



## **SICON's Comprehensive Swimmer's Itch Control Program Year 2, Update 2: July 7, 2016**

### **Year 2 of our Comprehensive Swimmer's Itch Control Program is in full swing**

It's been a very busy seven weeks since our last update. We've collected and examined over 6000 snails, trapped and removed 5 common merganser broods (all in Gerrish Township) held 4 open houses, given 2 TV interviews, hosted a 3-day swimmer's itch conference at Dragonfly House with top scientists from Michigan, Canada, New Mexico and Washington DC and participated, along with those experts, in the day long Michigan Swimmer's Itch Partnership (MSIP) Conference at Roscommon High School on June 22. We will continue working directly on Higgins Lake through the end of July, so stop by the Dragonfly House on the southwest shore on any Monday night this month from 6-8pm to learn more about how our program is winning the battle against swimmer's itch.

### **Sound science always leads the way**

At its core, swimmer's itch is a biological problem. It's a complex system that involves parasites, hosts, and, unfortunately, humans. We've spent decades building a base of scientific knowledge and experience about swimmer's itch to design and conduct a comprehensive control program that focuses on the most critical part of the problem: the common merganser broods. Sound science, properly designed experiments, accurate collection and interpretation of data, and an objective assessment plan are once again key to a successful lake-wide and long-term swimmer's itch control program. We have been working hard for almost 2 years on Higgins Lake. All of the data show, once again, that our comprehensive program is dramatically reducing the snail infection rate and the reported numbers of swimmer's itch cases on Higgins Lake. We are successfully replicating our past results.

### **What the data are telling us about the difference in effectiveness of the SICON and Northpoint Fisheries programs**

Last year, our objective analysis of more than 10,000 snails from ten different sites across the lake showed the overall, lake-wide snail infection level was slightly over 3%. While that might seem like a low number, throughout our decades of working on swimmer's itch control and research on many lakes in Michigan, we've found that a snail infection level over 2% translates to an SI problem that can be considered epidemic. So far this summer we have collected over 6000 snails and our current infection level for this year is down to 0.25%. That's a very dramatic decrease...which is very encouraging news! We produced similar snail infection rate reductions when we trapped and removed merganser broods on Glen Lake in the late 1980s (2.1% in Year 1 down to 0.3% in Year 2), which is why we expected similar results based on our program for Higgins Lake. So it's good to see the observed results (i.e., the hard data) matching with what we expected.

As predicted, both the snail infection levels and anecdotal reports of swimmer's itch are down dramatically across the entire lake. Particularly noteworthy is the fact that the reduction in the 3 snail collection sites in Lyon township are even lower when compared to the 7 Gerrish township collection sites. That is significant because, at the request of Lyon Township officials, the Gerrish/Northpoint Fisheries early spring harassment and lethal program was restricted to only areas within Gerrish Township.

This year, Northpoint Fisheries was once again required by their permit to turn over mergansers they killed to SICON for analysis. And, once again, the analyses showed Northpoint Fisheries killed as many males as females. Not only that, all but one of the early spring adult common mergansers they killed was either not infected or lightly infected. We have noted over many decades of conducting research on swimmer's itch that snail shedding and infection is minimal in the cold, early spring water. These results again demonstrate that an early spring harassment and lethal program provides no material benefit in reducing swimmer's itch on Higgins Lake. It has the wrong focus, and it's not listening to what the science is telling us. In addition, the Northpoint Fisheries program has hindered us from locating common merganser nests, made trapping more difficult, and slowed progress towards a long-term, less costly swimmer's itch long term maintenance program.

Working with common mergansers over the past 30+ years, we have never witnessed an increase in the number of common merganser broods on any lake once trapping and relocation efforts began. Last year we trapped all common merganser broods on Higgins Lake following the Northpoint Fisheries program (total 9 broods). This summer, to date, we have already trapped and removed 5 broods (with reports of another brood that just hatched on the lake). With the use of nest boxes, Gerrish Township/Northpoint Fisheries recently claimed they were able to effectively eliminate 7 common merganser broods from Higgins Lake this spring. They maintain their claim that their activities have not attracted more common mergansers to the lake. Let's do the math: 5 broods removed (so far) by SICON, LLC plus 7 claimed to have been removed by Northpoint Fisheries equals 12 (and counting). It's very hard to argue with the numbers! The only logical conclusion is that the actions of Gerrish Township/Northpoint Fisheries (i.e., erecting artificial nest boxes) have increased the total number of common merganser broods (and therefore, common merganser hours) on Higgins Lake over last year. That's certainly not the direction we want to go as we move towards a lower cost SI maintenance program that effectively keeps the number of swimmer's itch cases on Higgins Lake at a much lower level into the foreseeable future.

Bird surveys have shown a noticeable decrease in the number of adult single common mergansers on Higgins Lake this year. Based on our years of experience working with common mergansers, we predicted that would be the case. This is a result of few, if any, ducklings from last year returning to Higgins Lake. We believe the number of second-year birds on Lake Huron (where last year's broods were relocated) has increased significantly compared to 2015. This claim is based on the work we did during the 1980s and 90s that showed that common merganser ducklings imprint and return to the area where they learn to fly. Because that area of Lake Huron doesn't have the correct species of snails that act as intermediate hosts for the SI parasite, the increase in common mergansers won't spread swimmer's itch to that area.

**What the swimmer's itch control programs on other MI lakes are telling us about our program**  
Representatives from Glen Lake and Crystal Lake participated in the MSIP swimmer's itch conference on June 22, 2016 at Roscommon High School. 24 total Michigan lake associations are now participating in MSIP. Both associations reported on the effectiveness of their harassment activities in preventing common mergansers from breeding on their respective lake. For a number of years

following the successful SICON program (Harvey Blankespoor and Ron Reimink retired in 2009), Glen Lake, which is about one quarter the size of Higgins Lake, was able to keep the number of common merganser broods hatching on the lake to a minimum (i.e., 1-2 broods) using harassment. However the number of broods began to increase recently despite their aggressive harassment program. In 2015, the number of broods hatching on Glen Lake increased to 3. This spring, Glen Lake spent twice as much money and effort with their extensive and thorough spring harassment program even adding a second boat. Rob Karner, the biologist for Glen Lake, supervised the harassment program. Rob reported that as of June 22, the number of common merganser broods had more than doubled to 7 (and counting) this summer. Without a SICON program to remove those common merganser broods, Glen Lake will see a dramatic increase in swimmer's itch next year. Glen Lake has already agreed to work with SICON, LLC again beginning in 2017.

Joel Buzzell from Crystal Lake reported on their riparian-conducted harassment efforts. A recent count of mergansers on Crystal Lake found 78 common mergansers (including 5 broods) following their riparian harassment program (somewhat less than the 97 left on Higgins Lake by Northpoint Fisheries after their lethal and harassment program last year). Results of snail raking experiments they conducted last year showed inconclusive results. Not surprisingly, Joel was not very optimistic about the benefit of raking snails for controlling swimmer's itch outbreaks and was unsure if they will do snail raking again this year. Regardless, Crystal Lake will continue to work with SICON, LLC in 2017 and they have agreed to delay any harassment program until after SICON has completed its capture and relocation program.

### **The month and year ahead**

We will continue to collect and isolate snails to determine snail infection levels so we will have an objective metric to measure our progress against last year. We will continue our efforts to trap and relocate all common merganser broods that will hatch on Higgins Lake in July. Common merganser brood ducklings are the primary source of the swimmer's itch problem on lakes, such as Higgins Lake. There are usually a large number of young ducklings, they cannot fly, they have reduced immunity against the parasite resulting in extremely high infection levels, and they spend the entire summer infecting the lake. Without trapping and relocation so they will imprint on another lake, they return to Higgins Lake to start the process again the following spring. We've had to modify our trapping techniques once again but feel confident we'll be able to successfully trap every brood, despite the fact that many of the hens are much more wary from all the harassment and shooting activities of this past spring.

We believe even more strongly that suitable, natural nesting sites are the limiting factor determining the number of common mergansers on a given lake. Thus, the key to long-term swimmer's control efforts is to find and eliminate active common merganser nests. We've been able to locate two such nesting sites this season (both in Lyon township), and have recently identified other potential nesting sites in Gerrish township.

### **The take-home message**

The data clearly demonstrate that, once again, our current science-based comprehensive program is very effective in dramatically reducing swimmer's itch cases on Higgins Lake, just as it did on Glen Lake. We are committed to providing an effective, low-cost maintenance program once the lake-wide snail infection rate is dramatically reduced and there are a minimal number of common merganser broods on Higgins Lake. However, because the Northpoint Fisheries program significantly impedes our efforts (nest boxes are used by hunters to *increase* duck populations), we are not certain how quickly we can achieve all of our program goals.