



The Sampler

May 28, 2015

The Sampler is a monthly e-newsletter produced by the Volunteer Lake Assessment Program.

[Subscribe](#) to *The Sampler*

Web Highlights

This month's featured lake website is [Ossipee Lake Alliance](#)

[Historical Land Use an Important Factor for Carbon Cycling in Northern Lake](#)

[Huge Underwater Craters Discovered on Floor of Swiss Lake](#)

[EPA Issues Health Advisories for Algal Toxins in Drinking Water](#)

[AWWA Cyanotoxins Guide for Water Utility Managers](#)

Upcoming Events

[NH Method Wetland Evaluation Workshop](#)

Friday, May 29th 8:00 a.m. - 4:00 p.m.

NHTI

Concord, NH 03301

Friday, June 5th 8:00 a.m. - 4:00 p.m.

Bear Brook State Park
Allentown, NH

[Lakes Congress](#)

Friday, May 29, 2015

What's that Oily Sheen on the Water?

We receive numerous questions and complaints about oily substances on the water's surface. The culprit is often iron bacteria and is not an actual oil spill. Read below to find out how to tell the difference between a natural oily sheen and an actual oil spill.

What are iron bacteria?

At least 18 types of bacteria are classified as iron bacteria, long threadlike bacteria that "feed" on iron and secrete slime. Unlike most bacteria, which feed on organic matter, iron bacteria fulfill their energy requirements by oxidizing ferrous iron into ferric iron. When ferrous iron is converted to ferric iron, it becomes insoluble and precipitates out of the water as a rust colored deposit. Once the cells begin to decay, they release a reddish or brownish slime material. This process can occur simply by exposing iron rich groundwater to the atmosphere. Slimy and clumpy deposits are likely caused by iron bacteria.



Are iron bacteria harmful?

Iron bacteria are of no threat to human health. They are found naturally in soils and water in low numbers and will thrive as more iron becomes available. However, the orange slime in the water or leaching from the shore is often considered to be an aesthetic problem. The oily sheens created by the decomposing bacteria cells are often mistaken for petroleum sheens.

What causes iron bacteria?

Church Landing at Mills Falls
Meredith, NH 03253

[VLAP Annual Workshop](#)

Saturday, June 6, 2015
NHDES

29 Hazen Drive
Concord, NH 03302

[Night of the Living Herps](#)

Wednesday, June 10th 2015
7:30 p.m. - 9:00 p.m.

The Nature Conservancy
Great Bay Office at Lubbard
Creek Preserve
112 Bay Rd.
Newmarket, NH 03857

Grants

[Clean Water State Revolving
Fund \(CWSRF\)](#)

[Drinking Water State
Revolving Fund \(DWSRF\)](#)

2015 Pre-applications
June 26 & 27, 2015

Limno Lingo

Heterocyst: A specialized cell produced by cyanobacteria (blue-green algae) that allows them to utilize nitrogen for cell growth. The heterocyst contains the nitrogenase enzyme that converts gaseous nitrogen (N₂), either from the atmosphere or dissolved in water, into Ammonium (NH₄⁺).

Iron is a common element in New Hampshire soils. Consequently, iron-fixing bacteria have existed in our natural waters for over a million years. Iron rich fill material or bedrock can create an iron bacteria problem whenever it is located near water. In general, wherever there is oxygen, water and iron there is the potential for an iron bacteria problem.

How can we identify iron bacteria?

Orange or brown slime (precipitate) and oily sheens (decomposing bacteria cells) are often the first indication that these bacteria are present. Unlike petroleum sheens the iron bacteria sheens break apart when they are disturbed. The orange or brown slime may be collected in a jar and analyzed microscopically at DES to identify the bacteria type.

What can we do about iron bacteria?

The best treatment for an iron bacteria problem is prevention. To thwart these obnoxious bacteria, have all fill material analyzed for iron content before using or exposing it. Unfortunately, once established, iron bacteria problems are difficult, if not impossible to correct. Sometimes iron rich fill can be replaced by fill with lower iron content. However, this may be extremely costly and have other environmental impacts.

This information comes from NHDES Fact Sheet [WD-BB-18 Iron Bacteria in Surface Water](#).

Life Jacket Loaner Program

The [Boat US Foundation](#) has implemented a life jacket loaner program throughout the U.S. These sites allow boaters to borrow life jackets when they need them. This is a great way to educate boaters on using life jackets and which life jackets are appropriate for different activities. Learn about the five different types of life jackets classified by the Coast Guard. Plus you can learn about how to buy discounted life jackets. Sounds like a great program!

NH Department of Environmental Services
29 Hazen Drive
PO Box 95
Concord , New Hampshire 03302
This email was sent to: sara.steiner@des.nh.gov
[Unsubscribe](#)

Email Marketing by

**mailer
mailer**