



# Yakima Basin Science & Management Conference 2019



## Kittitas Reclamation District Supplementation Program



Little Creek

July 24, 2015



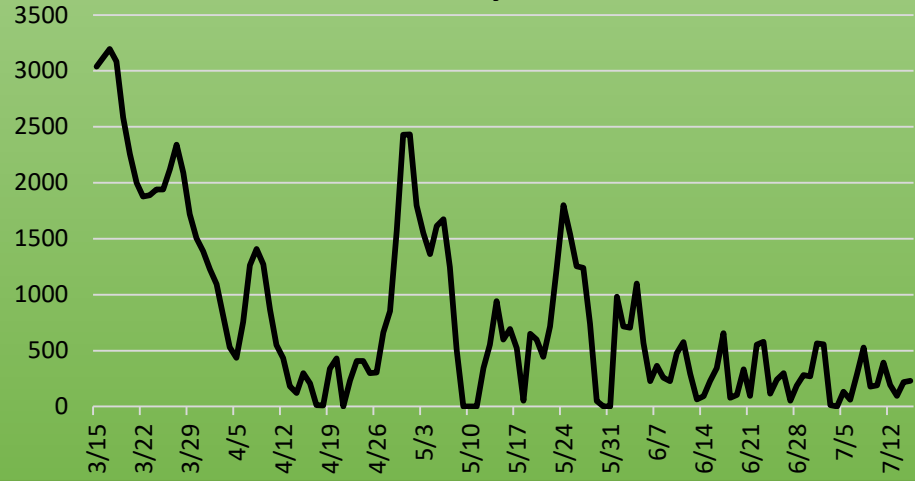
Little Creek

July 27, 2015



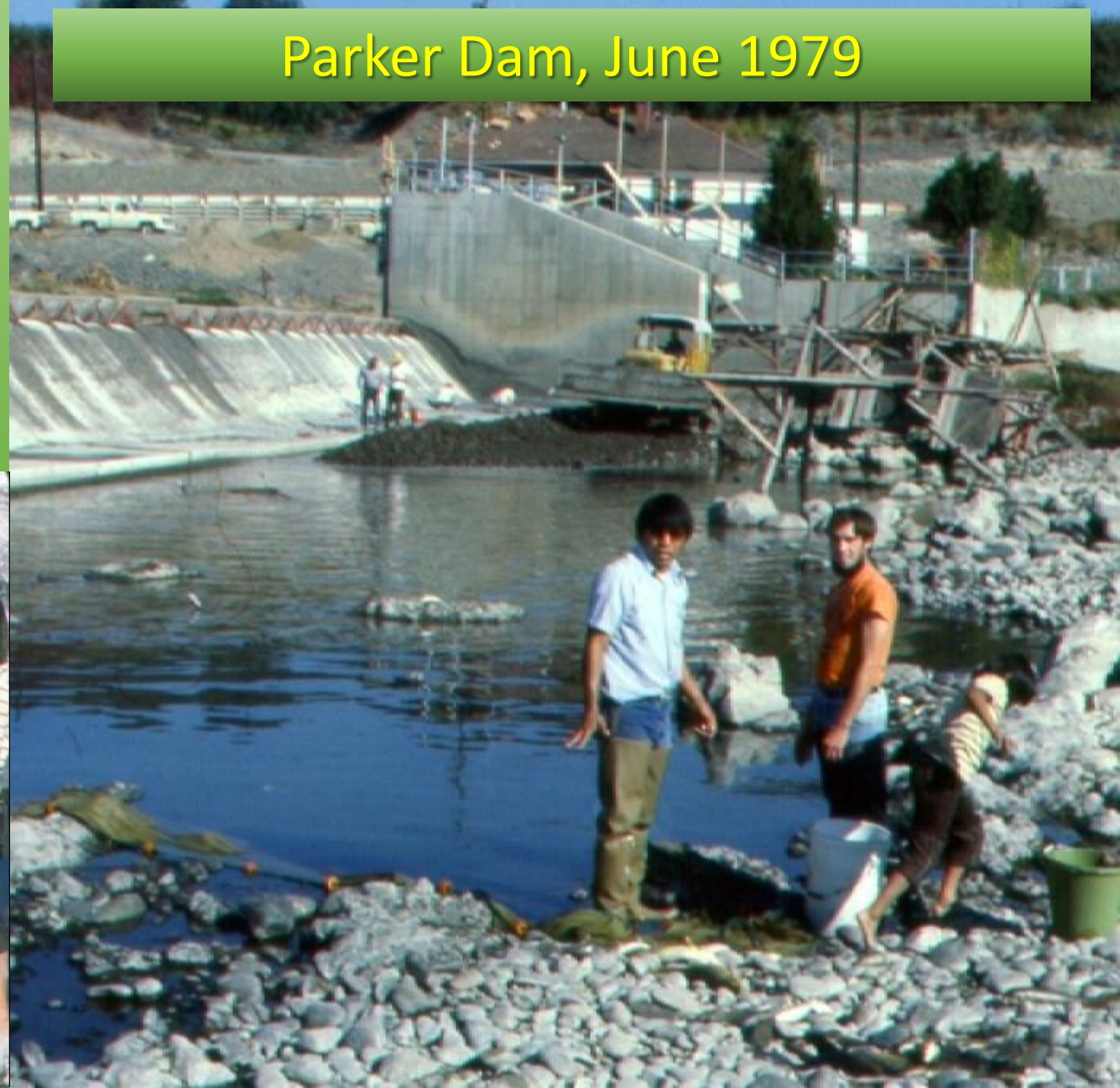
# We've Come A Long Way Folks!

Parker Daily Flow



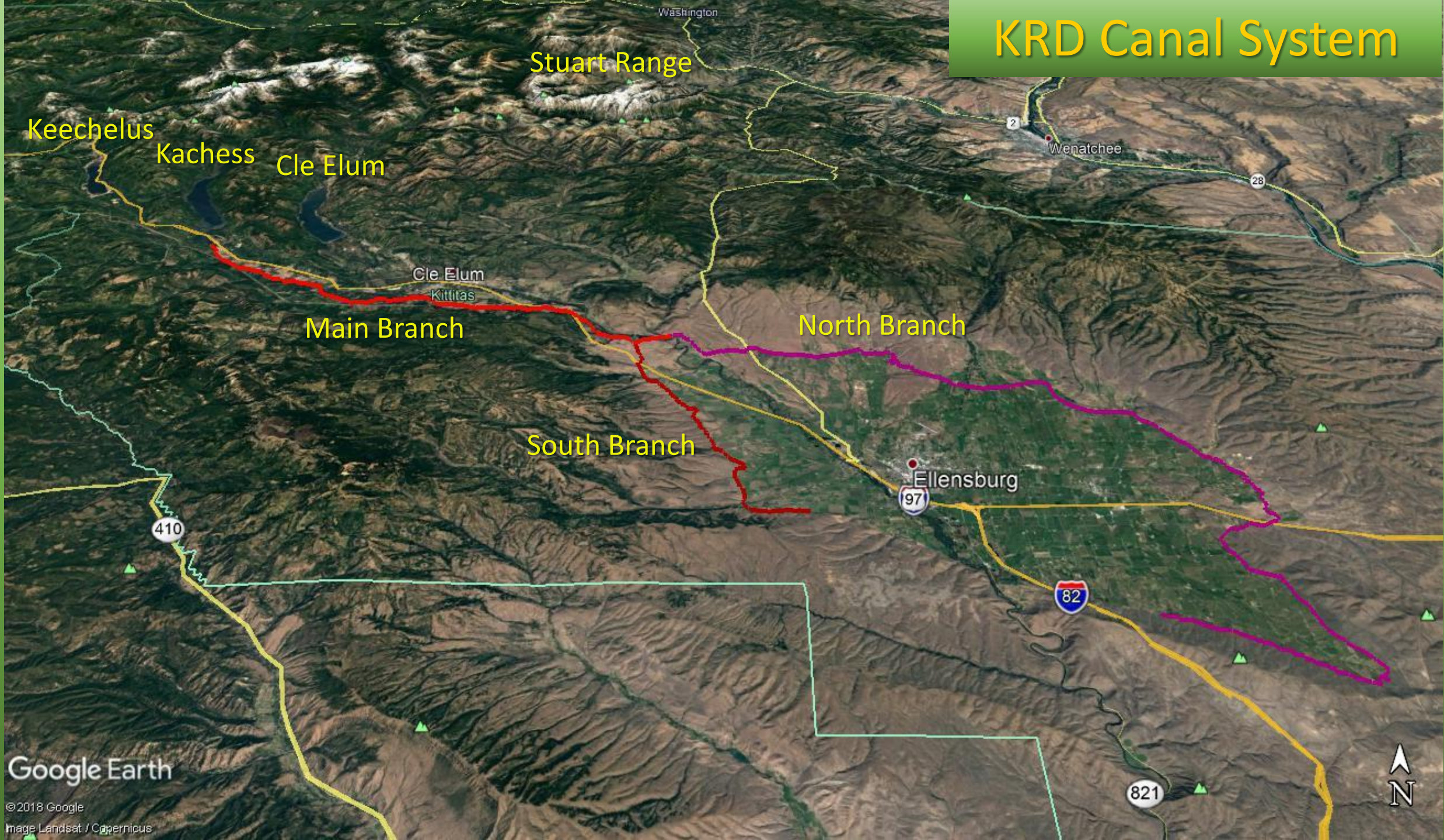
28 days  
<200 cfs  
&  
8 days  
<10 cfs

Parker Dam, June 1979





# KRD Canal System



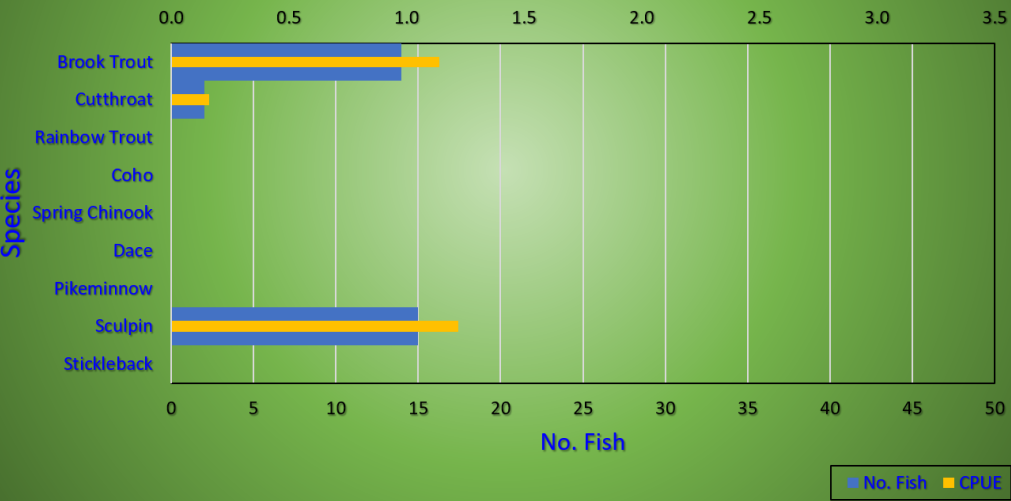
Google Earth

© 2018 Google  
Image Landsat / Copernicus



Tucker Creek: above KRD canal

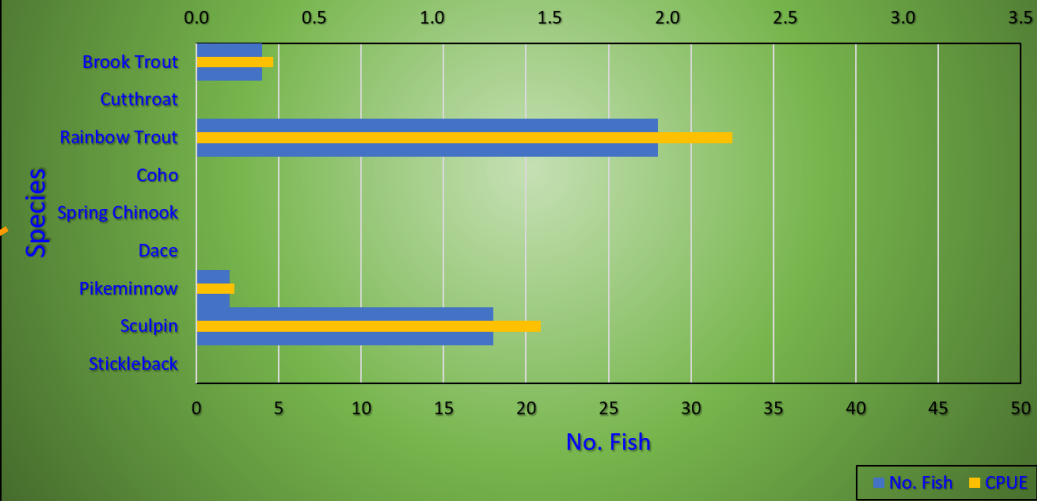
CPUE (No. fish/minute)



# Tucker Creek

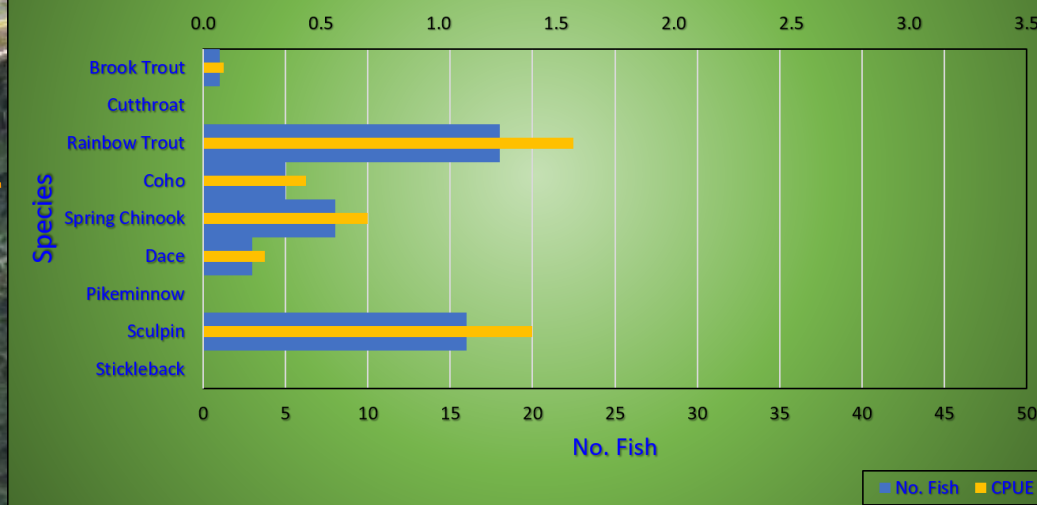
Tucker Creek: at covered bridge

CPUE (No. fish/minute)



Tucker Creek: below I-90

CPUE (No. fish/minute)





# Big Creek

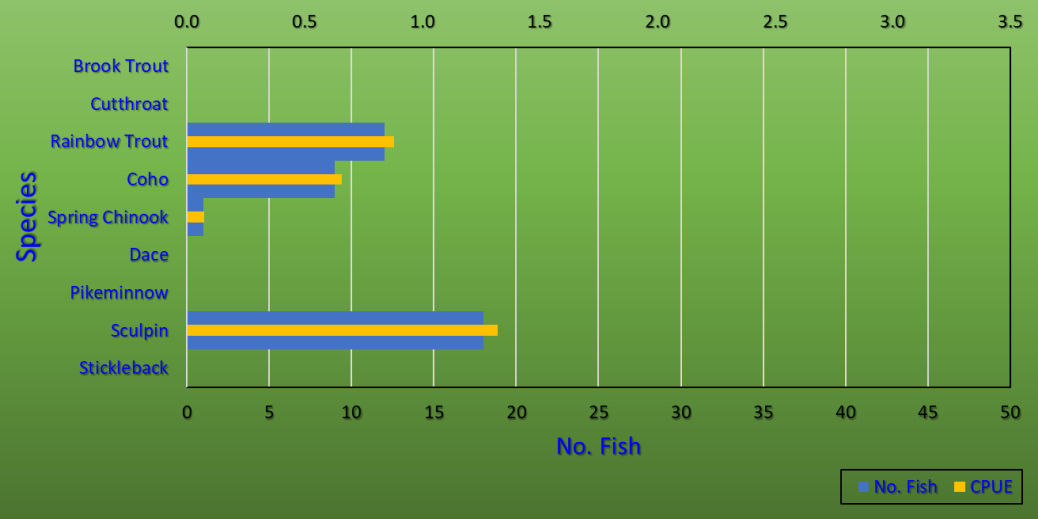


Google Earth

©2018 Google

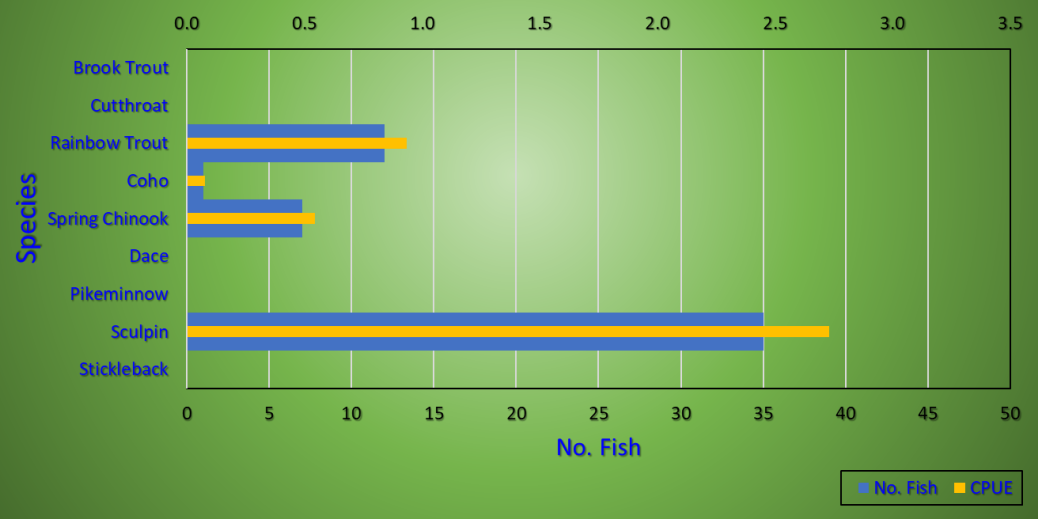
Big Creek: above KRD input

CPUE (No. fish/minute)



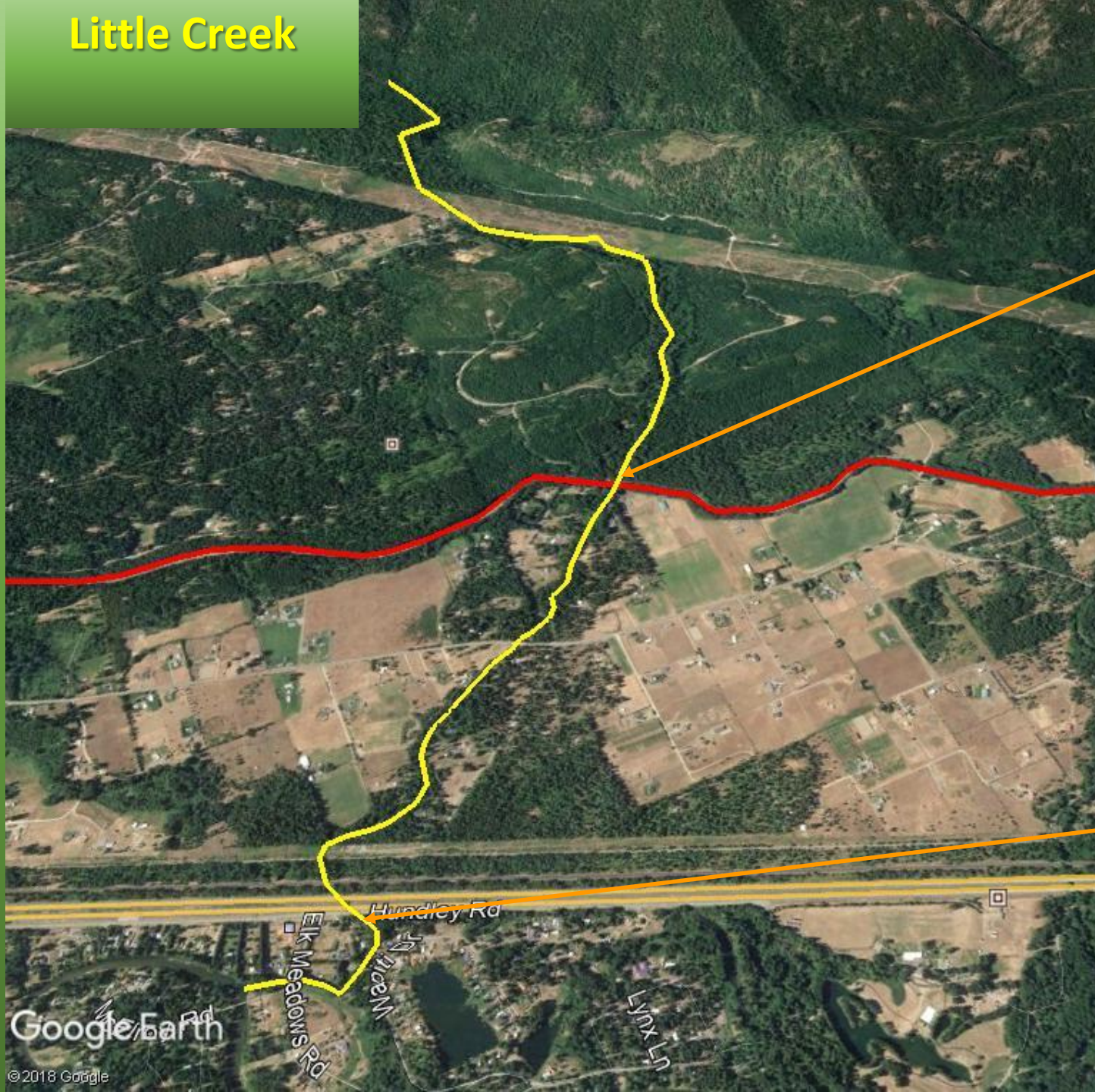
Big Creek: Ensign Ranch

CPUE (No. fish/minute)



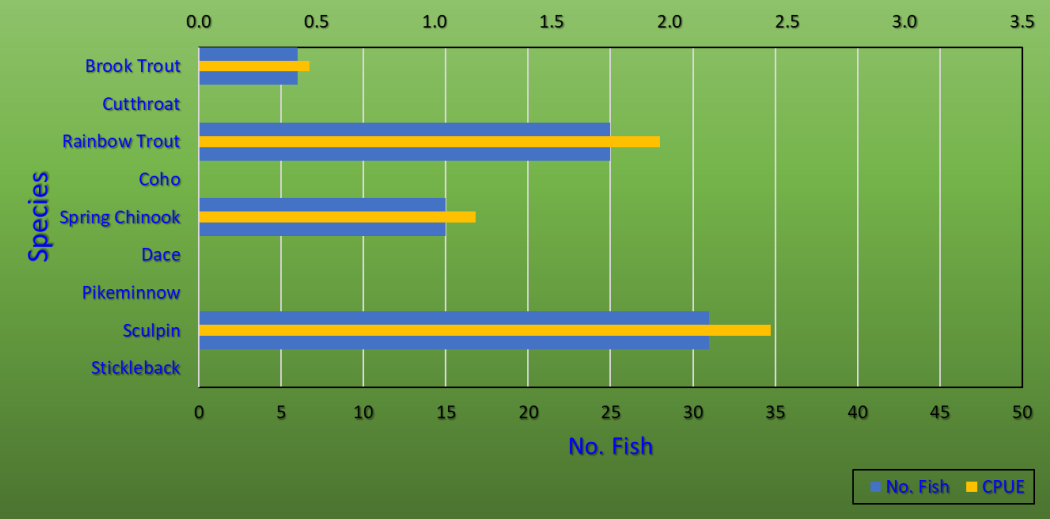


# Little Creek



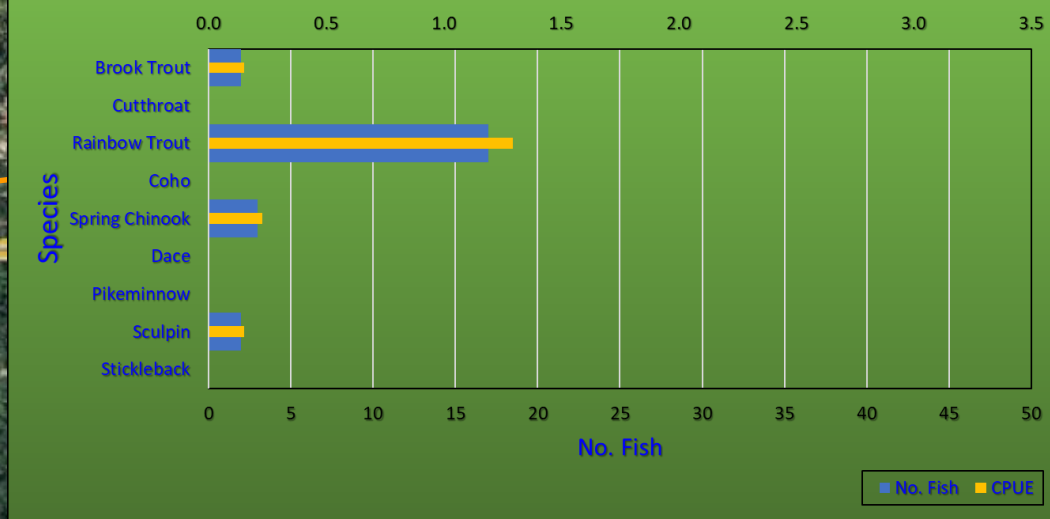
Little Creek: above KRD canal

CPUE (No. fish/minute)



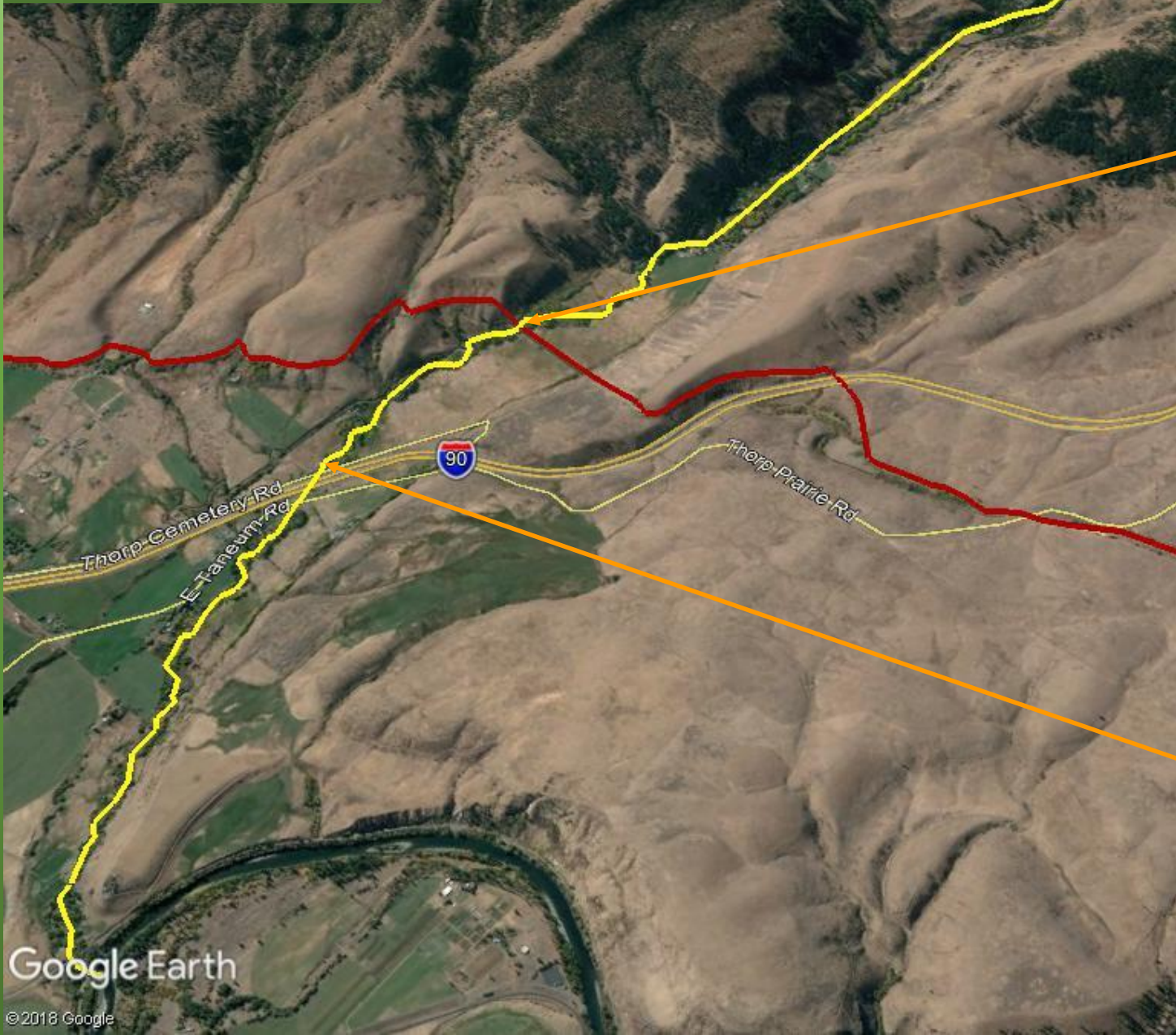
Little Creek: below I-90

CPUE (No. fish/minute)

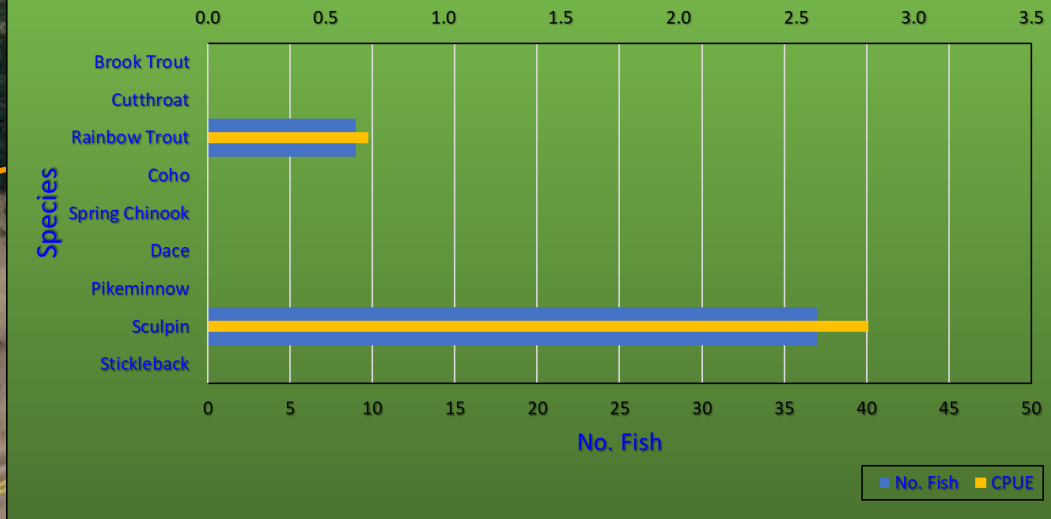




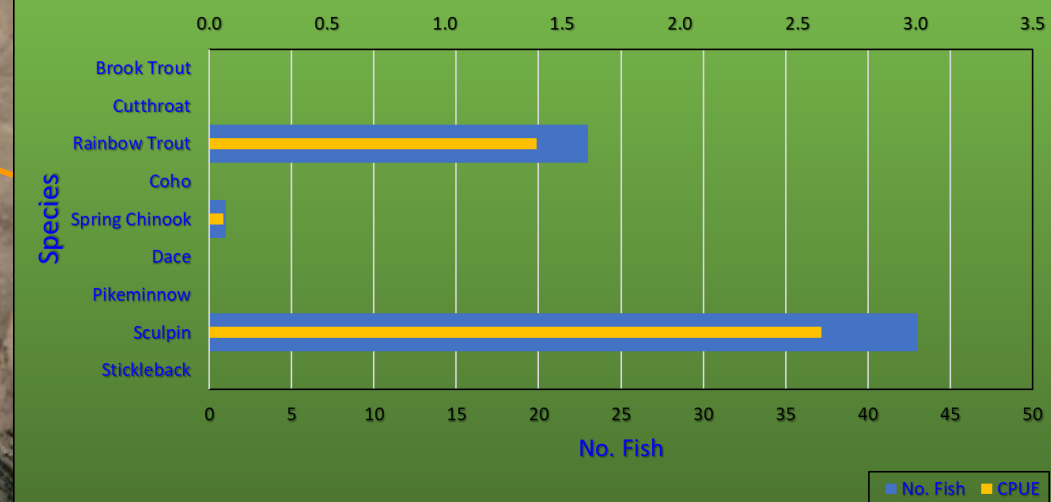
# Taneum Creek



Taneum Creek: upstream Taneum diversion  
CPUE (No. fish/minute)

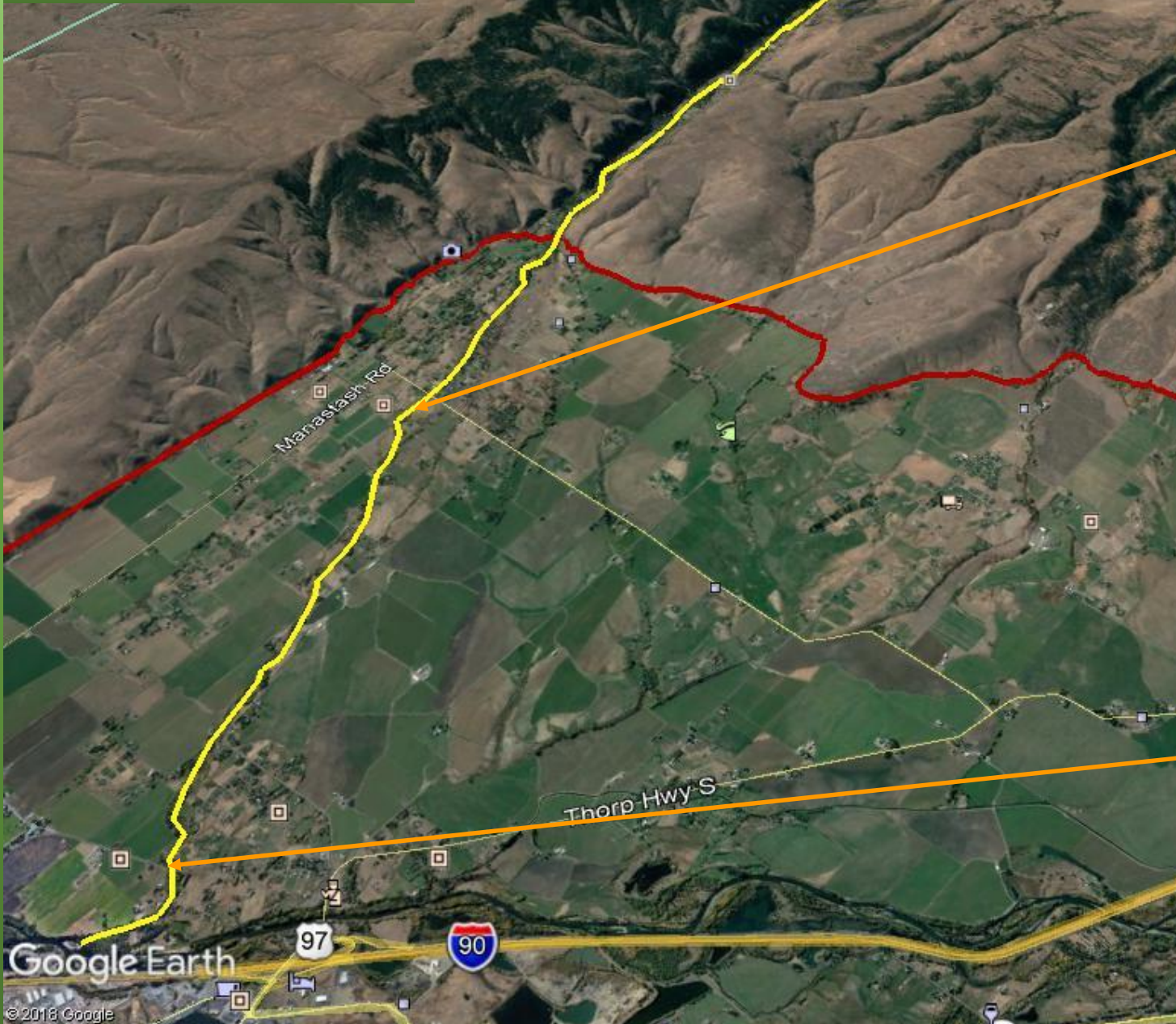


Taneum Creek: below creek bypass  
CPUE (No. fish/minute)



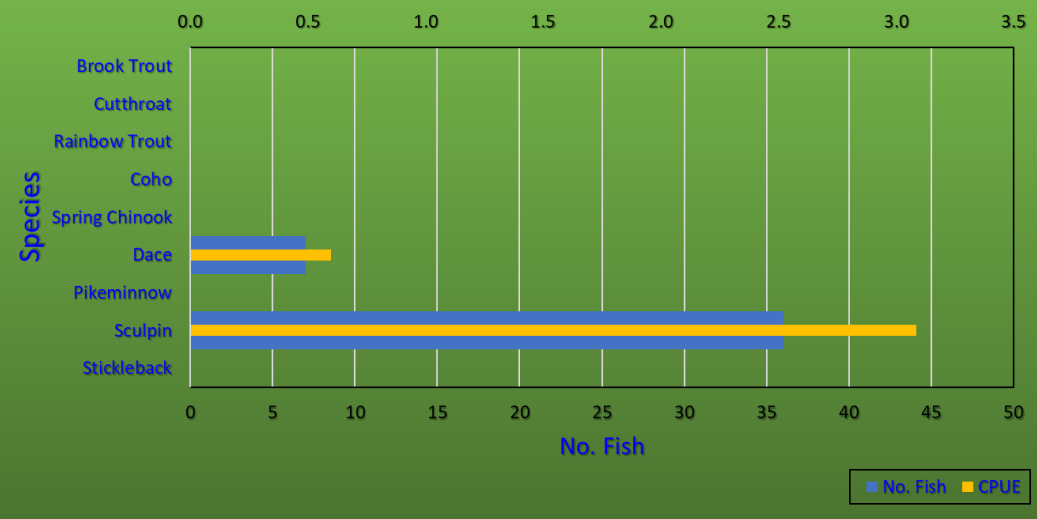


# Manastash Creek



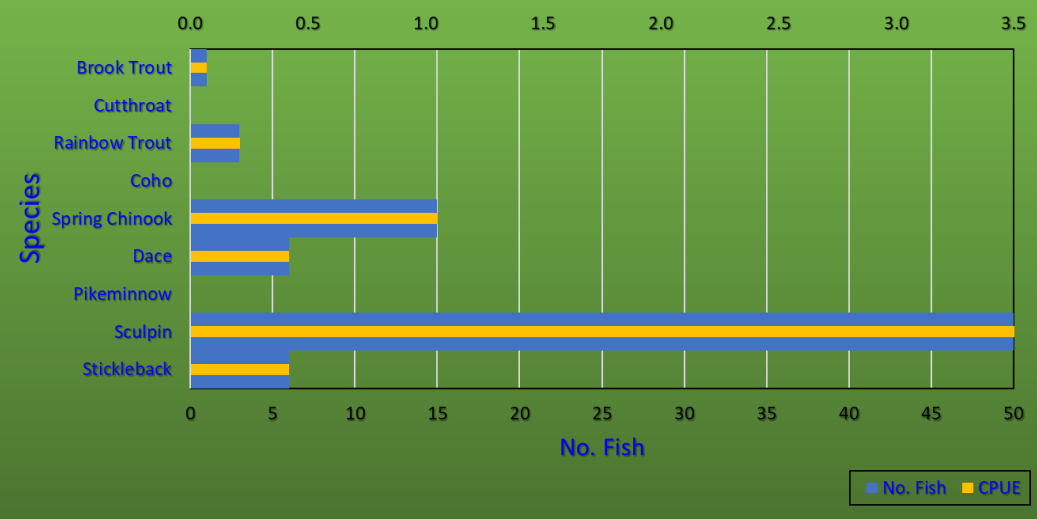
Manastash Creek: Cove Road

CPUE (No. fish/minute)



Manastash Creek: Barnes Road

CPUE (No. fish/minute)

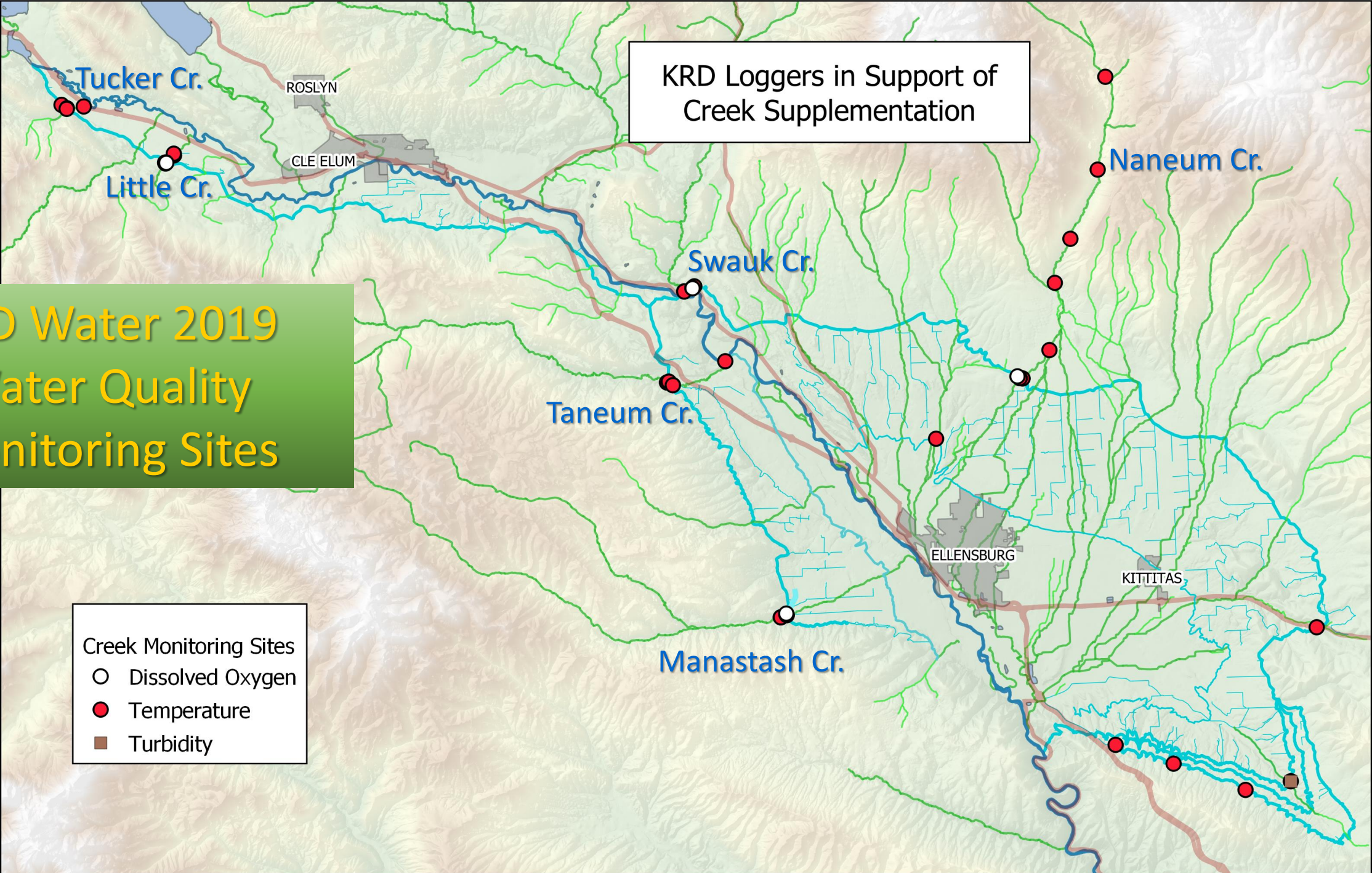




KRD Loggers in Support of  
Creek Supplementation

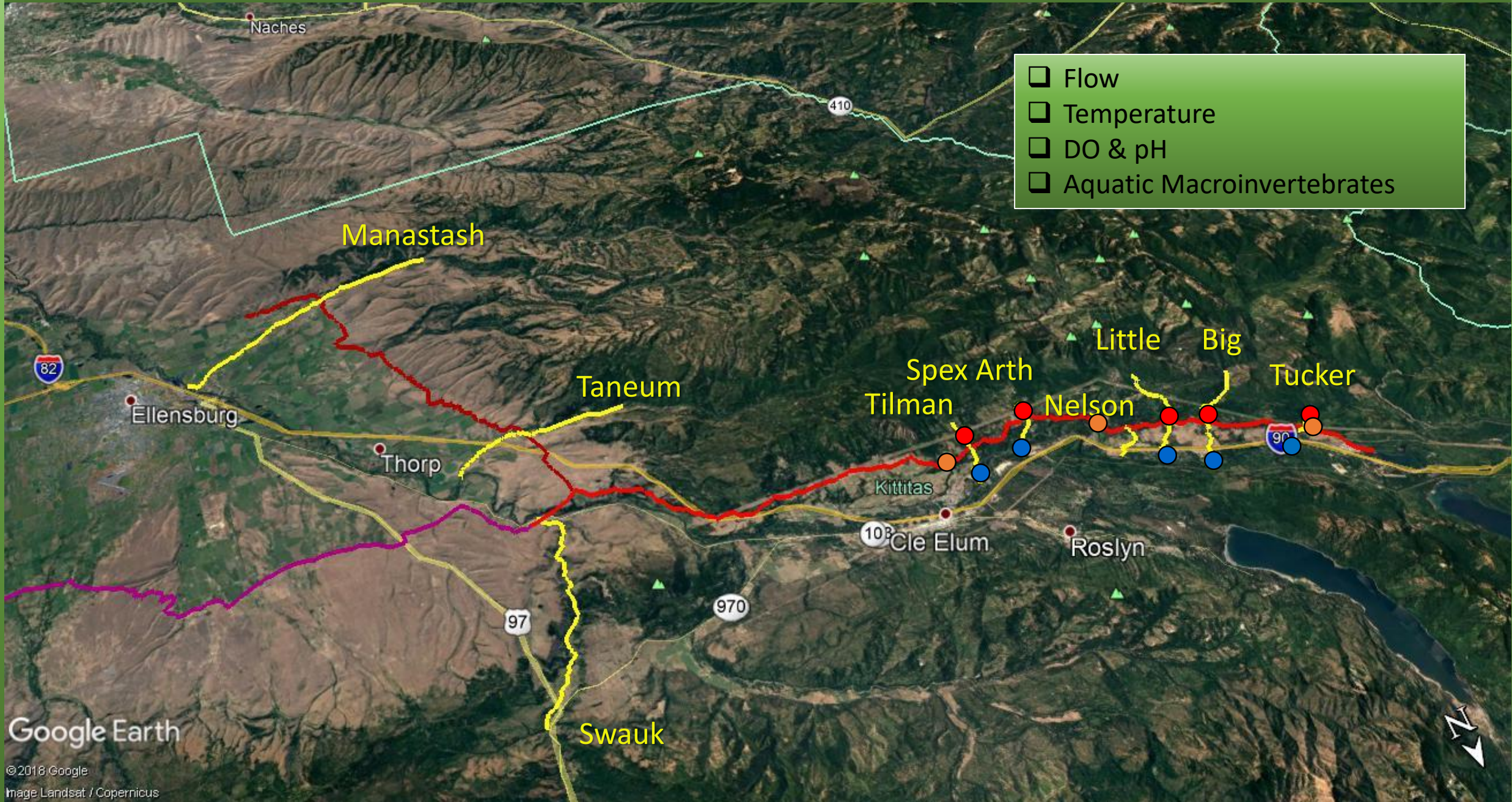
# KRD Water 2019 Water Quality Monitoring Sites

- Creek Monitoring Sites
- Dissolved Oxygen
  - Temperature
  - Turbidity





# Water Quality: WDFW Monitoring Sites





# Water Quality: Ecology's Upper Yakima River Basin Sediment/Turbidity & Aquatic Life Parameter Monitoring

## Manastash Creek

- Continuous & Instantaneous Flow
- Instantaneous Water Temperature
- TSS/Turbidity
- DO, pH, Conductivity
- TMDL Target: TSS/Turbidity

## Taneum Creek

- Continuous & Instantaneous Flow
- Instantaneous Water Temperature
- TSS/Turbidity
- DO, pH, Conductivity
- TMDL Target: TSS/Turbidity

## Big Creek

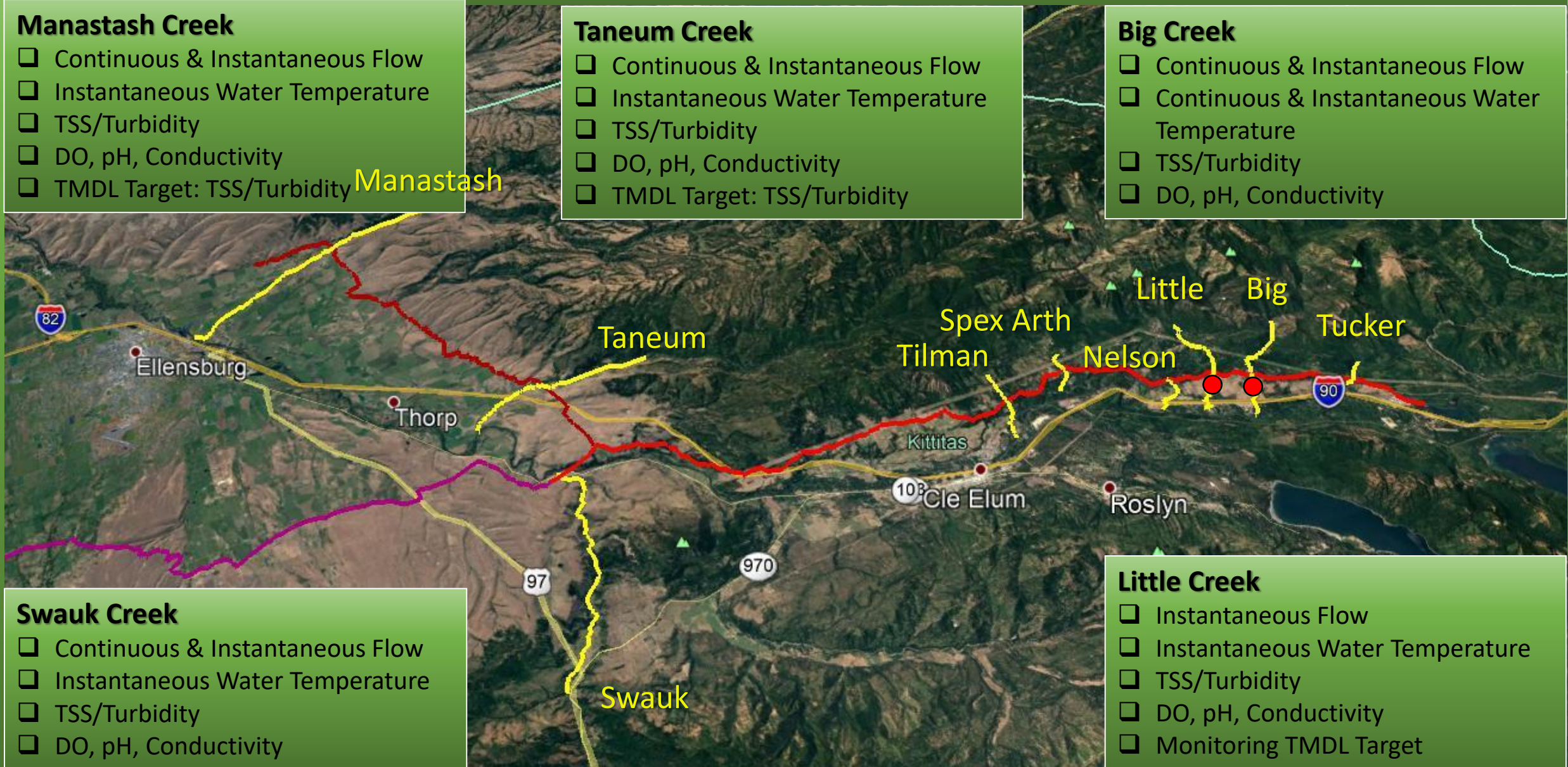
- Continuous & Instantaneous Flow
- Continuous & Instantaneous Water Temperature
- TSS/Turbidity
- DO, pH, Conductivity

## Swauk Creek

- Continuous & Instantaneous Flow
- Instantaneous Water Temperature
- TSS/Turbidity
- DO, pH, Conductivity

## Little Creek

- Instantaneous Flow
- Instantaneous Water Temperature
- TSS/Turbidity
- DO, pH, Conductivity
- Monitoring TMDL Target

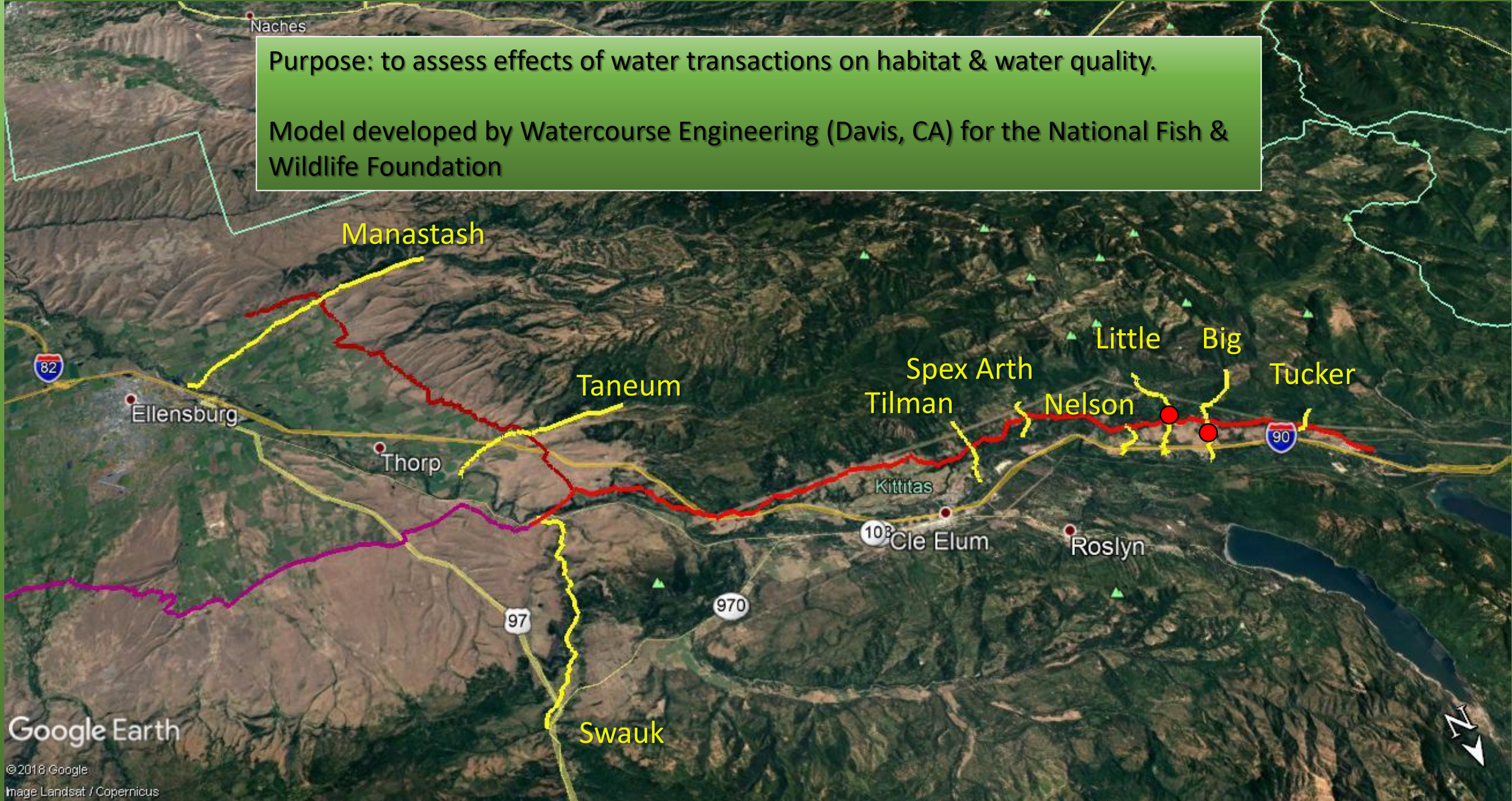




# Water Quality: Ecology's Water Temperature Transaction Tool (W<sub>3</sub>T)

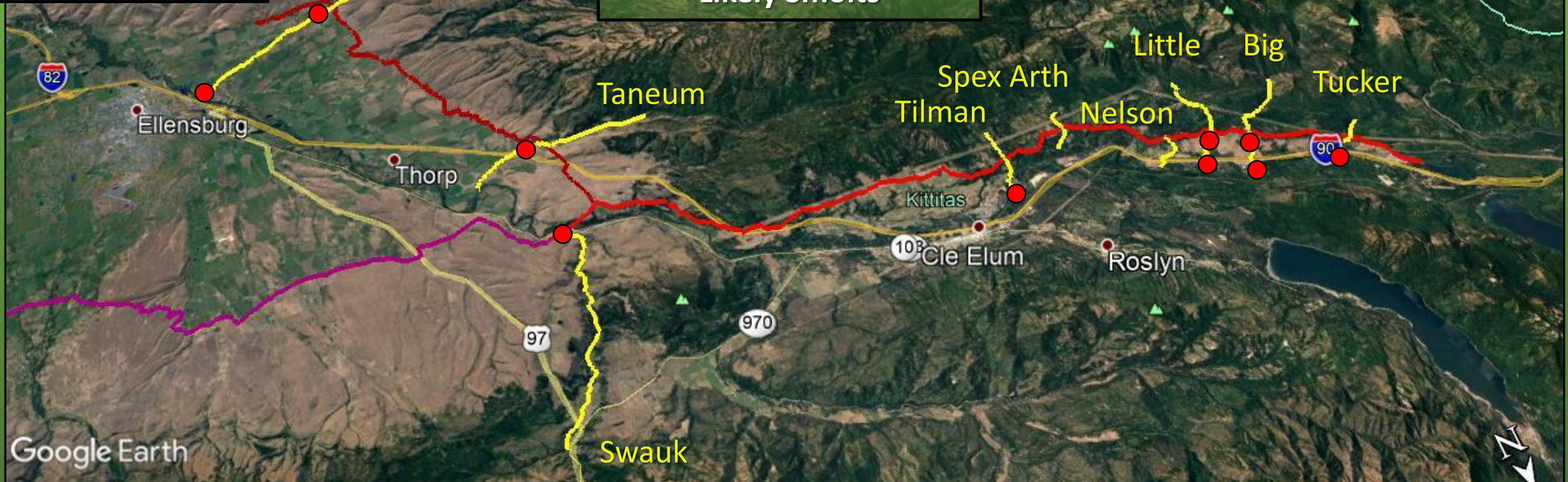
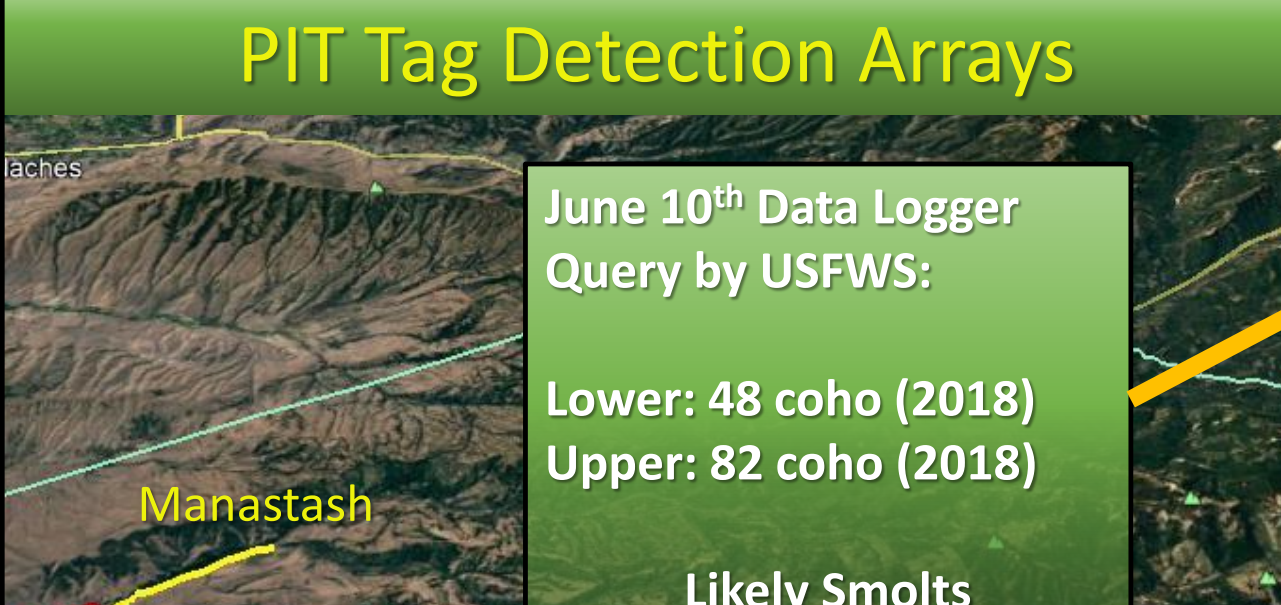
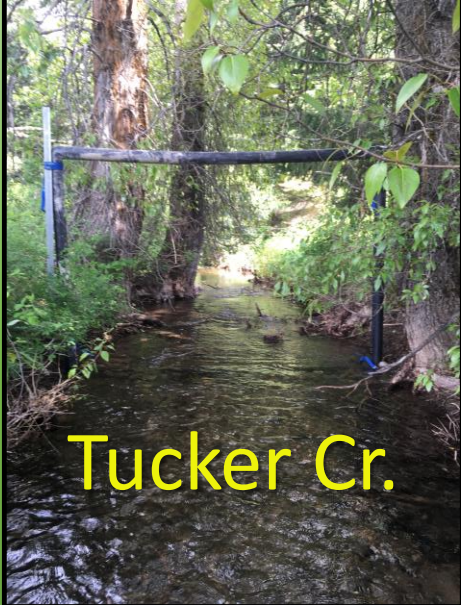
Purpose: to assess effects of water transactions on habitat & water quality.

Model developed by Watercourse Engineering (Davis, CA) for the National Fish & Wildlife Foundation





# PIT Tag Detection Arrays





# Tucker Creek Fish Passage





# Habitat Restoration

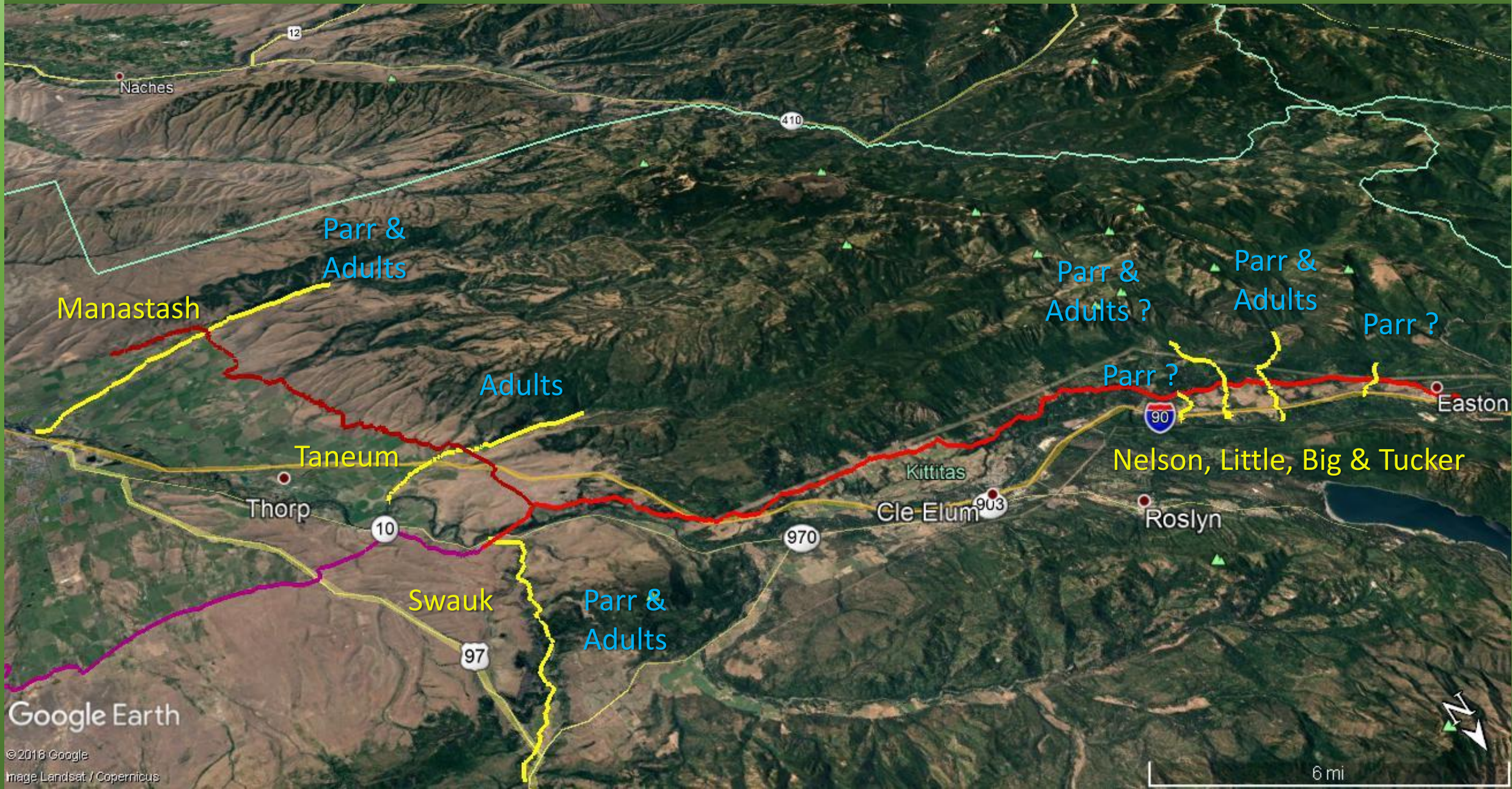
Habitat Restoration Projects Completed, Planning or Thinking About (YTAHP)

- Manastash (stuff done)
- Taneum (stuff done)
- Swauk (stuff done)
- Tilman (KCT)
- Nelson (YN)
- Little (YTAHP)
- Big (YTAHP)
- Tucker (YTAHP)





# Yakama Nation, Coho Master Plan

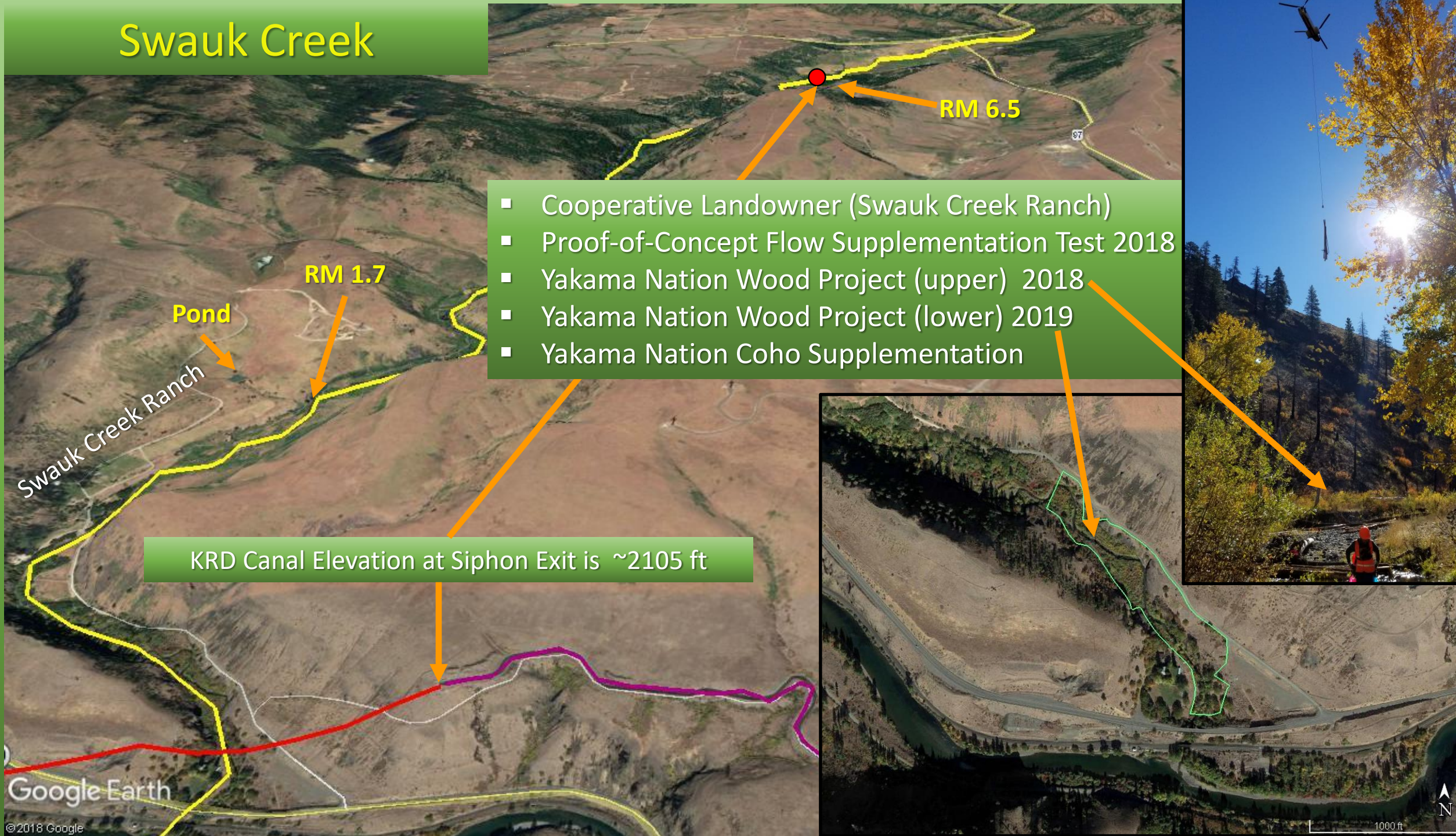


Google Earth

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Image Landsat / Copernicus



# Swauk Creek



- Cooperative Landowner (Swauk Creek Ranch)
- Proof-of-Concept Flow Supplementation Test 2018
- Yakama Nation Wood Project (upper) 2018
- Yakama Nation Wood Project (lower) 2019
- Yakama Nation Coho Supplementation

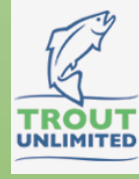
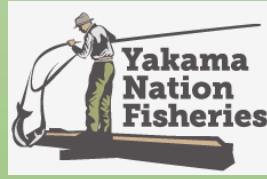
KRD Canal Elevation at Siphon Exit is ~2105 ft



Habitat



Teamwork



Water



Water Quality & Fish Monitoring



Fish



Yakima Basin  
Integrated Plan

**INTEGRATION**





Questions?