

scientific name

common name

Oncorhynchus gilae

Gila trout

Bison code 010600

Official status

Endemism

**Federal (USDI): endangered
headwaters,
State NM: threatened
NF
State AZ: endangered**

**Gila River
New Mexico, Gila**

Status/threats

Similar to the Apache trout this native southwestern trout species has been reduced dramatically in range. It occurs naturally in only 5 streams on the Gila National Forest, southwestern New Mexico. Introduction of nonnative trouts, principally rainbow and brown trout, have resulted in loss of purity of populations through hybridization and competitive interactions. Recovery efforts to address these threats include replication of all natural populations through barrier construction, stream renovations and more recently, hatchery propagation.

Distribution

The species was once common in most all upper elevation (above 2,000 m) tributaries of the Gila and River headwaters downstream to the mouth of the box canyon, northeast of Cliff. It also occurred in the headwaters of the San Francisco drainage and in Eagle Creek and headwaters of the Verde River (Oak and West Clear creeks, Arizona. Restoration activities have increased the number of streams inhabited by Gila trout to near a dozen.

Habitat

The species occurs in both pool and riffle habitats, with adults more common in the former habitat type and young-of-year and juveniles in the latter. Pools with woody debris for cover are optimum habitat for the species. Water temperatures in streams inhabited by Gila trout are generally below 20 C.

Life history and ecology

Similar to Apache trout, Gila trout are generally less than 250 mm total length in maximum size in the small, headwater habitats. The species feeds as an opportunist on aquatic macroinvertebrates, primarily caddisflies and mayflies.

Breeding

The species spawns in spring on the descending hydrograph as daytime water temperatures reach 8-10 C. Gravel cobble substrates are preferred spawning sites and fry emerge in about 4 weeks and similar to Apache trout reach 2-4 inches by the end of their first summer. Fecundity is low (75-150) eggs per female and year class strength is largely dependent upon flow regimes.

Key habitat components: riffles, pools, cold (< 20C) water, clean substrates

Reproductive season: April, May, June

Grazing effects

No specific studies of the effects of grazing on Gila trout have been conducted, however, excessive grazing in time and space within riparian areas potentially could result in stream bank alteration and loss of cover associated. Equally, any grazing strategy that excessively removes vegetation from the watershed could result in increased fine input to stream gravels used as spawning substrates and rearing areas for aquatic macroinvertebrates that serve as food for Gila trout with the terrestrial-aquatic interface.

Selected references

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