please find the field sampling QA inspection checklist [here](#).

If you haven't already scheduled or completed an inspection, please check your inbox for an email from a team member to schedule one.

## Meet the BCLSMP Team

Lucie Thomson Unit Head Vernon	Kirsten McNeill Aquatic Stewardship Coordinator Prince George	Mike Sokal Water Quality Limnologist Penticton	Jolene Raggett Aquatic Resource Biologist Nelson
Kristy Rasmus Water Quality Monitoring Specialist Smithers	Kim Klaczek Water Quality Monitoring Specialist Prince George	Dan St. Hilaire Water Quality Monitoring Specialist Penticton	Dean Peard Water Quality Monitoring Specialist Victoria

## Behind the Scenes

### What the Ministry is working on

In 2021 the Ministry began the Algae Watch Program, which is a citizen science program where volunteers can submit algae observations directly to the Ministry. The program allows the Ministry to better understand cyanobacteria and algae blooms in B.C.

While similar in some ways, algae and cyanobacteria are different. Algae are a very diverse group of simple plants that can be found in freshwater and marine environments throughout the province. Algae are important to the ecosystem since they are the base of the aquatic food chain, and supply much of the oxygen we breathe.

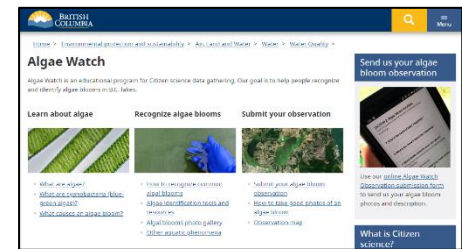
Cyanobacteria, also called blue-green algae, are naturally occurring microscopic

bacteria common in freshwater systems across B.C. In most circumstances cyanobacteria are harmless, however there are a few species that could produce toxins that may harm humans and animals.

As part of the program, the Ministry has set up an algae watch webpage ([www.gov.bc.ca/algaewatch](http://www.gov.bc.ca/algaewatch)) that provides information on algae and cyanobacteria. The website provides information on algae and cyanobacteria, shows how to recognize common blooms and other aquatic phenomena that are often mistaken for algae, and provides tools and a photo gallery to help you identify any algae that you may see. As well, the website has a "Submit your algae bloom observation" tool which allows you to send the Ministry photos and information on the location,

size, colour and smell of a bloom. The algae watch team can then respond to your submission and let you know if what you have seen is a harmless algae, or a potentially toxic cyanobacteria.

For more information or if you see an algae bloom while out on a lake this summer, please visit the [Algae Watch](http://www.gov.bc.ca/algaewatch) website and [submit your observation](#).



Algae Watch homepage.



Quesnel Lake, Horsefly.

## In the Know

### Items volunteers and stewardship groups need to know

- All volunteers must submit their monitoring data within 14 days of data collection. Data can be submitted using the online [field data submission tool](#), or by filling out an [excel spreadsheet](#) and submitting it by email.
- As part of the QA measures field inspections will be done with all volunteer and stewardship groups. If you haven't already completed or scheduled one, please check your inbox for an email asking to schedule one.
- Algae happens. If you want to learn more about common algae or if you see an algae bloom, or something you think may be an algae bloom, please visit [www.gov.bc.ca/algaewatch](http://www.gov.bc.ca/algaewatch) and submit your observation.
- Annual data summaries are now available and accessible through our [website](#). Click on the mapping portal link, and then choose the BCLSMPTab, zoom in to your lake and click the dot.
- For any questions or concerns at any time please email us at [volunteerlakes@gov.bc.ca](mailto:volunteerlakes@gov.bc.ca)

## Team Tell-All

### Spotlight on a Team Member

Dean Peard began his career with the Ministry in 2000 as a Fisheries Technician in the Cariboo region. In 2005 he moved to the Skeena to take on the role of Fish and Wildlife Inventory Biologist. Dean took on a temporary assignment with the Ministry's Ambient Surface Water Quality Monitoring Team in 2018 before joining the team permanently in 2022 as a Water Quality Monitoring Specialist.

In addition to supporting the BCLSMPT, Dean is the regional field lead for the [BC Lake Monitoring Network](#) and the [Canadian Aquatic Biomonitoring Network \(CABIN\)](#) work, as well as supporting the [Canada-BC Surface Water Quality Monitoring Program](#)

Dean lives and plays in the Shawnigan Lake area of Vancouver Island. When not working, Dean can be found travelling, fishing, and diving.



Dean Peard, Water Quality Monitoring Specialist.

## Stewardship in Action

Highlighting volunteers and stewardship groups



Charlie Lake Conservation Society logo.

The Charlie Lake Conservation Society was established in 1996 by a group of volunteers interested in promoting conservation efforts for Charlie Lake and its watershed.

The CLCS aims to provide a forum for gathering, sharing, and coordinating information to develop a comprehensive management plan to protect, preserve, enhance and support conservation efforts for the lake and its watershed.

The CLCS has participated in two BCLSMMP monitoring programs. The first took place between 2003 to 2005, and the second was conducted between 2016 to 2018. Both studies resulted in monitoring reports. As well, the CLCS engaged a consultant to prepare a long-term strategic plan for the improvement of water quality in the Charlie Lake watershed. All these reports are available on the CLCS website.

In addition to the volunteer water quality monitoring, members of the CLCS have also conducted multiple aquatic plant surveys, as well as Cyanobacteria/blue-green algae surveys on the lake. Summaries of these surveys are also accessible on the CLCS website.

Members of the CLCS also worked with Ministry staff to conduct a net survey of walleye and other fish species found in Charlie Lake. The fish survey was conducted in the fall of 2007, with follow up studies done in 2009 and 2013.

To learn more about the Charlie Lake Conservation Society, become a member, or learn about their activities, visit [www.charlielakeconservationsociety.ca/](http://www.charlielakeconservationsociety.ca/).

## Animalia

Understanding aquatic animals and insects

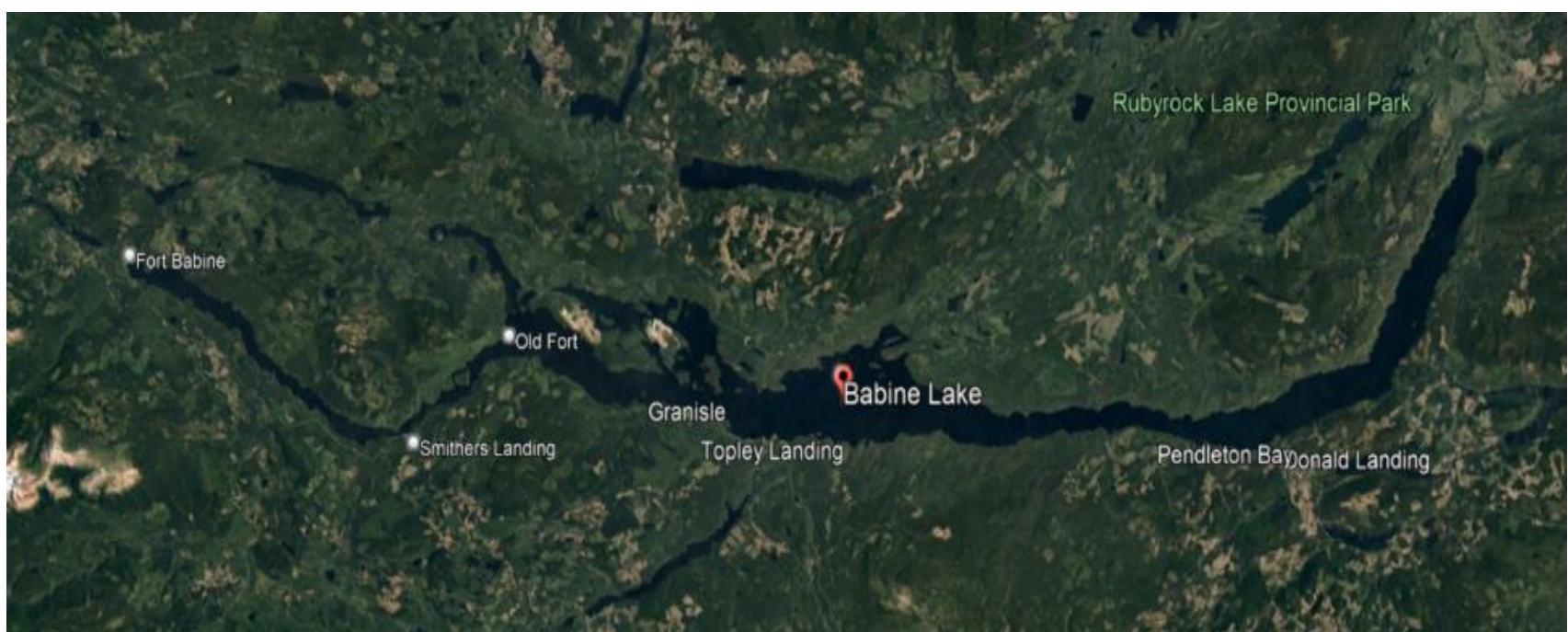
One of the larger water beetles is the Predaceous Diving Beetle (*Dytiscidae*), also called a Water Tiger. These bugs can be found in lakes and large ponds. Their two back legs are flat and are used like paddles to propel the beetle forward in the water. The front legs look like bent arms, and all legs are hairy.

These beetles feed on other aquatic insects and creatures including small tadpoles but are harmless to humans.

The beetles fly very well, mainly at night moving from one water source to another. They are attracted to lights in the dark.



Predaceous Diving Beetle adult.



Aerial view of Babine Lake, the longest lake in B.C. Image taken from Google Earth.

## Are You Lake Smart?

### B.C. Lake Trivia.

There are over 20,000 lakes in B.C., and each one is unique. We did some research to discover some of the most unique lakes in B.C.

The biggest lake in the province is Williston Reservoir in the northeast of the province. The lake was made when the W.A.C. Bennet Dam was constructed on the Peace River in the 1960's. The Williston Reservoir has a surface area of 1,773 km<sup>2</sup>.

The biggest natural lake in B.C. is Atlin Lake in the northwest corner of the province. Atlin Lake has a surface area of 775 km<sup>2</sup>.

B.C.'s deepest lake, Quesnel Lake, lies near the centre of the province and is also the deepest fjord lake in the world. Fjord lakes tend to be long and narrow with steep sides and are formed by glaciers as they melt. Quesnel Lake is 511 m deep.

The longest lake in B.C. is Babine Lake, which is in the northwest of the province. Babine Lake is 177 kms long.

Chilko Lake on the Chilcotin Plateau is B.C.'s largest natural high-elevation lake. Chilko Lake has a surface area of 180 km<sup>2</sup> and is located at 1,175 m elevation.