

TRIB Research

MISSION

TRIB Research is a non-profit organization that strives to connect local farms, fresh food, and fisheries research within our community. We are fisheries ecologists with diverse interests and a passion for a holistic approach to solving environmental, social, and economic challenges. We entered the field of fisheries ecology because we thoroughly enjoy outdoor exploration and want to participate in the regeneration and healing of the surrounding ecosystems and communities. To this end, we deem it necessary to find ethical and honest ways to fund research that provides genuine benefits for our local community and furthers scientific understanding. Our mission is to perform fisheries conservation research into unique species and life history types found in Northern California and beyond. One way we will accomplish this is by growing and sourcing primarily local ingredients which will be assembled into delightfully flavored meals to help fund our research.



Caudal Fin Farm



Painted mountain corn



Fertilizing the blueberries!



Scything the cover crop and covering with manure

FARMING

- Small-scale, local, organic farming is vital to the health of our planet and us.
- We provide food for the community through Caudal Fin Farm.
- We use what we grow to create delectable meals including novelties like corn husks for our tamales and dried New Mexican chilies for taco fillings, as well as fruits, vegetables and herbs.
- We practice a no-till method of agriculture, incorporating permaculture principles and focus on building healthy soil and treating the land as a complex ecosystem.
- We aim to create a space that is agriculturally productive, but also provides food for the soul.



Caudal Fin Farm box

Exploring the nexus between community and conservation



Summer steelhead, Middle Fork Eel River
Steelhead (*Oncorhynchus mykiss*)

- Relative of Pacific salmon and the anadromous (ocean-going) form of rainbow trout.
- Steelhead don't die after their first spawning run and can make multiple migrations to the ocean and back to their home waters to spawn (iteroparity).
- Two runs of steelhead have been described in Northern California. Winter-run, which enter freshwater sexually mature in the late fall through winter, spawn and return to the ocean relatively quickly; and summer-run, which enter the river sexually immature in the late spring/early summer, spend the summer and fall months maturing and awaiting the return of the rains before spawning in winter.
- The Eel and Mattole Rivers are the southernmost extent of summer-run steelhead.
- Human alterations to the landscape (e.g., dams and water diversions) have resulted in more precipitous declines of summer-run steelhead, compared to winter-run, and summer-run are now on the verge of extirpation in California.
- Increasing understanding of the ecology, distribution and historical evolutionary advantages experienced by summer-run steelhead will help promote their persistence.

RESEARCH



Coastal cutthroat trout, North Fork Mad River
Coastal cutthroat trout (*Oncorhynchus clarkii clarkii*)

- Closely related to Pacific salmon, with both resident and anadromous (sea-run) forms.
- Coastal cutthroat trout are an often-overlooked salmonid as they do not obtain the bulk of Pacific salmon and there is no commercial fishery.
- Can make multiple ocean migrations, similar to steelhead.
- The Eel River is the southernmost extent of coastal cutthroat trout in North America.
- The frequency of the anadromous form is poorly understood.
- There is no previous research on the genetic expression of life history, i.e., being a resident trout that stays in freshwater or an anadromous individual.
- Understanding if there is a region of the genome that is strongly associated with life history will help inform management decisions.
- Natural hybridization occurs with steelhead however it is unknown at what rate or if the current rate is normal.

COLLABORATORS



- Our research is currently focused in the greater Klamath-Siskiyou bioregion (including the Southern Cascades and Northern Coast Range). The rugged terrain, climatic variability and geologic history of the region have led to the evolution of extensive intra-species diversity and local adaptations.
- The preservation of life history and other phenotypic complexity is central to the resilience and sustainability of Pacific salmon stocks.
- Genetic biodiversity of salmonids is being lost at an unprecedented rate.
- TRIB Researchers spend the summer and fall hiking, biking and kayaking to selected sites throughout Northwestern California and Southern Oregon.
- Barriers, such as waterfalls, roughs, culverts and dams, and their potential to isolate life-histories and sub-populations, play a key role in sampling site selection.
- We go out at night, when the fish are easier to catch, with headlamps and hand nets and collect tiny pieces of the fish's caudal (tail) fin.
- DNA is extracted from the fin tissue and sequenced.
- The sequencing data is used to answer our questions about distribution of life-histories, hybridization and genetic diversity.
- The primary goal of our research is to aid in the long-term preservation of these unique aquatic species and the habitats that sustain them.



Study area with BLM national conservation lands highlighted



Devil's Creek, tributary to Redwood Creek



Screen printing of TRIB logo at event



Taco enthusiasts at a Tacos by the Creek event



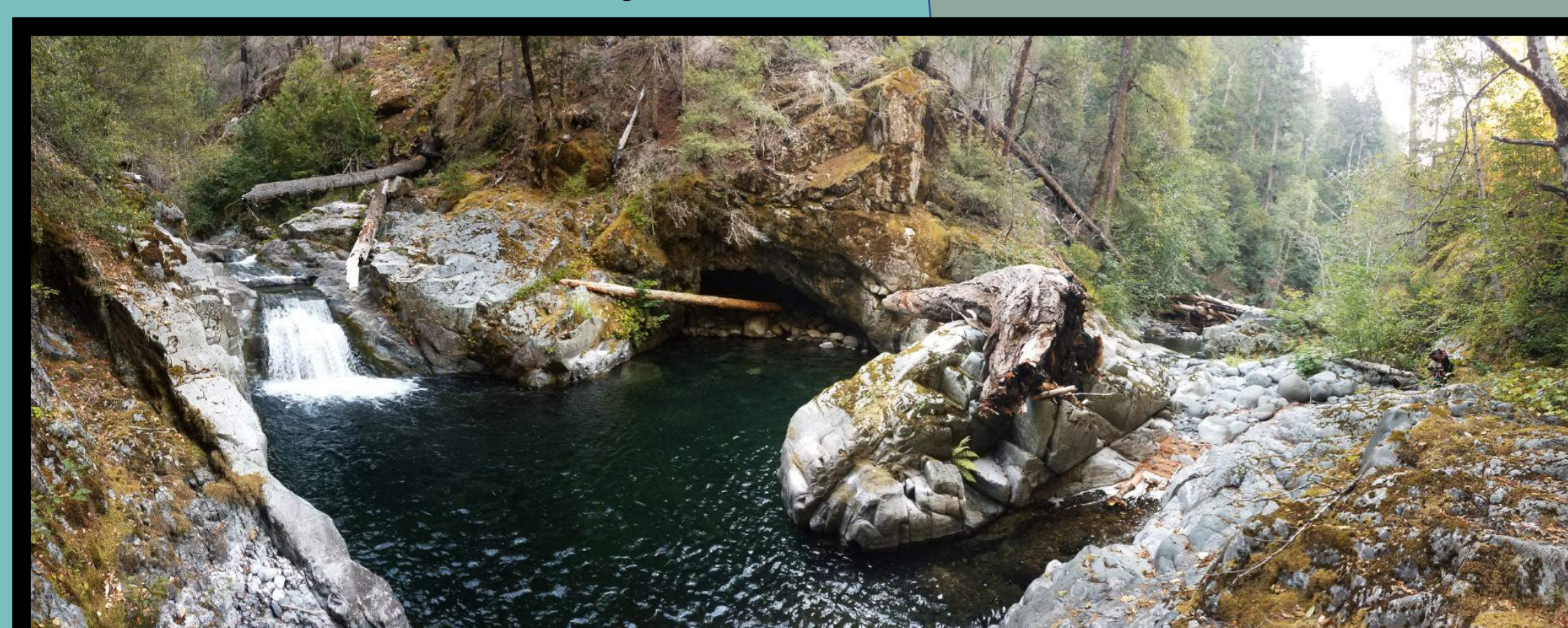
Fire side chat with Tacos by the Creek fans

COMMUNITY

- Connecting the community with conservation while providing delicious food and drink, mostly grown and raised on site.
- In collaboration with Jacoby Creek Land Trust, providing a verdant space for events and workshops such as cob oven building.
- Community Supported Research (CSR), a new model for community involvement and benefit.
- Unwavering commitment to prioritizing the health of our ecosystem and communities over profit.
- We strive to demonstrate that we can make the world better through hard work, communal participation and simplification of our daily lives.
- For up-to-date information on research and events check out www.tribresearch.org



Roughs on the Lost Duzen section of the Van Duzen River



South Fork Smith River