

# Kelly Bar Off-Channel Habitat Enhancement Project

## North Fork Salmon River

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CDFW Fisheries  
Restoration Grant  
Program



# River Setting

## Fisheries:

- Coho
- spring and fall-run Chinook
- summer and winter steelhead
- Pacific lamprey
- green sturgeon

## Limiting Factors:

- High river water temperatures
- Lack of off-channel habitat (Winter and Summer)

## Other Impairments:

- Lack of riparian cover
- Depleted large wood
- Timber harvesting and mining impacts
- High sediment loads





# Project Objectives

- Create/enhance off-channel high flow (winter) and thermal (summer) refugia habitat
- Increase large wood complexity
- Increase riparian shading on the bar





# Project Approach

- Surface and groundwater elevation monitoring (WY 2015)
- Water quality monitoring (WY 2015)
- Engineering surveys and design
- Riparian Restoration Design (SRRC/PWA)
- Construction (Summer 2019)
- Post-construction monitoring





# Project Area



Photo: Whelan Gilkerson



# Off-Channel Alcoves and High-Flow Channels



Photo: Whelan Gilkerson





# Off-Channel Alcoves and High Flow Channels

## Kelly Bar Alcove





# West Bar Alcove





# Abutment Jams/High Flow Channels





# Ponds and Seasonal Channel



Photo: Whelan Gilkerson



# Kelly Pond





# Willow Pond





# Seasonal Channel





# Riparian Restoration

- Planting Islands
- Live stakes (4,000)
- Brush Baffles



Photo: Whelan Gilkerson



# Planting Islands & Brush Baffles





# Project Area

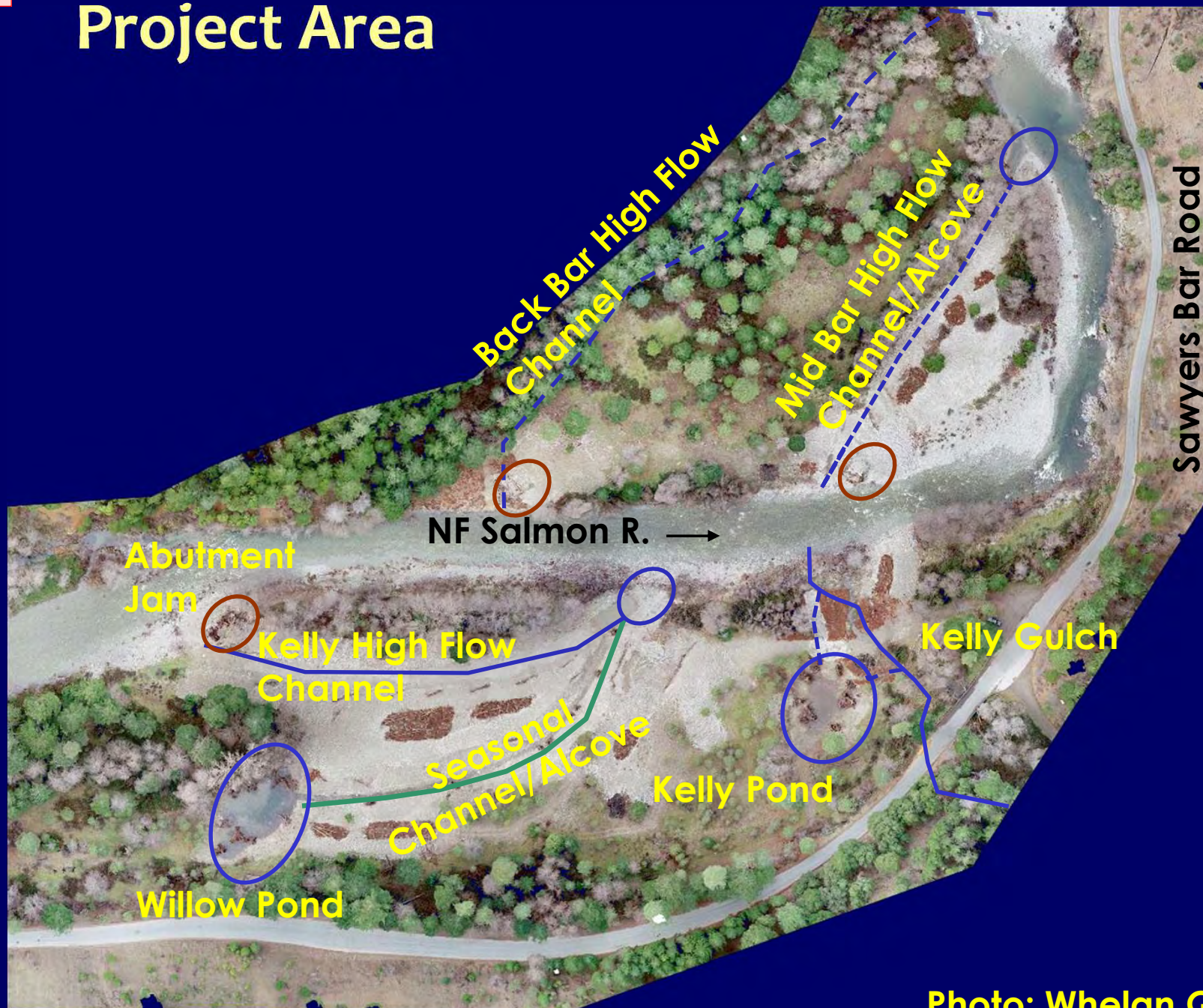
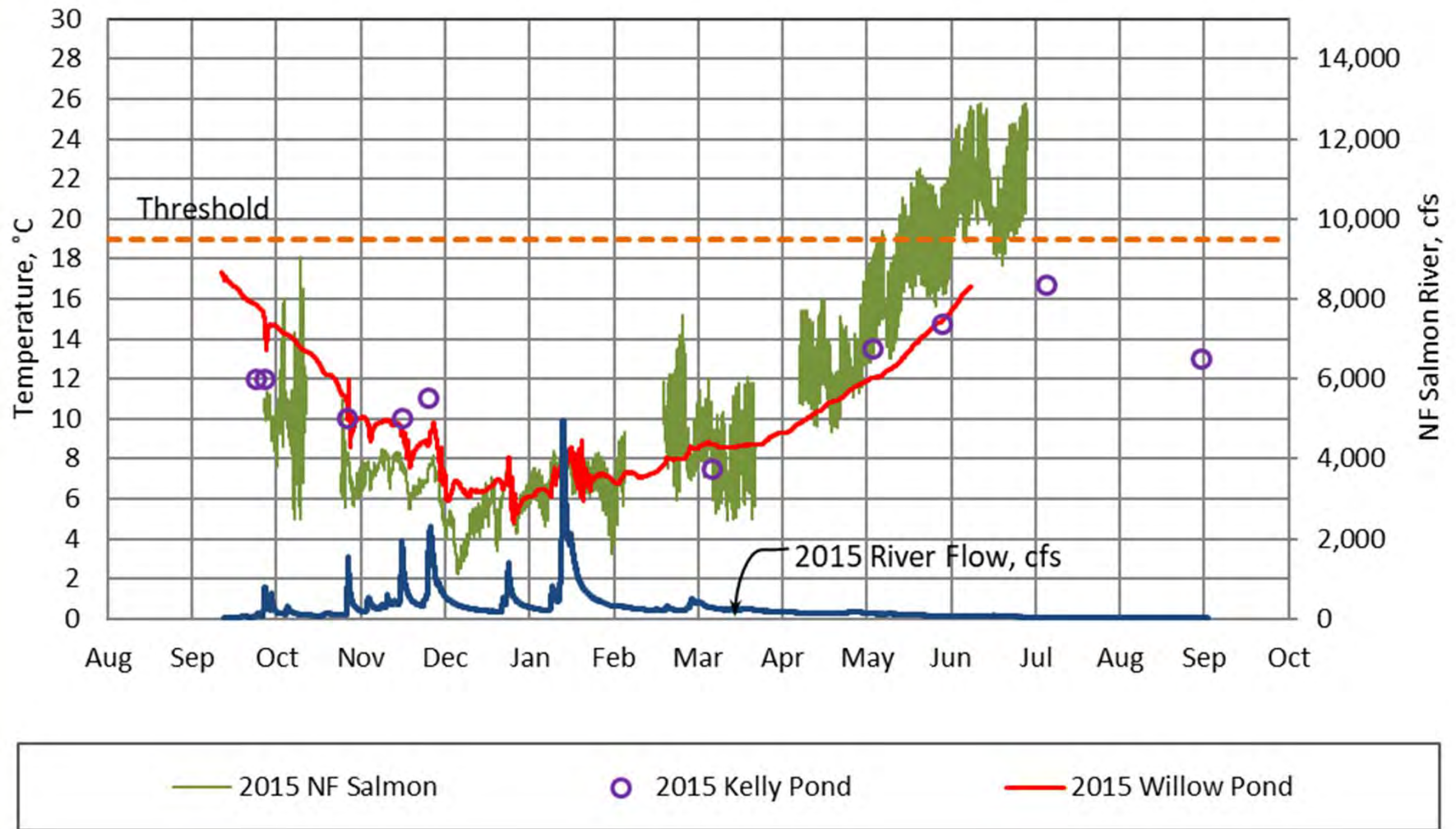


Photo: Whelan Gilkerson

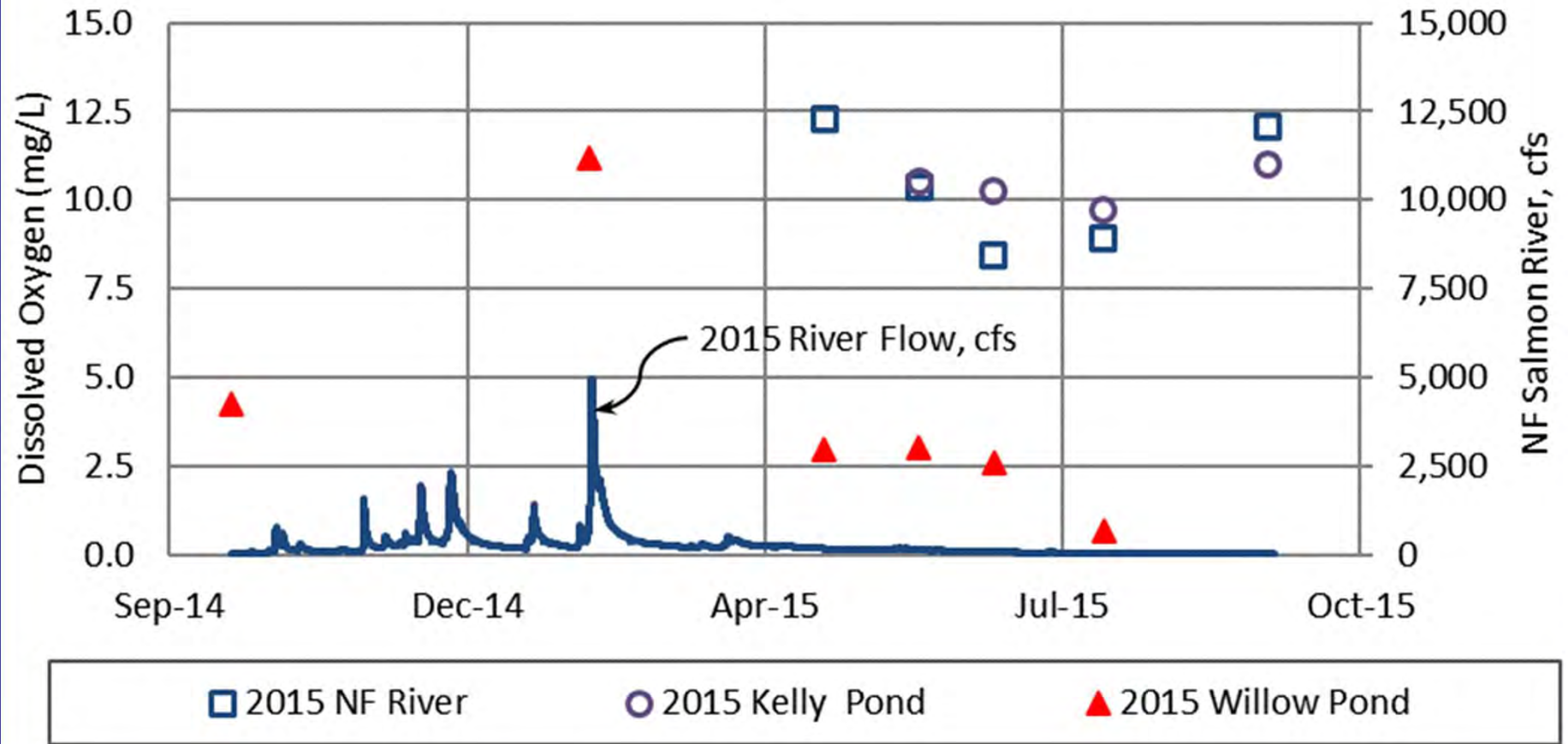


# Pre-Construction Water Temperatures



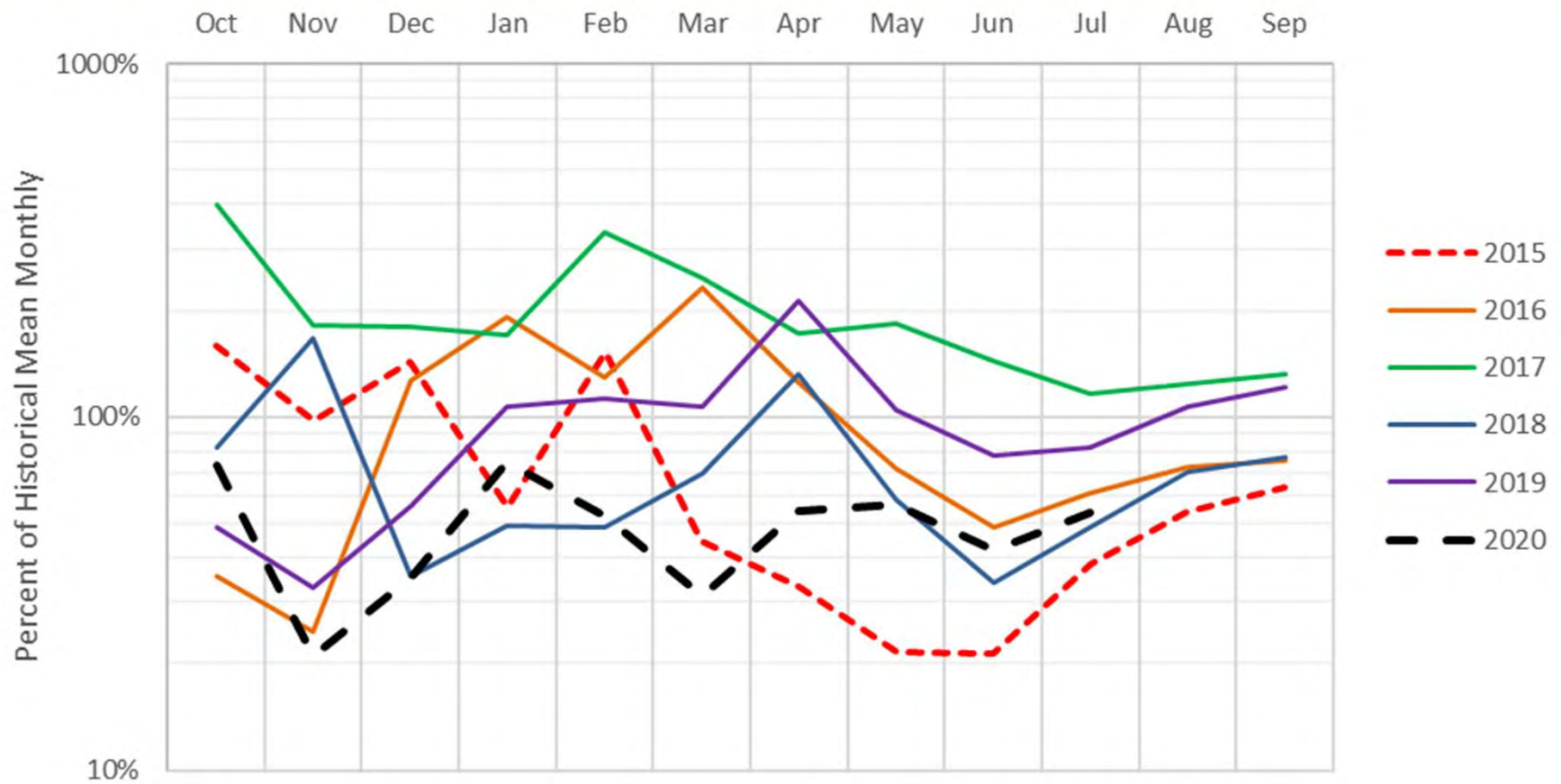


# Pre-Construction Dissolved Oxygen



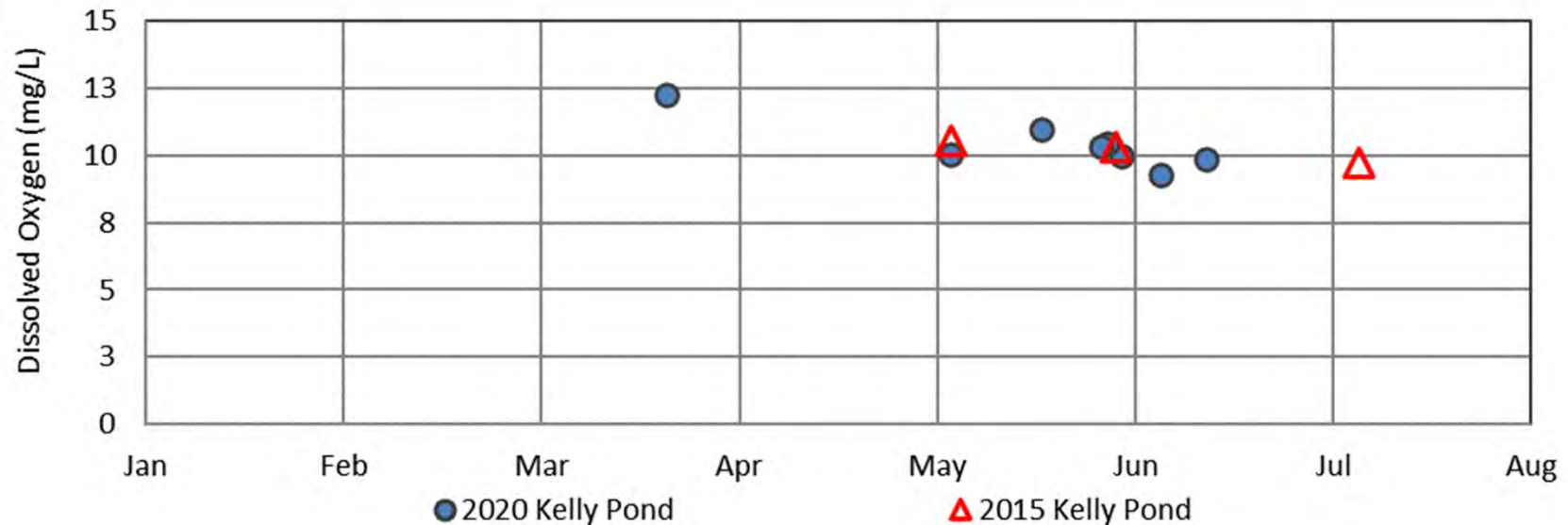
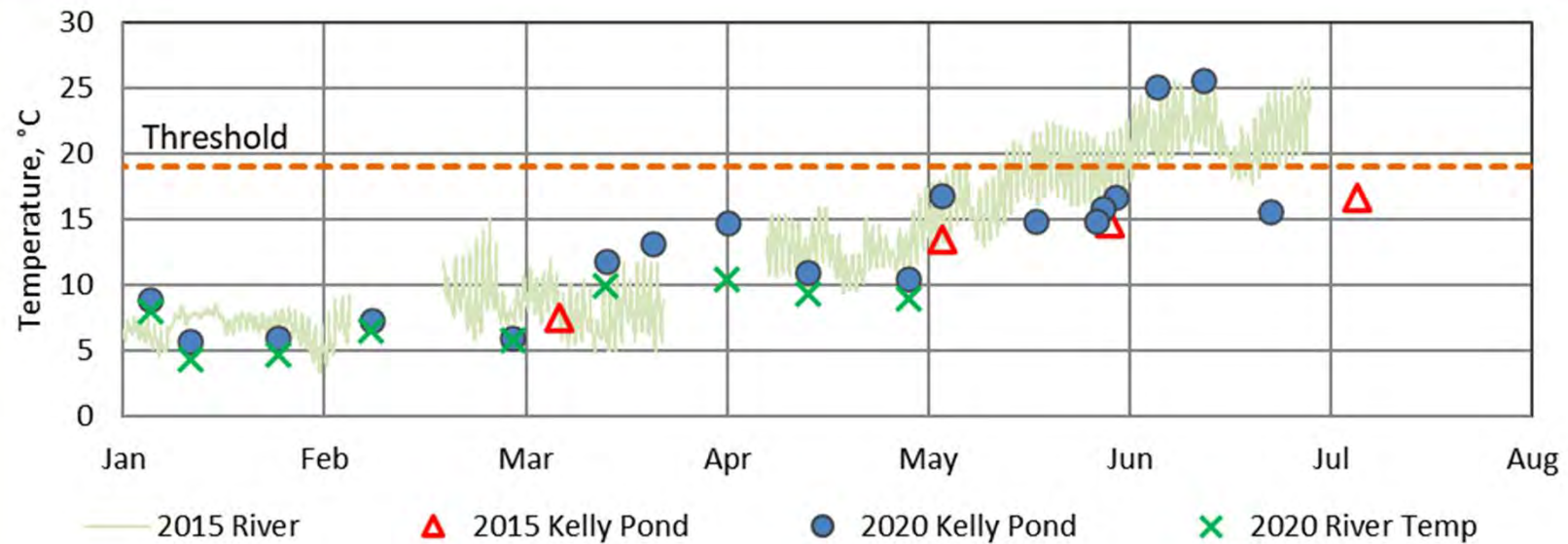


# Average Monthly Flows (Somes Bar USGS Gage 1911-2020)





# Post-Construction Monitoring-Kelly Pond

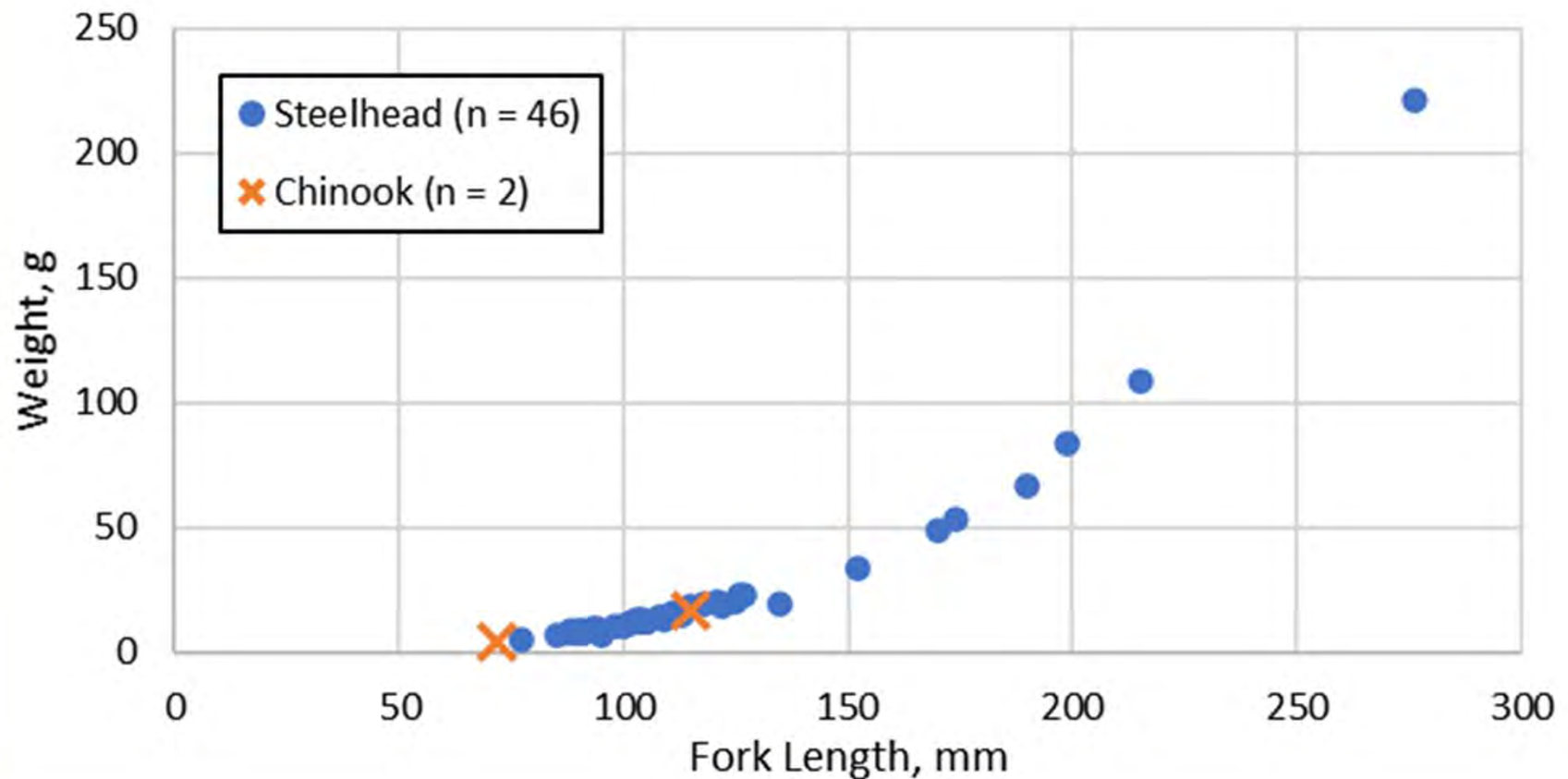




# Fish in Kelly Pond

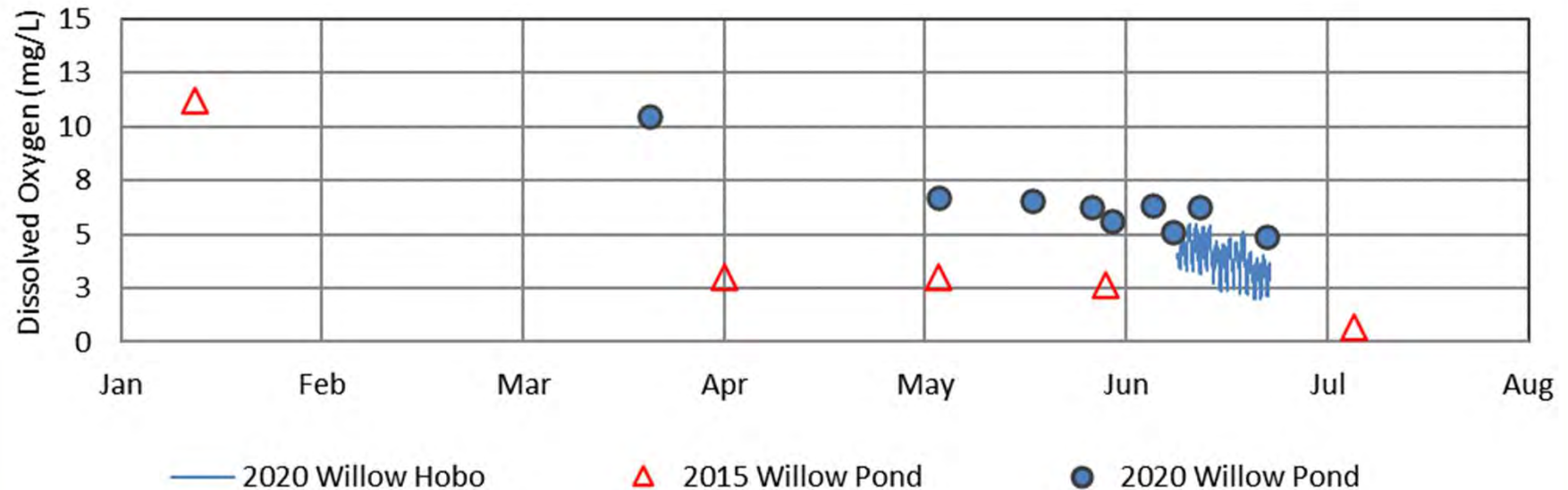
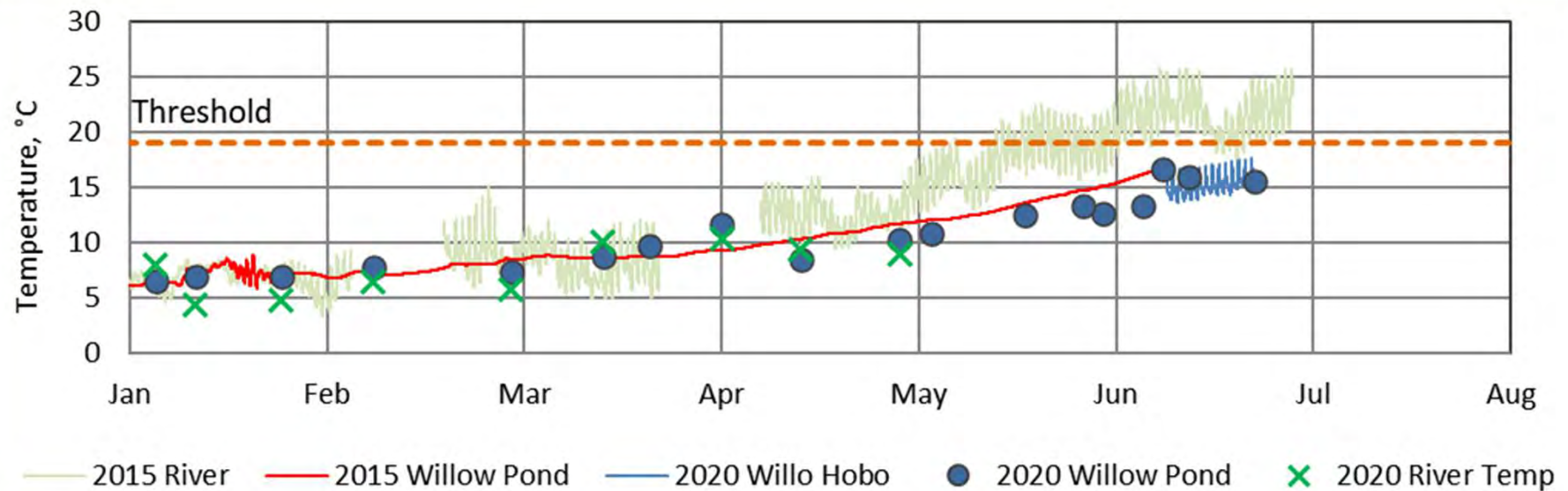
Fish Captured in Kelly Pond (June 24, 2020)

Water Temp 16.1 ° C





# Post-Construction Monitoring-Willow Pond





# Project Participants/Funders

**Melissa Van Scoyoc  
Karuna Greenberg  
Lyra Cressey  
Bonnie Bennett  
Stephan Dosch**



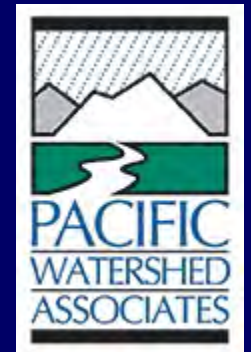
**Toz Soto,  
Karuk Tribe**



**U.S. Forest Service,  
Klamath National Forest**



**Randy Lew  
Chris Moore**



**Mark Elfgin, Margie Caisley, CDFW  
Fisheries Restoration Grant Program**

**Carmesin  
Construction**



# Questions?

