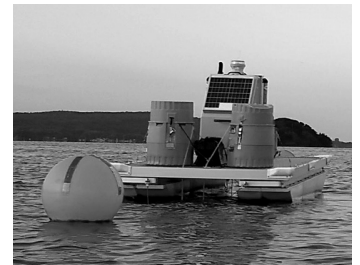




Oh, Buoy!



Researchers hope buoys will bring greater understanding of water dynamics and nutrient movement.

By now, many have noticed the strange looking buoys in St. Albans Bay. Tom Manley, assistant professor of geology and oceanographic researcher from Middlebury College, is interested in the hydrodynamics of Lake Champlain and is gathering data from the buoys. Tom has used the research vessel *David Folger* for comprehensive mapping of the lake floor that has revealed new information about sediment, hydrodynamics and understanding of how material travels throughout the lake. The *David Folger* is equipped with state-of-the-art navigational tools and

How does your membership make a difference to the Lake?

SAAWA is a unique, grass-roots organization in the Saint Albans Watershed area. Our members are drawn together through a love for the lake and a desire to restore clean, healthy water to Saint Albans Bay. We have a tradition of truthful and fearless advocacy for water quality. Renewing your membership each year, as well as becoming a Board member or volunteer, helps in several ways:

- **Financial support** = helps sustain our basic operations (i.e. running the weed harvesting operation, collaboration and events with other associations, and minor admin expenses (most of our efforts are volunteer supported).
- **Social support** = your participation helps connect the community around St. Albans Bay in a culture of clean water, awareness and accountability. It also allows SAAWA to conduct public education/outreach to spread the word.

- **Political support** = Your support raises the volume as we communicate water quality concerns to State officials. SAAWA is a recognized and reputable local association, vigilant on local and national issues that impact the lake. Your membership helps keep the focus on restoring the Bay.

Join the Board!

We are currently in need of activating new board members. Our group meets 1-2 times a month where each member of our team does a small part to make a BIG difference! You don't need to be a water quality expert, and it is not overly time-consuming, but your presence is needed to continue to be a watchdog and advocate for water quality in the Bay.

Questions?

Please contact Jeff Moulton, SAAWA Secretary at 802-238-9319 for more information.

SAAWA Collaborates on Water Chestnut Removal

In July, SAAWA members joined with the Dept. Environmental Conservation, Aquatic Invasive Species Program and about 20 others to search, pull and destroy (compost) as well as identify invasive European Water Chestnut populations in Black Creek Swamp. We met at St. Albans Bay Park, divided into work groups and paddled to different areas.

Last year, invasive species scientists had noted a new population of water chestnuts in Black Creek Swamp. If unchecked, they form dense mats which impede water flow and block light into the water, reducing oxygen levels and growth of native species. In addition, the seed pods are hard and

spiny, creating a hazard for swimmers and boaters. The barbed spines are sharp enough to penetrate a shoe. These are not the edible chestnuts found in salads or stir fries.

While mechanical harvesters may sometimes remove large masses of Water Chestnut, our machines couldn't access the areas where the plants were identified and hand-pulling was the preferred method. They are not firmly anchored, so they were pulled up gently and gathered into lightweight containers or bags on kayak decks. A large number of plants were removed from areas closest to the Black Bridge. Other teams proceeded up Jewett Brook toward Dunsmore Road but did not find any plants upstream. We will continue to monitor for new plant growth. If you notice these plants in your travels around the Bay, please let SAAWA know so we can report to DEC.

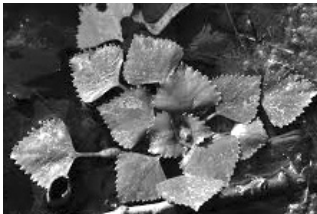
This plant is called invasive for a reason! Each plant produces up to 20 seedpods per rosette which can live for up to 12 years. In one year, one plant can become 300 new plants! Flowers begin in late July, with

nuts ripening one month later.

How can you help stop the spread?

1) Observe good boat hygiene. Make sure you remove any traces from your boat and gear, and dispose in the garbage. Drain water from your boat, live wells, etc before leaving the water access. Wash your boat and gear when you return home, and dry in a sunny area before using in a new body of water.

2) Volunteer for a chestnut pulling paddle. SAAWA may try to plan another paddle to check for chestnuts in the Mill River area as well as making a return to the Black Creek Swamp. The best way to keep these plants at bay is to identify and remove them as soon as possible. If you would like to receive an ID card, or if you are interested helping with a removal paddle, please email kate@saintalbanswatershed.org.



Clockwise from top left: a floating water chestnut leaf rosette; detail of water chestnut pod; paddlers enter the Black Creek Swamp under Black Bridge; SAAWA president Steve Langevin joins the hunt for water chestnuts.

SAAWA
st. albans area watershed
ASSOCIATION

PO Box 1567
St. Albans, VT 05478

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Saint Albans Area Watershed Association

Board of Directors

President | Steve Langevin

Vice President | Dan DeGraff

Treasurer | Josh Koldys

Secretary | Jeff Moulton

www.saawavt.org

The Board generally meets on the
1st & 3rd Wednesdays of each month at 5 pm.
Email info@saintalbanswatershed.org
for directions.

Join us!

Research Buoys (cont'd from p. 1)



oceanographic equipment such as current profilers and high-precision tools to measure physical characteristics of the lake.

According to Tom, circulation dynamics are an essential component in the understanding of any sedimentological, chemical or biological dynamics. An example would be that of nutrient input from a river. Where do the nutrients go and how fast do they move within the system? What happens if winds are from the north or the south forcing currents into or out of a specific region? Is water velocity uniform from top to bottom or are there different layers that move in different directions thereby forcing nutrients move in a completely unforeseen direction? From these questions, the need for understanding circulation dynamics can be understood however the observation of currents within a specific region is far from simple. In the lake, incoming solar radiation that heats the lake surface, wind speed and direction and thermal stratification all represent the major forces in the movement of water.

The study is measuring wind speed and direction with a meteorological buoy (identical to the ones used in the Great Lakes) , placed in the Inland Sea. Data is output by this station every 15 minutes and accessible online:

http://www.ndbc.noaa.gov/station_page.php?station=45166.

Thermal stratification changes constantly, minute by minute, due to wind, incoming solar radiation and heat losses back to the atmosphere. In order to map these variations throughout the water column, approximately 20 subsurface moorings have been placed within St. Albans Bay and the Inland Sea. On each one of these moorings are up to 10 individual temperature sensors that monitor water temperature every 30 minutes. All of these moorings are well below keel depth of any boat operating on Lake

Champlain and will remain in the lake for one year.

There are also 8 surface buoys placed in St. Albans Bay that monitor the upper 6 feet of the water column every 30 minutes however these will be removed in late October due to oncoming ice conditions. There are an additional 10 bottom-mounted systems distributed throughout St. Albans Bay that acquire water velocity every 30 minutes roughly every foot in the vertical. They too will remain in for one year and be recovered with the

rest of the subsurface systems beginning in June 2018. At that point in time, the data will be downloaded from all the instruments and the entire mooring array will be reestablished at different locations within St. Albans Bay and the Inland Sea.

In the short run, the data will allow researchers to understand the circulation dynamics within the St. Albans Bay and in the long run, this data will also be used to help validate a numerical model that is being initially created for circulation dynamics within the Inland Sea and Missisquoi Bay. Later it will be extended to include the entire Lake Champlain region. The researchers believe use of a well calibrated circulation model will then allow us to gain answers pertaining to many other issues that are on the forefront of our minds.

Becoming BLUE!

SAAWA is working with Lake Champlain International (LCI) to expand their Blue Certification program to the St. Albans area. Becoming “Blue Certified” can help reduce stormwater runoff from your property. LCI has expert advice on ways to make your home, product or business watershed-friendly. You can email Juliana at LCI (juliana@champlain.ngo) for information on how to have your property evaluated.



Juliana Dixon, at SAAWA's Take a Stake in the Lake event in June 2017

A Little Glyphosate With Your Ice Cream?!

Glyphosate: Water Quality Not the Only Issue?

This July, the *New York Times* reported that the Organic Consumers Association found traces of glyphosate, the main ingredient in the widely-used herbicide Roundup (among other name brands) in a number of food products. Disturbingly, 10 of 11 samples of ice cream from Ben & Jerry's contained low levels of the chemical. To be fair, B&J's yummy product isn't the only food shown to contain a bit of glyphosate. An independent lab found glyphosate in flour, cereal, soybeans, cookies, oatmeal, baby food and whole grain bread. Traces have also been found by the FDA in foods such as honey which are not produced using glyphosate.

Glyphosate is used to kill weeds and increase crop yields, particularly on GMO (genetically modified) crops which tolerate the herbicide. Observations show glyphosate runs off into the water supply, where it can be ingested directly, or consumed after it leaves a residue on food. Some can remain on the crops which are then fed to cows or used to make other consumer food products.

Regulatory and consumer agencies have been back and forth about safety and concerns about glyphosate have sparked debates across the United States. In 2015 it was classified as a probable human carcinogen by the World Health Organization's International Agency for Research on Cancer (IARC). But the WHO itself and other U.S. and other regulatory bodies remain somewhat skeptical. On the contrary, California environmental health regulators held a public hearing regarding their plans to add glyphosate to a list of chemicals known to cause cancer, a move Monsanto protested.

Testing exists, but has moved slowly. The FDA announced in February 2016 that they would begin testing foods for glyphosate residue and then suspended testing over squabbles on methodology and equipment. After public outcry, it appears they resumed testing in 2017. New products for resistant weeds are entering the market. Glyphosate is now mixed with 2,4-D (an older herbicide, sometimes be toxic to aquatic life) and dicamba, both of which have been linked

to non-Hodgkins lymphoma according to Mercola.com. Combining multiple toxins, and the possible synergistic chemical reactions that may result, make testing more important than ever. In April 2016, the Canadian Food Inspection Agency found glyphosate residue in about 30 percent of foods tested. The USDA began to test food samples in April 2016 but abandoned the project. Monsanto and government testing agencies maintain that any glyphosate residues in food are small enough to be safe. Critics and independent testing agencies say without robust testing, glyphosate levels in food are not known and that even trace amounts might be harmful since glyphosate is likely consumed regularly in many foods.

Food safety aside, glyphosate has a negative impact on water quality by stripping vegetation on fields and increasing runoff. It contributes to the phosphorus load. Worse, glyphosate contains inert surfactants (to better disperse the chemical) which are shown to greatly magnify the transfer of existing phosphorus through the soil and into the watershed.

SAAWA has been concerned about glyphosate use for some time. The decline of water quality in the Bay has seemingly coincided with the popular rise of herbicides and industrial corn. While this may not be the only source of our problems, it certainly has not helped.

SAAWA will continue to push for answers regarding the impact of glyphosate on health, safety and water quality. In addition to increasing the phosphorus load on St. Albans Bay, and facilitating industrial corn production, we believe its effects on health in and out of the water require more investigation.

What can you do? Reduce or stop the use of commercial weed killers around your property, particularly near the lake. Look for natural methods of weed control if possible — manual removal, mulching, organic methods, etc. Try to stay informed. Insist that our officials take this issue seriously, demand testing and press for transparency in use of these chemicals in our area.



News Bits

Trees for Streams

Trees for Streams, Vermont Conservation Districts signature riparian buffer program, has been installing vegetated buffer zones since 1999 to enhance riparian habitat; improve stream health and floodplain function; and protect water quality. Plantings help minimize bank erosion by holding soil in place; storing and filtering nutrients from runoff and overland flow especially during high flow events; and regulating water temperatures by shading surface waters.

The NRCS will provide trees free of charge to property owners whose property contains stream banks. For more information, please contact Jeannie Bartlett, St. Albans NRCS Field Office at 802-528-4176.

Blue Green Algae

2017 has been a better year for water quality, with fewer blue green algae blooms, although a few recent outbreaks have been sighted. High water levels in spring, the low water and cold temps in winter, are thought to contribute to reduced weed growth in the bay. We are thankful for a good season so far, although at this writing (late August) we are starting to see the blue green back again.

It is important to keep an eye on the water, and avoid contact with blue green algae blooms. Although the State maintains a tracking map it does not always reflect the situation in the water. Help warn others of toxic blooms by reporting blue green sightings to the State. Call 800-439-8550 (7:45 a.m. to 4:30 p.m. M-F except state holidays) After hours, email: AHS.VDHBlueGreenAlgae@vermont.gov after hours and on weekends.

Less phosphorus? Let's hope so!

A recent article in the *St. Albans Messenger* (8/24/17) reported that “farmers the St. Albans Bay watershed reduced phosphorus runoff by 3,000 pounds in 2016, according to estimates from the Natural Resource Conservation Service (NRCS).” The reductions have come mainly from reduced tillage and cover cropping. NRCS believes this will bring farms near 87% of their targeted reduction by 2020. Compliance seems to be improving, but as usual, some lag behind. The pace of improvement is slow. In addition, the many caveats from regulators in the article regarding residual sediment seem to be preparing us for disappointment.

Questions remain. Does slightly missing a target for

reduction get us to a level where water quality will truly improve? Is “big corn” really the best crop for this area? Will these latest reductions in phosphorus runoff be eaten up by allowing bigger operations and more-cows/more-corn? Are there alternatives that will create healthier soil, healthier animals and a cleaner environment that would be more consistent with the Vermont brand? Are the “estimates” of achievement accurate? And how do they fit into the bigger picture? While we applaud the farmers who are leading the way in rotational grazing, organic farming and animal husbandry, cover cropping, no-till, buffer zones and other environmentally responsible methods, these are questions we should all continue to ask. The stakes are high and we are running out of time.

JOIN US! Demand Clean Water!

Your support is essential and helps SAAWA keep the focus on clean water in St. Albans Bay! Please complete the form below and return to:

St. Albans Area Watershed Association
PO Box 1567, St. Albans, VT 05478

Name _____

Address _____

City/State/Zip _____

Email _____

Phone _____

Shoreline property owner? yes no

Membership Level

\$10 Individual \$20 Family \$5 Student

(Individual, Family and Student memberships receive SAAWA newsletter)

\$50 Lake Advocate \$100 Lake Steward \$150 Business Sponsor

(Winslow book on Lake Champlain)

(Website Link)

2017

▶▶▶ You may also join or renew your membership
securely online at
saawavt.org

If you have an interest in becoming a
SAAWA Board Member, please contact Steve Langevin,
SAAWA president: info@saintalbanwatershed.org.

Join us and speak up for clean water!



PO Box 1567
St. Albans, VT 05478

www.saawavt.org

working to restore Saint Albans Bay



We are happy to announce that Hannaford has chosen SAAWA as the September recipient of Good Karma reusable bag sales in St. Albans! During the month of September, SAAWA will receive \$1 from each blue Hannaford Helps Reusable Bag purchased at the Highgate Commons Hannaford location.

Please show your support by purchasing these beautifully designed, blue reusable bags with the good karma messaging, at the Highgate Commons Hannaford in St. Albans!

The Good Karma bags can be found at the reusable bag rack and various registers.

Thank you!

*stay
connected!*

Follow SAAWA on Facebook!

Our new page continues to grow and it is helping us to stay better connected to SAAWA members and the community at large. Please visit and 'Like' our new page: www.facebook.com/saawavt/ to stay in the loop.

