

## **Lower Chewuch Beaver Restoration**

### **Habitat Conservation Plan – Tributary Committee: Agreement 2013-05 W**

#### **Final Report**

The Methow Beaver Project is pleased to provide this final report of activities completed under grant agreement 2013-05 W. Our objectives were met or exceeded. We overcame some challenges. We had no budget changes and spent the \$27,000 allocated carefully and efficiently. We offer one suggestion for future project management.

#### **Project Summary**

This project's goal was to restore beavers, a keystone species, to streams in the lower Chewuch River Watershed where they occurred abundantly prior to European settlement and where their habitat influences provided ecosystem services that contribute to salmon viability. Those services have been largely missing in this watershed and throughout much of Oregon and Washington since beavers were aggressively eliminated in the Hudson's Bay "Fur Desert" policy of the early 1800s. We have now successfully restored beavers to streams in the Methow Watershed for 6 years.

Beaver dams create cooler stream temperatures, delay runoff, increase aquifer storage, raise water tables, increase stream complexity, provide additional instream wood, reconnect streams with their floodplains, and expand riparian habitat. These beaver induced services are acknowledged by fisheries managers as essential for salmon recovery. Beaver restoration is a working component of salmon recovery plans and watershed action plans in the Pacific Northwest.

In order to achieve these goals we interacted with landowners who had encounters with beavers and invested time in relationship building to see how problems might be solved. In some cases, as an alternative to lethal removal, beavers were live trapped and removed to our holding facility, where they were weighed, measured, photographed, fitted with ear tags and a Passive Integrated Transponder, and were collected in a group for release in the Lower Chewuch.

We evaluated the lower Chewuch with a beaver GIS model that was developed for this project. 20 sites were evaluated. All sites identified were carefully inspected on the ground prior to release. Over the last two seasons, we delivered beavers to 15 sites in the Lower Chewuch River. We monitored all sites after release, and will continue to follow up to determine the need for additional beaver releases after this grant period to continue to build on the success achieved. To date we have documented beavers establishing at 8 sites.

Another project goal is to document the temperature and stream flow benefits provided by beavers. We collected more than 600,000 data points from instream loggers that contribute to baseline information for later analysis as beaver become established at some of the 32 monitoring stations we have established.

## Challenges

Because this projects' success relies on re-establishing a wild animal in a colony site on a river or stream based on our ability to predict what they will accept for suitable habitat, it is inherently unpredictable and subject to multiple failures. The literature that reports on beaver relocation has documented about 20% success as the norm for this kind of work. Using techniques of sexing, grouping, artificial lodges, and careful site selection we have increased the success of establishment to greater than 40%.

We continue to learn about beaver vulnerability to predation, the movement of some of the beavers we release, and the suitability of some of the sites we expect beavers to occupy. We have learned that the watershed is very porous to beaver movement – based on returns from tail mounted PIT tags that are read in the fish monitoring arrays in many of the tributaries. Grouping beavers so they are compatible and able to cooperate to establish a colony site remains a challenge for which we are gaining understanding. Mortalities in the holding facility has been a challenge we have largely overcome.

Careful trapping techniques that limit trap induced mortality are essential. We experienced 3 trap related mortalities in 2013. We hope to reduce that further in the future. Each beaver we capture is worth thousands of dollars in ecosystem services.

## Committee Suggestion

We offer the following for future funded projects.

1. Encourage project sponsors to provide one field visit opportunity to the Committee / RTT during or following project implementation to allow a clearer understanding of the benefits and challenges of funded projects, and to clarify the value realized to allow evaluation of future funding of similar projects.

## Work Products

Activity	Date	Notes
Interagency and Internal coordination	Jan to Dec 2013	Completed. Includes MRC, DOE, Ecotrust, Colville, and Yakama tribes, and PRCC
Site Evaluation	Mar to Jul 2013	Completed. 20 sites
Landowner Contact	Jan to Sep 2013	Completed . 18 landowners
Community Education	Feb to Dec 2013	Completed. 5000+ contacts
Beaver trapping and care	May to Oct 2013	Completed. 37 beavers trapped
Site Preparation	Jun to Sep 2013	Completed. 9 sites
Delivery to sites	Jun to Sep 2013	Completed. 30 beavers
Monitoring temp and flow	Jan to Oct 2013	Completed. 40 stations
Project administration	Feb to Dec 2013	Completed. 4 invoices
Project reporting	December 2013	Completed with this report

**Photos**



**New beaver lodge in Cub Creek**



**New pond and lodge under construction in 8 Mile Creek**



**Inserting PIT tag for tracking**



**Beaver release in 20 mile creek**