HISTORY OF LAHONTAN CUTTHROAT TROUT IN SPRING CREEK, UTAH

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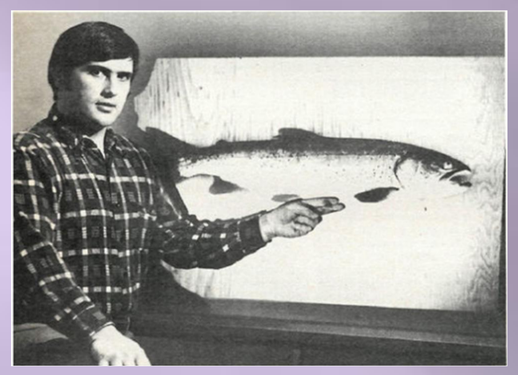
History of the Pyramid Lake Lahontan Cutthroat

The Lahontan cutthroat trout, *Oncorhynchus clarkii henshawi*, is native to the Lahontan Basin on the border between California and Nevada. For thousands of years it thrived and played an important economic and cultural role among the Native American tribes of the region. The largest strain of this fish originated in Pyramid Lake, in western Nevada and has reached recorded weights of up to 41 pounds, making it the largest subspecies of cutthroat trout. Unfortunately, by the early 1900s, the Lahontan cutthroat was nearly extinct due to overfishing and environmental damage caused by logging and mining. The Pyramid Lake strain in particular was believed have been completely lost and for many years it was believed that these lake giants would never be seen again. [1]

Fishing on Pyramid Lake during its peak years (early 20th century). One hundred tons of Lahontan Cutthroat Trout were fished from Pyramid Lake each season.



"The Fish that Won't Die" Terry Hickman, featured in the Mar. 1980 edition of *Sports Illustrated*, rediscovers the Pyramid Lake Lahontan cutthroat trout after 40 years of being "extinct."

Rediscovery and Redistribution

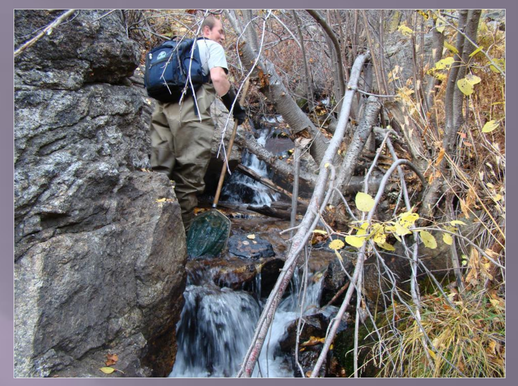
In 1977, however, a considerable amount of excitement was generated when a population of Pyramid Lake Lahontan cutthroat trout was discovered in the Pilot Peak Mountain Range, Box Elder County, Utah. It was concluded that the population had been introduced to the area in 1930, a time when eggs taken from Pyramid Lake Lahontan Cutthroats had been planted in several places in Utah and Nevada. In an attempt to preserve this strain, it was introduced to several streams across northern Utah. One of these sites was Spring Creek in Uintah, Utah, where eggs were stocked in 1986. This attempt, however, was believed to have been a failure as, afterwards, no sign of the offspring was found. [2]

Rediscovery (Again)

In October 2009, a team from Weber State University in conjunction with personnel from the DWR identified several specimens believed to be of a pure or hybrid strain of the Pyramid Lake Lahontan cutthroat trout in Spring Creek in Uintah, Utah. Using electrofishers and dip nets, a 600 m stretch of the stream was sampled. A maximum of 16 different individuals was collected in two sampling trips. The fish appeared to be restricted to a 200 m stretch. Individuals were separated by intervals of 15 to 20 m and occupied very inconsistent types of habitats. They ranged in size from 186 to 280 mm, which, assuming normal growth[2], would put them in the range of 3 to 4 years of age. No fish was found in the 200 m stretches upstream or downstream of the occupied reach. All fish in Spring Creek had medium to large spots more or less evenly distributed over the sides of the body, top of the head, and on the abdomen. This spotting pattern is typical of the Lahontan cutthroat trout subspecies. Results are currently pending for genetic tests on fin clippings taken from these fish to determine the purity of this population.

Failure Turns into Success: Supplanted Pyramid Lake strain of Lahontan cutthroat trout is found again after it was thought to be lost.

A Unique Environment Spring Creek's unique vegetation and substrate set it apart from other streams in the area.



Spring Creek, Uintah, Utah

Spring Creek was a small mountain stream that bubbled right out of the side of the mountain. It was characterized by small pools, steep cascades, and waterfalls. Most of the stream was shaded and surrounded by thick underbrush (e.g. snake grass and birch trees). The substrate was mostly rocky with a very low percentage of sand and silt. The average stream width was 2.1 m and average depth was 0.2 m. The water temperature was 6.9° C on October 9. Spring Creek is used for local irrigation via pipes that draw water out during the warmer months. There is one man-made diversion of the stream that was constructed by early settlers to supply water for irrigation to the Uintah Central Canal. The fish populations was found between the diversion and an upstream waterfall.

Spring Creek Population

Unfortunately, given its small size, the trout population at Spring Creek has a very low probability of survival. It lacks the numbers and space necessary to maintain sufficient genetic diversity. It is believed that for a mountain stream cutthroat population to survive it must have a minimum of 3.3 km of habitat and an abundance in the area of 0.3 fish per meter.[3] Based on our observations, the Spring Creek population has a maximum abundance of 0.1 fish/m and only 200 m of habitat. However, against all odds and despite these limitations this population has shown surprising longevity, surviving for more than 20 years. Furthermore, given that the Spring Creek population is non-native, it could be used for future investigations of population ecology without as much concern of the negative impacts of such studies. Thus, there is potential to learn much from this little population as long as it persists.

Student researchers: from left to right: Tim Healy, Bryce Galbraith, Jared Eames.

References:

[1]Behnke R (2002) Trout and salmon of North America. New York, NY: Simon & Schuster, Inc.
[2] Trotter P (2008) Cutthroat: Native trout of the west. . Berkeley, CA: Scott & Nix, Inc.
[3] Hilderbrand RH & Kershner LK (2000) Conserving inland cutthroat trout streams: How much is enough? North American Journal of Fisheries Management 20:513-520.

Acknowledgements

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