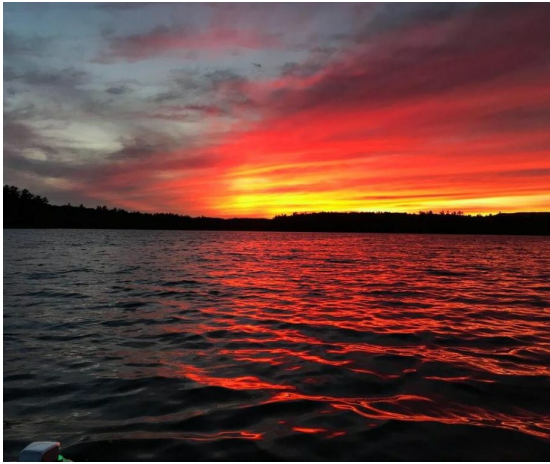




# Kanasatka Water Matters

## News & Updates

February 2023 - Issue 4



### Best Practices for Lake Friendly Living

by Max Hoene

Moultonborough Alternate Conservation Commission member & Lake Kanasatka homeowner

According to the recently completed Lake Kanasatka Watershed Management Plan, Lake Kanasatka has reached a tipping point where Cyanobacteria blooms are becoming more common. Cyanobacteria blooms are typically spurred by a combination of warming temperatures and excessive nutrients, particularly phosphorus, in the water. The cumulative impact of thousands of small actions is beginning to take a toll on our lakes. Inaction and believing that this problem will simply go away are no longer options.

**So, what can we as Lake Kanasatka stakeholders do now?** Winter is a good time to reflect on possible issues observed on our properties during 2022 and to start planning projects for 2023 to protect our lake. There is no magic bullet to solve this problem. It will take a lot of small, incremental improvements to achieve our goal of reducing nutrient loading into the watershed.

Next month a newsletter series called **Top 10 Ways to Protect Our Lake** is being introduced. This series will suggest opportunities and

### UPDATE ON HB276:

*A public hearing on House Bill 276 FN was held January 25th at the New Hampshire State House. Our Lake Kanasatka neighbor, State Representative Rosemarie Rung, the bill's sponsor, from Hillsborough County District 21, provided the following summary the next day. As of January 30th, there is no new information on the follow-up steps mentioned in the summary, but as further information becomes available, we will provide updates in our next newsletter.*

"Yesterday's public hearing on the cyanobacteria mitigation loan fund bill, HB 276, was very well attended by supporters of this bill. Over ten verbal testimonies were given by members of watershed and lake associations, in addition to many more who signed in to support the bill. In addition, dozens of emails were sent to committee members by the public to support the bill.

As prime sponsor, I asked Rep. Andy Renzullo to call for a subcommittee to draft an amendment to address a few issues that were raised by NHDES, and a few other logistical issues regarding the funding process. However, the positive momentum from all of you encourages the committee members to seriously work toward consensus. There will be some members who may oppose any funding, but I believe they are in the minority.

If a subcommittee is called, they will meet, draft an amendment and bring that to the Executive Session of the committee for them to discuss and then vote on a recommendation to bring to the full House. Their options are to recommend: Ought to Pass (into law), Inexpedient to Legislate (which asks House to kill it) or retain it for further study. The Executive Session will likely be in 2-3 weeks.

Thank you so much for taking time to express your support and sharing your stories about cyanobacteria. It is vital for all elected officials to hear from and understand how the public wants to be represented."

recommendations over the next few months that will help make your property more “lake-friendly”.

**Don't miss the following article in this month's issue by a 2022 LakeSmart Award winner and Lake Kanasatka homeowner!**

\*\* To follow the progress of a bill, go to

[https://www.gencourt.state.nh.us/bill\\_status/advanced.aspx](https://www.gencourt.state.nh.us/bill_status/advanced.aspx)

Enter the bill number (HB 276), click on "House" for originating body, then click on the drop down menu for bill sponsor (Rung, Rosemarie) and then "Submit." This should bring you to a page that shows the current status of a bill.



## CAN'T ARRANGE A LAKESMART/WINNIBLUE SITE VISIT? DID YOU KNOW YOU CAN SUBMIT PHOTOS FOR EVALUATION?

*By Colette Cooke*

Having a one-on-one property visit with a LakeSmart/WinniBlue evaluator provides the best experience for homeowners. Evaluators are prepared to visually assess your property with the health of the lake in mind. However, this program is inclusive and if you cannot have an in-person visit, you can opt for a photo based property evaluation instead.

The first part of the process is the same: You will complete the LakeSmart Survey online by heading over to <https://www.winnepesaukee.org/take-action/>. If you choose not to have a follow-up visit from a trained evaluator, you can submit photos of your property through a quick online form. The submission form will tell you which photos to take and how. Be sure to follow instructions and upload clear quality photos so an evaluator can give you the best feedback possible.



A LakeSmart/WinniBlue Evaluator will review your photos and may reach out to you for further information or clarification. You will receive a written evaluation with specific lake-friendly recommendations based on the information you provided.

After you make any recommended lake friendly improvements, you again have the option of a site visit or submitting additional photos showing the improvements made. Staying in communication with your evaluator about your progress is the key to achieving your award!

Submit photos of your property for evaluation: <https://s.pointerpro.com/lakesmartphoto>

For more information, download the LakeSmart Book:

<https://nhlakes.app.neoncrm.com/np/clients/nhlakes/product.jsp?product=49&>

Check out the LakeSmart Resource Library: <https://nhlakes.org/LakeSmart-resource-library/> (All Fact Sheets available here.)

The following are examples of actual evaluation comments, the guidance that was provided for lake-friendly results, and the changes implemented to achieve those results.

### 1. Driveway

- *Evaluation stated “Mild erosion on the dirt part of driveway; divert water into a vegetated area... By the paved section of parking area, driveway infiltration...will help catch pollutants”*
- Fact Sheets provided with evaluation: <https://nhlakes.org/LakeSmart-resource-library/>: [Firehose-Diverter-Fact-Sheet-1.pdf](#); [vegetated-buffer.pdf](#); [driveway-infiltration-trench.pdf](#)
- Implemented: Gravel drainage along driveway for runoff from paved section; Sand filled firehose diverters, to direct driveway runoff to vegetated buffer

### 2. Wastewater

- *Evaluation stated “Due to the age of your septic system, we recommend working with a licensed septic professional to get your septic system and leach field inspected.”*

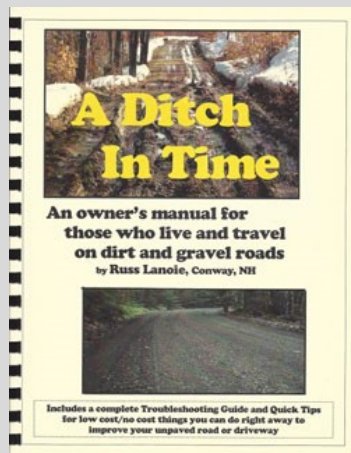
- Fact Sheets provided: <https://nhlakes.org/wp-content/uploads/You-and-Your-Septic-System.pdf>; <https://nhlakes.org/find-a-LakeSmart-service-provider-partner/>
- Implemented: We had previously had the septic system inspected. Pump was replaced by a LakeSmart service provider. Only needed to provide documentation.

### 3. Yard

- Report stated “Congratulations! You have achieved lake-friendly living status in the yard, recreation areas, and footpath areas...Opportunities for incorporating additional lake-friendly living practices we thought you might want to consider.”
- Fact sheets provided: <https://nhlakes.org/wp-content/uploads/Erosion-Control-Mix-Fact-Sheet.pdf>; <https://nhlakes.org/wp-content/uploads/Natural-Lawn-Fact-Sheet-1.pdf>
- Implemented: Added 8" of pine duff to stabilize all footpaths. Planted clover on all other non-vegetated surfaces.

### 4. Shoreline

- Evaluation stated: “Congratulations! You have achieved lake-friendly living status in the management of the shoreline and on the water section.... there are always some opportunities for incorporating additional lake-friendly living practices.”
- Fact sheets provided: <https://nhlakes.org/wp-content/uploads/vegetated-buffer.pdf>; <https://nhlakes.org/wp-content/uploads/native-shoreland-plants.pdf>
- Implemented: We let the entire shoreline grow out wild and with lake friendly plantings. There is currently 10 feet of well-established shoreline buffer. The property is now a “no-mow” zone (except the leach field, if needed.)



## Road Maintenance

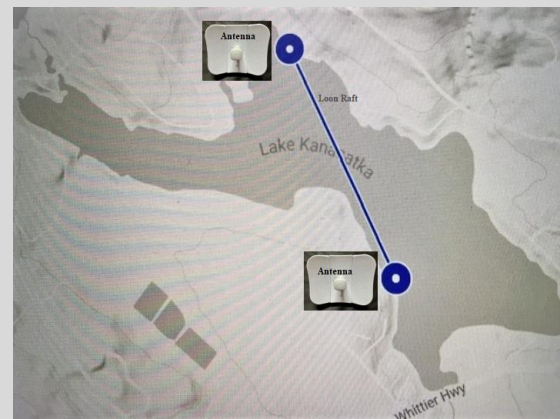
by Chris Wallace

Most of us around Lake Kanasatka access our camps, cottages or homes by way of a dirt or gravel road. A properly cared for road reduces erosion and eliminates or minimizes the impact of stormwater runoff entering the lake, including melted snow pack. The negative effects of sediment and nutrients from runoff on water quality are well documented. The LKWA Watershed Management Plan page 51 includes this action step for Road Management:

- “provide educational materials for homeowners about winter maintenance and sand/salt application for driveways and walkways.”

As property owners, the resource pictured above will help you to assess and maintain your own driveways and communal association roadways.

Russ Lanoie, a Conway NH resident has spent many decades maintaining dirt roads. He is considered by many to be the foremost authority



## The Loon Cam Returns

by Kevin Kelly

## We are excited to announce the return of the loon cam for 2023!

With the help of several people, including The Loon Preservation Commission (LPC), a plan is coming together to assemble a brand new system.

### The Plan

Place an 11"x14" LiteBeam antenna on the Kellys' waterfront. Hard wire the antenna to their Spectrum router via ethernet cable. The broadband signal will have a wider bandwidth than the previous DSL signal. This antenna will send a wi-fi signal down lake to a second identical antenna at the Rapps' waterfront. The attached photo was taken from the Litebeam's interactive website. The blue coloring indicates a strong signal down lake.

The second antenna will connect to a junction box/power supply via ethernet, then more ethernet cable to a brand new camera. Zoom and other

on their design and maintenance. His manual, *A Ditch in Time*, provides a comprehensive approach to maintaining gravel and dirt roads. The manual may be [downloaded here for free](#):

Russ offers advice on the type and mix of materials that should be used on dirt and gravel roads, the methods of grading for proper drainage, the importance of crowning a road and the type of equipment that is used to achieve the best results as well as information on culverts, pot holes, mud, ruts and washouts. Everything you wanted to know about dirt roads and more in an easy to understand guide!

adjustments would be made from a laptop at the Kelly house. The loon cam will be viewable on the LKWA website ([www.kanasatka.org](http://www.kanasatka.org)) and the images will update every few seconds. We should get very clear, up close images.

#### **Credits:**

**Bill Gassman** - Technical advisor to the LPC and designer of this system

**Harry Vogel and John Cooley** - Technical support and experienced advice from LPC

**Allen and Marianne Rapp** - Hosts of the down lake segment and protectors of the loon nest

**Ted Hilton, Jr.** - Allowing us to access his property

**Mark Whary** - Has the huge task of placing the nesting raft in the cove and removing it after the eggs are hatched, as well as maintaining the down lake equipment

**Kevin and Sandra Kelly** - Purchase of all the new equipment and hosts of the base station.

## Frequently Asked Questions

by Lisa Hutchinson

**FAQ:** Other than lakefront runoff and erosion, are there any other sources of runoff and nutrient input into the lake?

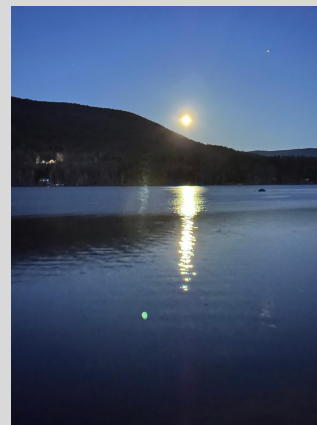
**Answer:** Yes. We have several larger and smaller streams running into the lake. The largest are the stream from Wakondah Pond, Kanasatka/Scribner Brook on the west end, Red Hill stream flowing into Bishop Shore Cove, and Jennifer's Path flowing into the Maples Cove. Of course, there are many stormwater channels into the lake which are not perennial streams that flow year-round, but occur regularly during storms.

#### **Human-induced sources of nutrients include:**

- Buffer clearing, removing vegetation and trees and stumps
- Your local access road, where any washouts or runoff often find their way into the lake
- Runoff from driveways and roofs, especially houses within 50-100' of the lake (most are!)
- Construction activity or other disturbed ground
- Gray water being let into or toward that lake – not allowed in New Hampshire
- Pet waste and fertilizers
- Faulty, outdated or overloaded septic systems
- Boat traffic and wakes hitting the shoreline

#### **Natural sources of nutrients include:**

- Plant decomposition – help by avoiding adding leaves and lawn clippings to the lake
- Waterfowl and wildlife waste – help by avoiding feeding the ducks and attracting the geese
- Atmospheric sources and natural weathering of geologic material.



## Ions, Solutions, & Alum, Oh My!

by Scott Wallace

#### **A Brief Chemistry Lesson in Three Parts.**

Understanding lake water chemistry is a complex issue. The first part of this three-part article presents information on what type of chemicals we are concerned about in our lake. The second part describes how these chemicals can dissolve and disperse in the lake water and settle to the bottom. The last part covers how sediments on the bottom can redissolve into the water and how a common treatment, Alum, can reverse that

effect.

### Part 1- Ions versus Molecules

Chemical compounds can generally be split into two main types: ionic compounds and molecules. **Molecules** are a combination of atoms attached together by sharing special electrons called valence electrons. Valence electrons are the electrons in the outermost shell, or energy level, of an atom. These shared electrons form strong covalent bonds between atoms and form a wide variety of substances ranging from propane (a gas), to gasoline (a liquid), to polymers (solids). In many cases, molecules are composed primarily of carbon, hydrogen, and oxygen along with a wide variety of other atoms.

The chemistry of living things is primarily based on molecules.



**Ionic compounds** are composed of two or more atoms or groups of atoms that each have an electric charge. For example, the element sodium has 11 protons (+) and 11 electrons (-) and is electrically neutral. When sodium loses an electron to form a compound, it then has 11 protons and 10 electrons giving it a net positive one (+1) charge. Chlorine then will gain one electron to form a compound and have a negative one (-1) charge. Table salt, NaCl, is actually composed of huge numbers of positive sodium ions (Na<sup>+</sup>) and negative chlorine ions (Cl<sup>-</sup>) that combine together in a three-dimensional solid matrix. Think of trillions of Lego blocks (ions) stuck together in a solid mass. This combination of sodium and chlorine is electrically neutral because the number of positive ions equal the number of negative ions.

Ions also include combinations of covalently bonded atoms that in total have a positive or negative charge. **Phosphates (PO<sub>4</sub>)<sup>-3</sup> are an example of polyatomic ions which are a concern in our lake because they are a primary food source for algae and bacteria.** The phosphate ionic group has gained three electrons giving it a negative three charge (-3). When looking at ionic chemistry, the polyatomic ions stay together and react with other ions as a group to form electrically neutral ionic compounds. To form sodium phosphate which has a neutral charge, you would combine three sodium ions, each with a +1 charge, and one phosphate ion, with a -3 charge, to form Na<sub>3</sub>(PO<sub>4</sub>), a neutral ionic compound.

Why does this matter? To be continued...

## LKWA Board Meeting Summary

January 19, 2023



Attendance: Kirk Meloney, Colette Cooke, Christine Wallace, Tim Baker, Rob Baker and Lisa Hutchinson

A volunteer association member presented her ideas for coordinating WMP implementation activities. Three Board members indicated they were working on a summary of WMP activities and upon request the member agreed to attend this group's meeting the week of Jan 23 to further discuss coordinating activities.

Year-end donations from 4 members in the amount of \$500 were gratefully acknowledged.

The Board sent a letter to one of the owner associations whose property is identified on the WMP as a high impact site, to advise of the serious stormwater runoff that has been occurring at the property as a result of heavy rains, and to request a remediation action plan.

The Board has approved a project to update the functionality of the LKWA website with a cap on funding of \$1,000.00.

Potential grants are being researched but none are currently in the application stage.

A membership meeting is being planned for early Spring to provide an update on WMP status.

## Questions? We have Answers!

Send your Lake Kanasatka related questions to [lkwa@gmail.com](mailto:lkwa@gmail.com) and we will have an answer for you in the next newsletter! Please- no questions about specific properties.

\*\* We will withhold all names unless you expressly ask to have your name included.



### DUES FOR FISCAL YEAR 2023

At the July 2022 annual meeting, a motion was made and voted on to raise LKWA dues from \$25.00 to \$35.00 per year per voting member. Beginning January 1, 2023 dues payment in the amount of \$35.00 may be sent to: *LKWA P.O. Box 774 Center Harbor, NH 03226.*

Thank you for your support!

### WINNI BLUE AND LAKESMART AWARD WINNERS FOR 2022 ANNOUNCED!

*From Bree Rossiter, Lake Winnepesaukee Association Conservation Program Manager:*

"In 2022, we completed 55 visits within the Lake Winnepesaukee watershed. 21 of those visits were on Kanasatka, and 5 Kanasatka residents are eligible for the WBLS sign. For perspective, out of the 55 visits we completed only 9 awards were distributed, which means LK residents make up more than 50% of the participants deemed "Winni Blue & LakeSmart" in 2022. For comparison, in 2020 6 visits were completed, and in 2021 15 visits were completed."

Congratulation to everyone who has either started



### Thank you to those of you who made an End of Year donation to LKWA!

2022 presented our organization with both challenges and opportunities. Continuing water quality issues and prolonged lake advisories challenged us to work together to not only identify issues of concern on the lake but also methods of remediation.

With financial support from the town of Moultonborough we had the opportunity to work with FB Environmental to develop a Watershed Management Plan. The plan provides a comprehensive look at historic and current water quality values, trends and modeling showing the impact of future development. The evidence is clear. Individual property owners, LKWA, the town and the state must all work together to improve the water quality of Lake Kanasatka.

As we move into 2023, there will many opportunities for you to be involved in the implementation phase of the WMP. We look forward to working with you.

Thank you again for your support!

the process or better yet, earned the award. Let's keep this trend going in 2023!

---

## LKWA Website Updates

The LKWA website (kanasatka.org) will be undergoing an extensive overhaul in the coming weeks thanks to the knowledge and skills of Bree Rossiter, who many of you may know as the Lake Winnepesaukee Association Conservation Program Manager. Bree is working on this project for LKWA as an independent contractor.

Updated information on the Watershed Management Implementation Plan, including suggested resources for DIY lake friendly living projects, the addition of a new Loon Cam feed courtesy of Kevin Kelly and technical advisor Bill Gassman, Volunteer Committee listings as well as information on cyanobacteria protocols and other water quality concerns are just a few of the topics that will be updated.

---

### LKWA email contacts:

Watershed Management Plan  
[LKWAWatershedPlan@gmail.com](mailto:LKWAWatershedPlan@gmail.com)

LKWA Communications email:  
[LKWACommunications@gmail.com](mailto:LKWACommunications@gmail.com)

[Link to Watershed Management Plan](#)

*This newsletter is brought to you by the LKWA Communications Committee:  
Carol Hart, Janna Hoiberg, Kevin Kelly, Jane Nash and Chris Wallace*

Lake Kanasatka Watershed  
Association |  
[www.kanasatka.org](http://www.kanasatka.org)

