ESLA Fall 2019 Newsletter

CONTENTS

President's Message

Mary Beth Kazanski

ESLA President

As I write this, it is a beautiful summer day (aren't they all up here in ESLA country?). And as you read this, it will likely be a beautiful day with fall in the air. The changing of the seasons in Northern Michigan is a reason many of us choose to live, work and play here. Each season provides us with different joys and challenges.

Over this summer, the ESLA Board and volunteers have continued our usual surveillance programs - Eurasian watermilfoil, purple loosestrife, Rugg Pond, and water quality, to name a few. In addition, for the second year in a row, we have also directed substantial efforts and funds toward determining the extent of Swimmer's Itch (SI) as well as initiating efforts to alleviate this nasty summer problem, that for many, detracts from their enjoyment of our beautiful waters.

As a physician, I know that the allergic skin reaction we call Swimmer's Itch rarely causes complications. However, it does cause significant discomfort and distress for some. Inside this newsletter, you will find information on our efforts to, hopefully, reduce the incidence of SI. Though not likely to ever be eliminated, our goals are to reduce the incidence and better understand the specifics of SI, thus being better informed to help our riparians avoid this summer nuisance.

Several of our neighboring lake associations also are beginning SI studies. We look forward to collaborative efforts that will help us all. Lab testing, brood relocation, permits, and contractors are expensive. Efforts to control SI are not single treatments but require repeated sampling, bird counts and possible relocations. The ESLA Board has undertaken these SI projects because it is important to our members and all riparians.

Maintenance of this SI program will require additional funding. Please consider increasing your membership level and encourage your friends and neighbors to join in. And of course, to non-member riparians, we invite you to join us in all of our efforts.

I hope all of you enjoy the seasons ahead. And should winter's chill find you cuddled next to the fire (or perhaps by the pool) consider reading The Death and Life of the Great Lakes (Dan Eagan, 2017) or A Sandhill County Almanac (Aldo Leopold, 1949). Both books are informative and inspiring.

Q&A Dr. Curtis L. Blankespoor (pictured below)

Professor of Biology, Jackson College
Contributed by Sue McCraven, ESLA Board Member

Dr. Curtis L. Blankespoor is professor of biology at Jackson College and has an adjunct appointment at the University of Michigan Biological Station on Douglas Lake (Emmet County). He learned all about swimmer's itch from his father, Dr. Harvey Blankespoor, and first started working on swimmer's itch control projects in 1987.

Q: What is Swimmer's Itch Solutions?

A: We are a team of 5 Ph.D. scientists who specialize in providing comprehensive swimmer's itch control programs that are specifically designed for our clients' lakes.

Q: I thought Freshwater Solutions (FWS) was the company handling all the swimmer's itch problems on Elk and Skegemog Lakes this summer?

A: Both groups are working for ESLA in 2019, but each company is doing different things. FWS is collecting assessment data just as they did last year, and Swimmer's Itch Solutions is trapping and relocating all the common merganser broods that show up on either lake.

Q: If the swimmer's itch parasite comes from snails, how and why are you trapping and relocating common mergansers?

A: Swimmer's itch parasites have complex lifecycles that require two different host animals. One host is always a snail and the other can be a bird or mammal. By trapping and relocating common mergansers off Elk and Skegemog Lakes, we prevent the parasites from infecting the population of new snails born in July and August. These new snails will overwinter in the lakes, and next summer won't be carrying any parasites that can cause swimmer's itch.

Q: How many broods and ducklings have you trapped and relocated this summer?

A: So far, we have trapped and relocated all 4 common mergansers broods that have been reported. Each time we have trapped, different ESLA board members have joined us for the excursion to see how the broods are captured. They even helped us catch some of the ducklings. We are pleased to announce that our trapping success rate is 100% (all hens have been successfully captured as well as every duckling.

Q: What other lake associations are using this approach to control swimmer's itch?

A: Higgins Lake (since 2015), Crystal Lake (since 2017), Glen Lake (since 2017), and Lake Leelanau (since 2017).

Q: I heard that some of the folks on Glen Lake are frustrated because they are still getting bad cases of swimmer's itch. Is this going to happen on Elk and Skegemog Lakes too?

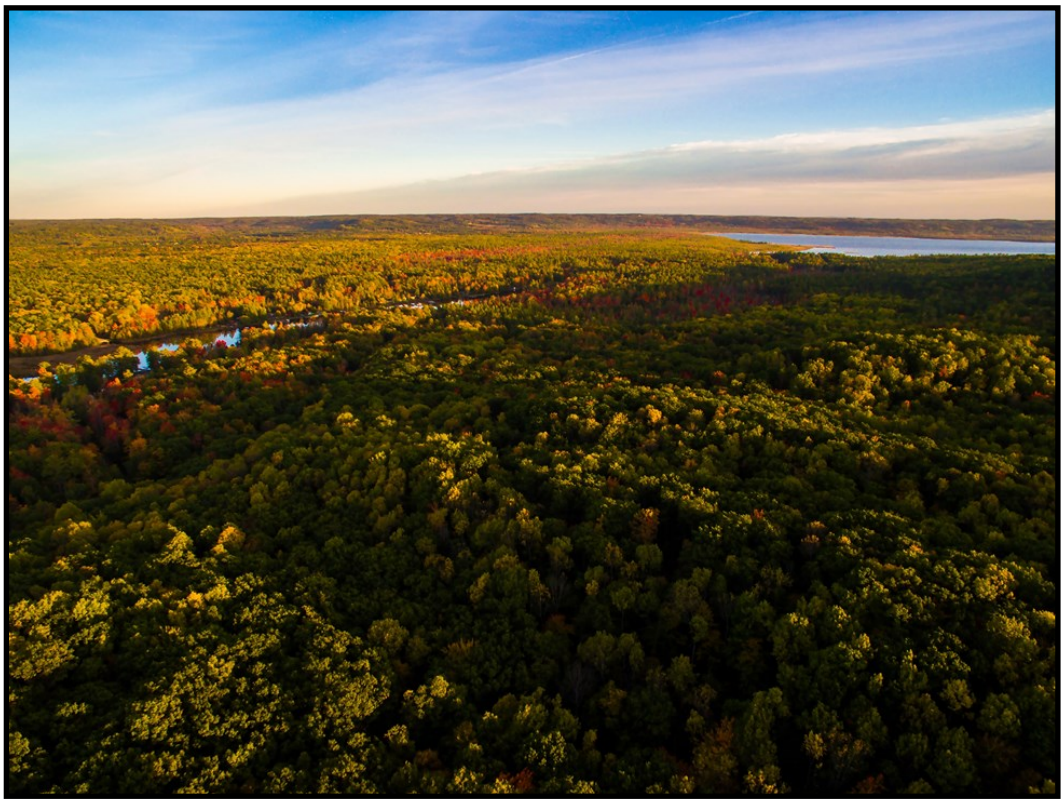
A: I can only speak about the results of our control efforts on Higgins and Crystal Lakes, as we aren't working on any lakes in Leelanau County. People who live on Higgins Lake have thanked us over and over again for helping them "get their lake back." The same thing is happening on Crystal Lake this summer! While no one can promise complete eradication of swimmer's itch on a lake, I fully expect that our control program and strategies will yield very similar results on Elk and Skegemog Lakes as they have done on Higgins and Crystal Lakes.

Q: When do you expect that we'll see a reduction in swimmer's itch on our lakes?

A: Given the biology of the swimmer's itch parasite's life cycle, you can expect to see the number and severity of swimmer's itch cases on Elk and Skegemog Lakes to go down next summer. By the summer of 2021, Elk and Skegemog Lakes should see a dramatic and significant decrease in the severity of swimmer's itch cases.

ESLA Annual Meeting Keynote Speaker

Contributed by Bob Campbell, ESLA VP



Representatives of the Grand Traverse Regional Land Conservancy were keynote speakers at ESLA's annual meeting on June 21, as they explained the conservancy's efforts to protect two critical pieces of land near the confluence of the Torch River with Skegemog Lake.

The conservancy's planned acquisitions provide a "Ribbon of Protection" to safeguard water quality, wildlife habitat and scenic views for riparians on Skegemog and surrounding neighborhoods, as well as thousands of boaters and anglers. This ribbon is formed by the proposed Torch River Nature Preserve and the Schuler Farm conservation easement. Between the two projects, GTRLC hopes to protect more than 500 contiguous acres of exceptional natural and agricultural lands.

These properties are bursting with critical ecological features in their own right, but they also represent significant additions to land already protected in the area, namely the North Skegemog Nature Preserve and the Copeland Farm (protected by GTRLC in the 1990s and 2016, respectively) and the Skegemog Lake Wildlife Area.

The 211-acre Schuler Farm easement has nearly 1,000 feet of undeveloped frontage on the north side of Skegemog, which augments the nearly 2,000 feet of undeveloped frontage contained in the contiguous North Skegemog Nature Preserve. In addition, it has about 1,300 feet of frontage on an unnamed tributary of Skegemog and significant chunks of forest and high-quality wetlands.

The proposed 295-acre Torch River Nature Preserve has 1,500 feet of undeveloped wetland frontage along the Torch River and one of the highest points in Antrim County. The hardwood forest at the higher elevations provides one of the more spectacular shows of fall color each year (see picture above). Along the Torch River just upstream from the river mouth at Skegemog, the frontage provides a sharp contrast to the heavily developed stretch of river to the north.

The Torch River Nature Preserve could be open to the public as soon as additional funding is identified , while the Schuler Farm easement will remain private, but protected from development. An extensive trail system would provide for hiking, snowshoeing and cross-country skiing.

"We are thrilled to have the opportunity to protect these critical pieces of land," said GTRLC Executive Director Glen Chown. "Protecting these large chunks of undeveloped land will help safeguard water quality throughout the lower Chain of Lakes."

For more information or to contribute to the acquisition of the lands described, contact GTRLC at (231) 929-7911 or www.gtrlc.org

PAGE 4

Swimmer's Itch in Elk Lake and Lake Skegemog 2019

Text and photos contributed by by Sue McCraven, ESLA Board Member

Recent Swimmer's Itch (SI) reports from those of you living on Elk Lake or Lake Skegemog have told of severe SI, or "hot spots" where Schistosomiasis cercariae (skin-piercing blood flukes) are especially problematic. SI causes red skin eruptions that are very itchy and irritating. SI adversely impacts us, our family members, and visitors who swim or recreate in our beautiful lakes. SI, frankly, is a widespread, waterborne scourge. Based on your reports and comments returned on ESLA's SI survey postcards (mailed this Spring), 60% to 70% of ESLA members have experienced SI and are understandably concerned about these adverse effects:

- SI-attacked family members and guests no longer wish to swim or visit;
- Children are often covered head-to-toe in itchy red welts after a day playing in nearshore water; and
- A potential fall in property values; Higgins Lake riparians faced a 20% to 25% drop in home values due to severe SI infestation.

A Widespread, Complex and Variable Problem

By now many ESLA members understand the complex SI lifecycle from attending presentations by Ron Reimink of Freshwater Solutions (FWS), or Curt Blankespoor of Swimmer's Itch Solutions (SIS). Perhaps you've read about SI in ESLA's Newsletters. However you've gotten your information, you know that Swimmer's Itch is a natural phenomenon that is impossible to completely eradicate with current science, technology and trapping methods.

Swimmer's Itch – cercarial dermatitis -- a very uncomfortable allergic skin reaction -- is found in most Northern Michigan lakes. The reason diving waterfowl love this region is because our lakes offer cold, clean water with sandy bottoms – the preferred habitat of Common Mergansers -- because our famously clear waters are ideal for pursuing fish. Other states with cold, clearwater lakes, like Wisconsin and Minnesota – as well as Canadian lakes -- are likewise plagued by SI. You may have seen a graphic showing the cyclical lifecycle of SI. The causative agent for SI is its larvae, the free-swimming aquatic stage of a group of flatworms. These swimming larvae are called schistosomes or cercariae. SI parasites use waterfowl as their primary host and snails as intermediate hosts. SI hot spots are highly variable in location because the surface water is pushed by the wind, moving cercariae downwind from the area of release. Research has shown that water temperature, amount of sunlight, and even the time of day affect a snail's release of cercaria. For example, a swimmer is said to be more likely to contract SI in the morning and less likely to be bitten

Common Merganser hen with brood on Higgins Lake. Hens are wily, elusive and difficult to trap. As the hen is bonded with her chicks, she will not fly away during trapping

Schistosome flatworms (cercariae) shown penetrating human skin. Not a pretty picture nor a good consequence for swimmers. Research data show that just ONE infected snail can release 1,000-to-4,000 of these biting worms per day.

in the afternoon or evening.

What do ESLA Lake Assessments Tell Us?

A comprehensive assessment of Elk Lake and Lake Skegemog was undertaken in 2018 by Ron Reimink and his FWS team. The DNR requires a comprehensive assessment as part of a lake association's permit application to trap/relocate mergansers. Assessment results show that Elk Lake water samples had the highest percentage of SI-infected snails out of 10 lakes surveyed (Skegemog, Big and Little Glen, Long, Lime, North and South Lake Leelanau, Walloon, Sand and Charlevoix). The intermediate host snail In Elk Lake and Lake Skegemog was found to be Trichobilharzia stagnicolae, or T. Stagnicolae for short.

Water sampling crews also recorded turbidity, temperature, and wind direction. After samples are sent to a lab, it was determined how many cercariae are in a given water sample. Fecal samples were collected from docks and rafts recently used by mergansers; sometimes crews intentionally frighten the birds, compelling them to drop off their calling card. FWS continued lake research this year at 20 locations, including reported hot spots. Half (10) of the samples were taken by ESLA's Intern and volunteers. FWS's 2019 invoice to ESLA was about $6,000, which includes not just sampling labor and equipment costs, but expensive qPCR (Quantitative polymerase-chain-reaction) analysis. qPCR data reveal how much of a specific gene is present in a sample, thereby identifying the sample's specific parasitic species and number of SI larvae present.

Are There Environmental Concerns over Merganser Removal?

Some ESLA members have voiced well placed concerns that SI Control might be toying with Mother Nature and that selective bird removal may adversely affect the ecological balance on our lakes. The rationale behind removing mergansers: the relocated chicks will "imprint" on Lake Michigan, meaning that they will return to the Great Lake to breed.

"Spotters" Prove Invaluable

This year, ESLA hired Dr. Curt Blankespoor and the SIS team to trap and relocate Common Merganser broods on Elk Lake. Volunteer bird spotters were indispensable at this stage. On May 29, Tom and Debbie McMullen spotted a female merganser at a nest in a Maple tree near their home. Robin Vander-Kay of Cherry Ave. called in a brood sighting to Gary Chenoweth June 17. Craig Cameron emailed photos of a brood spotted out on the lake three days later. Curt verified that photos submitted to him were indeed of Common Mergansers. The first brood was captured on June 11,the second brood on July 22, and the third in August.

PAGE 6

A 4th brood was caught on camera on Elk Lake by three different spotters. SIS crew searched the shoreline on Wednesday morning, July 30, but was unable to locate the brood. Blankespoor said that it's possible this Common Merganser brood headed up the Torch River or secreted itself behind snags, stumps and logs along the Northwest shoreline of Elk Lake. Thankfully, this cagey female merganser and her chicks were captured on August 7, 2019 and relocated by SIS at Wilderness State Park on Lake Michigan. Because this brood was trapped so late in the season, notice how large the chick is in the photo left – a handful!

ESLA Volunteers Help Keep Costs Down

ESLA was fortunate to have capable assistance of ESLA's Intern, Samantha Jo "Sam" Krause, in corralling broods and in water sampling, working with both FWS and SIS crews. To reduce ESLA costs, volunteers provided time and assistance, including ESLA members: Gary Chenoweth, Bob Campbell, Bob Reider, Jan Garvey and Sue McCraven (editor's note—Sue has provided consistent leadership on the SI effort during 2018 and 2019). Linda and Tom Slopsema were an unexpected bonus when Tom volunteered to jump in a kayak under Curt's guidance to keep the first brood from escaping. Thanks to all of you! And special thanks must go to former ESLA President, Gary Chenoweth, for his support and encouragement, especially in convincing the ESLA Board to tackle our SI problem from the start over two years ago.

What Can We Expect Now?

Because of the complexity of the problem and number of waterfowl species that can cause SI (Mallards, Red Breasted Mergansers, Canadian Geese, Mute Swans and more), no control method can eliminate 100% of SI on any given lake. But, hopefully, with ESLA's comprehensive control program, SI outbreaks may be reduced to lower levels. This remains to be seen. Control work at other nearby lakes has proved problematic. Despite trapping and relocating numerous broods for the last three years, Glen Lake's serious SI problem remains. Ron Reimink explains: "We continue to work towards finding answers as to why conventional merganser removal doesn't appear to be having much effect on some lakes in NW Michigan. The assessment work we are conducting on Elk and Skegemog this year will provide valuable data towards that goal."

So, all we can realistically hope for is a reduction of the infection rate of the culprit snails -- and this may be accomplished by relocating merganser chicks. Chicks are more of a problem than adult birds as they are highly infected with the SI schistosome due to their dearth of feathers and lots of exposed skin and, like all babies, their frequent defecating which leads to more infected SI snails. Data shows adult mergansers with full plumage are more resistant to SI, therefore, not showing high infection rates. Strong winds are also a significant factor in spreading SI; data shows wind-driven surface worms can be pushed a mile away or further. Wind driven SI

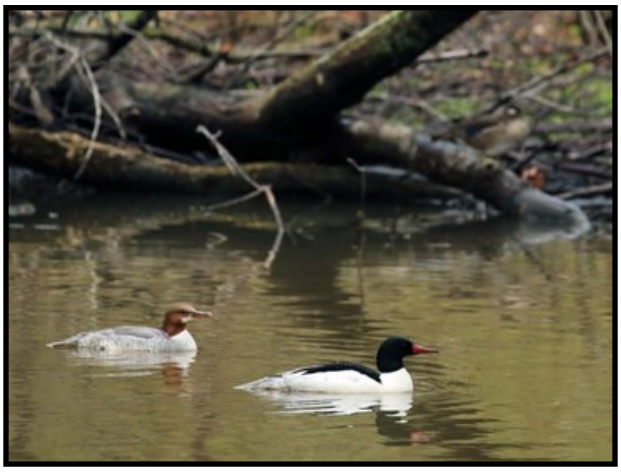
(schistosome worms) is serious because merganser broods may cover 6 miles per day hunting fish; this means the chicks contaminate a significant area of shoreline waters. But the good news is that a small reduction in the snail infection rate is a big deal. For example, SIS reported that Higgins Lake reduced their snail infection rate from 3.0% to 0.3% after the first year of trapping/relocating. The second year of control reduced the rate to 0.05%, and Higgins Lake went from being totally unswimmable for 10 years to having almost no incidence of SI. That's the result ESLA is aiming for with its SI Control Program.

Swimmer's Itch Control Costs

Work to control SI is expensive. ESLA's initial assessment in 2018 was almost $20,000. Fortunately, MISIP (Michigan Swimmer's Itch Partnership) contributions of $3,000/lake for initial assessments ($6,000 total) brought the final cost to just under $14,000.

Trapping and relocating is invoiced at $3,000 per brood, so we're in for at least $12,000 this year, but we expect MISIP reimbursement of $1,000 a brood. MISIP will also reimburse ESLA $10 per bird for certified banding of mergansers.

MISIP dollars are public funds that were authorized by Michigan legislators, specifically to support and assist lake associations that are working to mitigate SI. Dave Edwards, Monitoring & Research Director, Tip of the Mitt (TOM) Watershed Council, acts as MISIP fiduciary and member of the MISIP Steering Committee. Dave is a big asset for lake associations. Unfortunately, according to Gail Gruenwald, Executive Director, TOM, MISIP money is not expected from the state in 2020 due to legislative changes.



A female and male Common Merganser pair during spring breeding season. Hens nest high inside a cavity of a large tree. The fluffy chicks survive their precipitous fall to the ground and waddle behind their mother, heading straight to the lake. Source: https://www.allaboutbirds.org/guide/

ESLA Needs Your Financial Support!

Phil Spangenberger, ESLA Treasurer, has indicated that ESLA will need to raise outside funding for 2020 SI control work and external monies will likewise be needed to continue this effort in future years. ESLA's current level of membership dues cannot continue to support the expensive SI research and remediation work year after year. We either need to significantly increase membership to almost all riparians on Elk Lake and Lake Skegemog, which seems unlikely -- or begin fundraising for continuing the SI interventions and research.

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PAGE 8

Continued from page 7

If you are not an ESLA member, please join and if you are a current member, thank you, and please encourage your riparian neighbors and friends to join ESLA!

Luckily, ESLA is blessed with some very supportive and educated members who understand the adverse effects of SI. In addition to SI reports called in, sent via email or reported to SI websites, two ESLA members shared their feelings in person. After the well-attended ESLA Annual Meeting at HERTHA Hall in June, member and riparian, Diane Flatley, expressed her frustration and anger over SI, saying:

> I am glad to hear that our ESLA membership dues are funding the trapping and moving of merganser broods." Diane also said that she is willing to help support ongoing SI control and research. Fred Creamer of Skegemog Point Rd. was also very supportive of ESLA's efforts to reduce SI. Fred offered encouragement, saying, " I'd be happy to help with fundraising to continue Swimmer's Itch control in 2020.

Right now, ESLA needs new members and additional funding.

Will you help?

Things You Can Do to Minimize Swimmer's Itch

- Avoid swimming in shallow water.
- Do not swim when there is an onshore wind, that is, you are located downwind.
- Do not encourage birds by feeding waterfowl.
- Avoid placing riprap or stone breakwaters along your shoreline. Stones provide an excellent surface for snails to attach their eggs. More stones = more culprit snails = more Swimmer's Itch.
- Insect repellent alone (such as DEET) is unlikely to work as it is quickly washed away or volatilized from skin. The effectiveness of specific SI-repellant lotions has not been proven but may help.
- *Untrue!* Take a shower or towel off briskly immediately after swimming: this is not effective because cercariae pierce human skin on contact while swimming.
- Manually remove snails *(raking/rototilling/screeding of lake bottom stones and removal of natural vegetative debris requires a permit)*
- Plant a healthy greenbelt. The *Watershed Center Grand Traverse Bay* recommends a healthy greenbelt along shoreline property with a variety of native plants -- including trees, shrubs, and herbaceous plants -- to prevent waterfowl from congregating on your property and to prevent runoff into the lake.
- If you have riprap along your shoreline, plant in between riprap stones and along your breakwater. Only use native plants, like Lowbush Cranberry, Obedient Plant, Red Osier Dogwood, Meadowsweet, Blue Vervain, Michigan Holly, and native grasses and ferns.
- Conserve existing trees on your property and plant new trees.
- Shade near-shore areas. A shoreline greenbelt will reduce the sunlight reaching the lake bottom and, consequently, the amount of bottom-dwelling algae, which is a primary food source for snails.

- For serious SI infections: Ask your doctor for a prescription for relief or purchase topical, over-the-counter creams (Benadryl or Calamine lotions or Poison Ivy topicals) to reduce itching and swelling. To report and record a case of SI, you may go to the following sites: ***http://www.swimmersitchsolutions.com/ESLA*** and ***https://www.freshwatersol.com/report-a-case***

The Third Brood Capture

photos and captions provided by Bob Campbell, ESLA V.P.

ESLA intern Sam Krause has a big smile and a little bundle of trouble in her hand.

Homeowner, at the urging of Dr. Curt Blankespoor - "Don't worry, they won't bite." - gets a chance to pet one of the chicks while her husband and children look on.

The capture team leaped into the water to quickly net merganser chicks and their mother. ESLA interm Sam Krause in blue t-shirt led the charge.

Close up of a merganser chick being held by ESLA intern Sam Krause. Before you think they look so sweet, be aware they carry 50 times the concentration of swimmer's itch parasites as adult mergansers.

PAGE 10

Swimmer's Itch 2019

Photos and captions contributed by Sue Sue McCraven, ELSA Board Member

T. Stagnicola, the culprit snail involved in SI lifecycle on Elk Lake. Courtesy SIS

Dr. Randy DeJong, Ph.D. professor at Calvin University in Grand Rapids, draws a blood sample from a merganser chick while ESLA intern Sam Krause keeps the little bird calm. DeJong is a molecular parasitologist.

Male Common Merganser in flight. Mergansers are large birds, which isn't always apparent when seen on the lake surface, as the birds ride lower in the water than do loons. Source: https://birdsna.org/Species-Account/bna/

The proficient attacker: SI cercaria shown moving towards the surface to find a host. Cercariae have eyes and a piercing mouth for injecting their eggs. Cercariae are not particular in their choice of victim, and hosts may include Mallards, Canadian Geese and even songbirds, raccoons, river otters and dogs. Courtesy SIS.

2019 Landing Blitz AIS Report

Contributed by Bob Campbell, ESLA V.P.

ESLA joined about 80 groups – including many lake associations – as participants in the statewide Aquatic Invasive Species (AIS) Landing Blitz from June 28 through July 7. The program is an effort to inform boaters about what steps they should take to prevent the transfer of harmful species, such as zebra mussels and Eurasian milfoil, from one body of water to another.

In addition, this year a law took effect requiring boaters transporting their boats by trailer to pull their drain plugs, empty bait or live wells, and make sure they are not transporting plant or animal materials on boat bottoms, props or trailers.

Michigan's new Department of Environment, Great Lakes and Energy (EGLE), provided Bob Campbell, who coordinated ESLA's effort, with flyers explaining the new law and other brochures detailing steps boaters can take to stop the spread of AIS. In total, eight of our volunteers engaged about 75 boaters, making sure each got a flyer explaining the law. We also passed out about 50 wipe-down towels that EGLE provided.

Our volunteers pulled shifts at the Whitewater Township Park on the southwest end of Elk, the Baggs Road ramp on Skegemog, and the village of Elk Rapids ramp on the Elk River.

Participants included board members Jan Garvey and Pat Pierce, as well as ESLA Treasurer Don Bonato, ESLA Vice President Campbell, Bob Reider, a board member of the Watershed Center Grand Traverse Bay, and ESLA intern Sam Krause. Garvey, Pierce, Reider and Krause each pulled shifts at the Whitewater Park. Bonato, Campbell and Krause talked to boaters at the Baggs Road ramp. We kept state and local officials responsible for the ramps informed of our work. We also had excellent cooperation from Whitewater's Township Park Administrator and Township Clerk Cheryl Goss, who suggested our volunteers could walk through the campground to greet and pass out literature to campers with boats parked on their lots. That's exactly what Garvey did.

Most of the boaters were aware of the dangers of transferring invasive animals like zebra mussels and many microscopic-sized critters, as well as plants like Eurasian milfoil. Many were not aware of the new law.

At the Elk River ramp, former ESLA board member Ron Gurdak spent a few hours on July 3 with his grandson, David Mohr, a high school senior. David made three contacts during a slow morning at the ramp.

While the official "Landing Blitz" ended July 7, ESLA will continue to spread the word about invasives through the remainder of the boating season. Anyone interested in spending a few hours at one of our boat launches, to talk to trailer boaters and hand out literature can contact Campbell, at bobplus4@gmail.com.

We anticipate partnering with the state program again in 2020.

Some takeaways: As an organization, we are encouraging the state to put up new and larger signs at boat ramps explaining the law. Most state ramps still have weathered informational signs about invasives and boats. We're also continuing to encourage Whitewater Township officials to keep a boat wash station in their plan to expand and upgrade their ramp. The township recently was awarded a $200,000 state grant for the project. The plan calls for roughly doubling the parking at the ramp and adding and improving launch lanes and dock length.

Page 12

Perspectives on ESLA's Two Year Swimmer's Itch Initiative

Contributed by Bob Campbell, ESLA V.P.

Last spring, the Elk Skegemog Lakes Association Board had a choice between two proposals to address the problem of swimmer's itch. The proposals were from two experts with somewhat different approaches regarding the best approach.

Instead of selecting one or the other, the ESLA board hired both scientists at its May 16 meeting. The contractors — Ron Reimink of Freshwater Solutions, LLC and Dr. Curt Blankespoor of Swimmer's Itch Solutions, LLC — have devoted much of their careers to unraveling the puzzle of swimmer's itch. Initially working together, and now independently, they have successfully trapped pre-flight merganser ducklings and their mothers and released them in Lakes Michigan and Huron where they would do no harm.

Ron Reimink had analyzed water samples taken under contract for ESLA in the summer of 2018 and was surprised with the results. He found that Elk Lake — out of the 10 northern Michigan lakes he had sampled — had the highest percentage of sites with severe contamination of the swimmer's itch parasites. This outcome didn't appear to be consistent with only two broods of mergansers spotted on Elk Lake in a comprehensive visual surveys conducted in the summer of 2018. It was too few birds to be the link to the abundance of parasites, he surmised.

Also puzzling to Mr. Reimink was that he observed continued outbreaks of swimmer's itch on three Leelanau County lakes — Lime (where he owns a cabin)

> Why the focus on mergansers? They are one of the primary hosts for the aquatic worms that live part of their lives in various waterfowl and part in snails. These parasites are the primary source of the swimmer's itch and they are found in higher concentrations in Mergansers, particularly the more easily penetrated skin of ducklings. After birds poop in the water, the parasites burrow into snails that are found in abundance in many other northern Michigan lakes.

and Glen and North Lake Leelanau — where mergansers had been removed under state permit for at least three years. In fact, he said that 670-acre Lime Lake, where mergansers had been trapped and relocated for five years, had no broods this year. Yet Lime still experienced an outbreak of swimmer's itch.

Two possibilities existed, he said, as possible explanations for the high parasite concentrations and dearth of mergansers: Were large numbers of the migratory common mergansers or red-breasted mergansers the reason for the high parasite numbers in the water samples? Or was it possibly a different species of waterfowl or snail acting as host for the parasite?

Based on this initial 2018 research in Elk and Skegemog, Reimink recommended that the ESLA board do another year of water sampling and analysis to better understand the lakes' biology and ecology before moving ahead with trapping. He previously had offered to do the trapping, but subsequently withdrew that offer, saying he couldn't promise ESLA would get the results it wanted.

The ESLA board chooses two-pronged approach

At its May 16, 2019 meeting, the board decided on a two-pronged approach: It authorized spending up to $10,000 to hire Dr. Curt Blankespoor to trap and relocate mergansers to Lake Michigan at a cost of $3,000 per brood. ESLA will receive a $1,000 reimbursement for each brood captured from the Michigan

Swimmer's Itch Partnership (MISIP). MISIP issues the grants to lake associations from its $400,000 state grant for swimmer's itch remediation projects. It's unclear whether grant money will be available in 2020. The Board also agreed to re-hire Ron Reimink at its May meeting for $6,000 to continue sampling and analyze lake water and the feces of mergansers, other ducks and geese and provide insights from his work on other lakes.

Dr. Blankespoor, in an interview for this report, touted the success of his firm's trapping and relocation program in Higgins and Crystal lakes and said he has little doubt that mergansers are linked to a vast majority of Elk and Skegemog swimmer's itch cases. "We're preventing the next generation of mergansers," he said, from making their summer season homes on Elk or Skegemog lakes and stopping the continuing contribution of parasites to the lake.

As far as results showing continued merganser presence in Lime, Glen and North Lake Leelanau despite years of trapping, Blankespoor suggested his trapping has been especially effective in the lakes where he has conducted trapping. As of the deadline for this report, he had trapped four merganser broods on Elk Lake this summer. "We're never going to eliminate swimmer's itch, but people are swimming again on Higgins and Crystal lakes," he said. While he has made clear to ESLA's board that it shouldn't expect to see big improvement in 2020, he said he expects a second season of trapping mergansers to lead to significant reductions in swimmer's itch cases.

Dr. Blankespoor and his partner Dr. Randy DeJong, professor at Calvin University, also are taking blood samples from all the mergansers they trap in an effort to learn whether all chicks in a brood come from the same mother. That knowledge, he said, could provide insights to help his remediation strategy.

How to Proceed in 2020?

Before the ESLA Board makes any decisions on a 2020 strategy, it will learn whether its summer 2019 merganser removals and the water sampling analyses have provided new clues to reveal information to better inform the next steps.

ESLA also will explore partnerships with other associations within the Elk River Chain of Lakes system, said ESLA President Mary Beth Kazanski, as one way to control costs. Without more dues-paying members or significant additional contributions targeted for swimmer's itch control, ESLA can't continue to spend $16,000 annually on these efforts.

For this report, I also contacted Dr. Thomas R. Raffel, an Assistant Professor of biology at Oakland University. In 2016, he conducted research on swimmer's itch at about 20 northern Michigan lakes, including Elk and Skegemog. (ESLA was among his financial supporters in 2016.) He examined factors such as temperature and pollution as potential risk influencers for swimmer's itch. Raffel has submitted a report on his findings to a peer-reviewed scientific journal and will share his findings if and when the paper is accepted for publication. He noted that he knows both Reimink and Blankespoor as fellow swimmer's itch researchers and is currently working with Reimink on a water analysis project.

Dr. Raffel said there was no simple best approach for ESLA's board when it made its decisions regarding SI last spring. As for trapping, he said: "I've never been convinced that mergansers are the dominant host, and trapping is really expensive. On the other hand, if what you really want to do is reduce the risk on a whole lake, trapping is one of the only things that has any real evidence to back it up. It comes down to how much money are you willing to spend on something that might or might not work."

PAGE 14

ESLA Continues to Assist Boaters and Riparians

Contributed by Pat Pierce, ESLA Safety and Recreation Committee Member

Who is responsible for the Torch River mouth entrance buoys at Lake Skegemog? This is a question that some people have undoubtedly asked themselves. The answer is Elk-Skegemog Lakes Association.

As well as duties addressing our environment, swimmers itch, invasive species and many other ESLA responsibilities that our mission statement calls for, we mark the stumps in the passageway from Lake Skegemog to the Torch River. The stump buoy placements do not entirely follow the old river channel so caution by boaters should still be taken when approaching and entering this passageway. Some advice would be to go slowly and align your boat's heading with the passageway from some distance in Lake Skegemog before entering the buoys especially in choppy waters. Outboard or inboard/outboard drives should still be raised a bit to be safer from striking some inevitable stumps on approach to the buoys and throughout the channel.

This year we have purchased and placed new buoys and a new Torch River no wake sign as well. Your ESLA memberships and kind donations pay for this safety service as well as everything else ESLA does to protect and preserve these wonderful waters.

Above: Pat Pierce towing Torch River No Wake Zone Sign into place

ELK-SKEGEMOG LAKES ASSOCIATION

July 1, 2018 – June 30, 2019

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WE WANT YOU!

to be a member of the Elk Skegemog Lakes Association.

The public is welcome to attend ESLA Board meetings held at 10:00 a.m. on the third Thursday of scheduled months; the Board meets at the Elk Rapids Police Department offices on Bridge Street. See https://elk-skegemog.org/