The Meacham Story: Designing Restoration for Climate Change Resiliency - Version 2

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Objectives:

- CTUIR restoration approach
- Brief Project Overview
- The Meacham Story
  - Temperature
  - Fish
  - Climate Change
- Conclusions

~400 cfs

~2,500 cfs
AMBITION

The Journey of a Thousand Miles Sometimes Ends Very, Very Badly.
Using First Foods-Based River Vision to Guide Restoration

Serving Order

River Vision Touchstones

Hydrology

Restored Floodplain and Increased First Foods for Tribal Use

(Jones et al. 2011)
Meacham Restoration Activities
Temperature

Scott O’Daniel, Unpublished Data 2018
If you hold a cat by the tail you learn things you cannot learn any other way.
Fish & Wood

- More bankfull wood in treatment than control (p=0.002)
- This doesn’t hold true at summer base flows (p=0.092)
- There isn’t a difference in STS density Control x treatment (p=0.471)

Data Courtesy of Kaylyn Costi: CTUIR Bio-Monitoring
Fish & Wood - Continued

- There is a difference in STS abundance Control x treatment (p=0.001)
- The average abundance was 119% more in treated across years and seasons

Data Courtesy of Kaylyn Costi: CTUIR Bio-Monitoring
Fish & Wood: Recommendations

- Re-assess the process-based needs
- Will the fish respond to more wood?
General Design Considerations

- The future
- Size Matters!
- Resiliency is key!
Specific Design Elements

- Floodplain Reconnection
- Existing Cool Water
- Creating Cooler Water Habitats
- Promoting Hyporheic Exchange
Acknowledgments
Questions...

“If the land mechanism as a whole is good then every part is good, whether we understand it or not...To keep every cog and wheel is the first precaution of intelligent tinkering.”

~Aldo Leopold, Conservation (1938)