

IMPACT

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Monitoring supports targeted restoration in Coeur d'Alene watershed

The Situation

Monitoring is a critical component of any watershed restoration project. In order to determine whether the goals of the project are being met, evaluation of how the site has responded to restoration efforts not only supports future work, but also adds to our understanding of how best management practices work in real life situations.

Short Creek and Riley Creek are tributaries to the Upper Tepee Creek Watershed located in the North Fork Coeur d'Alene River Subbasin. They were identified for targeted restoration because of the highly valued westslope cutthroat trout population in the Tepee Creek watershed. It was documented through monitoring in the drainages, that the limiting factor for growth of the fish population was the loss of complex over-wintering pool habitat attributed by historical log and tree removal from the riparian corridor and stream channel.

The goals of the Short-Riley Creeks Porter Memorial Restoration Project were to improve water quality and fish habitat through decommissioning of unneeded roads and culvert crossings, conduct in-stream large woody debris placement to construct pools for fish habitat and restore fish passage through culvert replacement and removal. This project was a joint venture with the North Idaho Fly Casters and the US Forest Service (USFS) and was funded through the National Fish and Wildlife Foundation and Clean Water Act 319 Funds. One year after project completion, the Fly Casters wanted to know, "have we improved fish habitat?"

Our Response

The University of Idaho's Water Quality Extension program was called in to organize monitoring efforts



Monitoring verified the successful restoration in Short Creek through diversification in channel habitat.

on the Short-Riley Creeks Porter Memorial site. Funds unspent on the restoration, supported the work. The monitoring team consisted of partners from UI Extension, the USFS and the North Idaho Fly Casters. Various methodologies were employed; longitudinal profiles, pebble counts, habitat surveys, photo point monitoring, benthic macroinvertebrate samples and erosion surveys. Analysis of the data collected sought to answer the following questions:

1. Did the channel increase in diversity and complexity?
2. Did stream structure work protect banks?
3. Was fish habitat improved over time?
4. Were re-vegetation efforts successful?

The data and answers to these questions were compiled in a report and presentation given to both the North Idaho Fly Casters and the USFS in February 2012.

Program Outcomes

Monitoring results proved the Short-Riley Porter Memorial Project met restoration objectives. The greatest accomplishment of the work was the addition and diversification of channel habitat. This is especially relevant because of the need for over-wintering habitat, such as deep pools, for west-slope cutthroat trout.

- Slow habitat types (pools) doubled in the study area
- No significant increase in streambank erosion
- Ground cover rehabilitation consistent with goals
- High level of quality and diversity in benthic macroinvertebrates
- *Restoration work stable despite high water events!*

The monitoring team shared a high level of confidence that the restoration work in the Short-Riley Creek Porter Memorial project was successful, due to the fact that fish habitat was improved and diversified throughout the surveyed channel in Short Creek. In addition, the restoration sites in Riley Creek were recovering well with minimal erosion and substantial ground cover. Conditions will continue to improve as the work in 2010 further stabilizes. The removal of two fish barriers provides increased access for all native fish species within the Tepee Creek basin. The sediment reduction efforts within both Riley and Short Creek will be realized downstream helping in the recovery of both watersheds as well as Upper Tepee Creek. As a result, the fisheries in both Short and Riley Creek should flourish.

Success on many levels

Beyond determining the success and viability of the restoration work, this project forged new relationships between private citizens, public agencies and University of Idaho Extension. This type of work allows academia to be engaged in applied research and adds to the knowledge base on the feasibility of both best management practices and the methods by which we monitor their success. Additional projects and external funding opportunities have developed as a result of these types of partnerships.

Cooperators and Co-Sponsors

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Idaho Panhandle National Forest, Coeur d'Alene River Ranger District

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