SAAWA
st. albans area watershed
ASSOCIATION
working to restore saint albans bay
SAAWA NEWSLETTER | AUGUST UPDATE 2018

UVM Study Seeks Info on Blue Green Algae Impact

The University of Vermont's Rubenstein Ecosystem Science Laboratory is conducting research on Saint Albans Bay this summer through fall to learn more about the impacts of cyanobacteria (blue-green algae) blooms on the environment and people. The research is part of a larger study within UVM's Rubenstein School of Environment and Natural Resources. The larger study, which is funded by the U.S. Environmental Protection Agency, aims to understand the links between harmful algal blooms and human well-being.

As one part of the project, the Rubenstein Laboratory will investigate potential links between the blooms and humans by monitoring water, fish, and air for cyanobacteria and toxins produced by cyanobacteria ("cyanotoxins").

Scientists at the laboratory are working with local fishermen to collect five yellow perch from the bay each week through summer and fall. The fish will be tested for cyanobacteria toxins and specific fats (particularly essential fatty acids such as omega-3s and omega-6s) to see if bloom conditions affect either factor.

Fatty acids. Organisms higher up on the food chain, such as fish and humans, get essential fatty acids from their diet, which ultimately comes from the base of the food chain. In lakes, the food chain starts with algae and cyanobacteria. However, unlike algae, cyanobacteria do not make many essential fats, so when blooms occur they are thought to limit the amount of essential fats available to animals. Muscle, liver, fat and brain samples from the fish will be analyzed for these fatty acids. In addition to the fish, fats and toxins will be monitored in the water to look for relationships between cyanobacteria blooms and any changes in the fish.

Air quality. The second goal of the study is to learn more about how cyanobacterial blooms may affect air quality. Algal blooms in coastal regions, typically caused by a type of algae called dinoflagellates, have been studied for impacts on air quality through aerosolization of toxins produced by the blooms. Effects of these blooms may cause allergy-like symptoms, including sneezing, coughing, shortness of breath, and may exacerbate existing respiratory problems. Though scientists know a fair amount about aerosols from other types of algal blooms, very few

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Wednesday, August 29, 2018 5:30 pm

2018 ANNUAL MEETING

Pizza Night at the Bay. We'll share our yearly update and enjoy a light meal and wonderful people.

Guest Speaker (6:30 pm) Andrew Schroth

VT EPSCoR Science Leader & Research Assistant Professor of Geology, UVM

Andrew will speak on findings from the research buoys in the Bay and what that may mean for water quality.

End of Summer Blue Green Algae Warnings

Sadly, in late July, blue green algae finally reared its ugly head in St. Albans Bay. Earllier conditions this year luckily did not produce widespread blooms, but algae has definitely made an appearance with calm water and hot, humid temps.

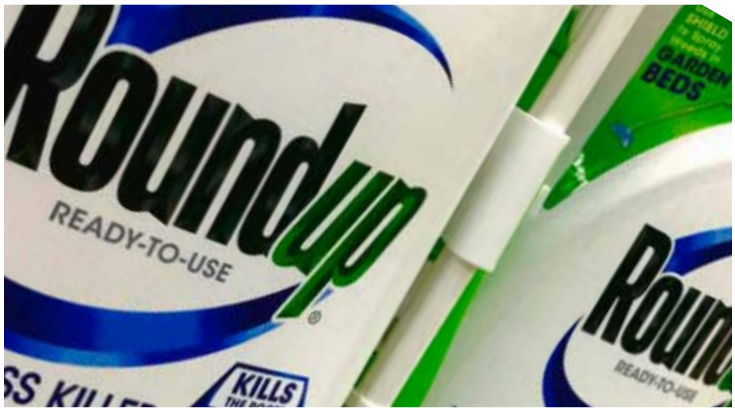
High levels of Cyanobacteria, also known as Blue Green Algae have now been reported in several locations around the Bay. As of August 14, the algae extended from the Bay Park south past the boat landing and also up Georgia Shore.

It was reported that several dogs who had walked at the Bay Park were exhibiting symptoms of blue green algae exposure. This can be serious and even life threatening if not treated promptly. A veterinarian at the Burlington Emergency Vet states symptoms may include tremors, diarrhea, vomiting and yellow gum coloration.

If you suspect blue green algae is present, the best advice is to keep pets away from the water and refrain from swimming and other water activities.

Glyphosate Update:

$289 Million Damage Award Shakes Monsanto and Raises Health Concerns



In a decision which raises health concerns for both residential and agricultural users of the popular glyphosate-based weed-killer (frequently known as Roundup), a California jury found Monsanto, a unit of Bayer AG, liable for causing the terminal cancer of Dewayne Johnson. Johnson alleged his non-Hodgkins Lymphoma was caused by Roundup and Ranger Pro which he used regularly in the course of his work as a groundskeeper. The jury awarded him $289 million in damages in the first of potentially thousands of similar lawsuits across the US. Monsanto is sure to appeal.

Monsanto maintains that over 800 studies and reviews show their product is safe, although jurors may have been swayed by seeing internal company documents "proving that Monsanto has known for decades that glyphosate and specifically Roundup could cause cancer," according to Brent Widner, Johnson's lawyer.

Monsanto has huge money at stake with glyphosate, which has seen its use soar not only in Franklin County but also across the North and South America. It is used on GMO crops which can withstand its weed killing properties and promoted for landscaping where it is an effective weed-killer.

The US Environmental Protection Agency concluded a 2017 assessment finding glyphosate "not likely" carcinogenic to humans, however in 2015 the World Health Organization's cancer division classified it as "probably carcinogenic to humans." Germany's environmental ministry recently expressed their intention to end glyphosate use.

SAAWA continues to have concerns for health of our community and our watershed which has received increasing exposure to this chemical. We believe its impact on water quality in our watershed has not been adequately addressed by the State of Vermont. Studies have shown the surfactants in the product increase the runoff of phosphorus. Its public health safety has seen a long-running debate which was reflected over the course of the trial in which statisticians, doctors, public health researchers and epidemiologists disagreed on whether glyphosate causes cancer. Just as with tobacco and sugar, industry-funded research that glyphosate is safe and environmentally friendly should be regarded with a healthy dose of skepticism and caution.

SAAWA
st. albans area watershed
ASSOCIATION

PO Box 1567, St. Albans, VT 05478

The SAAWA Newsletter is a publication of the Saint Albans Area Watershed Association

Visit us on the web: SAAWAVT.org

The Board generally meets on the 1st & 3rd Wednesdays of each month at 5:30 pm. All are welcome!

Email: info@saintalbanswatershed.org for directions.

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)*

2018

You may become a member 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@saintalbanswatershed.org.

Join us and speak up for clean water!

SAAWA Harvesters in Full Swing for 13th Season

The St. Albans Area Watershed Association is now in its 13th year of weed harvesting and operating two machines. Andy Pelletier is the daily supervisor, transporting the weeds to the compost sites and keeping the machines fueled and running. SAAWA now has two full-time weed harvester operators, Gary Trivento and Jeff Steele.

Approximatley three weeks was spent preparing the machines for the season. Repairs included straightening the cutter head, replacing knives on the section bars and replacing sections of the steel mesh conveyors. The machines were launched July 19th and harvesting began on July 23rd.

From July 23-August 10 the weed harvesters operated along the easterly shore of the Bay adjacent to Ferrand Road and Bingham Shore Road. The weed growth was moderate during the first week but became heavier with the daily number of loads increasing from 12 loads/day to 20 loads/day which equates to approximately 6000 bushels of weeds. A bushel of wed weets weighs about 64 pounds of which 90% is water.

The weed harvesters moved across the Bay to Hathaway Point Road on August 13th and have found dense areas of weeds. The first blue/green algae blooms began that Monday in pockets along the shore from Black Bridge to the corner near the Sweeny Farm. Algae blooms were also seen near the boat launch. The Algae bloom continued Tuesday the 14th of August. The weed harvesters were able to remove enough weeds over Monday, Tuesday and Wednesday to create better circulation. The water clarity in this area improved on Thursday.

In the first 14 days of weed harvesting this year, 58,120 bushels of weeds were harvested. During the 2017 season, 39,480 bushels of weeds were harvested. The increase can be attributed to heavier weed growth this season and a more productive crew.

If you would like to coordinate shore weed removal with the harvester crew, please contact Steve Cushing at 782-5675. You can support the weed harvesting program with your donation online at saawavt.org.

Bigger & Better!
Take A Stake in the Lake and Restore the Bay 5K

On June 9, we held our signature event of the year. The Restore the Bay 5K had record participation, and a Kids at the Lake fest was added with fun races, bouncy castles and games for younger children made possible by RiseVT. The Bayside fired up their grill, cooking awesome burgers and hot dogs. Champ was there to cheer everyone on! Take a Stake in the Lake tablers had great info on water quality, improving the soil, stormwater and ways to be lake-friendly. The Magnan Farm brought delicious chocolate milk for everyone! We had a great day, amazing weather and hope everyone had a good time.

We are grateful to all who came out for the Restore the Bay 5K! Congratulations to Riley Maher (top finisher, men) and Chandra Walsh (top finisher, women) See final results on the opposite page.

Please help us thank the many folks who helped make this event happen! We are grateful for all our wonderful sponsors, prize donors and volunteers!

Town of St. Albans and **Town of St. Albans Public Works** for their support and providing a wonderful venue, Chuck & Debbie Lowe at **Bayside Pavilion**, Chris & Jamie St. Marie at **The Bay Store**, **St. Albans Police**, **Hannaford**, **Eric Langevin** for race timing, **Lake Champlain Sea Grant**, **UVM Extension**, **Rise VT** (Denise Smith), **St. Albans Recreation Dept.** (Andrew Gratton & Kelly Viens), **Mimmo's**, **Twigg's**, **Handy GMC**, **Hudak Farm**, **Kevin Smith Sports**, **Vermont Organics**, **Vermont Lake Monsters** (and Champ!) **14th Star Brewing Co.**, **Mill River Brewery**, **Terricel Transit**, **Armand Messier**, **Corporate Outfitters**, **Rachel Whiting** @HulaHoopingVT, Chad @**BounceAroundVT**, **Lori Coseo**, **Sam Dussault**, **Jenn Horton** and the many race volunteers. We are also grateful to our "tablers" who brought information and expertise to share with us all:

VT Agency of Natural Resources: Aquatic Invasive Species control

Natural Resources Conservation Service: Healthy soils

Lake Champlain Committee: Clean Water Pledge

Franklin County Stormwater Collaborative / Northwest Regional Planning Commission: Managing driveways to reduce runoff

Lake Champlain Basin Program: Raise the Blade lawn care to reduce runoff

Lake Champlain Sea Grant / UVM Extension: Explore a Model Stream Table and learn about protecting river corridors

Lake Champlain Sea Grant / UVM Extension: Using nature to reduce runoff

Lake Champlain Sea Grant / UVM Extension: **Watershed Alliance**: Watershed Model: Understanding how land use affects water quality

Lake Champlain Land Trust: Removing buckthorn and honeysuckle

Lake Champlain International: Contacting state representatives

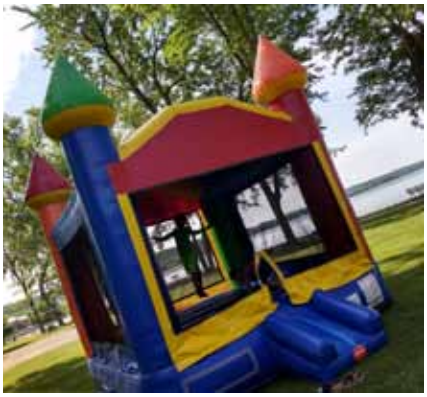
Cyanobacteria Project: Storytelling and cyanobateria

Magnan Farm: Best farm practices to protect water quality

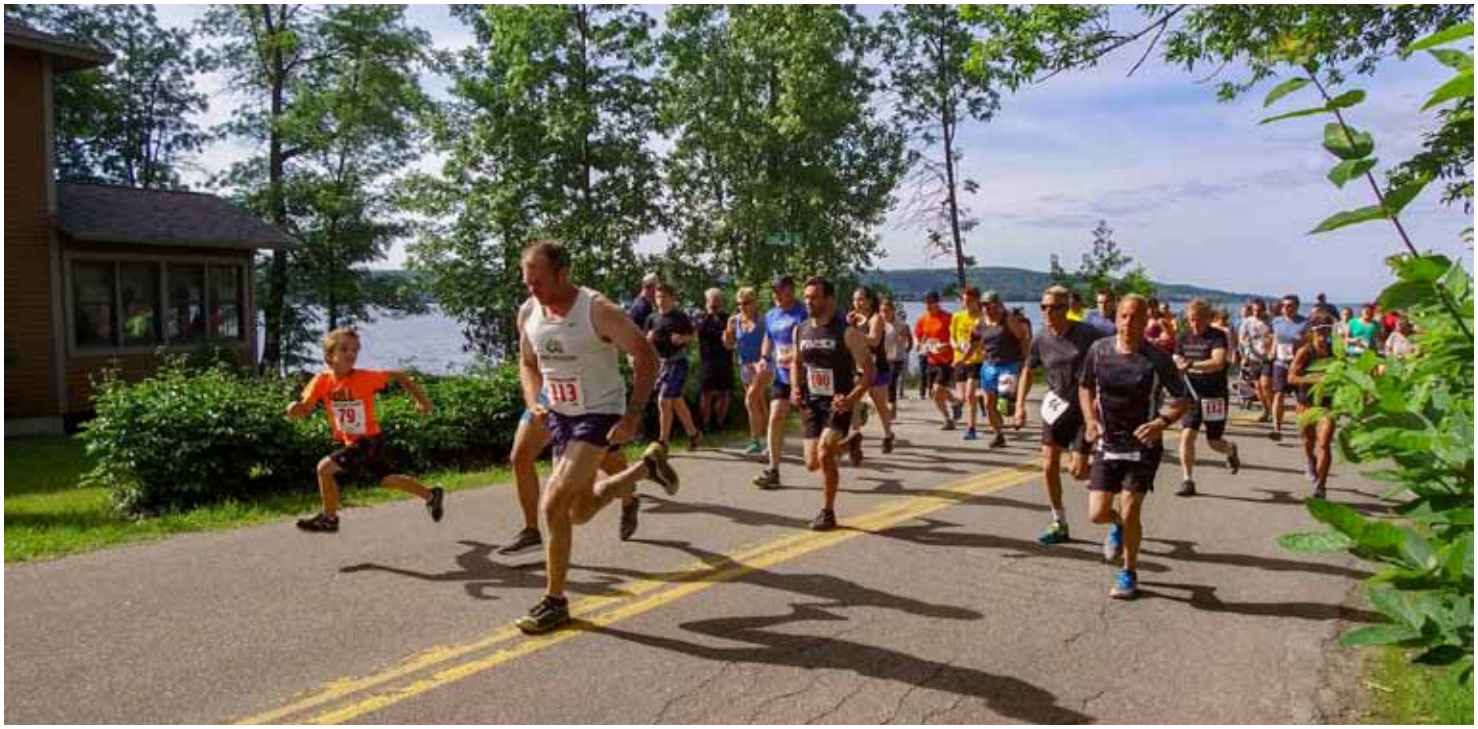
Friends of Northern Lake Champlain: rain gardens

St. Albans Museum: History of St. Albans Bay in pictures

Kite N Paddle: Stand Up Paddleboard Demos (at the waterfront)



Right, top to bottom: exploring a model stream table; young racers participate in a fun run around the stone house; Joe from the Bayside grills up a storm; one of the bouncy houses; Champ cheers on the runners at the finish line; **Opposite page:** runners depart from Hathaway Point on a beautiful, sunny race day.



2018 Restore the Bay 5K Results

Maher	Riley	M	14-18	**17:23.6**
Levac	Pete	M	50-59	**20:10.1**
White	Matthew	M	40-49	**20:23.1**
Bessette	Mike	M	40-49	**20:40.3**
Dalmer	Josh	M	30-39	**21:13.6**
Simmons	William D	M	40-49	**21:48.8**
Fitzgerald	Parker	M	50-59	**22:36.9**
Walsh	Chandra	F	50-59	**23:15.9**
Thompson	Derek	M	20-29	**23:36.8**
Menard	Emma	F	14-18	**24:28.7**
Dalmer	Levi	M	U-13	**25:32.1**
Lagrow	Tina	F	40-49	**25:48.4**
LaMarche	Rick	M	50-59	**25:48.7**
Mitchell	Danielle	F	30-39	**26:01.5**
Mitchell	Corey	M	30-39	**26:02.1**
Martell	Cathy	F	60-69	**26:11.0**
Cain	Erin	F	30-39	**26:21.3**
Howe	Shawn	M	40-49	**26:28.8**
Schod	Stephen	M	30-39	**26:36.6**
Komer	Michael	M	30-39	**26:39.2**
O'Brien	Michael	M	60-69	**27:01.8**
Rocheleau	Chris	M	40-49	**27:04.0**
King	Dylan	M	19-29	**27:14.8**
Bailey	Jacob	M	40-49	**27:21.9**
Herbert	Zander	M	14-18	**27:58.1**
Lagrow	Todd	M	50-59	**28:02.3**
Braley	Julie	F	40-49	**28:09.2**
O'Brien	Lynn	F	50-59	**28:32.6**
Doggett	Charlotte	F	19-29	**28:48.6**
Desorgher	Matthew	M	30-39	**29:32.8**
Bernard	Lindsay	F	14-18	**29:56.5**
Deyo	Aubrey	F	14-18	**30:00.6**
Bernard	Angela	F	40-49	**30:05.6**
McKay	Jayden	M	U-13	**30:35.5**
Letourneau	Wendy	F	30-39	**31:11.2**
Herbert	Marshall	M	14-18	**31:11.8**
Mulheron	Dawn	F	50-59	**31:12.5**
Toof	Amanda	F	30-39	**31:13.6**
Cain	Devon	F	30-39	**31:28.7**
Rocheleau	Erin	F	40-49	**31:42.7**
Boulerice	Greta	F	50-59	**31:56.2**
Sibley	Lauren	F	30-39	**32:23.4**
Brouillette	Katy	F	19-29	**32:23.8**
McCormick	John	M	60-69	**33:00.2**
Simmons	Ella	F	14-18	**33:08.0**
Branon	Leah	F	14-18	**33:08.3**
Belisle	Ashley	F	30-39	**34:36.0**
Simmons	Sandi	F	40-49	**34:39.6**
Chevalier	Carol	F	40-49	**34:44.3**
Reardon	Vincent	M	50-59	**34:52.2**
Evans	Patricia Anne	F	40-49	**35:50.4**
Messier	London	F	U-13	**36:19.1**
Brouillette	Matthew	M	30-39	**36:25.7**
Reardon	Joanne	F	40-49	**36:47.5**
Goldsborough	Brice	M	60-69	**37:21.2**
Fresn	Stephanie	F	30-39	**37:22.3**
Dalmer	Rachel	F	30-39	**38:06.1**
Dalmer	Rachel	F	30-39	**38:06.1**
Danforth	Melissa	F	30-39	**38:31.2**
Lehning	Alex	M	30-39	**38:39.2**
Choiniere	Beth	F	50-59	**39:36.0**
Paradee	Peggy	F	50-59	**39:36.5**
Dalmer	Charlotte	F	U-13	**41:13.8**
Dalmer	Rebekah	F	U-13	**41:15.5**
Maskell	Brandi	F	20-29	**41:32.8**
Messier	Melissa	F	40-49	**41:56.8**
Brigham	Laila	F	U-13	**43:07.0**
Schliecker-Brigham	Mary	F	40-49	**43:08.0**
Wolff	Sarah	F	19-29	**46:15.6**
Desjardins	Kimberley	F	30-39	**46:15.9**

Also completing the event:
Tanner Bonyea, Sarah Menard, Marie Desorgher, Kaevonna McKay, Nancy Demeritt, Chris Demeritt, Alan Bombardier, Danny Kelly, Nancy Colburn, Mary King, Deb Ladd, Nori Howe, Vic Howe, Linda Starr, Elizabeth Menard, Debra Riopel, Heather Kelly, Mallory Stunell, Evan Champagne, Marissa McFadden and Lauren Cater.

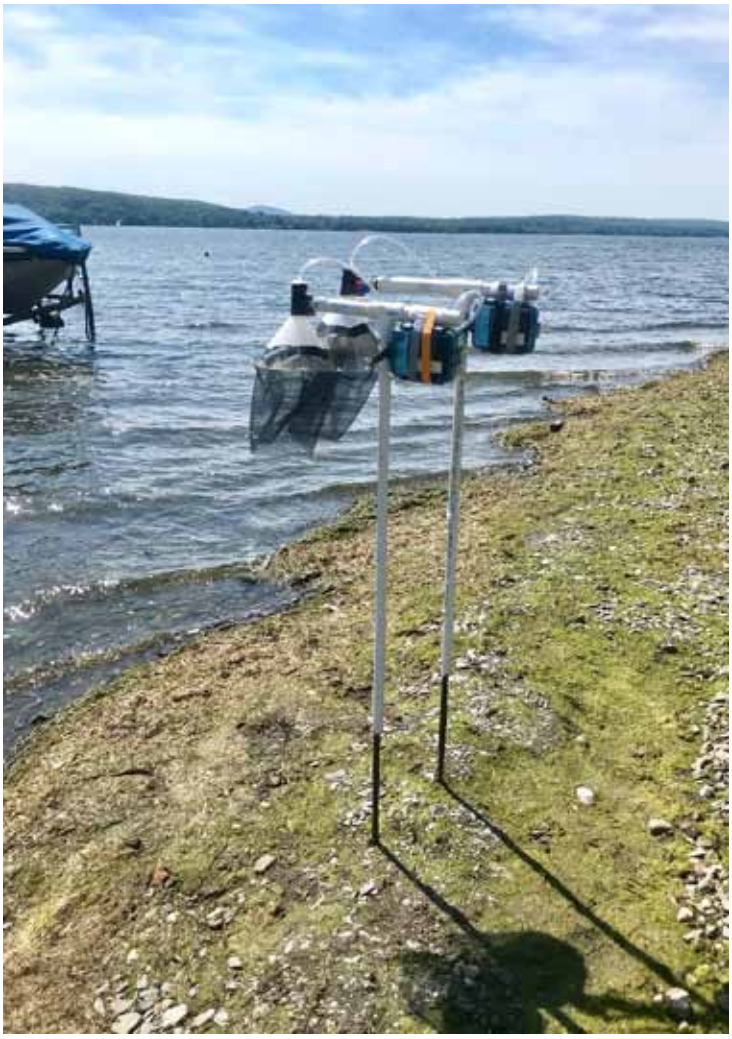
Congratulations to all!

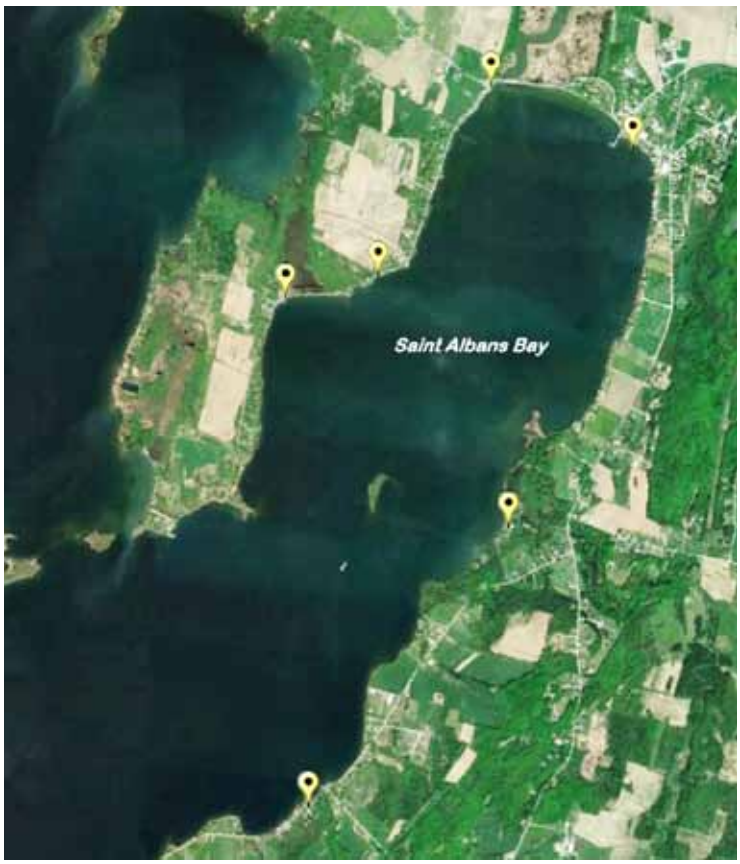
UVM Study (cont'd from p. 1)

studies on cyanobacteria aerosols exist. To learn more, researchers at the Rubenstein Laboratory are taking air samples from six locations around the bay to test for the presence of cyanobacteria and their toxins. Air samples will be collected twice before the blooms, more frequently as the blooms happen, and a few times after the blooms. Using this information, the researchers will be able to determine if cyanobacteria blooms impact air quality in a region with cyanobacteria blooms.

In addition to studying fish and water, researchers on the larger EPA-funded project have started exploring how the blooms may impact local communities. Their first steps include conducting interviews, attending meetings and events, and digging into historical archives. As a way to kick-off this highly collaborative research, UVM Master's student Denise Smith designed and implemented the Stories of St. Albans Bay event on Sunday, June 10. Storytellers from across the region came together to share knowledge and tales related to the bay and their relationships to it. A crowd of about 65 people listened to eight featured stories and also shared their own stories through informal activities including a word cloud, paint, and photography. Stories and imagery from the event will be archived at the St. Albans Museum.

Following the event, graduate student Diana Hackenburg, along with research interns Will Corcoran, a UVM undergraduate student, and Ramiro Pinedo, a recent college graduate from California, began conducting short two-question interviews about what Lake Champlain means to people and their experience with cyanobacteria blooms. Interviews were recorded in Burlington and in St. Albans at the office of the Community Action Program, a grant partner, and at the St. Albans Bay Town Park. These interviews will continue for a few months. Researchers also have started doing longer interviews with community members, seeking diverse perspectives on the bay and the blooms.





Above: Air quality monitors stand on the beach to test periodically for presence of cyanobacteria and their toxins in the air, and especially when algae blooms are detected; **Below left:** Sites of the air quality monitors around St. Albans Bay.

***For information about the fatty acids and air quality portions of the study**, contact PhD student and Rubenstein Laboratory researcher Natalie Flores —*
natalie.flores@uvm.edu.

***For questions, comments, or ideas about the social science aspects of the study, or if you are interested in participating in an interview,** please contact Diana Hackenburg, PhD student and Rubenstein School researcher —*
dhackenb@uvm.edu.

Great Work!

St. Albans Town Doing Great Work at the Bay Park

Kudos to St. Albans Town and the grounds & maintenance staff at St. Albans Town Park which has really been showing the Bay Park some love and care. In addition to major improvements to the parking lot and recreation facilities, we notice consistent efforts to rake the shore and keep the beach clean. This is very helpful in removing decomposing material from the water as well as making the beach better for swimming and recreation. SAAWA is grateful to see all of these wonderful improvements which benefit the entire community and make St. Albans a better place to live!

Invasive Species

Water Chestnut Paddle Nets Big Harvest

SAAWA members participated in an Aug. 20 paddle in Black Creek Swamp to find and pull the invasive water chestnut colonies which were identified last year in the area near the Black Bridge.

Water Chestnut is an invasive species originally imported from Asia. It is more of a problem in southerly Lake Champlain, but it can multiply geometrically once it gets started. Each plant can produce 15-20 rosettes, each of which can produce 15-20 seeds. The seeds have a hard shell and four extremely sharp, nasty spines, which are harmful if stepped on. It takes about a month for them to mature and sink into the sediment where they may stay viable for up to 12 years.

This variety of water chestnut competes with beneficial plants in shallow waters, forming dense, floating mats if left alone. These create issues for boaters, anglers and other aquatic recreation

This attractive but aggressive rooted annual has both submersed, and surface leaves. The surface leaves are toothed and triangular in shape, while submersed leaves are whorled and appear feathery. A white flower (four petals) blossoms (typically above water) from July until the season's first frost. Stems can grow up to 4.8m long, and rosettes (the group of leaves above water) can grow larger than dinner plates by the end of a growing season. Spiny seeds are produced right under the rosettes, and will be green in color with four sharp spines characteristic to water chestnut fruit. As they age, they become black and hard. Inflated petioles (spongy, swollen areas) are present on stems under the surfacing leaves to keep the plants afloat, like little life jackets.

This season the low water level made it difficult to reach plants in the muddy edges of the swamp, but the tenacious team from the Agency of Natural Resources and the Dept. of Environmental Conservation dug in and pulled a truckload of rosettes, loading canoes and then hauling them away for composting and disposal.

Regular eradication (by manual removal) is one of the keys to keeping the water chestnut population under control and "many hands make light work." This is a fun volunteer opportunity, a chance to see a beautiful area of St. Albans Bay with an active wildlife habitat. Turtles and birds abound and volunteers spotted mink playing by the shore. If you would like to volunteer for future paddles, please email kate@saintalbanswatershed.org and we will place your name on a volunteer list.

Right: Green water chestnut seed; **Below left to right:** SAAWA president Steve Langevin gets ready to harvest; canoe deep in a thick patch of water chestnut.

st. albans area watershed
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www.saawavt.org

working to restore Saint Albans Bay

Find us on: facebook

Stay connected!

Check SAAWA's Facebook page
for the latest info on water quality issues ...

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, 'Like' and 'Share' our new page:

www.FACEBOOK.COM/SAAWAVT/

to stay in the loop.