

Hood Canal Dissolved Oxygen Program

Noctiluca Bloom Notice

Recently, many observers of the marine waters of Hood Canal have encountered a dramatic looking algal bloom that has been sustained for many days. The orange-red colored bloom has been reported from Seabeck, Triton Head, Lilliwaup, Hoodspport, Union and into the Lynch Cove vicinity near Belfair. The startlingly bright orange color is not one typically associated with marine algae, so public concern and questions over its origin and impact on human and ecosystem health have been understandably raised.

The bloom is from a specific type of plankton, called “*Noctiluca*,” commonly seen in water samples from Hood Canal and Puget Sound. It is a type of dinoflagellate which doesn't photosynthesize, but must consume other organisms including phytoplankton, diatoms, other dinoflagellates, and even small fish eggs in order to live.



Along the shores of Seabeck, Washington. June 2009
Photo credit Don Paulson, Seabeck

Fortunately, although it looks alarming, *Noctiluca* produces no toxin, is not harmful to humans and is not known to be toxic to other marine life however, in large quantities it can produce significant ammonia that has caused fish kills in other parts of the world, including Japan and India. Fish kills from *Noctiluca* have not been reported in Pacific Northwest waters.

The orange-red color of this bloom should not be confused with what is commonly referred to as a ‘red tide’.

In the Pacific Northwest, the ‘red tide’ that is associated with paralytic shellfish poisoning typically has no color. Paralytic shellfish poisoning is caused by another type of dinoflagellate called *Alexandrium*. This dinoflagellate, which is photosynthetic, is known to occur in portions of Hood Canal, so it is always important to check with the Washington Department of Health’s Biotoxin Hotline prior to eating shellfish.

In Hood Canal, reports of *Noctiluca* often occur during spring. This is the time when environmental factors seem to be most favorable. *Noctiluca* prefers a stable water column and it is likely that the long stretch of sunny, calm weather we've enjoyed in the region during May and June has contributed to the extensive bloom activity. *Noctiluca* is buoyant, largely filled with fluid and whatever it has been eating. Slight winds and water currents will aggregate the bloom into ribbons across the water or concentrate the bloom along shorelines and in coves. Stronger winds will likely dissipate the bloom altogether.

The large bloom events in spring might be secondarily related to nutrients since *Noctiluca* grazes on phytoplankton, including diatoms and other dinoflagellates. Spring is the time when nutrients and sunshine come together after the long winter to create conditions for all the phytoplankton to grow.

Hood Canal is noted for being sensitive to the addition of nutrients. *Noctiluca* is known to occur naturally, but the increase of nutrients in the surface waters, which can partially be attributed to human sources, may increase this type of bloom activity. These expansive bloom activities should serve as a reminder to minimize our collective 'footprint' on Hood Canal.

For more information on *Noctiluca*, visit the Hood Canal Dissolved Oxygen website. www.hoodcanal.washington.edu/observations/bloom_fishkill.jsp

For reporting observations of algal blooms and fish kills in Hood Canal, call the Washington Department of Ecology (WDOE) hotline. 800-OILS-911 (800-645-7911)



Dabob Bay May 2007. Photo credit Gary Jackson

Reports to the WDOE hotline initiates an event response collaboration organized by the Hood Canal Dissolved Oxygen Program (HCDOP). Local HCDOP members such as the Hood Canal Salmon Enhancement Group, Skokomish Tribe, S'Klallam Tribe, and the Washington Department of Fish and Wildlife respond accordingly to the reports.

The information in this brochure was compiled by Dan Hannafious of the Hood Canal Salmon Enhancement Group with input from various HCDOP contributors. For more information, please contact Dan Hannafious directly at 360-275-2011 or contact the HCSEG office at 360-275-3575.



Dabob Bay June 2009. Photo credit Taylor Shellfish Lab