

BB-5

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Lake Foam

Lakeshore property owners sometimes become concerned about lake foaming, however, most foam observed in lakes and streams is a product of nature. Foam is not necessarily an indicator of pollution, and it is not necessarily indicative of something bad. Small trout streams, for example, often have naturally occurring pools of foam where fish will hide.

What causes the foaming of surface waters?



Figure 1. An example of lake foam. Photo Courtesy of J. Smith.

Foaming on lakes is not a new phenomenon. It is a natural process created when the surface tension of water (attraction of surface molecules for each other) is reduced and the air is mixed in, forming bubbles.

All lakes contain organic matter, such as algae and plants. When this matter decomposes, cellular products (surfactants) are released into the water, which lessens the surface tension. When the wind blows, the waves that form on the lake agitate this surface agent, thus transforming it into sudsy white foam. Waves from boats may also increase foaming when surfactants are

present. Natural foam has a somewhat earthy or fishy aroma and may have an off-white, tan or brown color, like in figures one and two.

However, synthetic agents can also reduce surface tension. In the late 1950s and early 1960s, many communities experienced tremendous foam problems in lakes, rivers, sewage treatment plants, and even in drinking water from contaminated wells. This foam was caused by synthetic laundry detergents that were highly resistant to chemical breakdown, and only slowly degradable (broken down by bacteria). By law, the sudsing agent of all detergents now on the market must be biodegradable. This means that they quickly lose their ability to cause foaming and are unable to produce the long-lasting foam found along many shores. Foam from soaps or detergent will have a noticeable perfume smell and is usually a brighter white.

Where is lake foam found?

Foam will frequently form parallel streaks in the open water, caused by wind-induced surface currents. It will also collect on windward shores, coves or in eddies. A variety of organic material can get caught in the surface water and may aggregate with the foam. For example, decaying cyanobacterial blooms can also be mixed in with these foamy events.

Please contact the NHDES Harmful Algal and Cyanobacterial Bloom Program for inquiries on surface scums, foams, streaks, discoloration of water, cyanobacteria bloom or algae questions. A microscopic examination of anything in question is recommended. Submit your photos and information through the [Bloom Report Form](#).



Figure 2. Foam formed in a small stream.