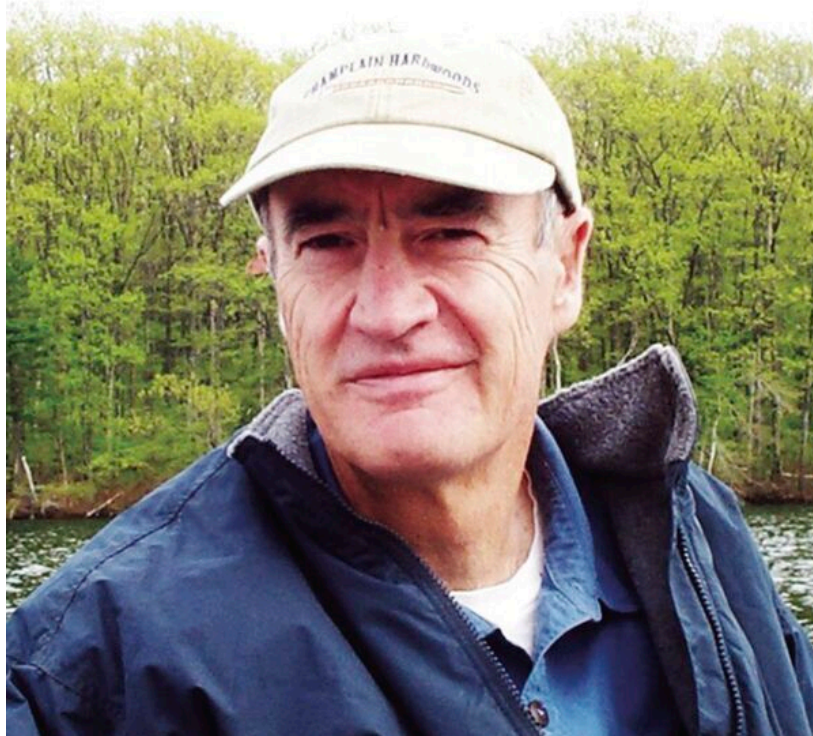


Writers on the Range: Killing fish to save frogs

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Shortly after World War II, California fish managers had a brainstorm: They loaded juvenile trout into airplanes and saturation-bombed naturally fishless lakes in the High Sierra Mountains of California. Some of the fish hit rocks and ice, but most hit water.

Gorging on zooplankton, insects and two kinds of mountain yellow-legged frogs, the alien invaders unraveled aquatic and terrestrial ecosystems, often in designated wilderness.

In 2014, the U.S. Fish and Wildlife Service listed both groups of frog as endangered, prompting aggressive action by Sequoia and Kings Canyon National Parks. The agency plan called for eradicating trout in 110 lakes, though trout would remain in 465 park lakes and hundreds of stream miles, leaving plenty of fishing opportunity.

Gillnets would be used where possible. But in 33 lakes, the only option was rotenone, a short-lived, organic fish poison derived from plant roots and applied at 100 parts per billion. In modern fisheries management, rotenone has never been seen to permanently affect a native ecosystem except to restore it. For centuries,

Indigenous peoples have used high concentrations to kill fish for consumption. Rotenone only affects gill tissue.

But as early as 2008, numerous anglers, media and local politicians were throwing hissy fits about an effort to protect mountain yellow-legged frogs merely by suspending trout stocking in 175 waters within national forests.

“If the yellow-legged frog disappears, would anyone notice? Seriously. Does anyone really care?” editorialized Feather Publishing in its six newspapers. And Terry Swofford, chair of the Plumas County Board of Supervisors, declared, “To me, this is just another way of destroying our economy.”

When the environmental review process for frog recovery in Sequoia and Kings Canyon National Parks was completed in 2016, it generated plenty of support from environmental and angling communities. But there was still opposition.

Leading the charge against frog recovery via rotenone, and even gillnets, was the environmental group Wilderness Watch. “Poison has no place in wilderness,” it proclaims, wherever rotenone treatments are planned in wilderness.

But the Wilderness Act explicitly provides for the use of poisons to eradicate alien species. Federal permits are routinely issued.

Still, many opponents echoed Wilderness Watch’s false assertion that rotenone is “linked” to Parkinson’s disease. The myth derives from an Emory University study designed to create Parkinson’s-like symptoms, not the disease itself. Concentrated rotenone was pumped into rats’ veins for five weeks. No rat developed the disease, just Parkinson’s-like tremors.

Elsewhere in the Sierra, Wilderness Watch had litigated against, and dangerously delayed, rotenone treatment to save native Paiute cutthroat trout that were being hybridized off the planet by alien rainbow trout. Rotenone, it had testified, might harm mountain yellow-legged frogs — which don’t even exist in Paiute-cutthroat habitat.

After 2016, the opposition fell silent, and in 16 lakes cleared of trout with gillnets, ecosystems reawakened. Before eradication, surveys of two lakes revealed 134 mountain yellow-legged frogs and 53 tadpoles.

Just three years later, there were 4,000 frogs and 14,800 tadpoles.

“Once insects and frogs explode, everything reacts,” said Danny Boiano, the parks’ supervisory ecologist. In all 16 gillnetted lakes, he and aquatic ecologist Laura Van Vranken report spectacular recovery of frogs as well as frog predators such as coyotes, Couch’s and mountain garter snakes, and northern water shrews. They’re seeing huge hatches of aquatic insects along with a resurgence of birds.

Ralph Cutter, who runs a guide service and fly-fishing school, understands what’s at stake even though his livelihood depends on the alien trout. His message: “I would much rather leave a legacy of as natural an

ecosystem as possible, rather than an artificial and synthetic landscape designed for the amusement of certain enthusiasts — including myself.”

He added that the “Sierra should not be managed like a pee-wee golf course.” And this from the Native Fish Society: “Each high-mountain lake is a beautiful and unique place and is appreciated for what it is. Why treat them like amusement parks?”

Still, some anglers remain ecologically challenged, knifing float tubes and removing and damaging gillnets.

Rotenone use will begin shortly in 33 lakes. “Our first treatments may rekindle angst, so we’ll need to continue with educational efforts,” said ecologist Boiano. With rotenone, there’s always a fight.

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