

News from the Watershed

Foam on the Lakes: Typically a Natural Occurring Phenomena

Seeing foam on the lake's surface is not an unusual sight. Often times, when people see foam on the water's surface or beach area, they may believe that it is caused by detergents or other man-made pollutants. In reality, most of the time the foam is the result of a natural process.

When you see foam along the lakeshores, usually it is caused by the natural death of algae, fish and aquatic plants under the surface. As you know, algae, fish and plants are made up of organic material and when they die they decompose. The oils contained in their cells are released and float to the surface. Once the oils reach the water's surface, wind and wave action push them to the shore. The concentration of the oil changes the physical nature of the water, making foam formation easier. The turbulence and wave action at the beach introduces air into the organically enriched water, which forms the bubbles or foam that you see.

Foam normally forms in waters with high organic content. You may have noticed that some of the bodies of water in Highlands County have a brownish tint. This is caused by a substance called tannin which is what gives wood its brown coloration. Tannin is released into the water when wood decomposes. It is a common occurrence to find foam in these dark colored waters as well as our lakes due to the high volume of organic matter found there. A good example is a cypress swamp.

Not all foam is a natural occurrence however. Sometimes the foam does indicate that pollutants have been released into the water. One of the methods that are used to help determine if the foam is natural or detergent based is to smell it and look at it. Natural foam should have an earthy, fishy odor and the color is generally off-white, tan or brown. Foam caused by detergents and other man-made substances would most likely have a perfume smell and would be whiter in coloration. Other suggestions given from the Michigan Environmental Assistance Center include the following:

- Wind direction or turbulence: natural foam occurrences on the beach coincide with onshore winds. Often foam can be found along a shoreline and streaks of foam may form on open waters during windy days. Natural occurrences in rivers can be found downstream of a turbulent site.
- Proximity to a potential pollution source: some entities such as the textile industry, paper production facilities, oil industries, and fire fighting activities work with materials that cause foaming in water. If these materials are released to a water body in large quantities, they can cause foaming. In addition, the presence of silt in water, such as from a construction site can cause foam.
- Presence of decomposing plants or organic material in the water.
- Feeling: natural foam is usually persistent, light, and not slimy to the touch.

If you do see foam on the water, chances are very good that it is natural. Foam from detergents and soaps are fairly uncommon in today's world especially in large quantities. Since detergents today are composed of biodegradable ingredients, they generally do not have the ability to cause the foam that we see on the water's surface.