

Researchers observe how Canadian and Californian rainbow trout respond to higher temps

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Natural variation may help decide which rainbow trout strains are likely to survive worldwide global warming, according to a new study. The findings will be presented today at the American Physiological Society's (APS) Comparative Physiology: Complexity and Integration conference in New Orleans.

The increasing temperatures and resulting lower underwater oxygen levels linked to climate change will likely affect the habitats of cold-water [fish](#) such as rainbow [trout](#). The resilience of this species to changes in its environment will ultimately help it survive the significant warming of its home tributaries.

Researchers from the University of British Columbia studied three strains of rainbow trout, one that originated in California and two native to Canada. They found that young fish (called "fry") from California were able to tolerate higher water temperatures and low-oxygen environments better than fry from Canada. There was no noticeable difference in tolerance levels as a whole among adult fish of the same strains. However, individual adult fish from all strains had varying heat and oxygen tolerance levels, with some individuals being hardier and others more vulnerable to climate stressors. "These differences represent naturally occurring variation," said Nicholas Stowbridge, first author of the study. The hardier fish "are just a bit more able to handle high temperatures and low oxygen," Stowbridge explained.

Taking advantage of the [natural variation](#) in individual rainbow trout constitution can serve two beneficial purposes. Singling out the stronger fish in hatcheries may help preserve [rainbow trout](#) species and also support the global recreational fishing industry as warming trends continue.

Provided by American Physiological Society

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