



QUARTERLY

THREE LAKES ASSOCIATION

SERVING LAKE BELLAIRE, CLAM LAKE AND TORCH LAKE IN ANTRIM COUNTY, MICHIGAN

OCTOBER 2018

Spotlight on Science Education Issue

Birch Street Field Trip to AuSable Institute of Environmental Studies

Thanks you Three Lakes Association, **Science Outreach Program (SEOP)** for donating funds to make this field trip possible. The Second Grade students of Birch Street Elementary visited AuSable Institute of Environmental Studies on May 23, 2018 to learn about water cycles and watersheds for our region. The students really enjoyed learning about these topics, and learning about some of the animals that depend upon those fresh watersheds to survive. Please enjoy these pictures of our learning experience.

Thank you very much for making this learning experience possible.

*Sincerely,
Mr. Beach, Mrs. Arnold,
Mrs. Corcoran and Mrs. Gustafson
Kalkaska Public Schools*



Mrs. Corcoran's Class



Louise Pond animals and a discussion about each type of animal they found, and later returned to the pond.



Students searching Louise Pond, a local watershed, for animals that depend on the clean water as their home, from Mrs. Arnold's classroom.



Animals we found in Louise's Pond. We took them back to a classroom at AuSable to take a closer look, to make drawings and learn the names of these animals that are dependent upon good water quality.

Sneak peek

PRESIDENT'S MESSAGE	PAGE 2
LOOKING BACK	PAGE 3
SCIENTISTS FOR A DAY	PAGE 7
LOOKING FORWARD	PAGE 8-9



THREE LAKES ASSOCIATION

Officers

Mike Bertram, President
Fred Sittel, Vice President
Ed Gourley, Treasurer
Tina Norris, Secretary
Tina Norris, Past President
Len Franseen, Director Emeritus
Stan Dole, Director Emeritus

Zone Directors

A. Clearwater Township:
Cheryl Lynn Fields, Tina Fields
B. Milton Township: Rick Doornbos, Vacant
C. Torch Lake Township:
Arlene Westhoven, Vacant
D. Central Lake Township:
Todd Collins, Steve Laurenz
E. Forest Home Township:
Fred Sittel, Phil Weiss
F. Helena Township: Robert Hockenberg,
Vacant
G. Custer Township: Mike Bertrand, Vacant
H. Kearney Township:
Duane Drake, Ann McClelland

Directors at Large

Marge Drouillard, Patricia Roush, Norton
Bretz, Art Hoadley, Becky Norris, Gary Knapp

Committee Chairs

Becky Norris, Water Quality
Todd Collins, Membership
Tina Norris, Education
Vacant, Publicity
Art Hoadley, Water Safety
Duane Drake, Lake Monitoring Program
Tina Norris, Archivist/Historian

Executive Director

Vacant

The TLA Quarterly is published by the
Three Lakes Association
Please direct comments or questions to:
231-544-7221
P.O. Box 689
Bellaire, MI 49615
info@3lakes.com

President's Message

Hi. First and foremost I would like to take this opportunity to thank Tina Norris for her past years of service as our President. Tina will remain on the board as our Education Committee Chair and Archivist/Historian. It is important to all of us that we maintain our history for future generations. Tina has volunteered to do this for all of us. Again, thank you Tina for your time and commitment in the past and in future. Even though I will not be able to fill those shoes, I will strive to follow the mission that the Three Lakes Association adopted 51 years ago.

The mission of the Association is to provide leadership to preserve, protect, and improve the environmental quality of the Elk River Chain of Lakes Watershed

for all generations with emphasis on Lake Bellaire, Clam Lake, Torch Lake and their tributaries.

Please enjoy this education newsletter. In the next newsletter I will share information about who I am and my background. Also we will be providing our goals to all of you in the next newsletter. Enjoy the rest of the summer and fall. Talk to you all soon.

My contact information is as follows;
Email seagull753@yahoo.com

Call me or text me at 231-620-5111.
Prefer text if possible.

*Thanks
Mike Bertram*

President Three Lakes Association

Being fundamental to the purposes of the Association, the following standing committees shall be established: Water Quality, Water Safety, Education, Membership, and Publicity. [August 9, 2018]

Additional committees may be established by the President, as deemed necessary.

2017-18 SEOP Grant Recipients

Bellaire Public Schools

Kelli Fischer

5th grade John R Rodgers Elementary

- GRNA field trip
- Science Notebooks
- Science kit for Earth Science
- Science kit for Space Science

Systems

- Science kit for Ecosystems Unit
- Science kit for Properties of Matter

Sue Mills

4th grade John R Rodgers Elementary

- Three skill lesson kits including water quality testing
- Supplies for SIC project
- Gizmos license renewal

Chris Vandergriff

- 7/8 science, Bellaire Middle School
- 3 ChromeBook computers
- Hayo Went Ha overnight camp tuition

Central Lake Public Schools

Kelly Barry

3rd grade Central Lake Elementary

- Three skill lesson kits including water quality testing
- Replacement items for seeds-to-flowers grow lab
- Math manipulatives

Kari Groll

Kdg./1st grade Central Lake Elementary

- 25 pairs of snowshoes for outdoor winter lab

Sally Kinery

6,7th Central Lake Middle School

- 6 microscopes
- Slide making kit
- Lens cleaning kit
- Fish factory lab
- Food chain curriculum

Kalkaska Public Schools

Greg Beach

2nd grade, Birch Street Elementary

- AuSable Institute of Environmental Studies field trip

Looking back at SEOP 2017-18

By Patricia Roush
Education Chairman

Last year, seven area teachers and their students were given SEOP grants for a variety of science related experiences, equipment and kits. What follows is a peak into each class as they did science

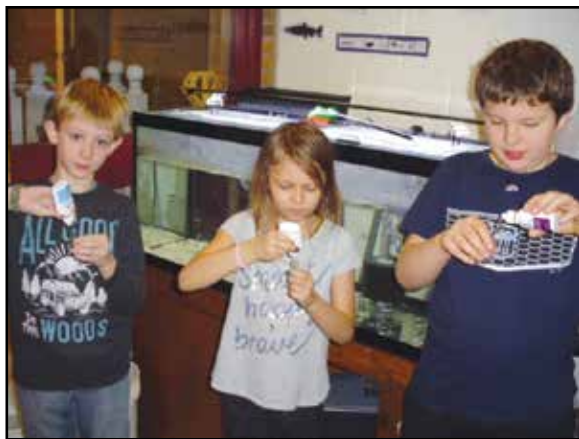
in the real world. Most of the equipment and kits will be used for many years to come, benefiting future science students. And the experiences our grant program funded will be recalled many times as students look back. This is why we fund and are so fond of the SEOP!

Sue Mills, Bellaire Schools, 4th Grade

Dear Three Lakes Association, The SIC (Salmon in the Classroom) is truly a valuable tool for teaching environmental awareness, resource conservation, chemistry, and water stewardship. The program also teaches the students about responsibility, data collecting, problem solving, teamwork, and maintaining a long term project.

We were able to connect many of our other 4th grade skills to this project as well. It was very rewarding for the students to begin with the eyed eggs and seeing the project through to being able to release 4 inch fingerlings into the Boardman River. I believe the project connects the students to our vast network of waterways and their responsibility to be good stewards. Many students included the salmon project as a favorite in their end of the school year writing, "What I Will Remember Most About 4th Grade"

The GIZMOS Simulation software allowed the student to experience many "experiments" that we would not otherwise be able to do within a classroom setting. One favorite simulation was using a trebuchet. Students were given tasks of changing such things as the weight that was going to be throw, the length of the arm, the height, and several other variables. They then had to collect data and



Weekly testing of water in the salmon tank.



Acclimating the fish to the river water (slowly introducing river water to the container with the water from the tank along with the salmon).

answers questions. At the end of this simulation, the students could use the trebuchet to hit specific targets. This simulation was done with a partner, allowing for team building. Other simulations for 4th grade science skills were also covered. Students were

most often excited to perform and complete these tasks (either on their own or with a partner) without complaint. The skills were more difficult to complete if directions were not followed or the correct settings for the simulations were not implemented. Some students

were better able to adapt, but the others worked hard to improve their understanding of not only the skill being simulated, but also the steps required to carry it out.

We used the GIZMOS site for helping to meet many of our science skills.



Checking the macroinvertebrates from the Boardman River.



Girl power-releasing the salmon.

Found: New SEOP and ISEA Director

Three Lakes Association is pleased to announce that Tina Fields, our exiting president is entering the position of SEOP and ISEA Director and Education Committee Chair as of August, 2018.

Kelli Fischer, Bellaire Schools, 5th Grade

With the updated kits and notebooks we received from our SEOP grant, students really increased their knowledge of science this year. On our end of the year assessment, 88% of the students made gains on their overall science test scores. This test scores the students on their overall science knowledge.

The students cut and glued note pages into their science notebooks and took notes on each of our topics. The notebooks were also used as a place to record their observations and stats from different experiments that we completed.

With updated Earth Science Kits, students were able to measure temperature, make predictions about moisture in the air and tell why this might be the case.

Our middle school student actually did a water test in a local stream/river and we watched all the video clips, then discussed and made predictions about why the pH levels were what they were in that area. We then tested different water sources to compare.

The updated Ecosystem Kit also allowed for the students to better interact with a food web and build multiple food webs for different environments. In building the webs, students had to give their rational for placing plants or animals where they placed them. This also included having to determine what types of plants and animals survive and live in each type of ecosystem. Students explained their thought process about this, as well.

We also did some plant research and explored the way plants make their own food stemming from energy from the sun!



From Grass River: The students caught and used dichotomous keys to identify the different water creatures. They also did some water testing, and looked at the environment and how plants and animals have adapted to the environment.

Chris Vandergriff, Bellaire Schools, 7th & 8th Grade



Laptop Computers

Thank you for providing the funds necessary for three laptop computers in the 7th and 8th grade science room. With this grant we were able to take technology with us where the science is happening. With a computer lab that is in high demand students have much greater computer accessibility and can input data digitally in a much more sophisticated way while instantly having the ability to use and make graphs and share data online. These computers will also be a big part of the upcoming 2018-2019 school year in the 8th grade STEM class where students will be learning how to write code to control robots.

Chris Vandergriff, Bellaire Schools, 7th & 8th Grade Science

7th Grade Field Trip to Camp Hayo-Went-Ha

Once again 7th graders from Bellaire Middle School had the opportunity to spend two wonderful days at camp Hayo-Went-Ha. Students overcame physical obstacles such as the high ropes course, the zipline, and climbing walls as well as personal obstacles of facing their fears and pushing themselves to the limit.

Learning about the environment and becoming better stewards was at the front of many lessons as students took water quality samples and learned about the water cycle and ecosystems of the Great Lakes watershed.

7th graders problem solving their way through team challenges as Allison Cartwright jumps from one platform to the other.



Grace Landis taking on the climbing wall.



Evan Pearson looks down range and prepares to loose an arrow at the bullseye.



Karson Fischer looks on as Devin Gallagher takes his turn at throwing tomahawks.

Skylar Laird prepares herself to conquer the mighty zipline and Sydney Parish waits for her turn.



Taking water samples and learning about aquatic ecosystems.

Dear Three Lakes Association,

It has been my privilege to administer the SEOP since its genesis in the 2007-2008 school year. As I turn the program over, I thank each of you for your support. Many of you have made special contributions to SEOP - thank you all. Gordy Schafer donated over \$10,000 in matching funds - thank you, Gordy. And the TLA Board of Directors never failed to give the program and me its support - thank you. Most of all, thank you for enabling TLA to touch thousands of area science students by giving science teachers a chance to enhance their curriculum.

*Let's keep this good thing going,
Patricia Roush*

Kelly Barry, Central Lake, 3rd Grade

Hello! I am Kelly Barry writing to you with feedback about the SEOP grant I received for the 2017-2018 school year. I was able to receive items for my growing lab (that you so graciously allowed me to purchase the year before that). My students in Central Lake Elementary were able to plant and grow seeds all through the winter. The students were so excited each time they saw green coming through the soil.

I am, however, sorry to report, that during spring break there was some miscommunication with the people I left instructions with



to care for the plants and our seedlings all died. We were not able to plant flowers in the front garden this year! The students were pretty sad. We all thank you for all you do to help with science and math items for our classroom.



Kari Groll, Central Lake, Kindergarten

THANK YOU very much for the grant that allowed us to purchase snowshoes for our K/1 students! I'm attaching some photos. The students thoroughly enjoyed our outdoor adventures. Very few had been on snowshoes before. They were very excited to learn that they could go places with snowshoes that ordinarily would be a challenge with just boots. :)

We first had to learn how to get them on and off. This was a lesson in patience and perseverance. :) If they had to wait for Miss McAvoy and I to do it, they'd be waiting quite a while so there was a strong incentive for them to be able to do this themselves!

We had students so excited about this that they went home and asked their parents for snowshoes. One parent sent me a video of her son, who then spent every night possible after school, tromping through his neighbor's field with his new snowshoes! :)

The goal of this was to get kids outside...get them moving....give them a lifelong skill to enjoy the outdoors. Thank you so much for making this possible!!

On a side note ... I am retiring this year ("redirecting" to some other child related volunteer projects). I want to thank you for all of your years of support. I truly appreciate all you've done for my students. This project in particular was a very, very special gift to them that will last for a very long time.

*Thank you,
Kari Groll*





May 2, 18

"Thank you!! I am so appreciative of your organization and your support of our schools and teachers."

*Lenore Weaver
Superintendent, Central Lake*

June 8, 18

Dear Three Lakes Association,

We appreciate your continued generosity to the staff and students at Bellaire Public Schools. Three Lakes Association has awarded thousands of dollars in grant funding to our teachers and students to extend opportunities and develop an appreciation for science and our environment. The educational materials technology items, field trips and science supplies have all helped enhance the education of our students over several years. Our students have increased their knowledge through interaction and participation with materials and experiences. It is with sincere appreciation on our behalf to Three Lakes Association that offers students additional

opportunities to succeed that we would not be able to provide. Thank you for being our partner in education and putting children first.

*Sincerely,
Jim Emery, Superintendent/HS Principal
and Kristi Poel, K-8 Principal
Bellaire*

May 14, 18

"We are so appreciative once again for your incredible generosity to our school. Rebecca, Chris and Sue will be able to provide educational opportunities that we would not be able to offer. Three Lakes Association has been a wonderful partner in education"

*Sincerely,
Kristi Poel, K-8 Principal, Bellaire*

Great Lakes Scientists for a day

Chris Vandergriff Bellaire 7th & 8th Grade Science

Every year students are given an experience they will never forget aboard the schooner the Manitou Schoolship. This educational program included a half-day sail aboard a traditionally rigged schooner, giving students the opportunity to become Great Lakes scientists for the day. Our students participated in project-based science learning by collecting fish, water, plankton and sediment samples aboard the schooner. Students identified and analyzed the samples with the assistance of experienced educators.

Integral with the science program is the experience of shipboard life and the demands of sailing a traditionally-rigged vessel. Students learned boating safety and navigation as well as having the exciting opportunity to steer the schooner alongside a professional crew.



7th grade Bellaire students taking weather measurements.



Emma Ramsey and her group taking water viability measurements from a Secchi Disc.



Looking Forward to the Next School Year

By Patricia Roush
Education Chairman

2018-2019

The 2018-2019 SEOP grant awards were announced in early May for eight teachers in Bellaire, Central Lake and Kalkaska. Five of the eight have received our grant other years. They are dedicated and creative; willing to go the extra mile for their students. Each applying teacher must fill out an application including listing what enhancements will best serve their kids and fit their curriculum. At the end of the year, they report back to TLA (see the “Looking Back..” article.) These teachers take on extra tasks in order to give their students something extra, something of value, something that enhances science. Let’s meet next year’s SEOP teachers and find out what they’ve been granted.

Bellaire Public Schools

Rebecca Benson

Ms. Benson teaches first grade at John R. Rodgers Elementary in Bellaire. She requested a three module learning series from the FOSS Next Generation module program. She wrote in her request, “Engaging students in science at an early age is vital to their future success and creates a base of knowledge that helps them later in life to make informed decisions. Research shows that hands-on learning experiences, in an inquiry-based approach, achieves the best results for student learning.

“This grant request is made to the Three Lakes Association in order to fill a notable gap in curriculum... Since we have adopted the Next Generation Science Standards, we do not have a curriculum to use. Approval by TLA of this request will help to fill that void.

“Additionally, the quick turnaround time that TLA offers is vital to the success of this proposal - it would allow the science module to be ordered in May and for the teacher to learn and practice with it during the summer and for the students to be engaged in science starting on day one of the fall semester.”

Ms. Benson prioritized the three kits, each costing between \$800 and \$1000. TLA awarded her first choice, the FOSS Next Generation Plants and Animals Complete Module for \$919.

Sue Mills

Ms. Mills teaches fourth grade at John R. Rodgers. Ms. Mills was awarded a variety of consumable aquarium equipment needed to support her class’s participation in the Salmon in the Classroom project sponsored by the DNR. She wrote, “For the second year in a row, my students have responded well to this project. We are able to connect the urgent need to protect our natural resources and waterways by working with the fish from November to May. (Students participate in this program from the tank set up in October to the collection and deposit of the eggs, through the various stages of growth, and finally to the release of the salmon in the late spring.) The students have the hands-on responsibilities of caring for not only the salmon in various stages, they must also keep the tank clean and water fresh. They accomplish part of this by taking regular water samplings and then deciding if the water needs any type of adjustments. One student per week becomes the “Fish Patrol Leader” and he/she is in charge of leading the testing, cleaning, and when it is time, the 5 times a day feeding plan. We also deal with the natural life cycle...which includes death of the eggs or the fry.” Cost of supplies: \$99

A second granted request was for a renewal of the Gizmos Simulation Website license that SEOP provided last year. Ms. Mills, “Students love to have hands-on activities, especially in science. To help meet this need, the Gizmos website allows for students to experiment science concepts through guided lessons and explorations...I have found success with these lessons by allowing students the option of working alone or with a partner. The excitement

and collaboration that I have seen is very rewarding. Gizmos provides engaging and leveled challenges... It blends well with our classroom lessons. Since the website is available online, the students are able to access simulations/ lessons and practice at home.” Cost of license: \$775

Finally, Ms. Mills requested funds for a whole school assembly called the Scheer Science Assembly. “Mr. Scheer provides a very lively and engaging assembly. He includes students in the program and can keep the attention of an entire gym full of students. The lessons/activities are all based on current science concepts. This assembly will provide the entire student body an opportunity to be immersed in science based learning through high energy teaching.” Cost: \$250

Note: The SEOP selection committee got into quite a walk down memory lane discussing various assemblies and speakers that we still remember, after all these years! Priceless.

Chris Vandergriff

Every year, Bellaire’s 7th grade spends two days at Camp Hayo Went Ha. Mr. Vandergriff writes, “Camp activities are fun and educational, offering experiences that encourage self-confidence, teamwork, and environmental stewardship. The students participate in many outdoor activities including rock climbing, high ropes course, archery, zip line, water ecology, outdoor survival skills, stories by the campfire, and team building games.” Every year, SEOP helps to underwrite the cost of camp by granting a request for \$600.

Mr. Vandergriff also requested a grant for 12 robot super kits at a cost of almost \$4000. SEOP granted 3 robots for \$962. Here is the rationale: “Bellaire Robotics Club has exploded in the last couple years. Technology and programming is the future of our

Continued on page 9

Looking Forward to the Next School Year 2018-2019

students.

There is big interest in the community towards robotics....these robots give students a hands-on experience in learning STEM (Science, Technology, Engineering and Mathematics) in the classroom. The school has agreed to offer a class based around this high-quality technology and has the potential to be used in many core educational applications throughout the math and science curriculum of 6th-8th grades. This technology will be used year after year to teach STEM and programming.

but help students to learn and understand new science vocabulary. They will be used in conjunction with the guided reading books.”

Last, is a request for SuperScience STEM Instant Activities, Grades 1-3. Ms. Kinery explains, “These 30 hand-on actives will be used in conjunction with the readers to help my students concretely learn about various science topics. Each comes with an anchor text and a video link. They are in line with NGSS standards for 2nd grade.” Cost of all three kits: \$362

testing kits and 10 pair of child sized waders. The last thing we need to acquire are the nets. Once we have a complete set up, I could also facilitate water testing for other classes in our district at my host site.”

Mr. Bontrager also requested funding for 3 field trips; two to Grass River Natural Area for 30-35 K-5th graders from Rapid City Elementary. “In the summer, we take a series of local field trips. This year our trip fees funding is tight, however we have a transportation budget. Grass River offers superb ecological learning offerings that would fit exactly with our focus. We would use this as a great way to compare Finch Creek findings to Rapid River findings.” The second trip will be in the fall.

The third field trip is the new installation at the Denmos Museum in Traverse City, “Monsterfish: In Search of the Last River Giants.” This exhibition is sponsored by the National Geographic Society. Total cost: \$884

Central Lake Public Schools

Kelly Barry

Ms. Barry is a second grade teacher at Central Lake Elementary who has received several years of SEOP grants. This year, she requested and was granted three different sets of manipulatives; toys and activities for developing cognitive and motor skills. The sets range from IQ builders, magnetic building sticks and interlocking plastic discs. Cost: \$174

Ms. Barry writes, “I am looking to building my manipulative supplies that increase imagination and creative play. These sets encourage the child to construct and engineer.”

Sally Kinery

Ms. Kinery is moving from middle school to 2nd grade next fall. Her grant request consisted of informational science texts; “... I want to use these four informational books in small guided reading groups to help my students learn about plants and the pollination process. These books will help to teach some of the Next Generation Science Standards for 2nd grade.”

She asked for 1 boxed set of 36 books from Scholastic Science Vocabulary Reader: Life Cycles. “These are short books to use as I introduce new topics. They are simple texts

Kalkaska Public Schools

Greg Beach

Mr. Beach is a second grade teacher at Birch Street Elementary School in Kalkaska. For the past several years, he has applied for funding from SEOP to take the entire 2nd grade, 4 classrooms, to the Au Sable Institute of Environmental Studies for a full day field trip. Mr. Beach says, “The Au Sable Institute provides a hands-on experience for the student learners with the Water Cycle and Erosion activities, as well as the Watersheds of Louise’s Pond and Big Twin Lake.” Total cost: \$830

Brett Bontrager

Mr. Bontrager is the director of a non-profit program called SEEDS After School, that operates in partnership with the Rapid City Elementary. He says, “Our mission is to provide academic and cultural enrichment to at-risk students in the schools we partner with. Our after school [and summer programs] focus on environmental and ecological learning.” This mission is in line with that of TLA.

Mr. Bontrager was granted, from SEOP, 3 water testing dip nets for testing in the “Rapid River that flows just out in back of our school. I have, at this point, multiple

Andrew McCarty

Andrew McCarty is a 4th grade teacher at Cherry Street Intermediate in Kalkaska. He is another teacher who has applied for several years. This year, Andrew requested and was granted classroom supplies for three science units: Built for Survival, Surf’s Up, Waves and Big Blue Marble: Earth’s Systems. Each unit requires everyday items such as flashlights, buckets, chart paper, mirrors, baking pans, baggies and coffee filters.

Mr. McCarty also requested funding to take his class to Grass River Natural Area. “This trip allows me to connect classroom standards, content, and lessons in a real-life “hand-on” setting. I feel it is important for students to experience these activities to help foster a joy for learning and an appreciation of the outdoors. The trip also plants the seeds for children to be invested in nature and take an active approach to helping conserve the resources around them.” Total cost: \$550

What’s in a Number



Here are the revised numbers from SEOP and ISEA funding ...

27	ISEA Schoolship excursions
45	Field Trips
15	Elk Rapids Chain of Lakes Maps
22	Teachers attended conferences
12	Memberships in professional science organizations
800	Magazines delivered to classrooms
544	Pieces of science equipment
101	SEOP Teachers (grant recipients)



Three Lakes Association

P.O. Box 689

Bellaire, MI 49615

3lakes.com

NON PROFIT ORG
US POSTAGE PAID
BELLAIRE, MICH
PERMIT NO.5



This newsletter printed on recycled paper

The mission of the Association is to provide leadership to preserve, protect, and improve the environmental quality of the Elk River Chain of Lakes Watershed for all generations with emphasis on Lake Bellaire, Clam Lake, Torch Lake and their tributaries.

Membership counts!

DONOR \$100 ☐ **STEWARD** \$500 ☐ **BENEFACTOR** \$1,000 ☐ **LIFE** \$2,000 ☐ **BASIC** \$60 ☐

Michigan Riparian Magazine Subscription add \$15 ☐

TOTAL AMOUNT ENCLOSED: \$ _____

NAME: _____

SUMMER POSTAL ADDRESS: (Street, P.O. Box) _____

TOWNSHIP: _____ **TOWN:** _____ **ZIP:** _____

SUMMER PHONE: _____

WINTER POSTAL ADDRESS: (Street, P.O. Box) _____

CITY: _____ **STATE:** _____ **ZIP:** _____

WINTER PHONE: _____

EMAIL: _____

May we include your name in our newsletter donor list? Yes ☐ No ☐

Are you interested in volunteering in any of the following areas?

- ☐ Water Quality
- ☐ HS Intern Program
- ☐ Water Safety
- ☐ Education
- ☐ Invasive Species
- ☐ Membership
- ☐ Finance
- ☐ Public Relations
- ☐ Service
- ☐ Other

Three Lakes Association is a 501(c)(3) corporation. Your dues and other contributions are tax deductible. Call for further information.

To join Three Lakes Association,
please visit our website 3lakes.com or return this form with your check to:
THREE LAKES ASSOCIATION, P.O. Box 689, Bellaire, MI 49615