

Focus on: Biological Sheens



Wetland bacterial sheen in Hill Ditch (Skagit County, WA).

What are biological sheens?

Natural processes can create sheens on water that look similar to sheens caused by pollution. While they may look alike, naturally occurring sheens are generally not harmful to humans. Biological sheens, also called organic sheens, can come from a variety of sources.

Decomposition of plant or animal materials can produce a sheen with an oily appearance.

Bacteria is another common source of organic sheening. These bacteria react with minerals that naturally exist in the environment, such as iron, manganese, copper, or sulfur. What the bacteria interacts with may influence the color of film or sheen produced. Some bacteria that break down iron produce a byproduct that can be easily mistaken for oil.

Vegetation can also cause biological sheens. Cypress seed cones, for example, can produce an oily sheen when introduced to water.

Creosote is not biological but can produce sheen that looks like biological sheen. When temperatures rise, creosote can leach out of treated pilings or other wood. Unlike rainbow sheens caused by oil, it will typically create sheens highly metallic and blue-purple in color.

How can I tell the difference between biological sheens and oil sheens?

If you see a sheen on water, how can you tell if it is naturally occurring or due to pollution? One way to test is to toss a small rock or swish a stick through the sheen to break it up. A biological sheen from bacteria or other sources in the environment will break up into small pieces. These small pieces tend to have jagged, irregular edges. If a sheen is because of oil, the sheen will reform after the disturbance.

If you see a sheen and you are unsure if it is biological or pollution, take photos and call Washington Emergency Management Division at 1-800-OILS-911 and the National Response Center at 1-800-424-8802.

Examples of biological sheen



Sheen caused by iron-fixing bacteria (Thurston County, WA).



Sheen from tree root decomposition on Lake Sylvia (Grays Harbor County, WA).



Sheen caused by jellyfish die-off at Ediz Hook (Clallam County, WA).



Sheen caused by creosote.

Contact information

Spill Prevention, Preparedness, and Response Program

spillspubs@ecy.wa.gov

Report spills at 1-800-OILS-911

ADA accessibility

To request an ADA accommodation, contact Ecology by phone at 360-407-6831 or email at ecyadacoordinator@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>. For Relay Service or TTY call 711 or 877-833-6341.