

# Rainbow trout subspecies newly named

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The McCloud River Redband Trout, or *O. mykiss calisulat* is the only known native fish found in the Upper McCloud Basin. Credit: Steve MacMillan

The McCloud River redband trout, or *O. mykiss calisulat*, is newly identified as its own distinct subspecies of rainbow trout in a study from

the University of California, Davis. It is the first newly identified subspecies of Pacific trout since 2008 and the youngest rainbow trout subspecies by more than 100 years.

A corresponding study, published in the journal *Zootaxa*, notes that [fish](#) biologists have suspected the McCloud River redband trout was its own [subspecies](#) since at least the 1970s, but only newer genetics techniques—including genome-wide DNA sequencing—allowed the UC Davis-led team to tease the puzzle apart and confirm it as a subspecies.

Northern California's McCloud River originates from spring-fed streams near Mount Shasta before passing over a series of waterfalls, the McCloud Falls. The waterfalls are impassable to upstream movement of fishes and divide the Upper McCloud River from the Lower McCloud River.

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"It's persisted so long in isolation," said lead author Matthew "Mac" Campbell, a research affiliate with the Department of Animal Science's Genomic Variation Laboratory. "They've survived in glacial refugia during the Pleistocene era and have been above those waterfalls for at least 10,000 years."

## 'Beautiful trout'

Rainbow trout subspecies are often named after male scientists. When considering a name to use, Campbell said this fish was clearly in the range of one tribe, the Winnemem Wintu.



The McCloud River Redband Trout is known as “cali sulat” in the Winnemem Wintu language, with “cali” meaning good or beautiful and “sulat” the term for trout. Credit: Steve MacMillan

"They already had a name for the fish—a few thousand years before I did," Campbell said.

So, Campbell worked in consultation with the tribe to formally describe for western science the subspecies, dubbed *O. mykiss calisulat*. The McCloud River redband trout is known as "cali sulat" in the Winnemem Wintu language, with "cali" meaning good or beautiful and "sulat" the term for [trout](#). The words were combined for its scientific name to

follow formal scientific naming conventions.

## What's in a name?

*O. mykiss calisulat* populations are already supported by current fisheries management policies, so the new name doesn't change its protective status. Naming it, however, acknowledges its inherent significance.

"This is a part of the history and heritage of California that's often not recognized," said Amanda ("Mandi") J. Finger, associate director of the Genomic Variation Laboratory at UC Davis. "It's the story of our state, the tribes, the hatchery. This fish deserved to be named."



Trout Creek, part of the McCloud River watershed, provides habitat for the McCloud River Redband Trout, or *O. mykiss calisulat*. Credit: Steve MacMillan

The study's additional co-authors included Ensieh Habibi and Grace Auringer of UC Davis, Molly Stephens of the UC Merced Natural Reserve System, Jeff Rodzen of California Department of Fish and Wildlife (CDFW), and Kevin Conway of Texas A&M University.

**More information:** Matthew A. Campbell et al, Molecular Systematics of Redband Trout from Genome-Wide DNA Sequencing Substantiates the Description of a New Taxon (Salmonidae: *Oncorhynchus mykiss calisulat*) from the McCloud River, *Zootaxa* (2023). [DOI: 10.11646/zootaxa.5254.1.1](https://doi.org/10.11646/zootaxa.5254.1.1)

Provided by UC Davis

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