

Gila Trout Swim Back From Extinction

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Place names, these small autobiographical vignettes printed on maps, are proof that human constancy is tied to the land. With names that read like they were peeled from the pages of a western novel, New Mexico is no exception. The local lexicon of the Gila region speaks of cultural conflicts: Massacre, Apache, Deadman canyons. They speak of privations: Rainy Mesa, Raw Meat, and Whiskey creeks. They speak of chance encounters: Turkey Creek, Big Bear, and Wild Horse canyons. Topography, too, impressed the psyche: Loco Mountain, Hells Hole, and Hardscrabble Canyon.

The topography here is rugged. Pinons, spruce and fir trees stud the mountainsides. Streams course through steep-walled canyons, some so deep that the sun's rays never strike the bottom. And with the roughness of the region, it's easy to understand how the defiant Apache Indians held fast in this, their homeland. "Gila" itself relates to topography, being corrupted Spanish derived from Apache, meaning "mountain."

It's fitting then that the region's native mountain trout bear the name "Gila." Beaver trapper, James Ohio Pattie, one of the first English speakers to traverse this remote place made mention of fish—quite possibly Gila trout—in his personal narrative.

He wrote of his 1824 experience at the confluence of the West and Middle forks of the Gila River. "On the morning of 13th [December] we started early, and crossed the river Helay, here a beautiful clear stream about thirty yards in width, running over a rocky bottom and filled with fish . . . We found here a boiling spring so near the main stream, that the fish caught in one might be thrown into the other without leaving the spot where it was taken. In six minutes it would be thoroughly cooked."

The hot spring still sends steam pluming into the air. Gila trout, though, are long gone.

Endangered Trout

The Gila trout (Fig. 1) is this nation's only trout in danger of extinction. The reasons are cliché, repeated most anywhere that aquatic animals are in trouble. Loss of habitat and competition with non-native species have positioned the Gila trout at the edge of the precipice. This trout got precariously close to falling over the edge. When it was listed under the Endangered Species Act in 1973, biologists estimate that its range had diminished to only 20 miles of stream, a sharp contrast to the 600 miles inhabited when Pattie may have made them table fare. Over the last hundred years the trout has been forced to swim against the current of extinction. But conservationists with origins in the region have helped the trout battle back, striving to expand the fish's range.

Beneath the lid of a sweat-stained gray Stetson, Jim Brooks' face is furrowed from time afield. He's loquacious and articulate, quick to joke and quick to offer an educated opinion on anything from tying knots to untangling trout DNA. As a biologist, Brooks has dedicated 20-plus years of his life to native trout conservation. His experiences in the Gila go back to youth where he learned to hunt and fish and pack horses for week-long trips. With his father, Brooks made forays into the Gila, seeking the solitude only the wilderness provides. Time on top of a horse in the 1960s would come in handy. Today, working from his New Mexico Fishery Resources Office, part of the U.S. Fish and Wildlife Service, Brooks makes forays with other scientists to study, monitor, and expand the range of Gila trout. Instead of carrying fishing rods and deer rifles, the pack mules carry scientific gear. Panniers slung over mules sometimes carry young Gila trout to a new home.

One of Brooks' colleagues, Bob David, is the manager of the Alchey-Williams Creek National Fish Hatchery

Complex in Arizona. He's an affable man, laconic—almost a complete opposite of Brooks. He wears a veneer of calculation, as though he weighs his every thought. But like Brooks, David has long family ties to the Gila, dating to time afield with his late father. David and his dad fished for trout in wilderness streams, and the experiences made a lasting impression. David dedicated himself to trout conservation; he earned a master's degree studying Gila trout, and is one of the scientists on the multi-agency Gila trout recovery team.

Brooks and David are two people in a line of conservationists who concerned themselves with Gila trout dating to 1923, when the New Mexico Department of Game and Fish (NMDGF) started the Jenks Cabin Fish Hatchery deep in the Gila National Forest. That hatchery was abandoned in 1939 and its success in helping Gila trout, limited. The Gila trout was formally recognized by science as a new species in 1950, while little was still known about its biology. The NMDGF ceased stocking non-native trout on top of Gila trout, and a few years before Brooks and David made their way to the wilderness streams as youngsters, the Gila trout was closed to sport fishing and remains so today.

Gila trout conservation progressed through the '70s and '80s, focusing on replicating four known distinct populations from Main Diamond, South Diamond, Spruce, and McKenna creeks. The aim was to separate as widely as possible the replicate population from its parent population, so that natural events, like forest fires, wouldn't affect both populations. Brooks and David and others removed competing non-native fish, and reintroduced Gila trout to streams where they had been absent for decades. David discovered a new population in Iron Creek in 1975. Conservation progressed to the point that upgrading the Gila trout from "endangered" to "threatened" was near; sport fishing for the first time since 1958 seemed a possibility.

But wildfire put the skids on that, and what took years to accomplish was set back in the matter of a few days. A forest fire in 1989 sent slugs of ash and mud down Main Diamond Creek, but not before biologists rescued a number of fish, removing them to the Mescalero National Fish Hatchery in southern New Mexico. The Gila trout were held there until the habitat healed, and the fish were returned. Other Gila trout populations were beset by drought, flood and fire. Upgrading to "threatened" was put on hold.

Out of the Ashes

Out of the ashes rose another problem—hybridization. Gila trout from South Diamond Creek had been replicated in

Mogollon Creek and in the interim, the South Diamond population was lost to fire. Biologists later discovered that the Mogollon Creek population was recently crossed with rainbow trout. Rainbows had made their way over a poorly built barrier intended to keep them downstream. Six hundred trout from Mogollon Creek were sent to the Mescalero facility and through intensive and controlled breeding, pure Gila trout were isolated and extracted from the hybrid population. Hatchery biologists spawned trout in captivity, then sacrificed the adults for genetic analysis. From the analysis, biologists were able identify and keep the offspring from the pure Gila trout parents. Those pure offspring were eventually put back in South Diamond and Mogollon creeks.

Going Natural

Marc Jackson was fully immersed in extracting the pure South Diamond population from the hybrids. Now at the Mora Fish Technology Center in northeast New Mexico, he's faced with a different challenge—making wild Gila trout feel at home. Jackson is creating brood stocks of all four Gila trout lineages; he aims to keep the "wild" in the fish. Instead of cramming trout into sterile, featureless concrete tanks, Jackson mimics in circular tanks conditions a trout would find in a stream, like current flow, woody cover, a rocky bottom, plants, and co-occurring fish. Desert and Sonoran suckers live with the Gila trout at the Mora facility, serving duty as the maintenance crew. In nature, these two suckers cruise the streams, gleaning waste products from the bottoms.

A true measure of success in this naturalistic rearing will be better survival, and better condition of the brood stock—in the end, a fish that retains what it needs to face the rigors of the wild. Jackson's efforts already show signs of success. Wild Gila trout recently brought from South Diamond Creek retained their natural yellowish-gold color. They've taken up station behind rocks and logs and guard those haunts like they would in the wild. Having a place like home will be beneficial, too, in the event that wild Gila trout have to be held there on an emergency basis.

Brooks and David, and biologists from the NMDGF and Gila National Forest recently planted offspring from the Mora Fish Technology Center, a complicated event that required a helicopter and a short string of mules. The helicopter delivered 1,500 Main Diamond Creek fish in a box, deep in the wilderness. The pack mules, carrying high-tech panniers invented by David, delivered 3,000 young trout to two other remote streams.

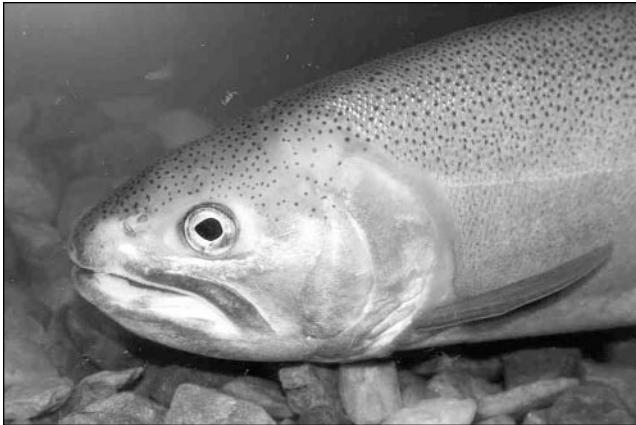


Fig. 1.

An adult Gila trout (*Oncorhynchus gilae*) at the Mora Fish Technology Center. Photo: Craig Springer/USFWS.

These plantings marked historic progress in reversing the plight of the Gila trout. A lot of ground has been regained since the floods and fires of 1989. Another new population was discovered by the NMDGF in Whiskey Creek in the mid-90s. Fact is, the Gila trout is more secure today than it was in 1989. And that speaks to changing its designation from "endangered" to "threatened." The bureaucratic process has been initiated and Brooks expects the upgrade to happen in the next 12 months.

Forty-five years have passed since you could legally cast a line for Gila trout. Though Gila trout won't reach trophy-fish proportions in the small headwater streams where they live, they will be a prize coveted by anglers interested in catching native trout in their native haunts. With the Gila region being highly dependent on tourism dollars, sport fishing for Gila trout may add to the regional economy in the not-too-distant future.

Outfitter Ken Swaim, from Beaverhead, New Mexico, makes a living from hunting and fishing. He sees Gila trout fishing as a business opportunity.

"There's few people alive that have fished for Gilas—it's never been a destination fishery," said Swaim. "Once anglers know about Gila trout, they'll be attracted to the wilderness aspect—the vastness of the land and the difficulty in getting to the fish. There's nothing but good that can come from downlisting the Gila trout."

Nearly two centuries have elapsed since Pattie passed by the mouths of unnamed canyons. But not a great deal has changed; fish biologists and guides like Swaim have to work almost as hard as Pattie to traverse this still remote and rugged region. The human experience has since put names to places, and the Gila trout looked over the edge, into the dark abyss of extinction. 🐟



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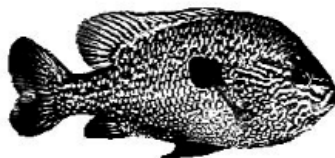
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