

“KNOW YOUR CALIFORNIA TROUT”

REDBAND TROUT OF THE GREAT BASIN

Introduction

The Great Basin of the western United States comprises approximately 200,000 square miles of high, arid desert, including the area from the eastern Sierra Nevada mountains to the Colorado River in southern California, most of Nevada and a large section of south-central Oregon.

Within the Great Basin, there are several separate, *endorheic* basins, i.e. a closed drainage system with no outflow to other bodies of water. Cutthroat trout were the initial salmonid species to occupy the Great Basin more than 600,000 years ago. Today, several subspecies of cutthroat trout, including the Lahontan cutthroat, are found within the Great Basin.

Redband trout “invaded” several sections of the Great Basin around 70,000 years ago. Today, there are six redband trout basins in south-central Oregon, including the Upper Klamath Lake, Goose Lake and the Warner Lakes. These three basins have small southern segments, which overlap into California and Nevada.

Two California subspecies of Great Basin redband trout are found in Goose Lake and in two streams in the southern-most part of the Warner Lakes basin. Both California subspecies, as well as all other Great Basin redbands, are designated as *Oncorhynchus mykiss newberrii*; however, some taxonomists disagree with this “lumping” classification and believe there is sufficient evidence to “split” these redbands into separate, unique subspecies. These two redband subspecies are native California trout and, therefore, are included in the Department of Fish and Wildlife’s Heritage Trout Challenge.

Description

Goose Lake Redband: The Goose Lake redband is similar in appearance to other rainbow/redband trout with some subtle differences. The stream form has a back that is greenish-blue, transitioning to a yellowish-orange body with the characteristic pink-red stripe along the lateral line. The body is profusely spotted above and below the lateral line. Small, faint, elliptical purplish parr marks highlight the lateral line and are generally retained through adulthood in the stream-dwelling fish. The dorsal, anal and pelvic fins are usually orange with white tips. The adult lake-dwelling trout is silver-grey, with a few black spots above the lateral line, and has no parr marks. There can still be a faint red band along the lateral line.

Warner Lakes Redband: The Warner Lakes redband is closely related to the Goose Lake redband and, therefore, has nearly identical coloration patterns as the stream and lake forms of the Goose Lake species. The intensity of the colors may vary depending on the stream in which this species resides. In California, this redband subspecies is only found in two small streams. Lake-dwelling fish are found in several lakes of the Warner Valley in Oregon.

Biology

Goose Lake Redband: The Goose Lake redband can have two life history strategies that appear to be dependent on the availability of water. With adequate water, the lake-dwelling fish live in Goose Lake, where they can grow to 18-20 inches. Stream-dwelling fish may reach 10 inches. In California, the lake-dwelling fish spawn in Cottonwood, Lassen, Willow and Cold Creeks during March-May. Adults can return to Goose Lake after

spawning, but, again, this is dependent on sufficient water in Goose Lake. Young trout can spend one or more years in the streams before moving downstream to Goose Lake; however, they may spend their entire life cycle in the streams of the western Warner Mountains. In Goose Lake they feed on invertebrates, as well as tui chub and tadpole shrimp, while in the streams, small invertebrates comprise most of their diet. Goose Lake redbands have evolved to tolerate periodic temperatures up to 75 degrees Fahrenheit, highly turbid, alkaline (pH 8-9) lake water, and dissolved oxygen less than 50% saturation.

Warner Lakes Redband: All Warner Lakes Redbands in California are found in two small streams flowing north into Oregon from the Warner Mountains. These Oregon redbands can also be found in small lakes/reservoirs, but because of limited water due to drought and agricultural practices (i.e. diversions), as well as high (>70° F) potential temperatures in this high desert region, they are more likely found in the cooler small streams. The stream form is very similar in size to the Goose Lake subspecies and also has a diet consisting mainly of small invertebrates. As with all rainbow/redband trout, they spawn in late spring.

Natural Distribution

Goose Lake Redband: Goose Lake redband trout are endemic to Goose Lake and its tributaries in the Warner Mountains. In California, Lassen and Willow Creeks are their principal streams, although they are present in smaller streams (e.g. Pine, Cottonwood, Davis, Corral). In Oregon, they inhabit the extensive Thomas-Bauers creek system, as well as 12 smaller streams. Goose Lake redbands have also been found in tributaries (Joseph, Parker and East Creeks) of the North Fork of the Pit River.

Warner Lakes Redband: In California, the only streams containing Warner Lakes Redbands are Dismal Creek and Twelve Mile Creek, both of which flow north from the Warner Mountains. In Oregon, these redbands are found throughout the streams and lakes of the Warner Valley as water conditions permit. Their distribution varies with the annual precipitation, stream flows and agricultural diversions. Warner Valley is a classic endorheic basin that contains a complex series of interconnected lakes, marshes, sloughs and potholes. The headwaters of the Warner Valley complex originate in the Warner Mountains and flow through three major sub-basins. Deep Creek flows into Pelican Lake and Crump Lake. Honey Creek flows into Hart Lake, and Twentymile and Twelvemile Creeks flow into Greaser Reservoir. The redbands in each sub-basin are unique to that specific drainage.

One final note: I have changed the title of this article on “Know Your Trout” by inserting “California” to acknowledge that future articles will focus on both native and non-native trout found in California.

Keith Pfeifer
Director for Conservation Policy

Goose Lake Redband Trout

Oncorhynchus mykiss newberrii

- F** Long, torpedo-shaped body; profuse black spotting nose to tail on upper two-thirds; distinct pinkish to red stripe on sides; top olive; sides pale tan; belly white
- H** Cool to cold clear streams, high country lakes
- L** to 20" **W** to 3 lbs. **B** Wet flies, dry flies



Warner Lakes Redband Trout

Oncorhynchus mykiss

- F** Long, torpedo-shaped body; profuse black spotting nose to tail on upper two-thirds; distinct pinkish to red stripe on sides; top olive; sides washed yellow; belly white
- H** Cool to cold clear streams, high country lakes **L** to 12" **W** to 2 lbs. **B** Wet flies, dry flies

