

Karuk Tribe of California

P R E S S R E L E A S E

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For more information:

Craig Tucker, Spokesperson *Karuk and Yurok Tribes*

530-627-3446 x27

Klamath Reservoirs Plagued by Toxic Algae *Algal Toxins Pose Significant Health Risk to Community*

Happy Camp, CA – A recent analysis of water samples from Copco and Iron Gate Reservoirs reveal high levels of the toxic blue-green algae *Microcystis aeruginosa* which produces a compound known to cause liver failure. Samples taken from areas frequented by recreational users of the reservoir contained cell counts 100 times greater than what the World Health Organization (WHO) considers a moderate health risk. The observation of blue-green scum on the water's surface by water quality specialists indicate that toxin levels fall into the WHO's high risk category. The 'scum' is actually mats of the algae referred to as blooms.

The reservoirs are located on the Klamath River near the Oregon border between Ashland, Or and Yreka, CA.

According to Karuk Tribe Water Quality Coordinator Susan Corum, "We collected samples from sites near the shore frequented by recreational users. We observed thick mats of blue-green scum at the collection sites, indicating that there could be a serious problem with microcystin contamination."

The WHO reports that animal poisonings and human illnesses related to the blue-green algae *Microcystis aeruginosa* are usually accompanied by the presence of scum material at the water surface, and that ongoing observation of beaches is necessary to assess the existence of high-risk exposures.

WHO reports indicate that exposure to high levels of microcystin can produce symptoms such as eye and skin irritation, vomiting and stomach cramps, diarrhea, fever, headache, pains in muscles and joints, and weakness. However, chronic long term exposure can be more dangerous as symptoms may not develop until much damage has been done.

There are two aspects of chronic microcystin damage to the liver—progressive active liver injury and the potential for promotion of tumor growth. Tumor formation has been induced in laboratory studies in mice. Thus liver failure or cancer could result if someone is exposed often over the course of years.

Earlier this year in Humboldt County, officials issued a warning to recreational users of Big Lagoon and the South Fork Eel River. Officials cited the deaths of nine dogs that swam in the contaminated waterways and the presence of microcystin in the stomachs of two animals that were examined. No other toxins were detected that could have caused the deaths according to a press release issued by Humboldt County Health and Human Services.

According to Corum, "Given our test results, Siskiyou County water quality officials should consider closing the lake to the public until an emergency response plan to algal blooms is devised – before

someone gets sick or loses a pet to poisoning.”

Children are at the greatest risk because of their small size and propensity to accidentally swallow water while swimming. If a swimming child swallowed half a cup of water from the reservoir, they would be exposed to toxin levels almost 100 times the WHO allowable Total Daily Intake.

Corum suggests that users of the lake follow the WHO guidelines regarding blue-green algal blooms:

- Avoid areas with visible algae and/or scums. Direct contact and ingestion are associated with the greatest health risk.
- If no scums are visible, but water shows a strong greenish discoloration such that you cannot see your feet when standing knee deep (after sediment has settled) avoid bathing, immersion of head, and/or ingestion.
- Avoid waterskiing in visible scums or waters with a strong greenish coloration as described above because of the potentially substantial risk of exposure to aerosols.
- If sailing, sailboarding or undertaking any other activity likely to involve accidental immersion, wear clothing that is loose fitting in the openings. Use of wet suits for water sports may result in greater risk of rashes as the algal material trapped in the wet suit will be in contact with the skin for longer periods of time.
- After coming ashore, shower or wash to remove algal material.

Microcystis aeruginosa is native to the Klamath, but only in the reservoirs do conditions allow for massive blooms to occur, resulting in toxic levels of microcystin. These conditions include water rich in fertilizers, stagnation and warm water temperatures.

Editors' notes: Pictures of the sampling sites and a copy of lab results are available by contacting Craig Tucker at 530-627-3446 x27 or ctucker@karuk.us.

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