**Alberta Conservation Association**

**2024/25 Project Summary Report**

**Project Name:** Conservation Stocking of Native Trout

**Fisheries Program Manager:** Peter Aku

**Project Leader:** Jason Blackburn

**Primary ACA Staff on Project:** Andrew Clough, Kevin Fitzsimmons, Marco Fontana, Lindsay Marley, Kade McCormick, and Kelly Riehl

## Partnerships

Alberta Native Trout Collaborative
Canadian Nature Fund for Aquatic Species at Risk
Government of Alberta

## Key Findings

- We located two potential gamete source locations for westslope cutthroat trout (WSCT) in the Waiparous Creek HUC 8 watershed in support of provincial conservation stocking.
- We completed spring redd surveys on 51.8 km of stream and spring backpack electrofishing spawning surveys on 15 km of stream.
- At all electrofishing sites we captured a total of 696 fish comprised of brook trout (61% of catch), bull trout (15%), WSCT (14%), longnose dace (8%) and mountain whitefish (2%).
- No fish were detected above a barrier on Waiparous Creek based on eDNA results and electrofishing surveys. Bull trout and brook trout were detected by eDNA analysis in North Johnson Lake.

**Details**

Alberta's WSCT occupy 5% of their historic range, which lies entirely within the Oldman and Bow River watersheds. The species is listed as *Threatened* under Canada's *Species at Risk Act*, and reintroductions will be necessary to ensure their persistence. Through inter-agency collaboration, coordinated by the Government of Alberta (GoA), the establishment of a WSCT broodstock was developed using gametes collected from spawning fish in the Oldman River watershed. For introductions in the Bow River watershed to be successful, gametes from local, genetically suitable fish will be required. The Waiparous Creek HUC 10 watershed is among the largest remaining core areas of pure WSCT in the Bow River and a principal candidate for gamete collection.

In year 2 of this 3-year project we aimed to map probable WSCT spawning locations for future gamete collection, characterize the peak spawning period, and identify potential introduction locations in the Waiparous Creek watershed. We used juvenile WSCT capture results from 2023 backpack electrofishing surveys, and spring redd counts, as predictors of upstream spawning. In 2024 we completed 51.8 km of redd surveys and 15 km of electrofishing surveys to identify new spawning locations on three tributaries to Waiparous Creek. We observed peak spawning from June 3 to 10, 2024 on Johnson Creek with 173 redds and peak spawning from June 14 to 17, 2024 on Margaret Creek with 31 redds. Both streams had suitable access, abundance of spawning fish, and ability to safely wade for an egg take, whereas Meadow Creek was remote and had fewer spawning fish. Paired air and stream temperature stations at 13 locations across the watershed will be used to further characterize the spawning window and suitable habitat for WSCT.

In 2024 we completed summer electrofishing surveys at 25 sites on Meadow Creek, a headwater tributary to Waiparous Creek, and Waiparous Creek; to determine juvenile WSCT distributions and densities, and identify potential conservation stocking locations. We captured a total of 696 fish comprised of brook trout (61% of catch), bull trout (15%), WSCT (14%), longnose dace (8%) and mountain whitefish (2%). We performed barrier assessments and collected eDNA samples above the rockslide barrier on Waiparous Creek to characterize fish presence and conservation stocking feasibility. No fish were captured or detected by eDNA analysis above the

Waiparous Creek barrier. North Johnson Lake was examined as another candidate for stocking where bull trout and brook trout were detected by eDNA analysis in 2024.

**Photos**

Photo 1. ACA staff members Marco Fontana and Lindsay Marley electrofishing on Waiparous Creek below rockslide barrier. Photo: Kade McCormick

Photo 2. Ripe Westslope cutthroat trout from Johnson Creek. Photo: Lindsay Marley


Photo 3. Juvenile bull trout from Waiparous Creek. Photo: Kade McCormick

Photo 4. Cutthroat redd on Johnson Creek with polarized overlay. Photo: Lindsay Marley

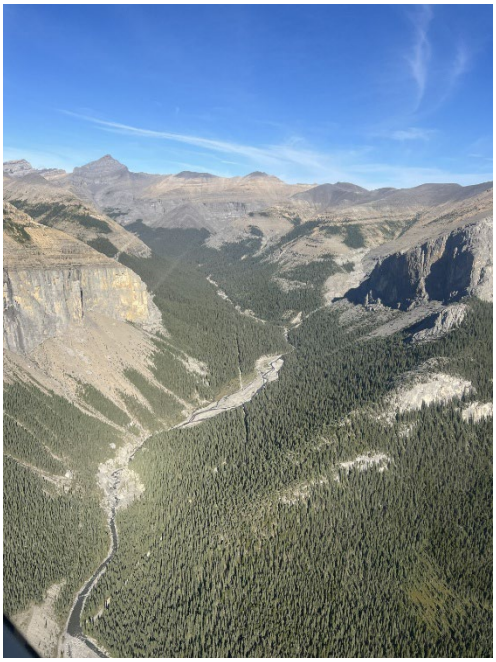

Photo 5. Aerial view of Waiparous Creek rockslide barrier. Photo: Lindsay Marley