

## Scope of Work for Colorado Watershed Conservation Board

Project Name: Battlement Reservoir #3

Project Location (legal & county): 11 miles southwest of Rifle, Colorado in T8S, R94W, Section 7, Garfield County

Grand Valley Anglers of Trout Unlimited Contact: Lew Evens

Phone Number: 970-778-8878

USFS – White River NF Project Contact Name: Corey Lewellen

Phone Number: 970-262-3497

Project Description: The Battlement Reservoirs are a series of seven reservoirs located approximately seven miles south of Parachute, Colorado in an alpine setting at 10,000 feet. The reservoirs were originally constructed in the late 1800s for irrigation use. Over time, the outlet structures fell into disrepair, and a naturally reproducing cutthroat trout fishery that had developed at the reservoirs was lost.

The need for rehabilitation of the reservoirs was identified in “breach or repair” orders from the Colorado State Engineer in 1988. Earlier efforts at the reservoirs included reconstruction of Reservoirs # 1 and #2, and W and G Reservoir. Reservoirs #4, #5, and #6 were converted into wetland habitat. The remaining reservoir, Battlement Reservoir #3, is the largest reservoir at the site. It was not repaired as part of the earlier effort.

Completion of repairs at Battlement Reservoir #3 will complement the work done at the other reservoirs, resulting in suitable rearing habitat for native Colorado River cutthroat trout and a unique angling opportunity for the public. An added benefit of this project will be if native stock cutthroat trout can naturally reproduce. Raising the reservoir water levels will allow for overwinter survival and act as a refugia.

The objective of the project is to complete the following items, by December 31, 2012:

- 1) Construct a new native-material emergency spillway, and possibly a new service spillway (gate controlled, closed conduit) depending on water rights issues.
- 2) Reconstruct the dam to meet current design and safety standards, including re-grading the downstream slope to improve overall dam stability.
- 3) Re-vegetate disturbed areas at the construction site.

This project will be implemented as follows:

**Project Implementation:** Project Implementation (including, but not limited to, the following tasks): Remove and dispose of vegetation along the surface of the dam. Reconstruct the prism of the dam and spillway to the cross section as shown on the drawings provided by BOR. Some imported fill may be required to construct the required dam section and this will be obtained from inside the drained reservoir. Remove and stockpile riprap from existing dam downstream face. Riprap placed on the rehabilitated dam and spillway shall be taken from the existing dam and the talus outcroppings surrounding the reservoir basin. Reconstruct, enlarge, and stabilize the outlet channel below the new permanent spillway. Re-vegetate disturbed areas on the dam crest and downstream face of dam with indigenous grass seed mix. Follow rehabilitation plan as shown on drawings provided by BOR.

### *Cost Estimate for Implementation.*

Mobilization	\$5,800.00
Labor	\$189,000.00
Equipment	\$101,000.00
Materials	\$28,600.00
Unlisted Costs	\$2,592.00
Contingency	\$16,350.00
<b>TOTAL</b>	<b>\$343,342.00</b>

### Pre-evaluation:

The overall objective for this project is to create suitable rearing habitat for native Colorado River cutthroat trout which will hopefully result in a natural reproducing, self-sustaining population. Current habitat conditions in Battlement Reservoir #3 are not suitable for a fish population due to dam failure and the loss of the reservoir. The

Date April xx, 2011

DOW and the FS have implemented several presence/absence surveys and monitoring protocols and have determined that fish are not successfully rearing and overwintering.

Post-evaluation: (describe what, where and how)

Long term monitoring and presence/absence surveys will be conducted after the completion of the dam and filling of the new reservoir. Post-evaluation will determine if the project has been successful by documenting that fish are successfully rearing and overwintering. The DOW and FS will co-lead post-evaluation efforts during every field season for up to five years following project implementation. Additional monitoring will be determined at the end of five years.

Project Implementation:

	Starting date	Completion date	Match Funding	CWCB WSRA Funding	TOTAL
Implementation	6/1/11	12/31/12	\$263,342.00	\$80,000.00	\$343,342.00
PROJECT TOTAL			\$263,342.00	\$80,000.00	\$343,342.00