Toxic Algae Factsheet

Eel River Recovery Project

Cyanobacteria or Blue Green Algae Can Cause Eel River Toxicity

- Cyanobacteria or blue green algae are photosynthetic bacteria that are found in aquatic environments. They are a very diverse group of organisms that are distributed throughout the world.
- Individual cyanobacteria cells can only be seen under a microscope, but cyanobacteria can form colonies that are visible to the naked eye.
- Cyanobacteria are usually present in freshwater systems, and under certain environmental conditions cyanobacteria "bloom" (or rapidly reproduce) and become the dominant organism in an area. Cyanobacterial blooms have negative ecological and public health effects.
- Blue-green algae that produce cyanotoxins were not documented in the Eel River before 2001.

How to Identify Cyanobacteria in the Eel River

- Cyanobacteria are dark green or brown/orange algae that grow on the bottom of the river.
- They often grow on top of other types of filamentous algae, creating dark green patches on the other algae and form “spires” or finger-like shapes (Figure 1).
- Cyanobacteria can detach from the bottom and float on the surface as dark green gelatinous balls, which can then accumulate at the edge of the river (Figure 2).

Figure 1. Cyanobacteria (dark green) growing on other algae and forming distinctive “spires.” (Images: K. Bouma-Gregson)

Are Cyanobacteria Blooms Toxic?

- Not all species or cells of cyanobacteria produce toxins, which makes it difficult to know if a blue-green algae bloom is toxic or not. Therefore, it is safest to assume that a bloom is toxic and avoid coming into contact with it.
- Two common cyanotoxins produced by cyanobacteria are microcystin (a liver toxin) and anatoxin (a neurological toxin). They are most dangerous if ingested, but if exposed to the skin, they can cause irritation or rashes.
- Children are at greater risk to cyanotoxins than adults because: 1) they are more likely to accidentally swallow water when swimming or wading; 2) their smaller size means a lesser amount of cyanotoxin can trigger negative effects compared to adults.
- Do not let pets or livestock swim in or drink from water that appears to have cyanobacteria. Rinse any cyanobacteria off their coats before they lick it off their bodies.
- Signs that a dog has ingested toxic cyanobacteria include: stumbling and falling, inability to rise, tremors, seizures, vomiting, and diarrhea.

Figure 2. Floating mat of decaying cyanobacteria bottom pushed to the river edge by currents and the wind.
(Image: K. Bouma-Gregson)

What Causes Cyanobacteria Blooms?

- The following conditions are favorable for cyanobacteria blooms:
  - Warm water
  - Slow water
  - Plentiful sunshine

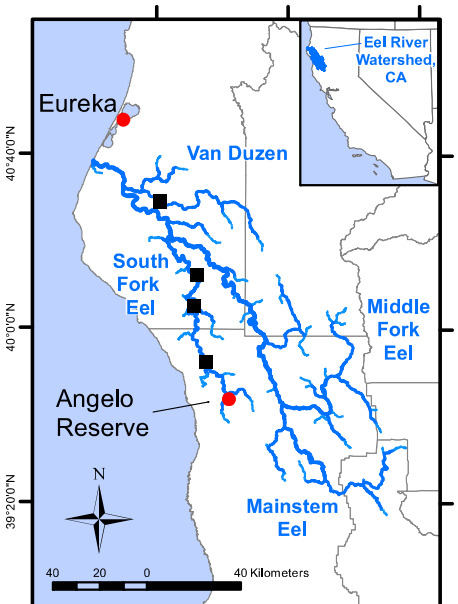

Figure 3. Squares show the location of cyanobacteria implicated dog deaths in the Eel River watershed from 2001-2009.

Who to Contact

If you suspect a cyanobacteria bloom has occurred or an animal is sick due to cyanotoxins, please contact:

Humboldt Co. Environmental Health: (707) 445-6215

Mendocino Co. Environmental Health: (707) 463-4466

Get More Info ~ Check for Updates

See **WWW.EELRIVERRECOVERY.ORG TO LEARN MORE OR CALL (707) 223-7200 WITH QUESTIONS OR TO TELL US ABOUT CONDITIONS.**

Authors: Keith Bouma-Gregson and Karen Hsu, 2014. A publication of the Eel River Recovery Project ©.