GOLD CREEK

Threats

One of the highest severity threats to this population is dewatering within the spawning reach that results in direct mortality and limits access to spawning habitat upstream during some years. Other high severity threats include low population abundance and the passage barrier at Keechelus Dam. Other threats include illegal poaching in Keechelus Lake (angling), development in the lower reaches of Gold Creek, entrainment at Keechelus Dam, lack of marine derived nutrients, and documented introgression with brook trout.

While forest management and recreation issues are present, they are not thought to be significant. Agriculture, altered flows, grazing, and limited extent of habitat are not present in this population area.

Table 1. Gold Creek threats, highest severity rating in any life stage/effect category, abbreviated list of associated actions and action priority.

THREATS	Rating	ACTIONS	Priority
Dewatering	SIGNIFICANT	Hydrological assessment; subsequent action	HIGH
Low abundance	SIGNIFICANT	Supplementation	HIGH
Passage barriers	SIGNIFICANT	Passage at Keechelus Dam	HIGH
Angling	UNKNOWN SIGNIFICANT	Monitor; enforcement	MEDIUM
Development	UNKNOWN SIGNIFICANT	Permits? land acquisition?	MEDIUM
Entrainment	UNKNOWN SIGNIFICANT	Passage at Keechelus Dam	MEDIUM
Prey base	UNKNOWN SIGNIFICANT	Carcass placement	MEDIUM
Introduced species	UNKNOWN	Monitor brook trout introgression	MEDIUM
Forest management	LOW		LOW
Recreation	LOW		LOW
Agriculture	NOT PRESENT	—	NA
Altered Flows	NOT PRESENT	—	NA
Grazing	NOT PRESENT	—	NA

Limited extent habitat	NOT PRESENT	—	NA

Actions

Strategy

This population has been identified as a high priority "Action" population (see Prioritization of Actions). The highest priority action for this population is a hydrologic assessment and subsequent restoration project to connect dewatered sections in the stream, which strand fish and prevent access to spawning grounds. Other high priority actions include passage at Keechelus Dam and consideration of a supplementation program to address low abundance. Other actions to address threats include outreach, protection from future development and carcass placement if pilot study elsewhere is successful. There have been documented hybrids in this system, and we should continue to monitor introgression with brook trout, though no large scale removal actions are recommended at this time.

Recommended Actions

Population Scale

- Gold #1: Conduct complex hydro-geomorphic evaluation in lower Gold Creek to determine the causal mechanisms (and possible solutions) for annual dewatering.
- Gold #2: Gold Creek Floodplain Restoration would include the removal of legacy dikes and road fill from the gravel pit operation, relocation of ADA accessible trail away from Gold Creek, relocation of the footbridge out of the floodplain, restoration of hydraulic connectivity through the parking area, and installation of an engineered logjam in Gold Creek (USFS).
- Multiple Pops #4: Conduct supplementation feasibility
- Multiple Pops #1: Provide outreach on bull trout conservation issues (landowners, recreationists, anglers, school groups, and others).
- Multiple Pops #5: Distribute carcass analogs to enhance prey base for juveniles.
- Gold #4: Floodplain acquisition/easements in lower creek corridor.
- Gold #5: Monitor, document and fix (where possible) passage problems due to dewatering on the reservoir bed on an annual basis.

Population Monitoring

- Multiple Pops #2: Continue redd surveys within established index areas to monitor long term trends in abundance.

Baseline Habitat Monitoring

- Multiple Pops #3: Continue temperature monitoring.

Implementation Monitoring of Completed and Recommended Actions

- If in-stream work is completed to address the dewatering issues, monitoring of flows post-treatment will be critical.

Research, Monitoring, and Evaluation

- Gold #3: Monitor all bank stabilization projects that include in-stream work.
- Multiple Pops #7: Continue to screen all collected genetic samples for evidence of genetic introgression with brook trout.

Actions Identified in YSRP that would benefit bull trout

(Yakima Basin Fish & Wildlife Recovery Board 2009)

None