

# Eccles Creek Stream Reclamation

Project ID: 3352  
Status: Completed  
Fiscal Year: 2016  
Submitted By: Justin Hart

Project Manager: Justin Hart  
PM Agency: Utah Division of Wildlife Resources  
PM Office: Southeastern Region  
Lead: Utah Division of Wildlife Resources  
WRI Region: Southeastern

## Description:

An approximate 400 culvert pipe will be removed from an access road off of Highway 96. This culvert pipe contains the entire flow of Eccles Creek. The stream channel will be restored to a natural state.

## Location:

This site is located on Eccles Creek, a tributary to Mud Creek and Scofield Reservoir. The project site is located along Highway 96 approximately 6 miles upstream from Scofield Reservoir.

## PROJECT NEED

### Need For Project:

In the early 1990's a culvert crossing was placed on Eccles Creek to allow mining and logging access to private property. This culvert crossing has nearly 30 feet of earthen overburden and contains 400 feet of Eccles Creek. The culvert pipe presents an impassable barrier to cutthroat trout. The upstream section of Eccles Creek is fishless. Removing this culvert pipe and restoring the natural stream channel will be aesthetically pleasing and provide approximately 1.5 miles of habitat for cutthroat trout. This newly connected stream segment will provide important spawning habitat and provide additional access for anglers.

### Objectives:

To remove a 400 foot section of culvert pipe and restore the natural stream channel of Eccles Creek along Highway 96.

### Threats / Risks:

Timing of this project will need to consider cutthroat trout spawning. Any work inside the stream channel will need to occur after September 1, 2015.

### Relation To Management Plan:

This project will help help connect approximately 1.5 miles of fishless stream. It will aid the fishery in Eccles Creek, Mud Creek, and Scofield Reservoir and provide additional angling opportunity. Thus, it will address objectives within the Scofield Reservoir sport fish management plan. Removing the culvert pipe and restoring the natural stream channel will help reduce erosion from high velocity flows exiting the culvert pipe. Reducing erosion will help reduce phosphorus loading in Scofield Reservoir that has been identified in Scofield Reservoir TDML.

### Fire / Fuels:

N/A

### Water Quality/Quantity:

N/A

### Compliance:

2 PMArchaeology, none needed, this project will occur on a previously disturbed site., Dec 18 2014 / 6 NEPA, None needed, this is private property on a previously disturbed site., Dec 18 2014

### Methods:

This will be a cooperative project with the Division of Oil, Gas, and Mining (DOG M). DOGM has funds for a reclamation project on this parcel of private property. DOGM will remove the access road that connects Highway 96 to the private property and remove all the earthen overburden that exists on top of the culvert pipe and Eccles Creek. The Utah Division of Wildlife Resources will remove the section of culvert pipe and restore the natural stream channel. The stream channel is somewhat confined. Highway 96 is located on the north side of the creek, and steep terrain is located on the south side. Additionally, this stream section has a relatively steep gradient. Restoration will include providing as much stream meander as possible and creating a series of step pools with rocks and logs. This restoration plan will match the existing habitat type of Eccles Creek.

### Monitoring:

Riparian seeding and willow transplants will be monitored over time by Regional DWR Aquatics employees.

**Partners:**

N/A

**Future Management:**

The project will be monitored over time to ensure vegetation from seeding and willow transplants is successful. Any structures (e.g., rock veins or log step structures) will be assessed for continued function and repaired if necessary.

**Domestic Livestock Benefit:**

N/A

<b>BUDGET</b>	WRI/DWR	Other	Budget Total	In-Kind Total	Grand Total
	\$12,000.00	\$61,000.00	\$73,000.00	\$0.00	\$73,000.00

Item	Description	WRI	Other	In-Kind	Year
Personal Services (permanent employee)	DWR Heavy equipment crew time and machine operation and fuel.	\$12,000.0	\$0.00	\$0.00	2016
Contractual Services	DOGM funding to reclaim access road and remove earthen overburden on top of the Eccles Creek culvert pipe	\$0.00	\$61,000.0	\$0.00	2016

<b>FUNDING</b>	WRI/DWR	Other	Funding Total	In-Kind Total	Grand Total
	\$12,000.00	\$61,000.00	\$73,000.00	\$0.00	\$73,000.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Blue Ribbon (Restricted)	BRRF	N/A	\$6,000.00	\$0.00	\$0.00	2016
Habitat Council Account	HCRF	N/A	\$6,000.00	\$0.00	\$0.00	2016

Allocation	Percent of Total
Big Game	0%
Upland Game	0%
Waterfowl	0%
Sport Fish	100%
Nongame Fish	0%
Nongame Wildlife	0%

UDOGM	N/A	\$0.00	\$61,000.0	\$0.00	2016
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<b>EXPENSE</b>	WRI/DWR	Other	Expense Total	In-Kind Total	Grand Total
	\$12,000.00	\$61,000.00	\$73,000.00	\$0.00	\$73,000.00

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UDOGM		\$0.00	\$61,000.0	\$0.00	2016
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## SPECIES

Species	"N" Rank	HIG/F Rank
Bonneville Cutthroat Trout	N4	1
Threat		Impact
No Threat		NA
Yellowstone Cutthroat Trout	N2	1
Threat		Impact
No Threat		NA
Rainbow Trout		5
Threat		Impact
No Threat		NA

## HABITATS

## PROJECT COMMENTS

Comment 12/18/2014 Type: Project Commenter N/A

Excavator

Comment 10/04/2016 Type: Admin Commenter Alison Whittaker

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## COMPLETION

Start Date:

10/15/2015

End Date:

11/20/2015

FY Implemented:

2016

FY Completed:

2016

Final Methods:

A silt fence was stretched across the stream and up the side slopes on the upstream and downstream end of the work area. The existing 48 inch culvert was buried in place and a new channel was constructed on top of the buried culvert. The culvert was plugged with large rock at both ends and sealed with 20 bags of concrete at its inlet.

Nelco removed 7,600 CY of fill from the pad above Eccles Creek (final survey attached). About half of this material was placed against the road cut on the south side of the creek. To facilitate the work, the remainder was hauled out the north side of the creek to a storage location. A third party took the fill and paid for hauling the fill from the site.

Fill placed on the reclaimed road was surface roughened immediately after placement. Hay was not incorporated, but was placed on the surface after seeding.

The seed mixes are attached. One mix was used on the road fill and one mix was used on the hydromulched slopes of the reconstructed channel. In both cases, the seed was hand broadcast. Hydromulched slopes did not receive hay. Hydromulch could not reach the far slope, so Ward Landscaping (subcontractor for

hydromulch) came back on Monday 11/23/15 and seeded Triticale @ 10 lbs/ac over the slopes on both sides of the stream channel.

Seventeen willow bundles were placed (jammed between boulders into the water) along the stream bank. Seven bundles around the inlet and five bundles along each stream bank near the outlet. The ground was frozen so only 3 or 4 of the plugs of rush and carex were planted. The rest overwintered at the site. Some time between May and June, the five large containers of plugs disappeared from their storage location.

All willows planted in November survived. Few of those that overwintered survived.

## Project Narrative:

September 2015

Contract Specifications for Eccles Creek Pad and Culvert Removal Reclamation Construction were put out to bid under Utah state contract AR16068.

Stream Alteration permit 15-91-05SA was obtained for Eccles Creek. To view the documents associated with this stream alteration permit, follow this link:

[http://www.waterrights.utah.gov/cgi-bin/strmview.exe?Modinfo=Viewapp&Permit\\_Number=15910005](http://www.waterrights.utah.gov/cgi-bin/strmview.exe?Modinfo=Viewapp&Permit_Number=15910005)

October 2015

Oil, Gas & Mining and Division of Wildlife Resources staff collected 110 willow cuttings, 150 sedge plugs and 150 rush plugs were collected from within the permit area, downstream of the work location and stored in wet burlap for planting along the reclaimed channel.

State contract AR16068 was awarded to NELCO, Inc. LLC. and Notice to Proceed was given on October 15, 2016.

A highway encroachment permit was obtained for work within the right of way of State Route 264. A hand crew installed silt fence on both sides of the creek, from one side of the creek to another, above the culvert and up both sides of the embankment. A trackhoe broke up asphalt on the pad surface into 6 inch minus pieces, leaving a pullout along the highway that is 15-20 ft wide. A loader hauled the broken asphalt to the cut slope on the access road above Eccles Creek. Below the asphalt and road base an estimated 4,000 CY of fill. The fill was moved using a front end loader, until the slopes became too steep for the loader to negotiate. Then five 10-wheel dump trucks were used and the fill was hauled off to a third party location. In all, the contractor removed 7,600 CY of fill from the pad.

Very little rock was encountered until the last seven feet of fill. The fill was placed on the access road to bury the asphalt in the cut, while maintaining a 10 foot access way for foot traffic. The fill surface was roughened with pocking, seeded and covered with 1.5 ton/ac straw mulch. Water bars were established along the road at 50 ft. intervals. A swale was created in the location of a former culvert. The seed mix was as described in the construction specifications with two replacements: for species that were unavailable: dogwood (*Cornus stoloniferus*) was replaced with smooth sumac (*Rhus glabra*) and longstyle rush (*Juncus longistylis*) was replaced with alkali bulrush (*Bolbuschoenus maritimus*).

November 2015

A change of plan was agreed upon by all parties to leave the existing 48 inch culvert buried below the reconstructed Eccles Creek channel, because it is two feet below the existing water surface at its inlet and four feet below the water surface at its outlet. i.e. The river drops down into the culvert at its inlet and the river bubbles up from the culvert at its outlet. Constructing the channel on top of the culvert was advantageous for several reasons.

- 1) Eccles Creek continued to flow in the culvert during construction of the new channel.
- 2) We did not have to over-excavate the existing channel to remove the culvert and then build on fill.
- 3) The culvert was plugged at both ends by rock and cement and buried by rock in the channel.
- 4) The temporary 36 inch bypass was installed which eliminated issues surrounding installation and removal of the bypass culvert (i.e. the over-excavation of the highway outslope and sediment entering the creek during

removal).

This change in approach was discussed with and approved by Daren Rasmussen, Utah Division of Water Rights for Stream Alteration Permit #15-91-0005; Justin Hart, Aquatics Manager, Division of Wildlife Resources; Keenan Storrar, Division Oil Gas & Mining Hydrologist, and Cheryl Parker Division of Oil Gas & Mining Engineer.

The channel grade was established. South slope was laid back to an average of 40% (2h:1v or less) and pocked as much as possible, given the steep drop into the channel. The channel is approximately 12 feet wide and 100 ft. long. Filter rock was imported and placed on the excavated grade. Rock riprap was placed. Four drop structures were constructed. On Wednesday November 18, water was directed into the new channel. A track hoe filled 48 inch culvert inlet with rock and cement and put a HUGE rock on top. Several bags of cement were placed in front of the rock.

There were deep pools at the inlet and outlet of the new channel. Four riffles were visible in the channel. There is a slight meander. A small water fall brought flow to a pool at the outlet. Some sediment was carried downstream during the final stages of the work, but afterwards the water appeared clear.

Seven willow bundles were placed around the former inlet and covered the cuttings with backfill. We also planted 10 willow bundles at the outlet (five bundles on each stream bank). One container of sedges and one container of rushes (@ approx 25/container) were planted along the north stream bank where ground was recently worked and therefore not frozen. Snow and frozen soils delayed the planting of the remaining willows (5 bundles) and sedges (125 plugs) and rushes (100 plugs) until the spring. (Unfortunately the rushes and sedges went missing over the winter, but the remaining willow bundles were placed into the water at the toe of the slope in June 2016.)

Ward Landscaping was subcontracted to do the hydromulching required on the steep slopes of the stream channel. Ward landscaping hand seeded the site (with a slightly different mix) and then applied hydromulch to the north side, but had difficulty reaching the far slope. Consequently, 10 lbs/ac Triticale were applied over the snow, to provide early spring cover and add a standing mulch the steep slopes. Work was completed November 19, 2015. The stream alteration final compliance report was filed on February 2, 2016.

#### Future Management:

DOGM monitors the site quarterly. In September 2016, erosion from road runoff was cutting rills in the north slope. Grass sprigs and Astragalus species were sparse, but evident on the reclaimed slopes. DOGM will hand broadcast seed in the fall of 2016 and continue to monitor reclamation success. DOGM will contact Carbon County to ask for jersey barriers along the road way to redirect runoff.

## Map Features

ID	Feature Category	Action	Treatment/Type
905	Fish passage structure	N/A	N/A

