

# Research buoy placed in Suttle Lake

By **Jim Anderson**  
Correspondent

On July 7 a new piece of equipment was anchored in the eastern part of Suttle Lake. It's another important part of the continuing conservation effort to bring sockeye salmon back to their ancestral spawning grounds and understand what's going on above and under the lake's surface.

Frank Conte, a retired USO limnology professor and founder of the organization that is responsible for the buoy — HLAAF (High Lake Aquatic Alliance Foundation) — is the man behind the buoy. He, HLAAF members and partners put a great deal of effort, money, engineering and dedication into creating the monitoring buoy now anchored in the lake.

The organization asks that lake users please stay away from the buoy. Most of the aquatic monitoring equipment attached to the buoy is underwater, while the mooring lines are spread out from the buoy in about 63 feet of water. Approaching it with a boat could damage the securing equipment and set off a snowball effect of destruction.

If you would like to know more of what's going on and get the word from the buoy's handlers visit <https://hlaaf.wordpress.com>, or attend the next meeting of HLAAF.

Efforts to save sockeye salmon got into high gear around 2012 with the removal of dams and other objects that were blocking sockeye from reaching Suttle Lake, like the culverts that were under Road 12.

Forest Service fishery biologist Nate Dachtler and his crew modified several of the obstructions and other features that prevented salmon from reaching the lake.

Sockeye salmon (*Oncorhynchus nerka*), aka red salmon, or blueback salmon, is an anadromous fish found in the northern Pacific Ocean and rivers such as the Columbia. Native peoples and the European-American pioneers depended on them for food.

They can grow to three feet in length and must spawn in freshwater lakes, streams and rivers where they remain until they are ready to migrate to the ocean. Sockeye use patterns of well-lit, open surface waters in the lake, away from the shore. This is the main photosynthetic body of the lake. Because sockeye can change their position in the water column, also adjusting timing and length of feeding and choice of prey to minimize the likelihood of predation, it is vital to understand these factors — which the HLAAF monitoring buoy will help to do.

Sockeye, unlike other species of Pacific salmon, feed extensively on zooplankton, organisms drifting in the lake. Individual zooplankton are usually microscopic, but some, such as copepods and aquatic insect larvae, as well as flying adult insects and shrimp, are larger and visible to the naked eye.

It's their time in freshwater that has prompted the conservation efforts now underway by HLAAF and their partners. Sockeye salmon

may exhibit many different life histories, but the majority being anadromous — where juvenile salmon migrate from freshwater lakes and streams to the ocean before returning as adults to their natal water to spawn.

It's a long way from the Pacific Ocean, up the Columbia, then up the Deschutes, then up the Metolius and finally into creeks and lakes, that the salmon must negotiate to reach their home waters of Suttle Lake. Not to mention the dams and other restrictions along the way. The PGE transfer device at the Pelton Dam area is ingenious at helping sockeye get back to their ancestral waters.

Upon reaching their home waters, the fish must have the conditions that will not only provide habitat for spawning, but the biological qualities that will keep the fry and fingerlings going and provide the necessary biological and physical attributes to get them past all they have to confront to reach the ocean.

The team of people and organizations to make all that happen is varied and dedicated. The Confederated Tribes of Warm Springs people, PGE, USFS, ODFW, and HLAAF volunteers and members work together to help create the conditions that will provide safe passage for the sockeye, both ways — and at the same time help the sockeye's landlocked cousins, kokanee, to survive in Suttle Lake.

The new buoy now anchored in Suttle Lake is sending electronic data that will be available to all the

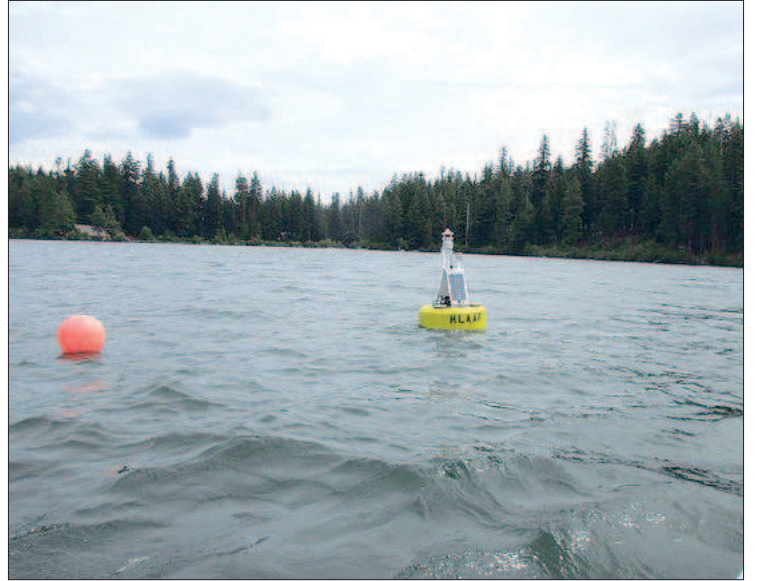


PHOTO BY CONRAD WEILER

High Lake Aquatic Alliance Foundation monitoring buoy anchored in Suttle Lake.

partners involved on understanding aquatic conditions within the lake. Water temperature; conductivity; pH; chlorophyll (algae); dissolved oxygen; and visible light (measuring sunlight at the surface and at the five-foot depth, which will provide information as to the visibility of fry and phytoplankton seen by these animals as a food source) are all monitored.

As an example of some of the conditions of the lake that must be understood for future salmon dependence: In 2003 the kokanee—a land-locked cousin of the sockeye—measured about 18 inches as adults, but in 2016 adults were found to be only five to six inches long. The buoy will help provide vital information as to why this is happening, and (hopefully) help correct it.

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