

## Assessing Limiting Factors and Baseline Conditions in Indian Creek

**State(s):** Washington

**Managing Agency/Organization:** Mid-Columbia Fisheries Enhancement Group

**Type of Organization:** Non-profit

**Project Status:** Ongoing

**Project type:** WNTI Project

**Project action(s):** Barrier removal, watershed and population assessments. 10 barriers will be removed, 5 stream miles, and 1 population will be assessed.

**Trout Species Benefitted:** Bull Trout

**Population:** Indian Creek, Tieton River

**Project summary:** Indian Creek is characterized by minimal human influence, cold, clean water, and the potential to serve as a long-term climate refuge for bull trout. This assessment project aims to provide actionable conservation benefits to the Indian Creek bull trout population by identifying restoration opportunities, monitoring population trends, and addressing emerging threats.

A primary goal of the project is to assess habitat quality and quantity in both the springs and mainstem of Indian Creek through a United States Forest Service (USFS) Level 2 habitat survey. This survey will identify areas where suitable habitat is limited and prioritize locations for future restoration efforts. Additionally, bull trout abundance will be monitored via redd surveys, while snorkel surveys will provide baseline data on fish community composition and bull trout demographics. Together, these data will establish pre-restoration conditions and highlight areas where rearing habitat is limited, informing restoration strategies to enhance conservation outcomes.

Indian Creek is beginning to experience seasonal dewatering in portions of the mainstem due to the management of the reservoir into which it feeds. The reservoir is kept at high elevations during spring runoff, leading to bedload accumulation in the lower reach of Indian Creek. This project will document the timing and extent of dewatering and conduct emergency fish rescues for bull trout as necessary. Temperature monitoring of the main stem and springs will continue, offering critical empirical data to confirm Indian Creek's role as a climate refuge for the species.

To reduce recreational impacts, the project will install permanent "closed fishing" signage, engage in community education and outreach, and remove recreational rock dams near the creek's mouth, adjacent to a USFS campground.

Indian Creek bull trout have been proposed as a donor population for reintroduction efforts elsewhere in the Yakima River Basin. However, current population trend data is limited. By conducting this comprehensive assessment, the project will not only inform habitat restoration objectives but also provide demographic estimates to guide future decisions regarding donor stock use.

**Problem the Project Addresses:** Indian Creek is a vital stronghold for bull trout, offering cold, clean water and connectivity to Rimrock Reservoir, a critical foraging, migration, and overwintering (FMO) habitat. With minimal human disturbance, it remains one of the few pristine habitats in the Yakima River Basin. However, recurring natural disturbances such as debris flows have significantly impacted habitat quality and availability. These events contribute to sediment deposition, bedload movement, and periodic dewatering in the mainstem, fragmenting rearing habitats and reducing the population's resilience.

By establishing a comprehensive understanding of current habitat conditions and population trends, this project will provide the critical information needed to design effective restoration projects. These future efforts will aim to reconnect fragmented habitats, increase floodplain

connectivity, stabilize sediment, and promote riparian growth. Ultimately, the long-term goal is to create a more resilient habitat that can buffer against the impacts of large disturbance events and support the long-term persistence of bull trout populations.

**Objectives:**

- Survey approximately 5 miles of the mainstem and springs accessible to bull trout. Metrics measured will include substrate composition, habitat unit classification, large wood inventory, gradient, riparian vegetation, and more.
- Conduct two additional representative snorkel surveys to establish baseline demographic data.
- Install temperature loggers in all three springs and multiple mainstem locations to monitor thermal conditions over time.
- Perform weekly dewatering checks during the dry season, document extent with GPS, and conduct emergency bull trout rescues as needed.
- Install permanent “closed fishing” and “no rock dams” signage at key recreation areas, such as Indian Creek Campground and the reservoir interface. Conduct public education to reduce recreational impacts, such as rock dams and illegal angling.
- Conduct three passes of redd surveys during the spawning season, contributing to the long-term data set (1984–present) to assess spawning trends.

**Partners:**

- Mid-Columbia Fisheries Group
- Washington Department of Fish and Wildlife
- Yakima Basin Fish and Wildlife Recovery Board
- Yakama Nation Fisheries
- US Fish and Wildlife Service
- US Forest Service – Okanogan-Wenatchee National Forest
- Washington State Department of Ecology

**Project Monitoring:** The success of this project will be evaluated based on the completion of the outlined objectives and the quality of the baseline data collected. These data will inform future conservation and restoration efforts, ensuring that subsequent monitoring and post-restoration evaluations are built on a robust foundation.

Adaptive management strategies will be applied if monitoring indicates that objectives are not being met. For example, additional training for field crews may be implemented, protocols may be adjusted to improve data quality or safety, and timelines may be modified to better account for environmental variability (e.g., access during high snow years).

Long-term maintenance and monitoring will be conducted by the Yakima Basin Bull Trout Task Force and Mid-Columbia Fisheries, in collaboration with WDFW and USFWS, as funding and partnerships allow. These efforts will ensure that the collected baseline data are used to guide effective restoration and future evaluations of success.

**Funding Source(s):** National Fish Habitat Action Plan

**Project cost:** WNTI \$49,004 Total \$121,856

**Start Date:** 06/17/2026

**Completion Date:** 09/30/2028

**Project Contacts:** Margaret Neuman, Mid-Columbia Fisheries Enhancement Group,  
[fish@midcolumbiafisheries.org](mailto:fish@midcolumbiafisheries.org)