



FINAL REPORT
**TEMPERATURE AND SEDIMENT REDUCTION TO
IMPROVE STREAM HEALTH AND FISH HABITAT**
11.3.2017

EXECUTIVE SUMMARY

The goal of “Temperature and Sediment Reduction to Improve Stream Health and Fish Habitat” was to enhance and restore Westslope cutthroat and bull trout habitat along more than one-half mile of over-grazed land on the East Fork of the Bitterroot River. Actions taken to meet this goal included one-half mile of riparian fencing, rebuilding vegetated banks, planting native vegetation, and protecting plants in the riparian area.

Project planning began in the spring of 2016, with on the ground work commencing in June 2017 and finishing on October 27th, 2017. Although this agreement will be concluded after submission of this report, monitoring and maintenance will be implemented in the spring and summer of 2018 through the assistance of other funding sources.

The overall budget for this project was significantly less than initially anticipated, due to volunteer efforts as well as limiting the scale of fencing for this “phase one” (which leaves the option to do another half-mile of fencing in the future). Final costs are still accruing as we move into monitoring and maintenance, but at this time costs have totaled \$64,000.

Major Partners included the Future Fisheries Improvement Program of Montana Fish, Wildlife, and Parks, Geum Environmental Consulting, Montana Department of Environmental Quality, Ravalli County Resource Advisory Council, Western Native Trout Initiative, the Wetzsteon Family, and an anonymous donor.

As with most projects, we learned that it is best to be adaptable. Plans change and so can the minds of landowners. Keeping an open mind and staying in good communication with landowners can be the difference between making reasonable changes to the scope of a project versus abandoning an effort.

BACKGROUND

“Temperature and Sediment Reduction to Improve Stream Health and Fish Habitat” was the result of an opportunity that doesn’t come along often—an interested landowner who owns a large portion of vital streamside habitat. In the Bitterroot Valley of western

Montana, where abundant growth and substantive land use has changed much of the landscape from agricultural to municipal, the Bitterroot has significantly fewer large landholdings than it once did. The result is fragmented ownerships with a growing number of streamside properties that are 5-20 acres and have less than 250 feet of stream. These divisions make large-scale riparian restoration difficult as it would take the involvement of many neighbors to develop a project of significant size.

Working on this property was especially important as the stream running through it is the East Fork of the Bitterroot River, which is listed by the Montana Department of Environmental Quality as being impaired for both sediment and temperature. We knew that the act of passive restoration through fencing could yield significant results and that with a bit of active planting we could help speed up the natural process of recovery.

Once we had the landowners on board, partners were easy to find. The nature of the project, in size, scope and connection to an important stream, made supporting the project an easy and justifiable effort.

As the headwaters of the Bitterroot River, the East Fork is a recognizable and important stream for many. The elements of a tremendous cold water fishery, a place with the unique cultural history of the Sula Basin, and a 5th generation ranching family all made this project very meaningful in community.

GOALS + ACTIVITIES

The overall goal of this project was to improve fish habitat by reducing and preventing nonpoint source pollution, specifically thermal and sediment loading, to the East Fork of the Bitterroot River and ultimately the mainstem of the Bitterroot River.

To achieve our goals, we:

- installed 4,050 linear feet of riparian fencing to protect 2,000 feet of the East Fork Bitterroot River from cattle and other browse, immediately preventing further degradation of the riparian area
- installed 460 nursery plants and 150 live shrub transplants to enhance and repair the riparian area, providing shade to the temperature impaired stream, and creating woody vegetation along the banks that will reduce the current amount of excessive sediment delivery to the stream.

Our goals will be achieved in time, as the objectives and actions were accomplished in a way that implemented best management practices for temperature and sediment reduction. Future monitoring and modeling will give us a clearer picture of the measurable results, and photo-point monitoring has already demonstrated success in project goals.

COMPLICATIONS

The project was not completed as initially planned when we submitted the grant application to WNTI. At that time we did not have the final design from our consultants and had a ranch manager who was still coming to terms with the prospect of fencing. We knew that one mile of fencing was possible, but ultimately the ranch manager felt more comfortable with one-half mile. Rather than getting pushy and risk losing interest in any type of work, we accepted the counter offer of one-half mile and made the project work within those parameters. This approach resulted in a very successful project with a ranch manager and landowner's who we now consider friends of our organization. Beyond the very likely possibility that they will pursue additional project work with us, we can trust that they will have good things to tell their neighbors and friends about their experience working with the Bitter Root Water Forum to do restoration.