

Blue Green Algae

Todd Phillips, RS

In July of 2011 GCHD began a surface water project to monitor cyanobacteria blooms in Moses Lake and Potholes Reservoir that will conclude at the end of June 2012.

Cyanobacteria are bacteria that use photosynthesis for energy. There are many different genera of Cyanobacteria and there are multiple species within each genus. Some of the organisms are capable of producing toxins. There are a number of toxins that can be produced, some of the more common toxins effect nerves some effect the liver and others can effect the skin and tissues. The Grant County Health District project is focused on Microcystin, a liver toxin. The Washington State Department of Health (DOH) toxicologists have calculated a microcystin concentration of 6 ug/ L in recreational water could be harmful.

It is not possible to know if a bloom of Cyanobacteria is toxic or not without testing the bloom. One way for water users to protect themselves from exposure to Cyanobacteria toxin is to avoid areas with a bloom. Although, it has been shown that microcystin can persist even after a bloom is gone (King County Land and Resources Division, 2010).

To date, 12 out of 36 Potholes surface water samples have resulted in microcystin levels above 6 ug/ L and 1 out of 13 Moses Lake surface water samples have resulted in microcystin levels above 6 ug/ L. It is important to note that not all of the surface water samples were taken from blooms.

During 2011 and the beginning of 2012 GCHD maintained about 20 sign postings with different alert levels around Moses Lake and Potholes combined. Currently there is no alert sign posted.

In the past 5 years there have been reported (but never confirmed) dog deaths in the Potholes area related to Cyanobacteria toxin. There are no documented confirmed cyanobacteria toxin human deaths or illnesses in Grant County.

Signs and Symptoms can include but are not limited to jaundice, shock, abdominal pain/ distention, weakness, nausea, vomiting, rapid/ weak pulse, loss of coordination, tissue irritation and/ or tingling lips. There are many signs and symptoms because there are many types of toxin. These signs and symptoms are similar signs and symptoms of many environmental exposures, so an environmental investigation and questioning about prior activities could help in diagnosis.

If illness from a Cyanobacteria toxin is suspected a call to the Grant County Health District could help confirm the illness and eliminate future illness from the same exposure.

More Information

- King County Water and Land Resources Division, State of Washington. 2010. 1997 Lake Sammamish Toxic Algae Bloom. Available at: <http://green.kingcounty.gov/lakes/Bloom.aspx>
- Washington State Department of Health, Division of Environmental Health: www.doh.wa.gov/ehp/algae



These pictures are from two different Potholes Reservoir blooms in 2011. The concentration of microcystin is shown on each picture and illustrates that you cannot tell if there is toxin in the water just by looking.

