

Wilbur Ditch Diversion Improvement Project

Final Report



Prepared for:
Colorado Water Conservation Board
Water Supply Reserve Fund
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Introduction

This diversion and irrigation infrastructure improvement project is the result of collaborative efforts between Trout Unlimited (TU) and Escalante Ranch (ER). TU and ER worked together on a diversion related project lower in the on the North Fork of Escalante Creek where a barrier was constructed to protect Colorado River Cutthroat Trout (CRCT), the Gunnison Basin's strain of native trout. The intent of the project was to further benefit these important trout by modifying aged irrigation infrastructure.

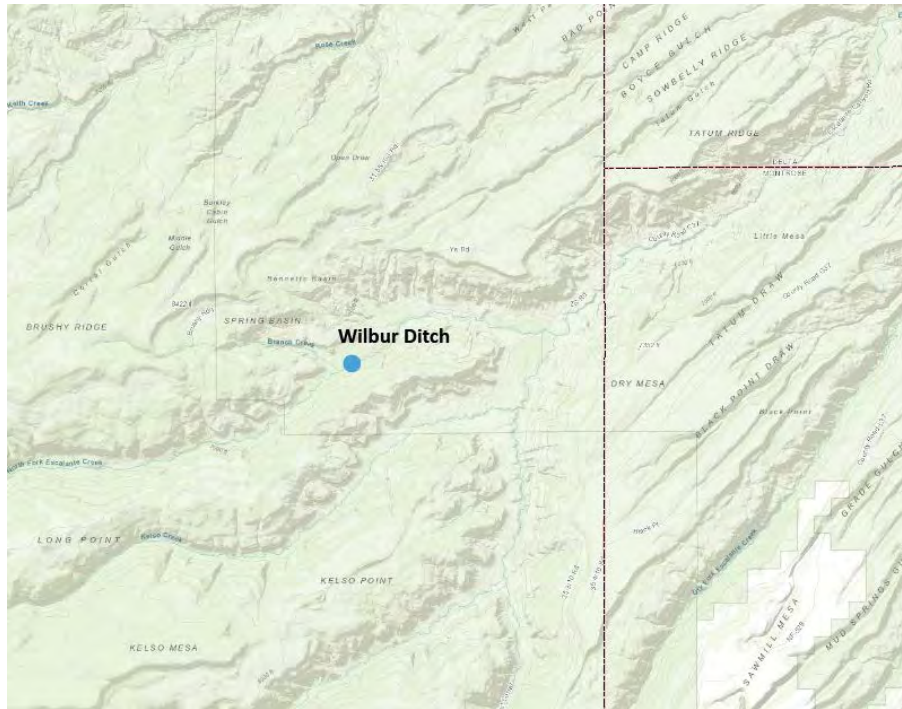
Background

This project was identified as a need by Kent Davis, the manager of Escalante Ranch, who brought it to attention of TU during the initial phases of the barrier and Campbell diversion project. The Wilbur ditch is on land owned by ER and suffered from a catastrophic blowout in 2012 caused by a rain event and a plugged overshoot. ER was interested in rebuilding the diversion but knew that doing so at the historic point of diversion would create a barrier within the habitat of the CRCT. TU proposed to help move the diversion upstream to a point where ER could divert water from the stream without causing unnecessary damage to the stream.

The North Fork of Escalante Creek is home to one of the largest populations of CRCT in the Gunnison Basin. The creek also supplies irrigation water to lands owned by ER. The creek can be nearly dried up by diversions just upstream from its confluence with the main stem of Escalante Creek. Return flows from irrigation on ER lands do not support the CRCT population.

TU proposed moving the diversion upstream using State funds from the Water Supply Reserve Fund as long as ER would provide in-kind match during the construction process. ER agreed to provide labor and heavy equipment assistance.

Location of Wilbur Ditch Diversion:



Methods

Once funding was secured, TU began working ER staff on design of the ditch diversion and pipeline. This work included assessing the stream and consulting with contractors and other subject matter experts.

Suitable locations for the new diversion and pipeline path were identified with ER manager on multiple site visits.

TU hired Wilmore and Assoc. to survey the pipeline and determine grades and cut and fill amounts. Wilmore surveyed the site twice to realign pipeline path and correct location of tie-in to existing ditch.

TU selected contractor for diversion and piping work by collecting estimates from several contractors. TU initially selected Stonefly Earthworks to provide excavation and construction services but their schedule did not allow them to begin the project early enough in the fall to meet the ranch's schedule and to be done before first snows. TU then hired Hood Excavation who began working on the project on October 1.



Hood Excavation, lead by Ryan Van Nuys, completed the project on October 10th. This work included installation and backfill of approximately 1000 feet of 12-inch PIP pipe and installation of the new diversion structure including headgate and riffle.

TU planted a native grass seed mix on the disturbed ground and pipeline path in December of 2019. Seeding was delayed by muddy and impassable roads. This native grass seed did not fully germinate. TU purchased more seed for the ranch to plant on the disturbed areas in the fall of 2020.

The Wilbur ditch intercepts spring water just below where the new pipeline joins the old Wilbur Ditch path. To best manage these waters and to reduce impacts on the stream, TU contracted the construction of a splitter box that is being installed by ER. TU also provided slide gates that will help control waters diverted into the Wilbur Ditch to increase irrigation efficiency.

The pipeline was only used for a short period during 2020. Severe drought conditions reduced water availability for ER which resulted in reduced diversions in order to send water downstream to other ditches and protect the fishery.

TU assessed the state of the fishery and the diversion site in August of 2020 and found the stream and the new diversion to be in good shape.

During the construction and reclamation phases of the project, ER provided labor and heavy equipment including a backhoe and frontend loader which were used to transport pipe and rocks. ER ranch employees were on the project site and assisted with setting of the pipe and diversion structure. Using rental rates for heavy equipment and standard labor rates and contributions of materials, TU estimates that ER contributed in excess of \$8,000 to the project. US Fish and Wildlife Service paid for the diversion structure, pipe and pipe fittings for the project through reimbursements to ER for expenses.

TU contributed considerable amount of labor to the project in addition to completing design, management and grant administration tasks. On site work included, heavy equipment operation, pipe placement, grading, reclamation and other tasks.

Results

This project resulted in a new diversion and pipeline capable of supplying water to historically irrigated lands in a fashion that reduces impacts on the stream and the population of Colorado River Cutthroat Trout. This project also resulted in continuing to



build trust between TU and ER which is leading to more projects that will help the ranch and the fishery, particularly in times of drought.

Conclusions and Discussion

All objectives for this project were met. ER ranch is satisfied with the operations of the diversion and the pipeline and TU is satisfied that the new diversion will significantly reduce impacts to the population of Colorado River Cutthroat trout.

Once some small issues with getting the project started were addressed this project went very smoothly. Reclamation efforts were hampered by weather, but the budget allowed for purchase of additional seed which ER agreed to place. Hood Landscaping did a great job with the excavation and pipe installation. All parties were very pleased with their work.

TU continues to work with ER to address water supply and diversion issues related to trout.

Expenses

Following table is a list of expenses paid for with CWCB funds:

| Amount | Vendor Name | Task | Comment |
|---------------------------------|--|--------------------------------------|--------------------------|
| \$1,500.70 | Wilmore and Company Professional Land Surveying, Inc | 1 | Survey 2 |
| \$366.36 | Home Depot | 2 | Materials |
| \$4.66 | Grand Junction Pipe | 2 | Pipe materials |
| \$451.97 | Black Canyon Rentals | 1 | Grade laser rental |
| \$320.66 | Recla Metals | 2 | Diversion Steel |
| \$74.44 | Home Depot | 2 | Materials |
| \$911.25 | Haynes Excavation, Inc | 3 | Rock Delivery/Trucking |
| \$525.77 | Moore's Mining, LLC | 3 | Rock for diversion |
| \$965.70 | Wilmore and Company Professional Land Surveying, Inc | 1 | Survey 2 |
| \$10,652.00 | Hood Landscaping, Inc | 3 | Construction Contractors |
| \$221.86 | Granite Seed Co | 3 | Seed/reclamation |
| \$218.39 | Granite Seed Co | 3 | Seed/reclamation |
| \$753.00 | Stans Portable Welding | 3 | Splitter box |
| \$188.33 | Bollinger and Queen | 2 | Slide gates |
| \$235.80 | Forestry Suppliers | 3 | Reclamation materials |
| \$2607.88 | Project Administration | 4 | TU overhead and admin |
| \$19,998.77 | | Match: ER-\$8,000 TU- \$5,750 | |
| Total project expense CWCB WSRF | | USFWS- \$7,295.63 Total: \$21,045.63 | |

Photos



Figure 1 Hood Exc. excavating trench for pipe

Figure 2 Hood Exc. moving new headgate



Figure 3 TU and ER staff installing new headgate



Figure 4 Hood Exc. Installing diversion weir



Figure 5 installing diversion weir



Figure 6 Water flowing into Wilbur Ditch from pipeline



Figure 7 pipeline seeding and straw placement



Figure 8 New diversion August 2020