



The Entiat IMW: Results to Date

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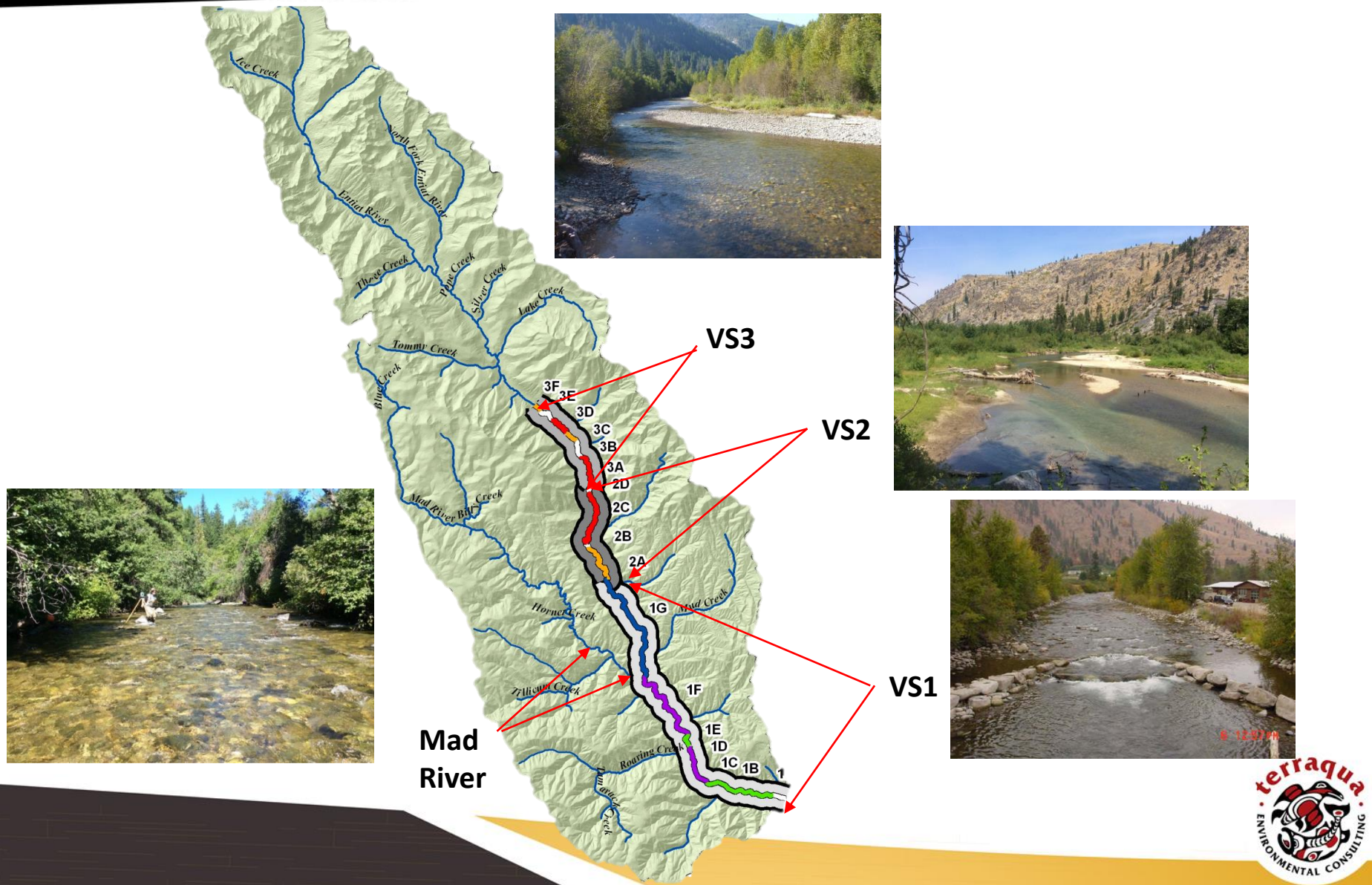
April 6, 2016



Update on Results from Entiat IMW



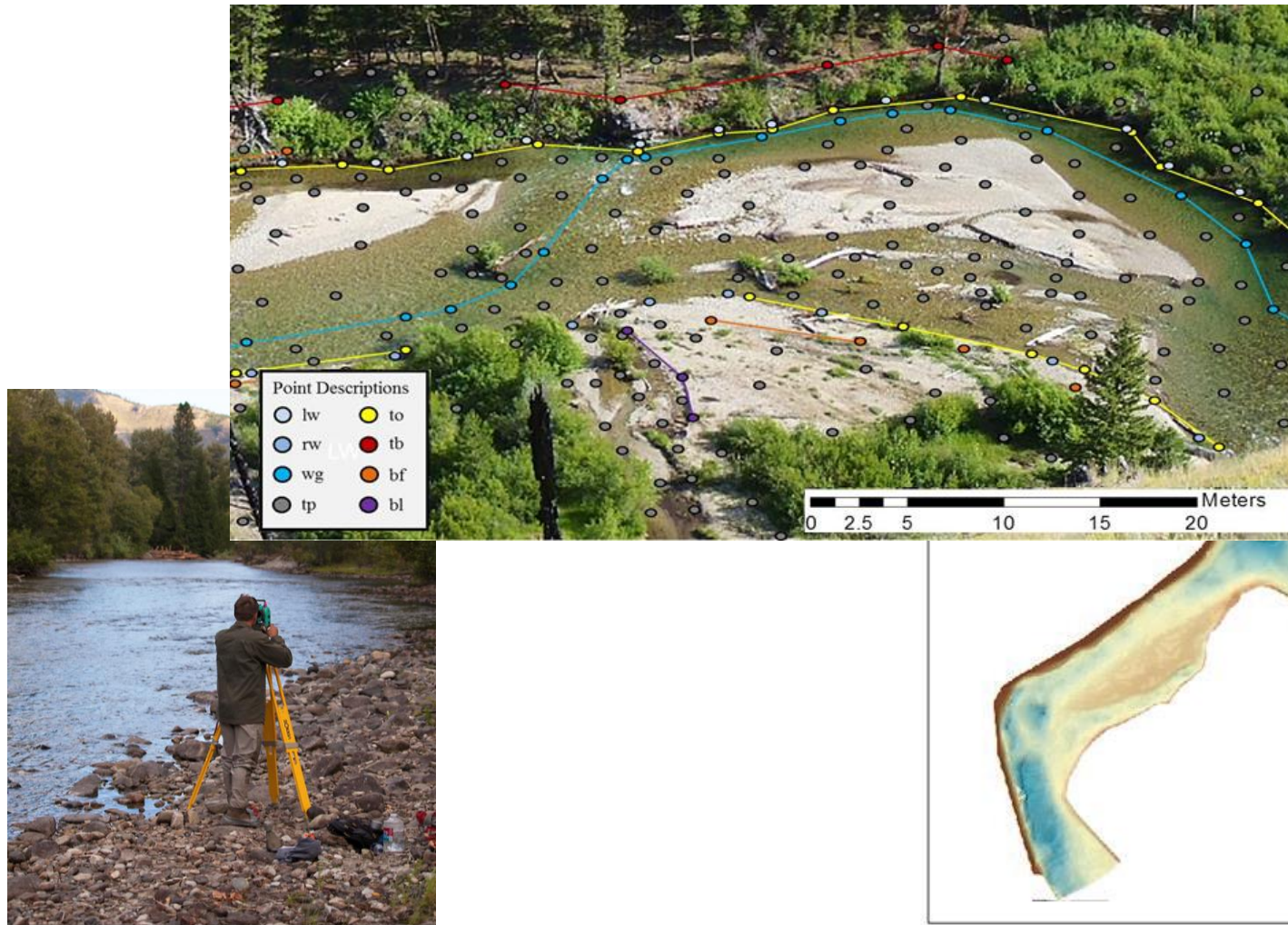
Experimental Design



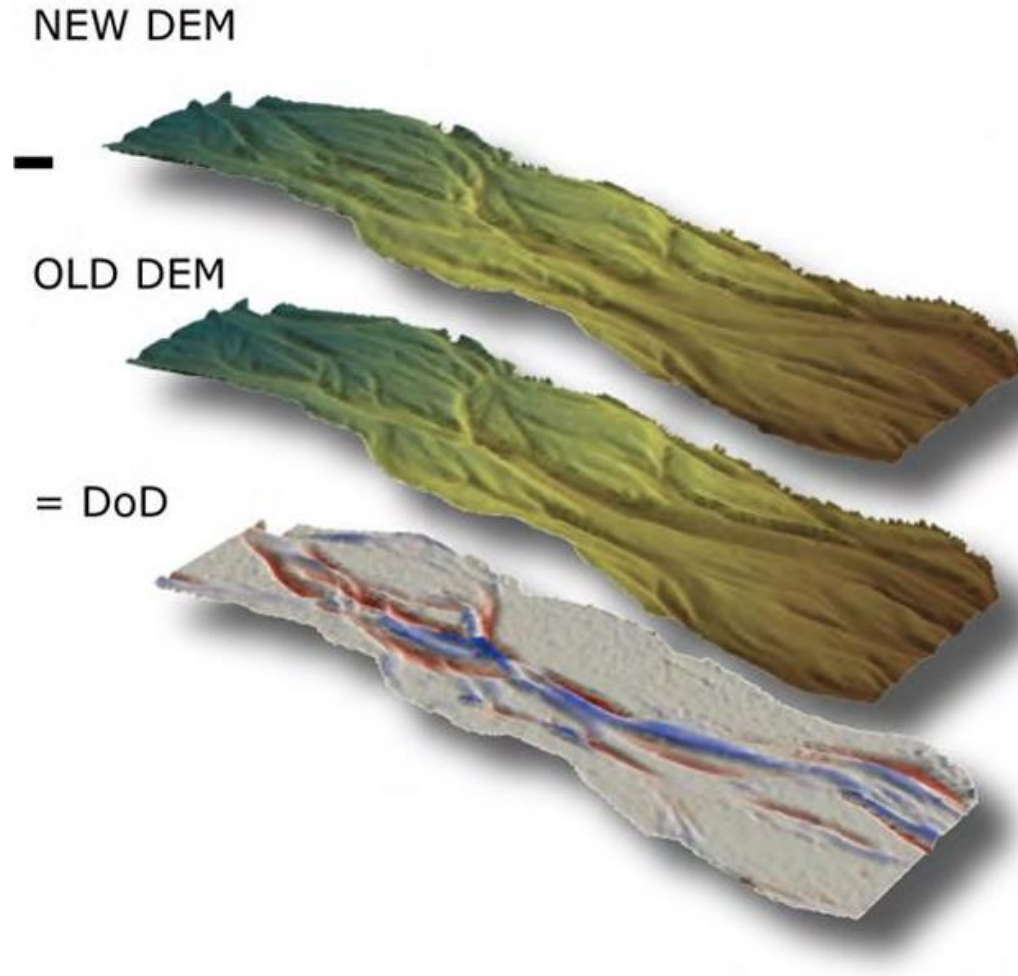
Habitat and Fish Monitoring



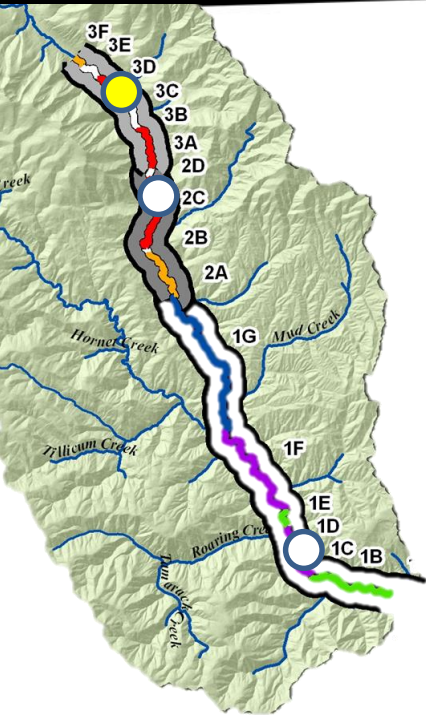
Habitat Monitoring



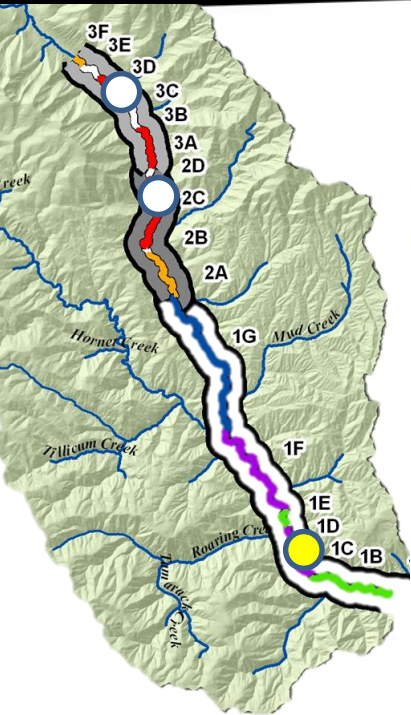
Geomorphic Change Detection



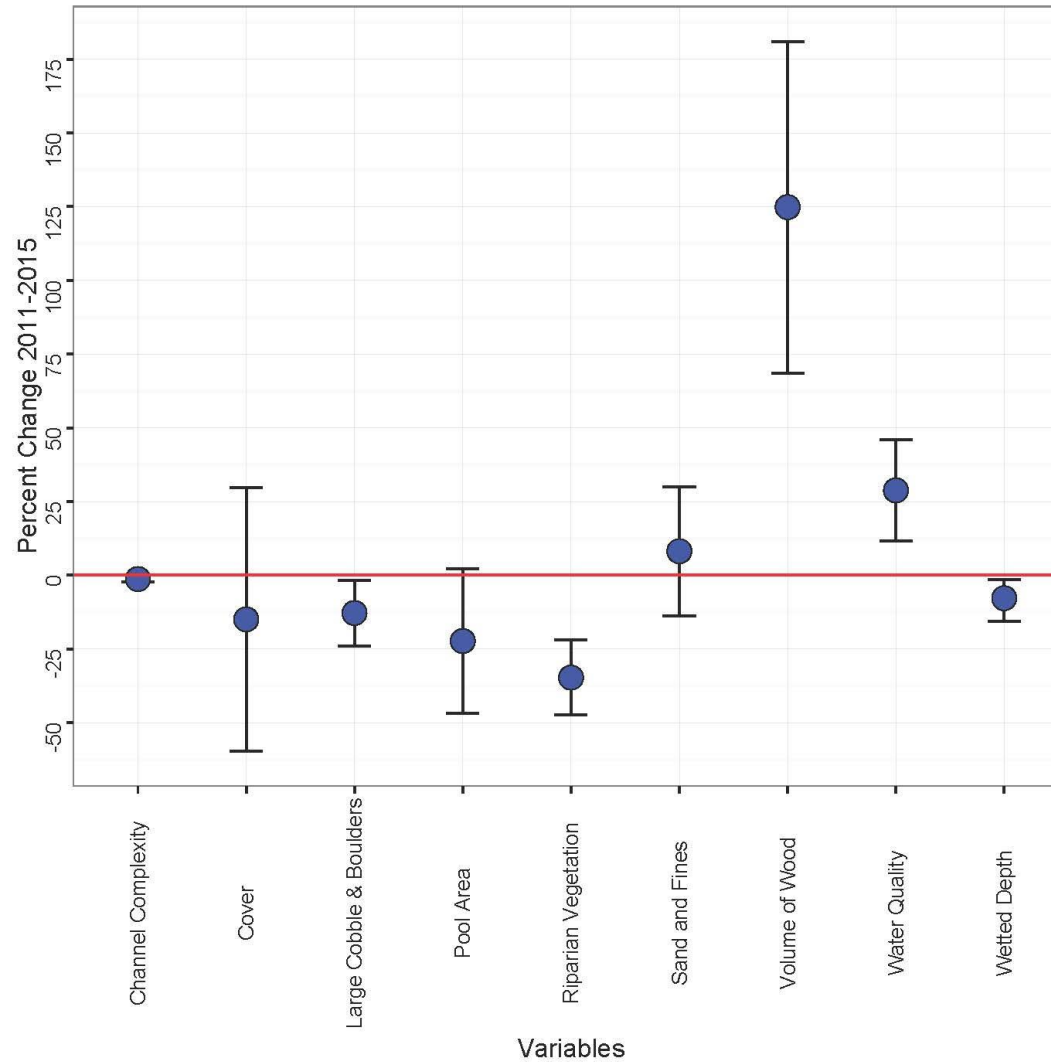
Results to Date: Habitat - Geomorphic change



Results to Date: Habitat - Geomorphic change



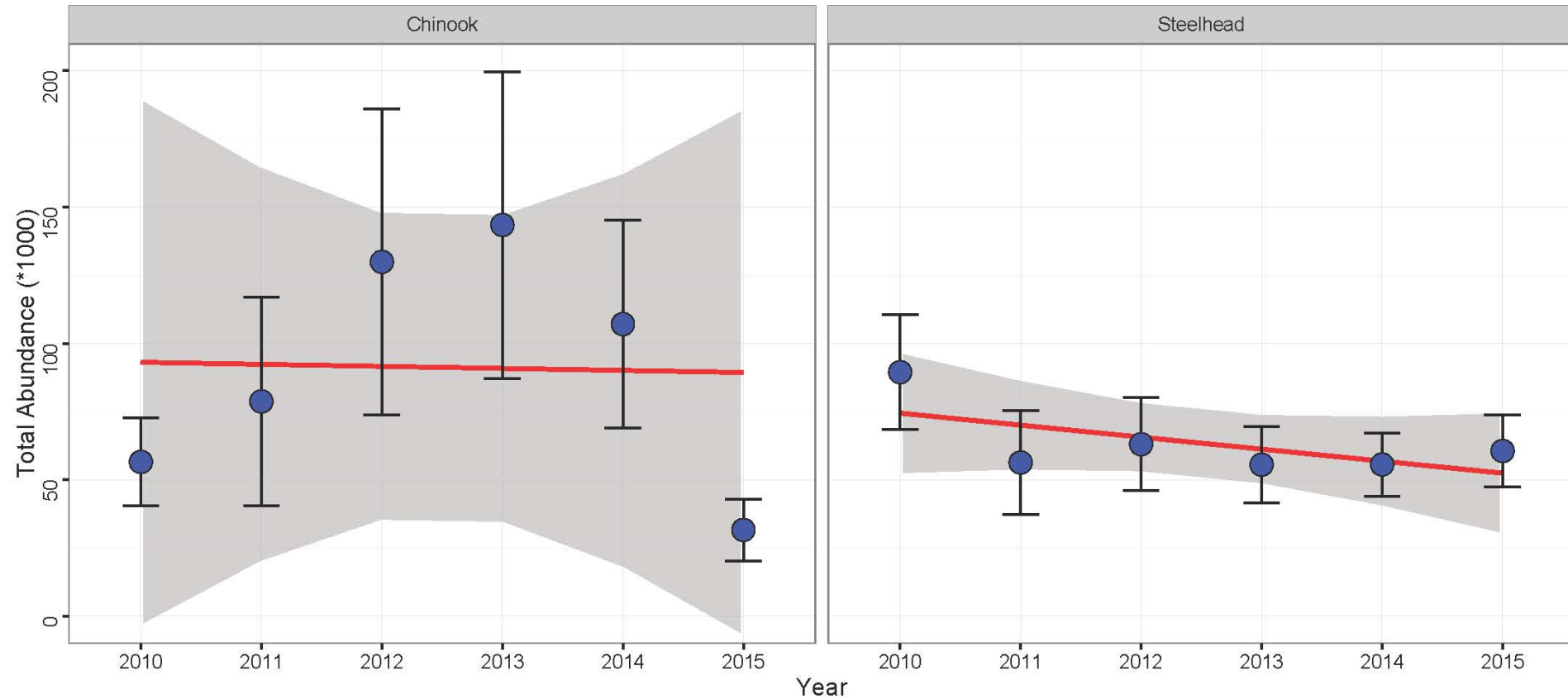
Results to Date: Habitat



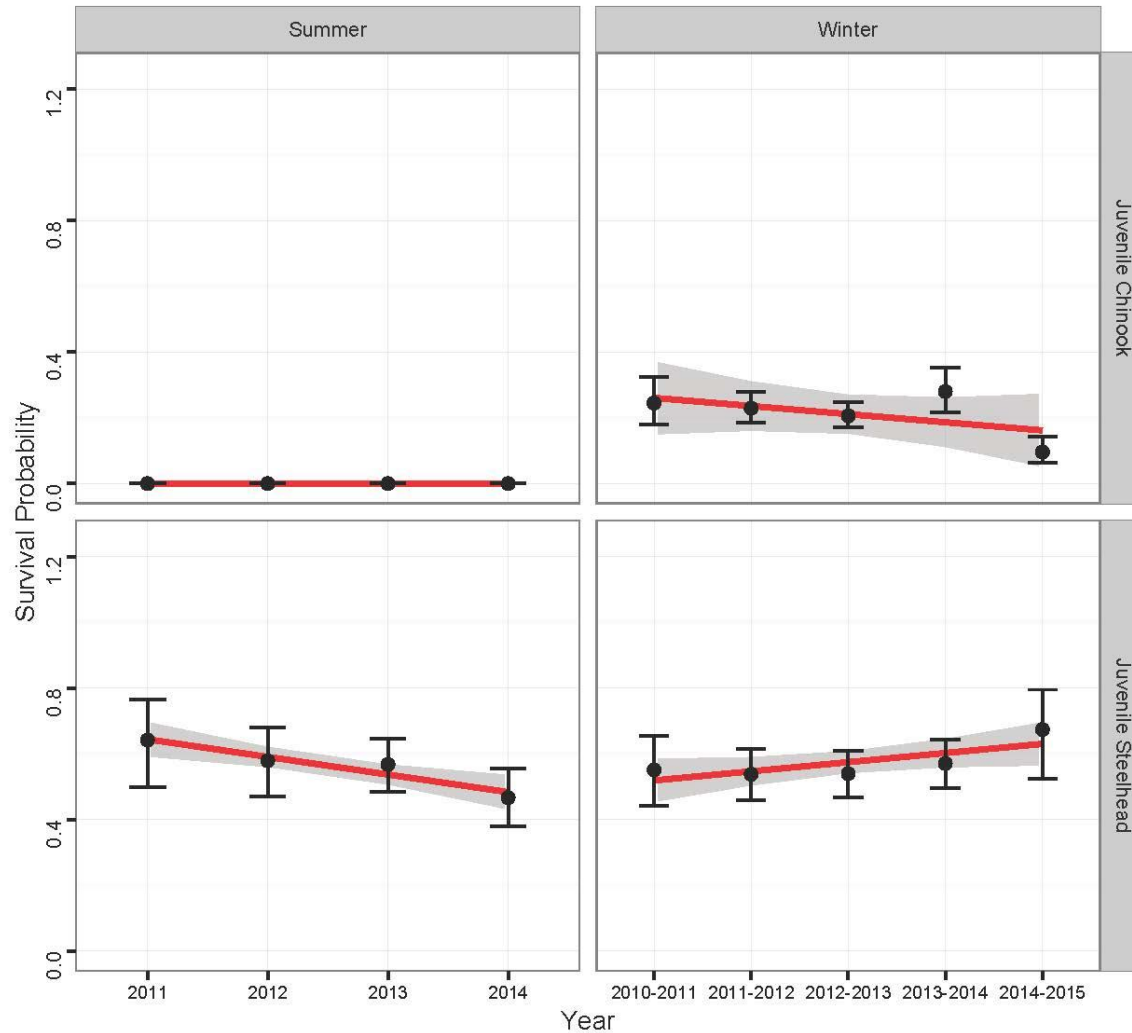
Results to Date: Fish Response

- Results from effectiveness monitoring for spring Chinook and steelhead
 - Abundance
 - Survival
 - Production
 - Productivity
- Annually and by season: winter and summer
- At the IMW (mainstem Entiat and Mad River) scale and valley segment scale

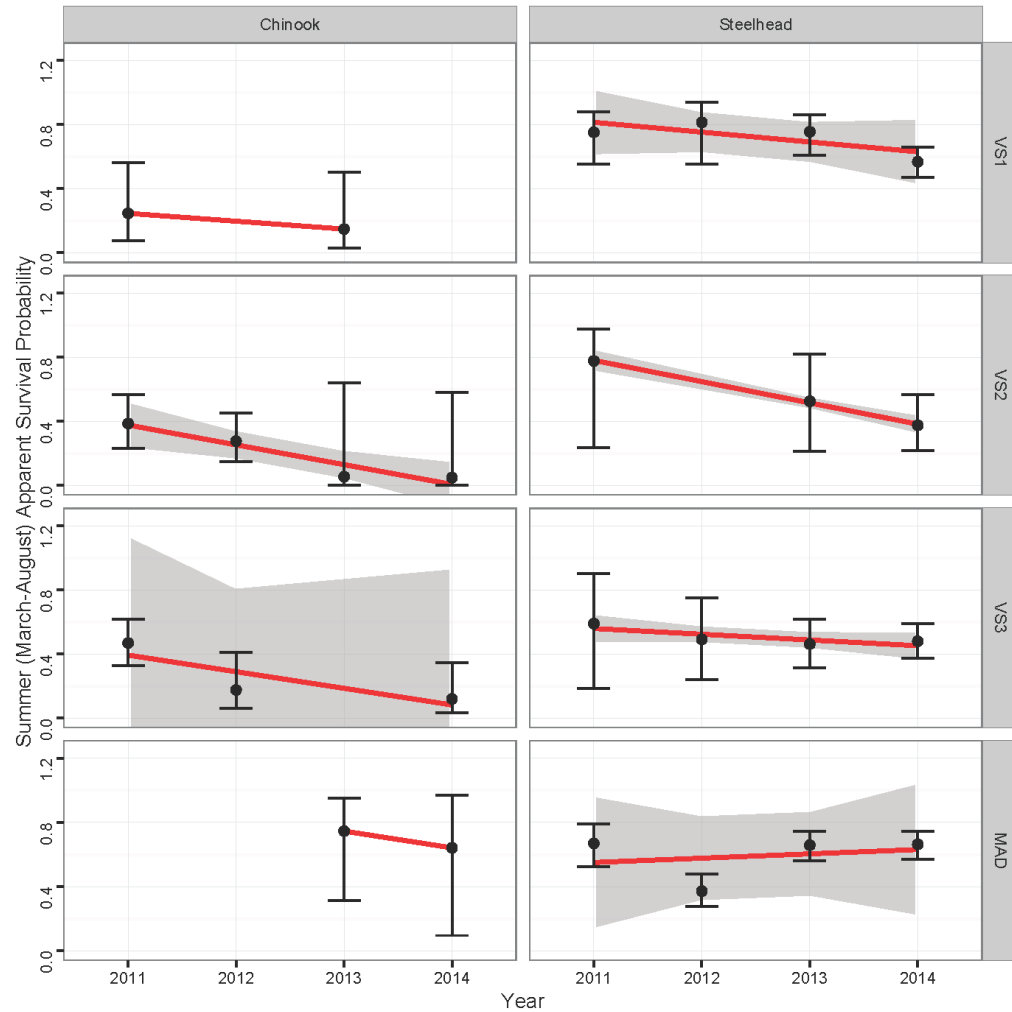
Results to Date: Juvenile Fish Abundance



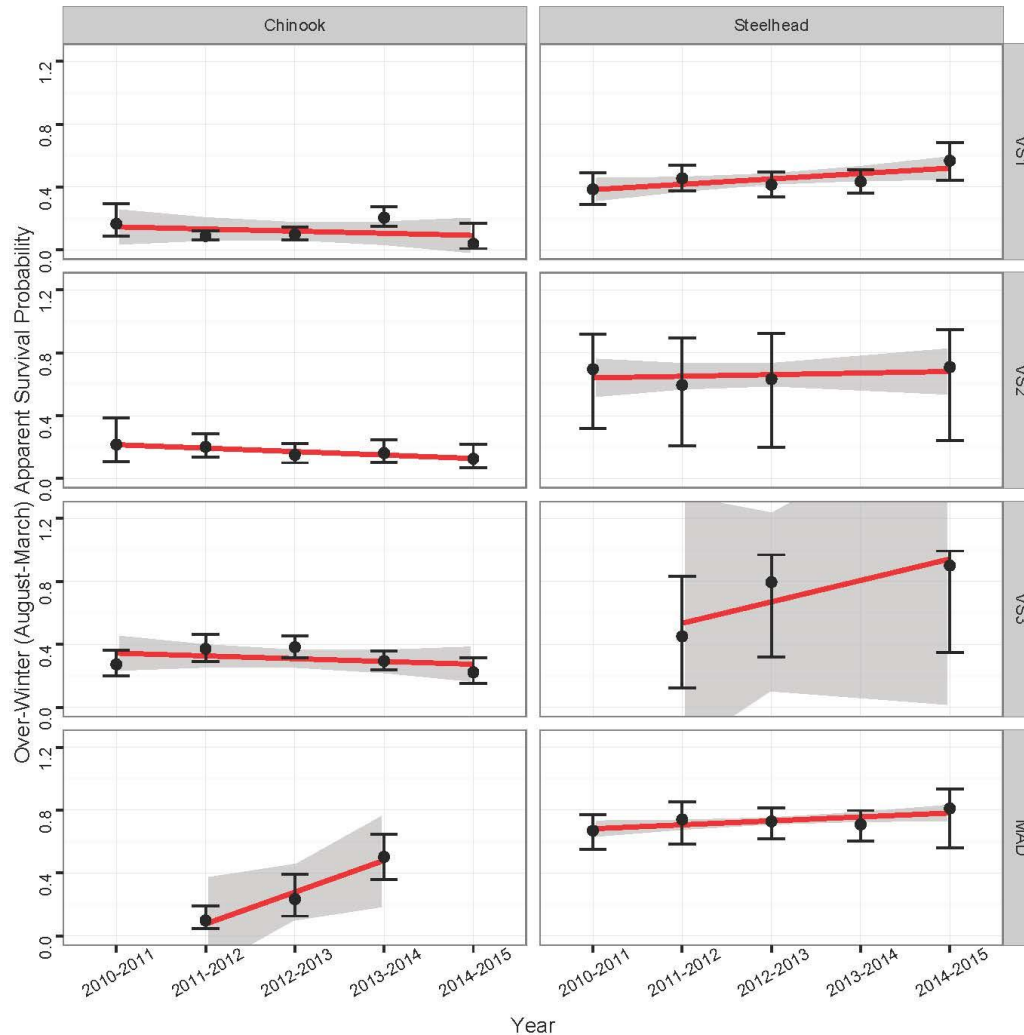
Results to Date: Annual Survival within IMW



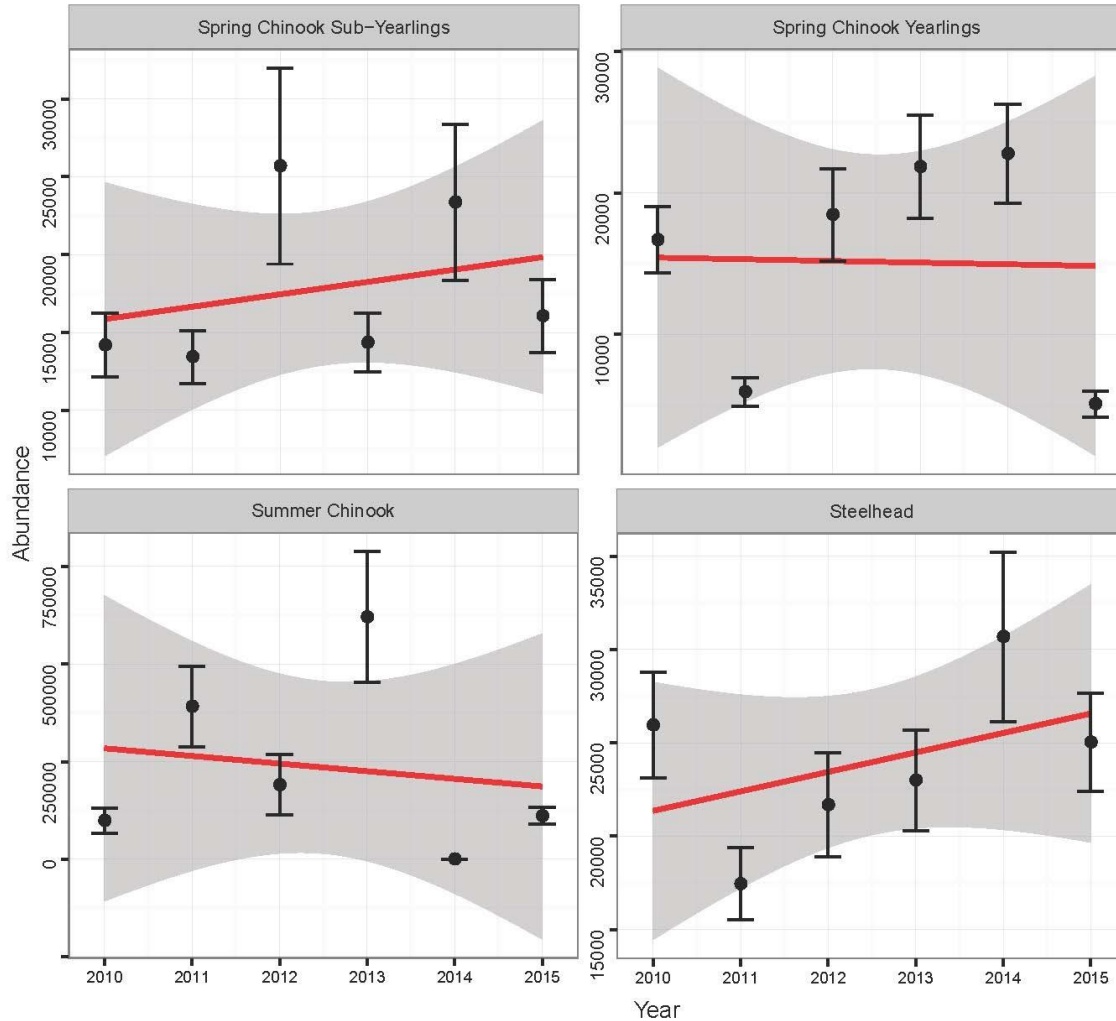
Results to Date: Summer Survival by Valley Segment



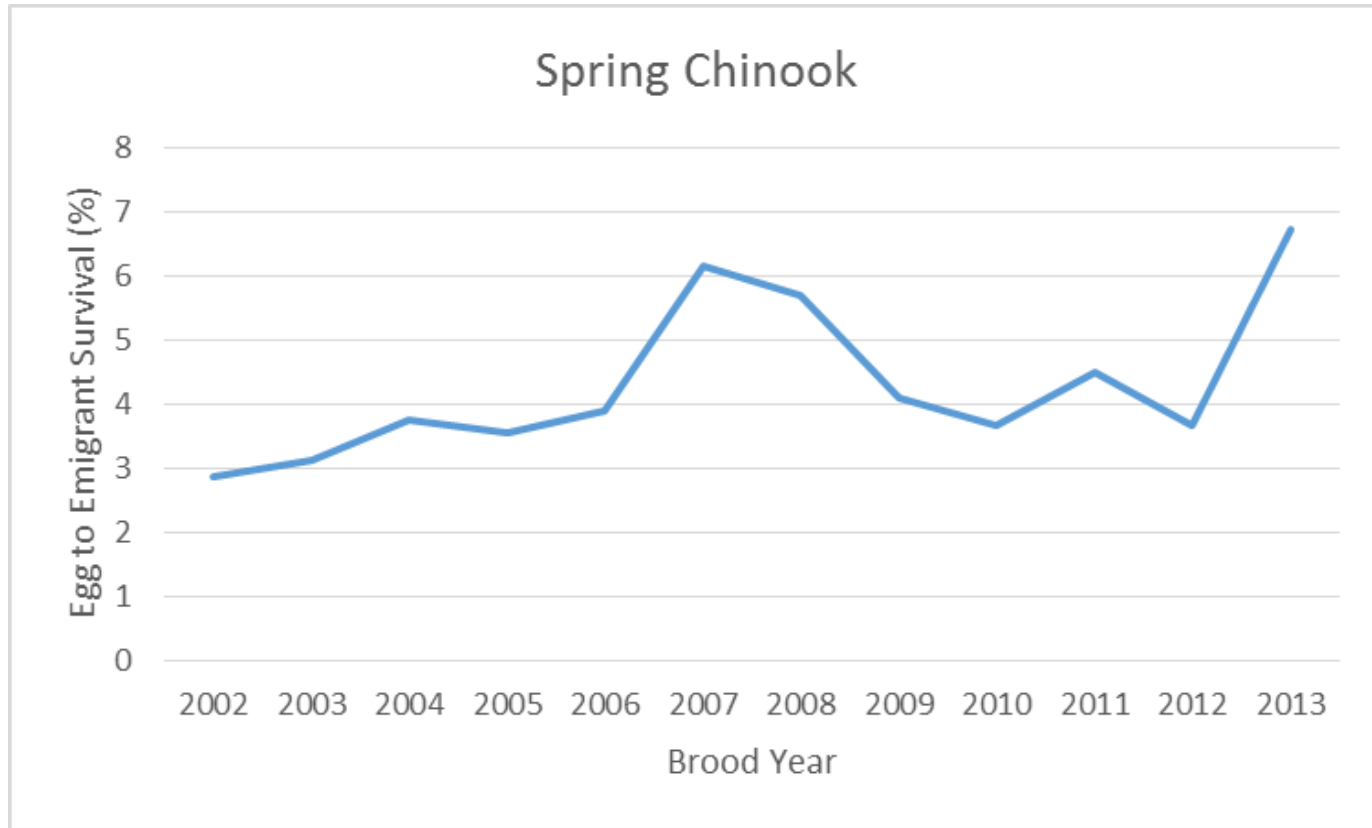
Results to Date: Juvenile Fish Winter Survival



Results to Date: Emigration from the Entiat



Results to Date: The Holy Grail = Productivity



Conclusion

- Have a had a real impact on the amount of wood in the river
- Other habitat features important to fish not as great a response or a negative response, but it is early days yet.
- No real change in juvenile Chinook and steelhead parr abundance at the IMW scale
- No real increase in annual survival, but maybe a positive trend for steelhead in the winter
- No increase in survival in the valley segments that were targeted for restoration
- Production trending up for steelhead

Conclusion

- Habitat and fish population restoration not easy to do in the “real world”
- Constraints on what can be done in the instream environment
 - Natural geomorphology
 - Design/permitting
 - Funding
 - Societal
- Continue to strive for as big a restoration impact as possible
- Continue to monitor fish and habitat response to account for many factors involved