

Asotin Creek Intensively Monitored Watershed: Summary of Restoration**Progress Report****Stephen Bennett, Eco Logical Research Inc., Providence, Utah****Introduction**

The Asotin Creek Intensively Monitored Watershed (IMW) project is located in southeast Washington and began in 2008. The Asotin Creek IMW is determining the effectiveness restoration using large woody debris at increasing the productivity and capacity of Snake River Evolutionary Significant Unit (ESU) wild steelhead. Pre-restoration monitoring of fish and habitat was conducted from 2008 to 2012. The Asotin IMW experimental design has three 4 km long sections in three streams: Charley, North Fork, and South Fork (Figure 1). Fish and habitat monitoring takes place in each section. A trial of the restoration method was conducted in 2011 where five post-assisted log structures (PALS) were built in the three streams. After assessing the trial structures, full implementation of restoration began in 2012. One 4 km treatment section was restored in South Fork (2012), Charley Creek (2013), and North Fork Creek (2014). A total of 535 post-assisted log structures were installed in the three treatment sections. In 2015, we proposed to maintain/enhance the existing treatments sections by adding more large woody debris to the PALS, and restore another section to the South Fork. Funding was provided by the Salmon Recovery Funding Board in 2016 to implement the maintenance and new restoration. This progress report details the work completed between April 18, 2016 and July 31, 2016. Effectiveness monitoring is expected to continue until at least 2019.

Restoration Activity Summary**April – May**

- we applied for restoration permits
- worked with USFS to secure wood donations for the restoration
- worked with local contractor to secure post supply for building PALS

June - July

- ELR employees and Washington State Conservation Corps transported wood from forest to staging area at Dry Creek (approximately 3000 pieces – 3-5 m long and 0.2-0.4 m diameter)
- Staged maintenance and restoration wood along streams prior to July 15th work window
- Added ~ 1500 pieces of large woody debris to existing PALS in Charley, North Fork, and South Fork for maintenance/enhancement; tagged most of the pieces added to existing structures to track wood movement in future
- Design of 116 new PALS from river km 2 – 4 on South Fork Creek (Figure 2)
- Installation of 90 structures were completed as of July 31 (Figure 3&4)

Future Work

August – September

- Completion of remaining PALS (116 total in new treatment section)
- Clean up of restoration sites and staging areas
- Implementation Monitoring (GPS coordinates of all structures, tagging of wood on structures, monument site, and posts)

Notes

- The hydraulic post driver broke in July and new parts were bought; the old part has been sent off for repairs so we will have a back-up (the part is the hydraulic hammer)

Figures

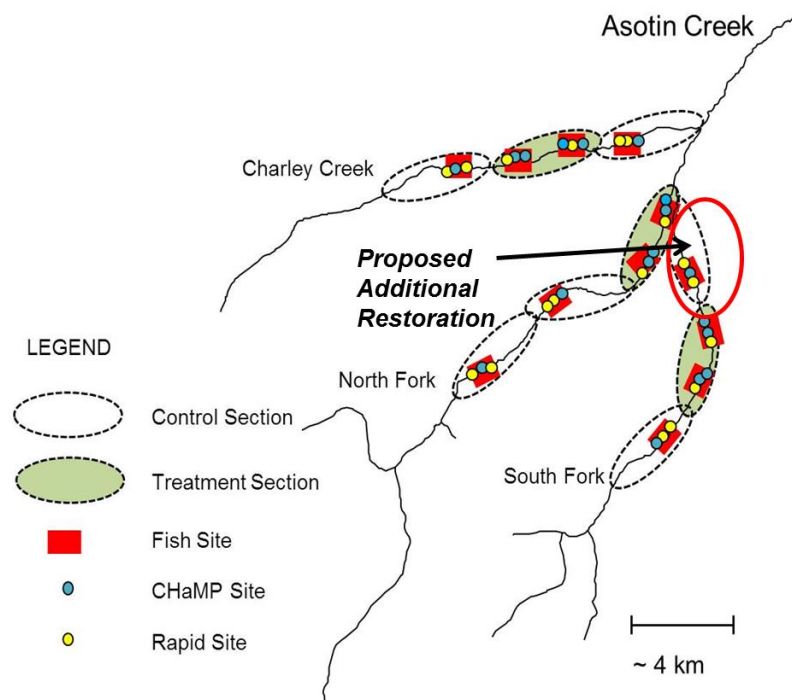


Figure 1. Experimental design of Asotin Creek Intensively Monitored Watershed. Each study stream has three 4 km long sections. One section in each stream has been restored using post-assisted log structures (shaded green): South Fork (2012), Charley Creek (2013), and North Fork (2014). A new section of South Fork (lower section – red circle) is being restored in 2016.

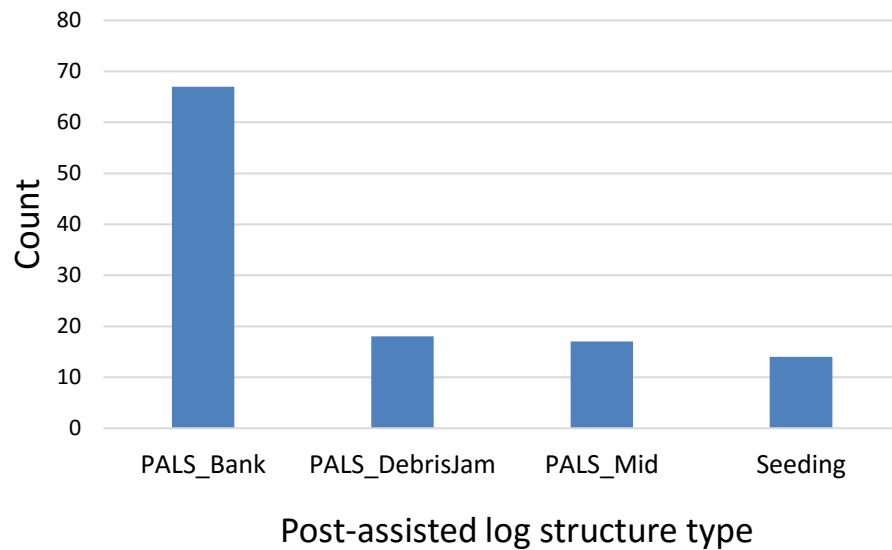


Figure 2. Number of post-assisted log structures (PALS) that were designed for the new treatment section in South Fork Asotin Creek in 2016 (n = 116). Bank = bank attached, Debris Jam = channel spanning, Mid = mid-channel, and Seeding = large wood added with no posts.



Figure 3. Example of post-assisted log structure (PALS) being built in the new treatment section of the South Fork Asotin Creek in summer of 2016.



Figure 4. Example of post-assisted log structure (PALS) built in the new treatment section of the South Fork Asotin Creek in summer of 2016. Bank-attached PALS in background and Mid-channel PALS in the foreground.