

# Coal Creek Floodplain Restoration Monitoring Highlights

Figure 1. Aerial imagery of Coal Creek one month post restoration implementation in 2019. Active channel widths have increased substantially in comparison to the previous degraded condition.

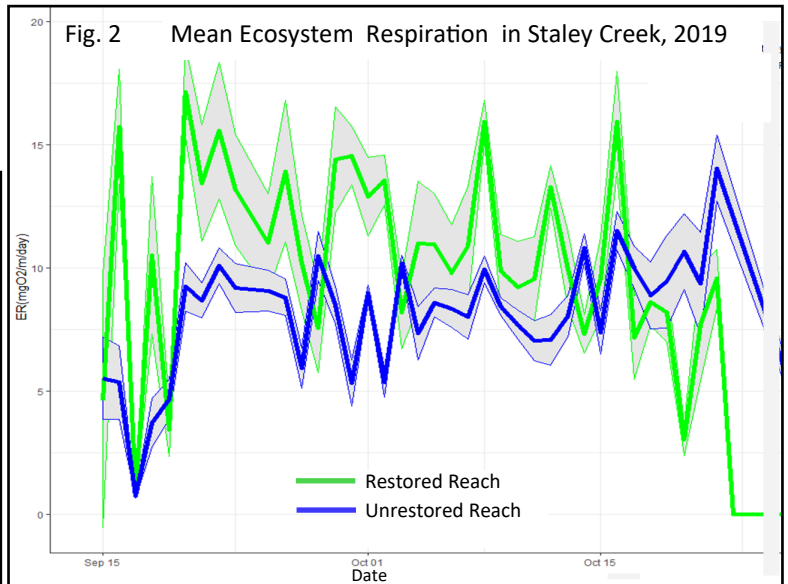
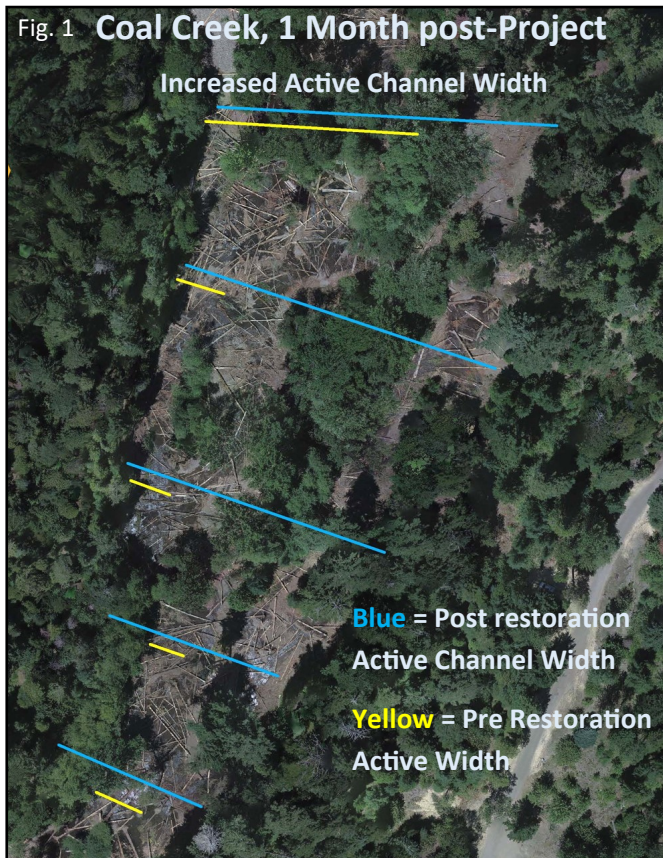


Figure 2. Mean Ecosystem Respiration (ER) downstream of the Staley Creek restored reach (green) had a **measured increase of 28.4%** from the upstream unrestored site (blue). ER represents how much available energy is being used in an ecosystem, and in this case, the aquatic ecosystem of restored and unrestored reaches of Staley Creek. An increase of 28.4% suggests that the aquatic ecosystem has more available nutrients post-restoration. Restoration was implemented in 2017, ER data is from two years post-restoration in 2019. Restoration was planned and implemented in a similar manner in Coal Creek. Coal Creek ER data is currently being processed, but we expect to see similar increases in ER.

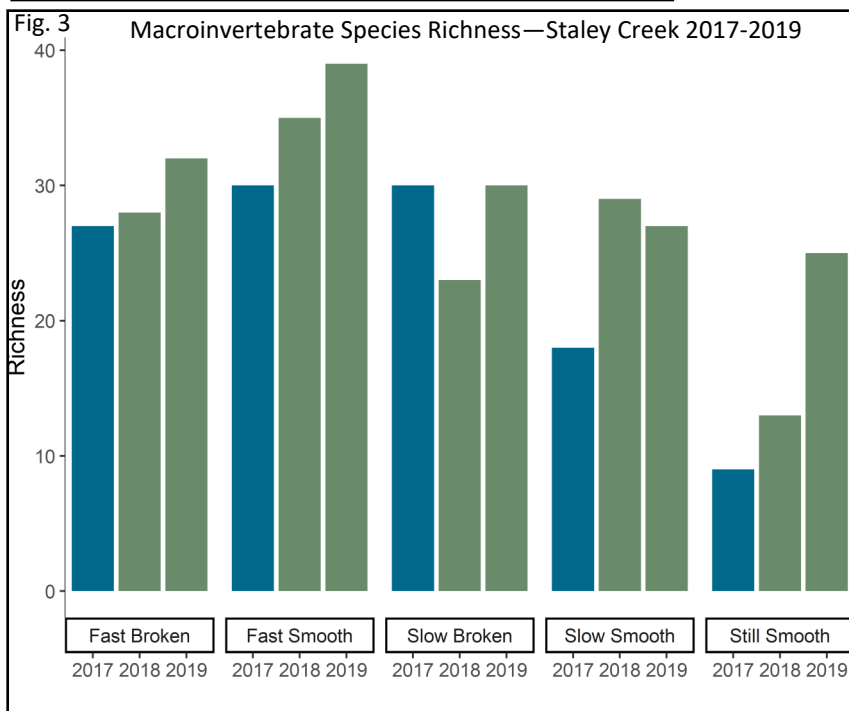


Figure 3. Macroinvertebrate species richness within the restored reach of Staley Creek, pre (2017) and post (2018, 2019) restoration. We observed a **34% increase in species richness** between pre-restoration (2017) and 2 years post-restoration (2019), suggesting increased biodiversity and habitat heterogeneity. Post-restoration macroinvertebrate sampling in Coal Creek will occur in 2020; we expect to see similar increases in macroinvertebrate richness as observed in Staley Creek.

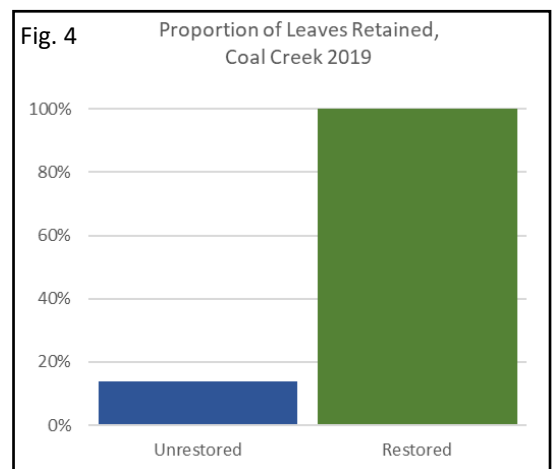


Figure 4. Retention of leaves released in Coal Creek (Restored Reach vs. Unrestored Reach) showing **100% leaf retention** within the restored reach as a coarse measure of nutrient retention.