

Research

In 2014 CLWA joined with 33 other regional lake associations to form the Michigan Swimmer's Itch Partnership. This collaboration took the lead in bringing together international expertise to study the causes and life cycle of swimmer's itch, motivate government leaders, regulators and businesses, and raise funds to support the research needed to find long term solutions to the problem.

Thanks to MISIP's efforts the State of Michigan appropriated funding (2016-2018) that went toward expanded research, training, and control efforts. A main focus was improved analytical methods (qPCR) for measuring snail infection rates in water samples, which formed the basis for trials of new control programs.

For two years the CLWA helped support the research of biologists from Oakland University who studied the parasite's life cycle and environmental factors influencing swimmer's itch severity.

In 2016 the CLWA contracted with SICON LLC to carry out an assessment of infection in *Stagnicola emarginata* snails on Crystal Lake. These data provided a baseline against which to measure the effectiveness of a control program based on trapping and relocation of mergansers, which began in 2017.

SICON and its successor, Swimmer's Itch Solutions (SIS), performed additional snail infection assessments in 2018, 2020, and 2022. These provided metrics on progress, reaching a 99% reduction in the level of snail infection by 2021. SIS also sampled *helisoma* snails in 2020: none of these was infected, although they carry SI infection on some other lakes.

Since 2013 the CLWA has collaborated with the waterfront staff at the Congregational Summer Assembly to record data on swimmer's itch occurrence, an invaluable resource for ongoing research.

Reports on all this research are posted on the CLWA website.

A Serious Threat to Our Community

Crystal Lake is not unique – swimmer's itch affects lakes throughout the world.

In northern Michigan, it is more than just a persistent health problem:

Swimmer's itch discourages the recreational use of our precious water resources, diminishes the enjoyment of public beaches and valuable waterfront property, and threatens the regional economies that depend on water-based tourism.

The CLWA is seeking solutions to resume its trap-and-relocate control program, which has proven to be highly effective.

YOUR HELP IS NEEDED

To support research and control of swimmer's itch, please donate at CrystalLakeWatershed.org, by check, or scan code



The CLWA is a 501(c)3 organization.



Crystal Lake & Watershed Association

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Please visit our website: CrystalLakeWatershed.org which provides a wealth of information about the area.

2023 Edition



COMBATING SWIMMER'S

itch

on Crystal Lake

What you can do to help:

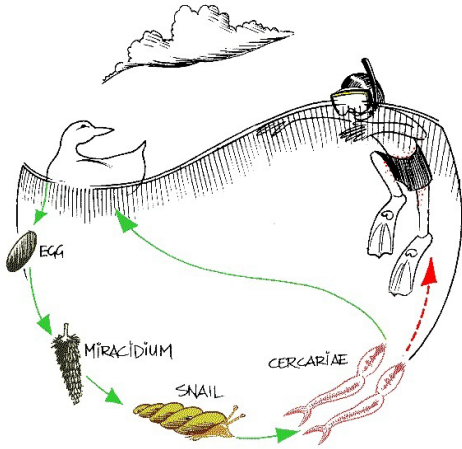
- Report swimmer's itch cases to the CLWA website www.CrystalLakeWatershed.org.
- Do not feed any waterfowl.
- Watch for merganser nesting behavior and report it to CLWA.
- Remove unused docks, diving platforms or other structures that may become waterfowl perches.
- Encourage swimmers to use waterproof sunscreens that may provide a barrier or include an insect repellent.
- Volunteer for research projects and allow access to your lake front property for use in merganser control programs.



Crystal Lake & Watershed Association

Swimmer's Itch Facts

Swimmer's itch is a skin irritation (medically known as *cercarial dermatitis*) that may occur when a swimmer contacts a microscopic parasitic organism that normally cycles between snails and waterfowl. Various birds may host swimmer's itch-causing *cercaria*. The common merganser is the primary host on Crystal Lake.



- A *cercaria* encountering the skin of the proper species of waterfowl will burrow through the bird's skin to complete its life cycle. If instead the *cercaria* encounters a human in the water, it attempts to enter the skin, where it soon dies.
- The human body's immune system reacts at the site and forms an itchy red bump (a "papule") that may be uncomfortable for several days.
- Approximately 25% of the population seems to be immune, but others may develop severe cases with fever.
- Swimmer's itch cannot be passed person to person, or from duck to person.

Preventing and Treating Swimmer's Itch

- Avoid swimming when there is, or recently has been, an onshore wind.
- Risk of acquiring swimmer's itch is greatest in the morning.
- Apply waterproof sunscreen or other products that may provide a barrier to the *cercaria*. Allow the product* to dry before entering the water.
- If using sunscreen and also showering, reapply the product before re-entering the water.
- If swimming for a long period of time, reapply the product according to the manufacturer's directions.
- Swim in deeper water when possible, as wind and waves may concentrate the *cercaria* in the shallows or close to the shore.
- If you contract a severe case of swimmer's itch, ask a pharmacist about anti-itch creams or antihistamines.

*At this time, there is no FDA approved product to prevent swimmer's itch. No products are endorsed by the CLWA.

The CLWA and its partners continue to provide the most current information to the public on ways to avoid the effects of swimmer's itch.

Swimmer's Itch Control

The Crystal Lake & Watershed Association has been leading a multi-year effort to attack swimmer's itch using state-of-the-art science.

During the summers of 2017 and 2018 it contracted with Swimmer's Itch Solutions LLC (SIS) to conduct large-scale swimmer's itch control activities on Crystal Lake. SIS then trained two local individuals in their methods, who took over the CLWA control program from 2019 to 2021.

The program consists of trapping merganser broods and relocating them to other waters where the swimmer's itch parasites are not present. By reducing one of the parasite hosts, the cycle that releases the parasites into Crystal is broken and swimmer's itch will decrease. By 2021, the method was proven to be highly effective.

These actions were authorized by a permit to the CLWA from the Michigan Department of Natural Resources (DNR), which oversees humane treatment of the birds and approves the location to which they are moved.

Unfortunately, the appearance of avian influenza in Michigan prompted the DNR to cancel all permits for the relocation of waterfowl in 2022. The ban is continuing in 2023. While the level of SI remained low last year, it appears that Crystal Lake may be experiencing a resurgence in 2023.

The CLWA has continued to evaluate the effectiveness of new approaches, including the potential for eliminating merganser nesting spots. No other method has shown the high level of success as trap-and-relocation has demonstrated on Crystal Lake. The CLWA is committed to seeking a renewal of the program as soon as possible.

The help of the public and dedicated volunteers has been essential to the progress that has been made to provide a more welcoming Crystal Lake. We ask for your continuing support.