



**Sonoma
Water**

Clean. Reliable. Essential. Every Day.

Environmental Resource Salmon and Steelhead Monitoring

Gregg Horton, Principal Environmental Specialist

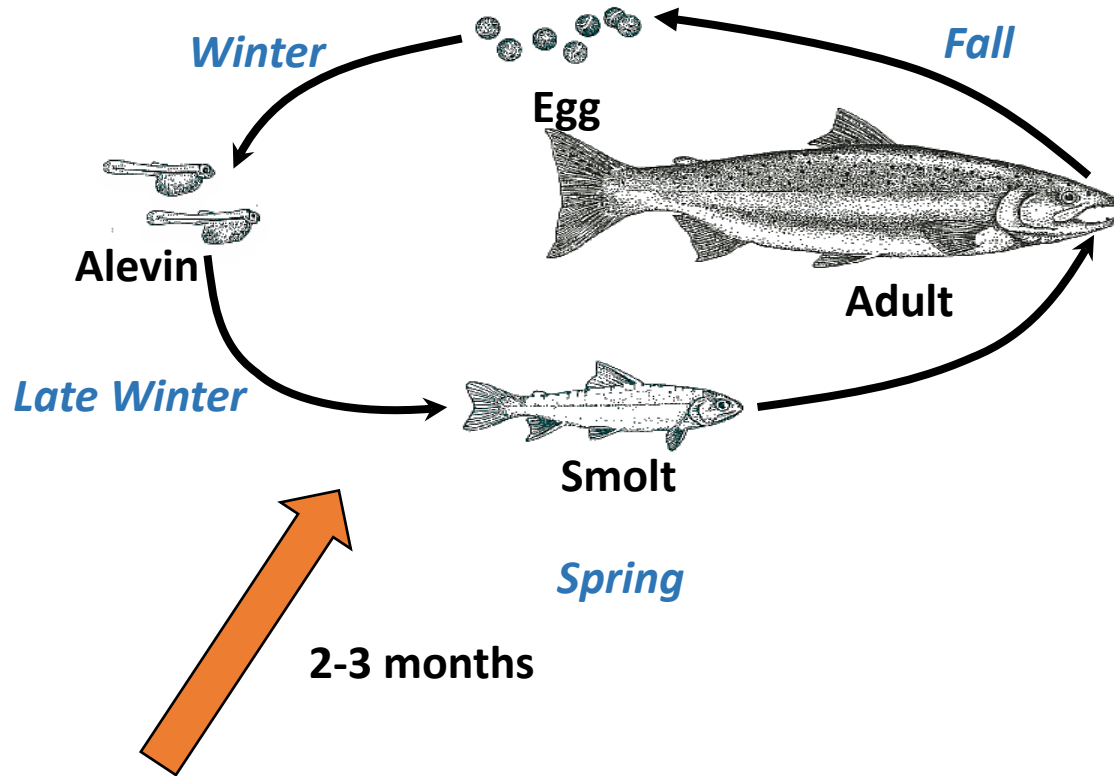
Justin Smith, Senior Environmental Specialist

Aaron Johnson, Environmental Specialist

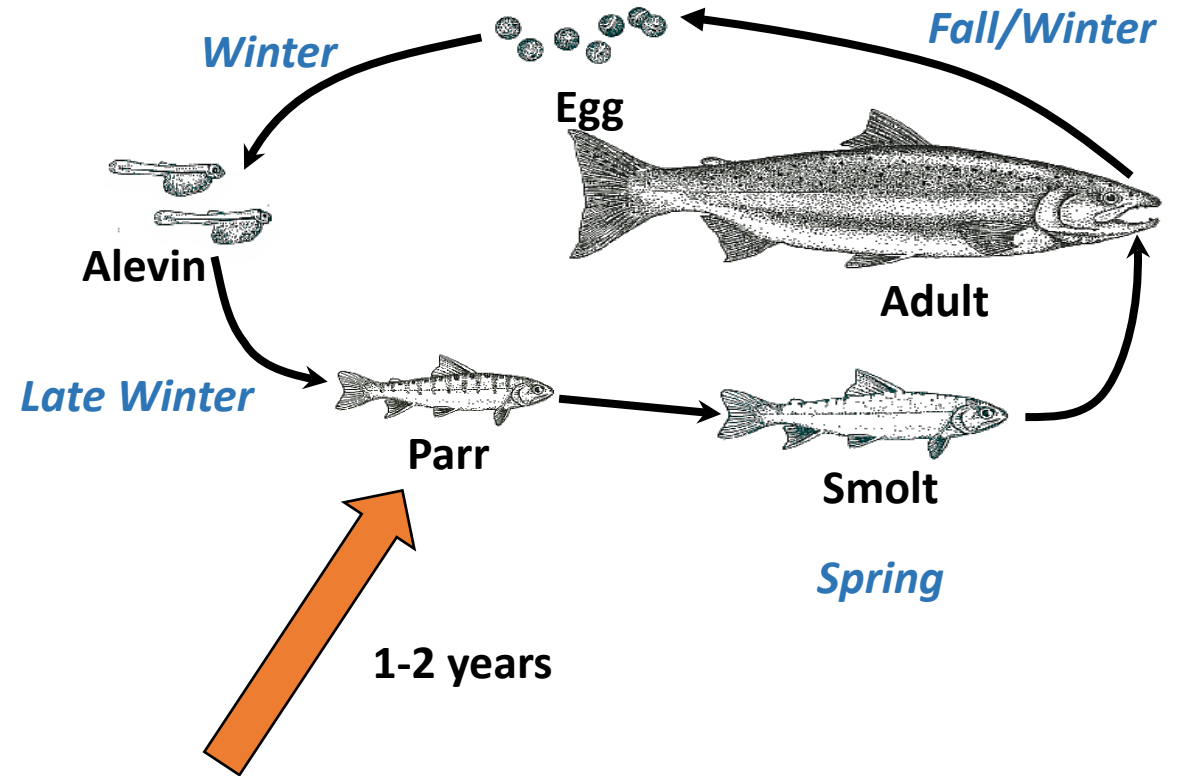


Salmon Life Cycle

Chinook



Coho and Steelhead



Chinook Salmon Monitoring

Adult

Smolt

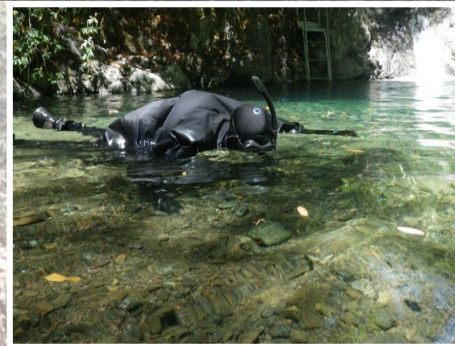


Coho Salmon and Steelhead Monitoring

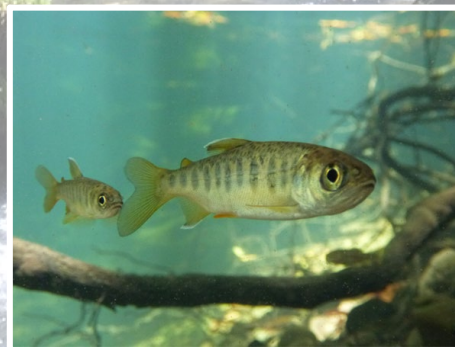
Adult



Juvenile



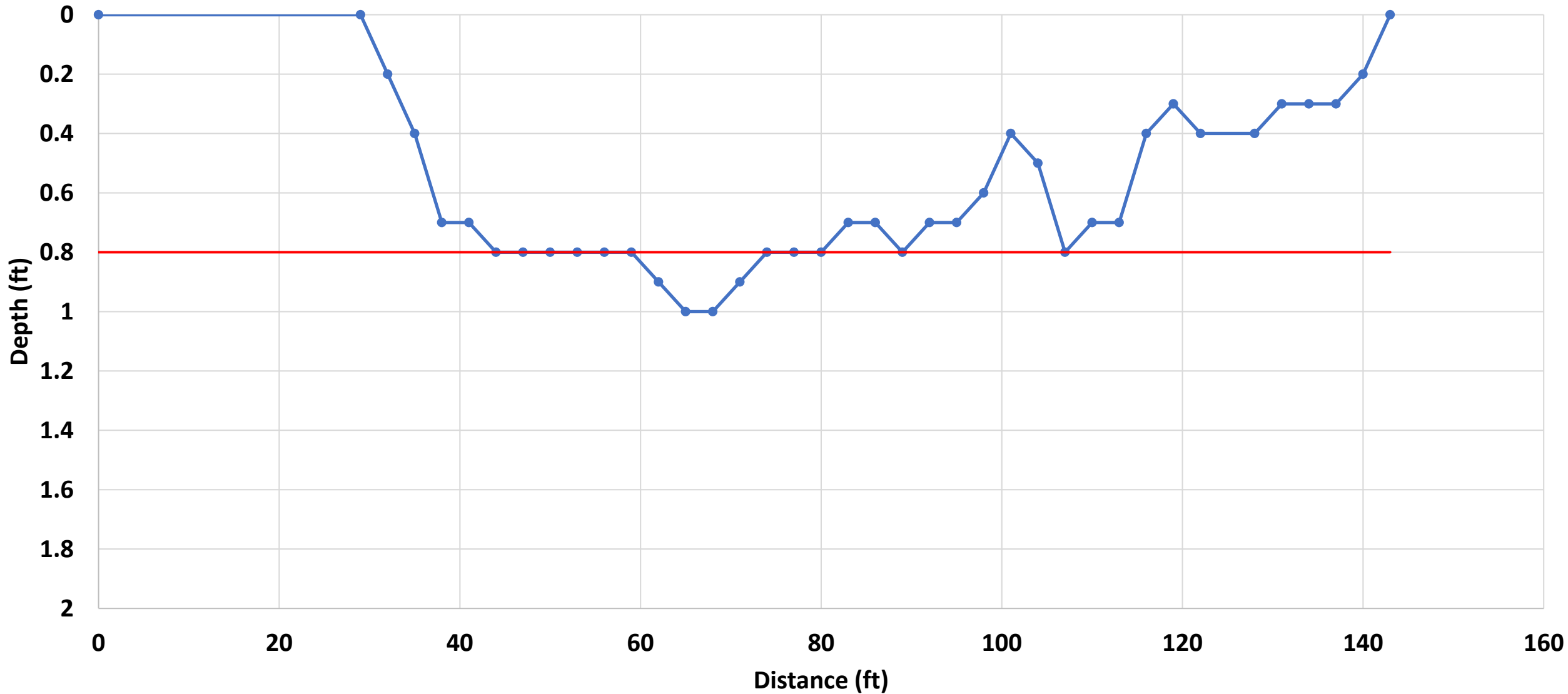
Smolt



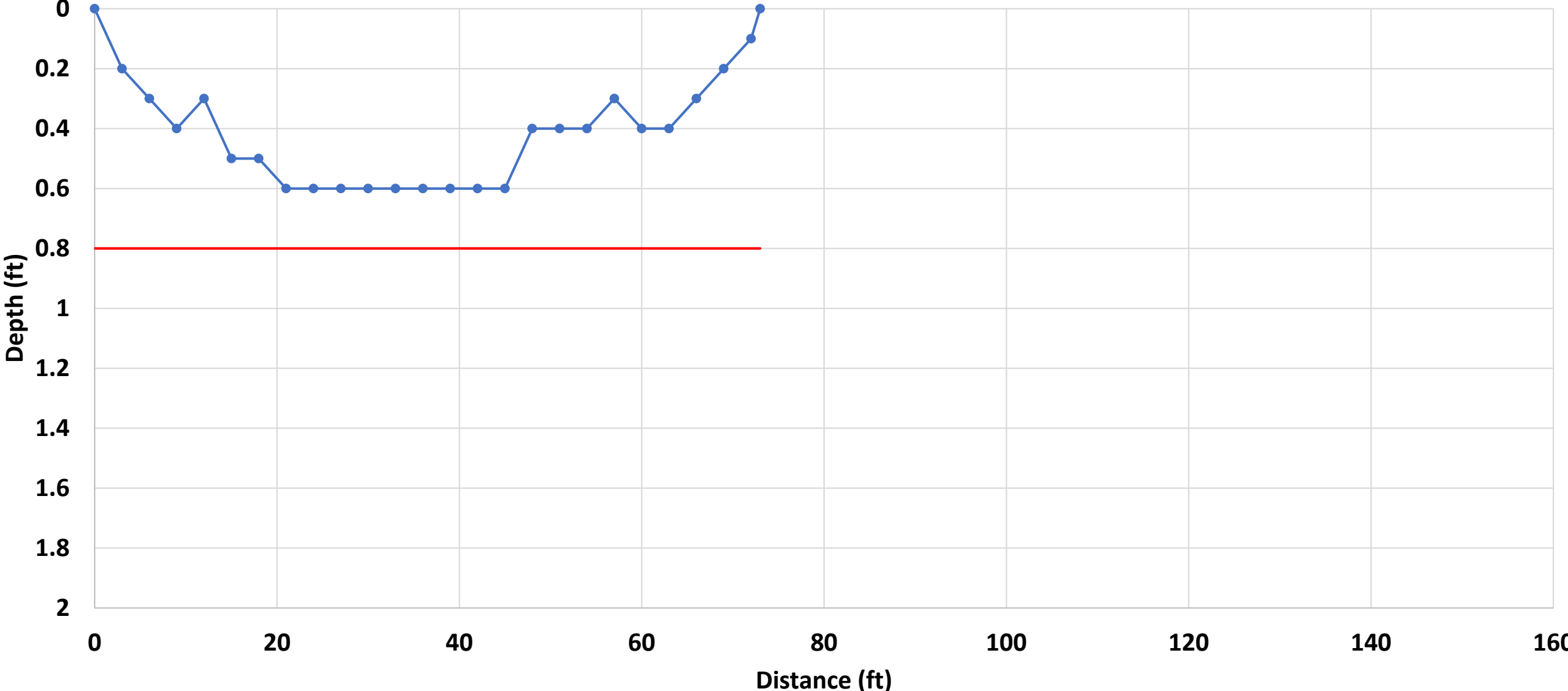




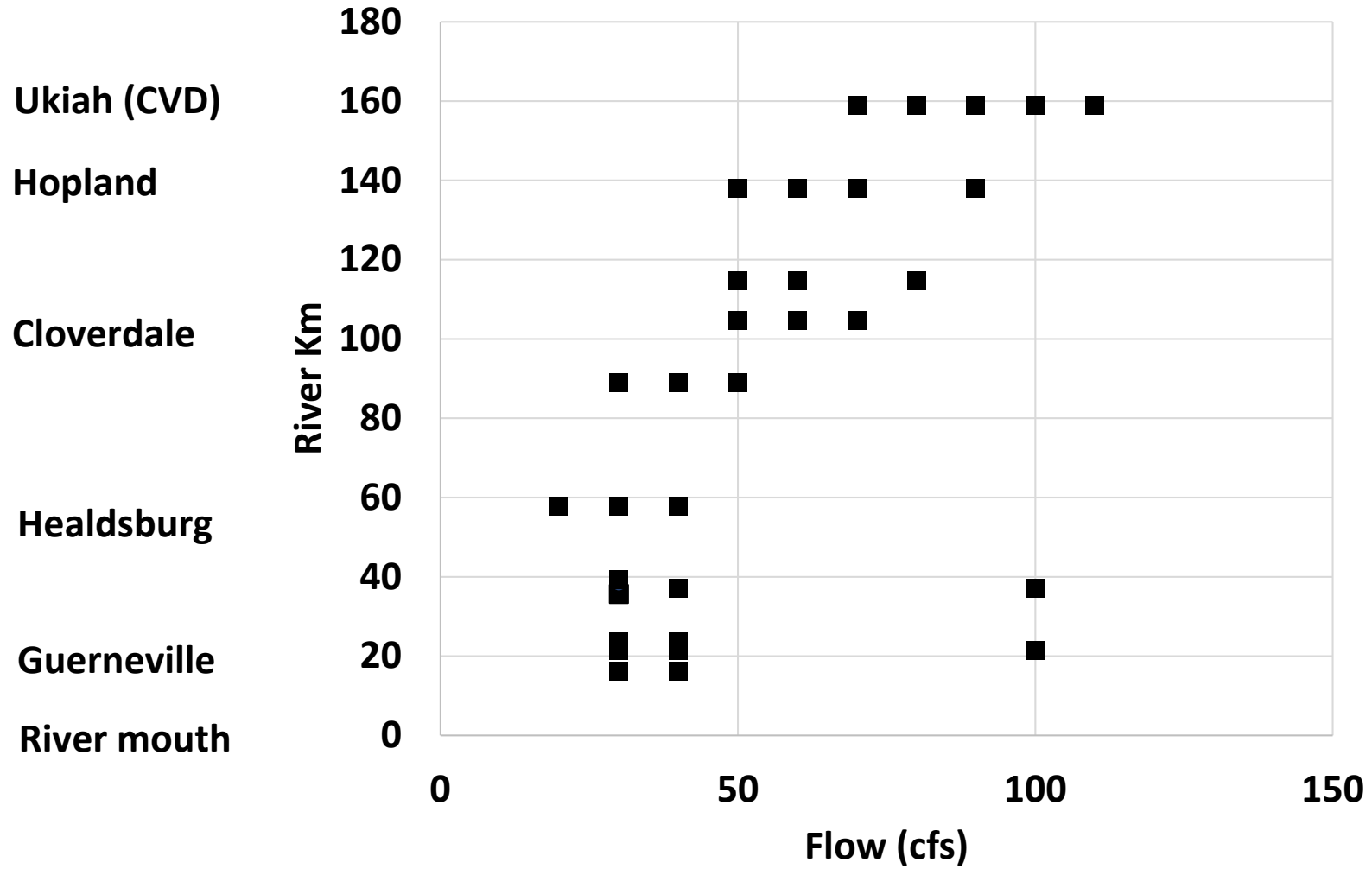
Vacation Beach Riffle Crest, 04/13/2022



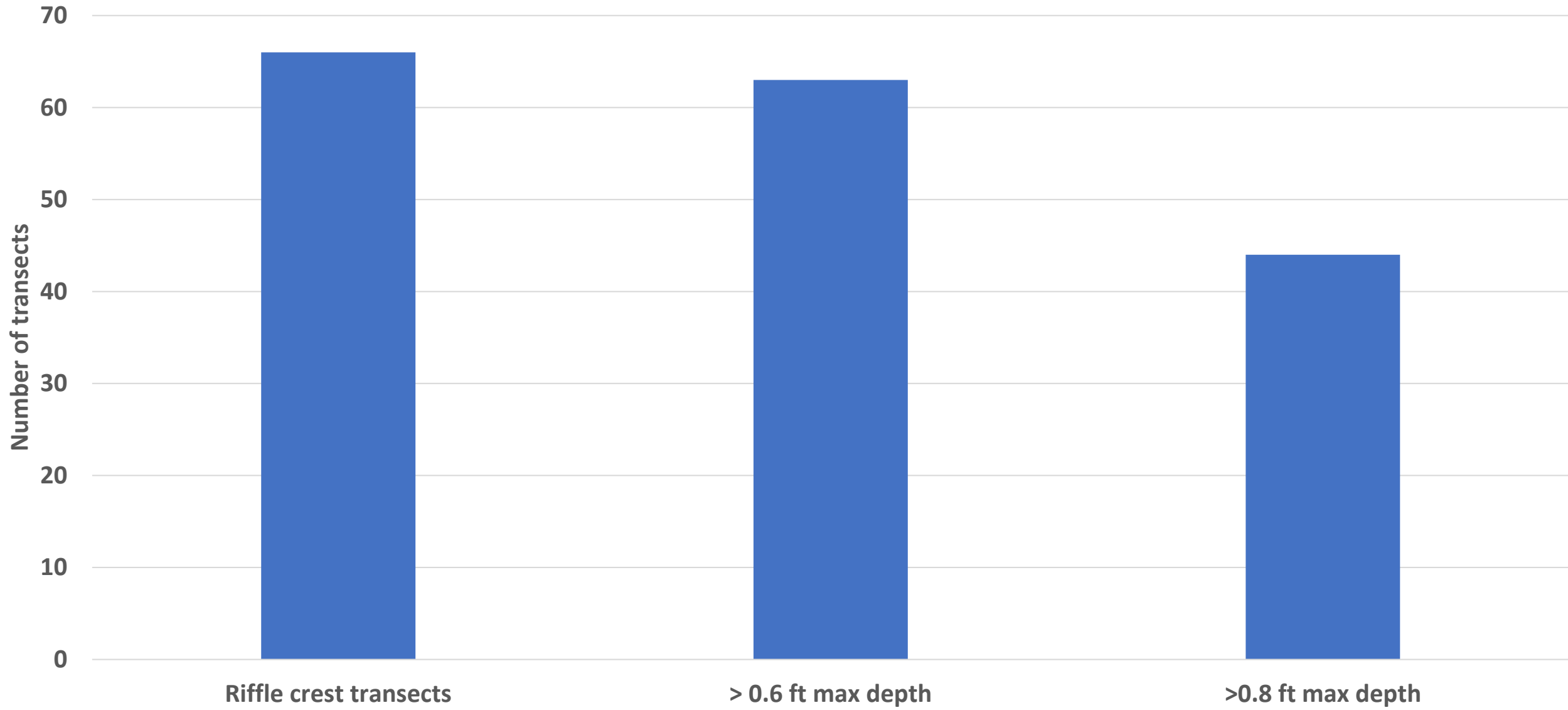
Vacation Beach Riffle Crest, 10/05/2021



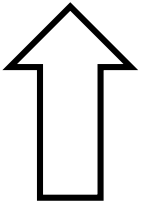
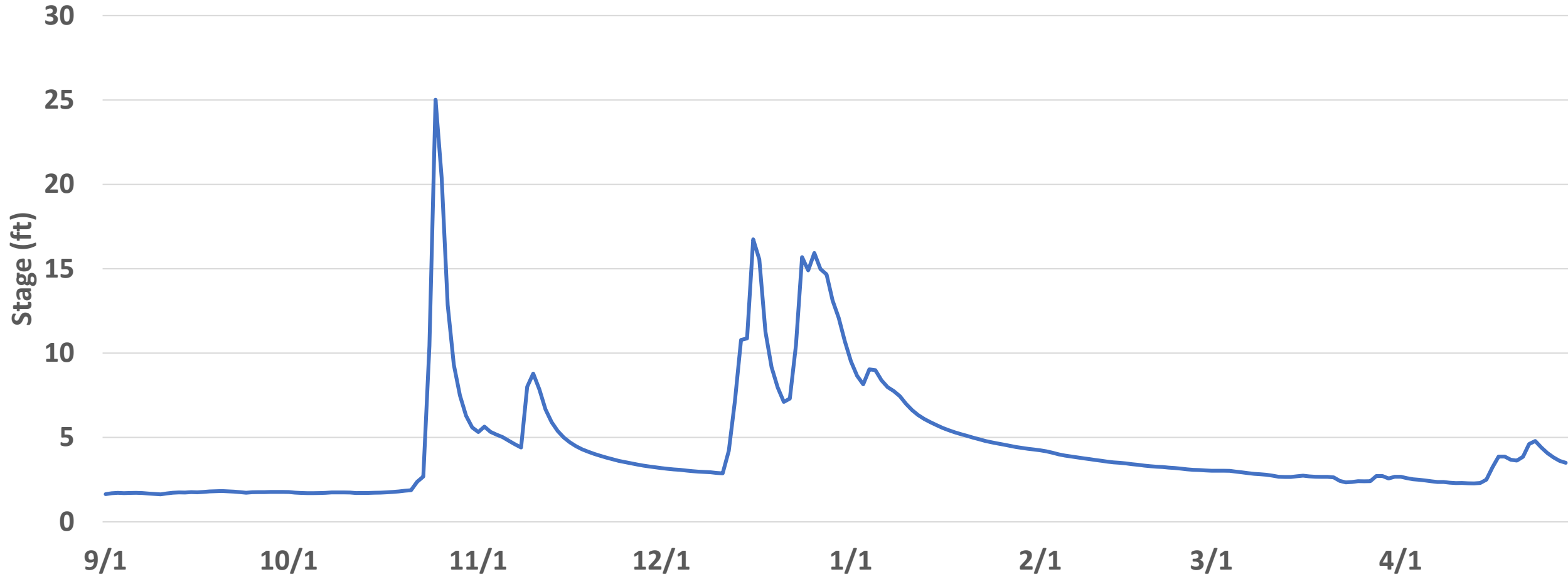
Riffle Crest Surveys in 2021



Riffle Crest Transects Taken in the Russian River 2021

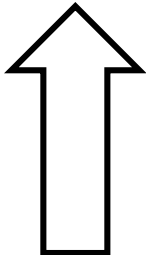
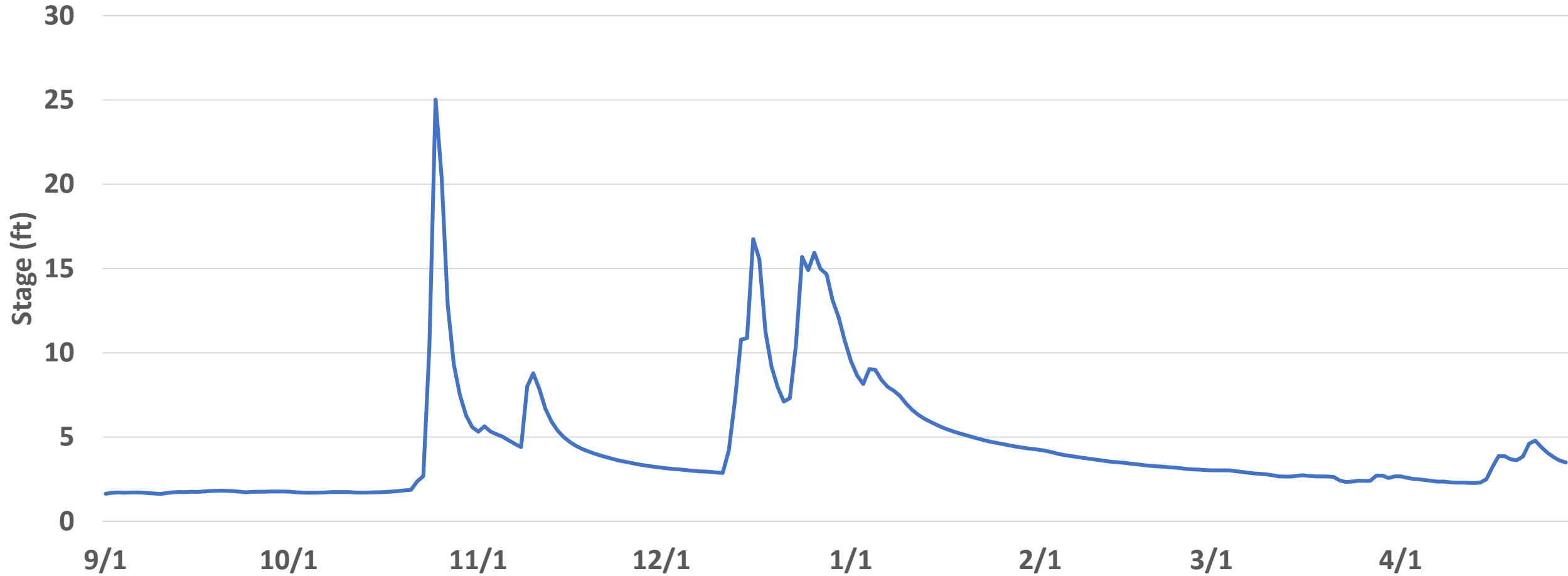


2021-2022 Stage at Hacienda



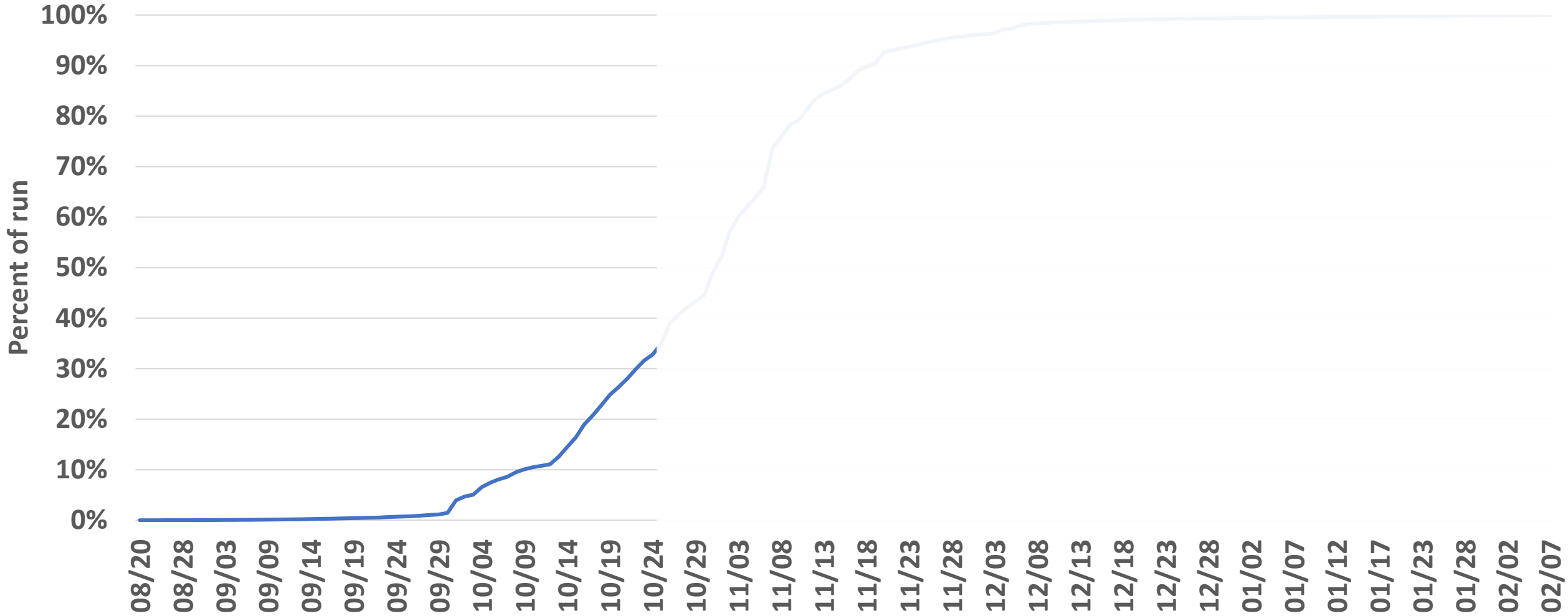


2021-2022 Stage at Hacienda

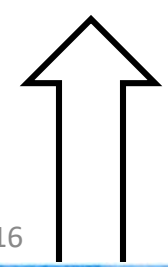
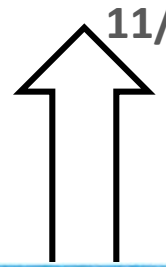
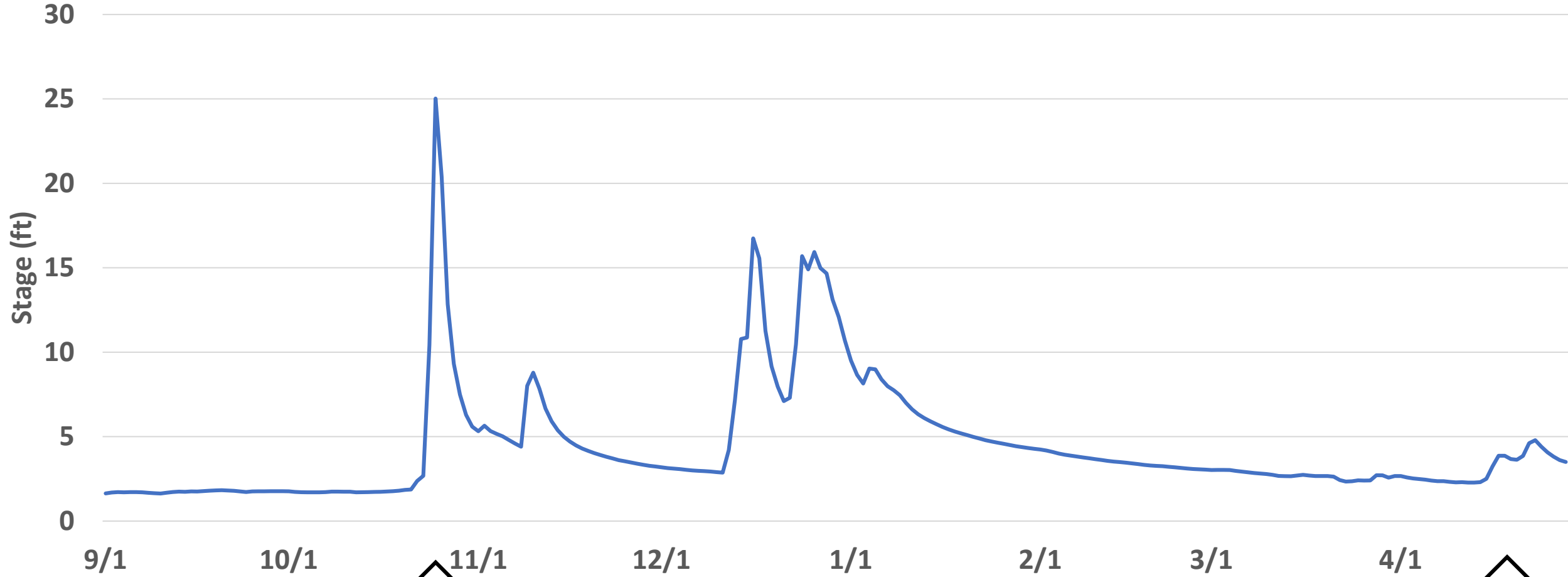




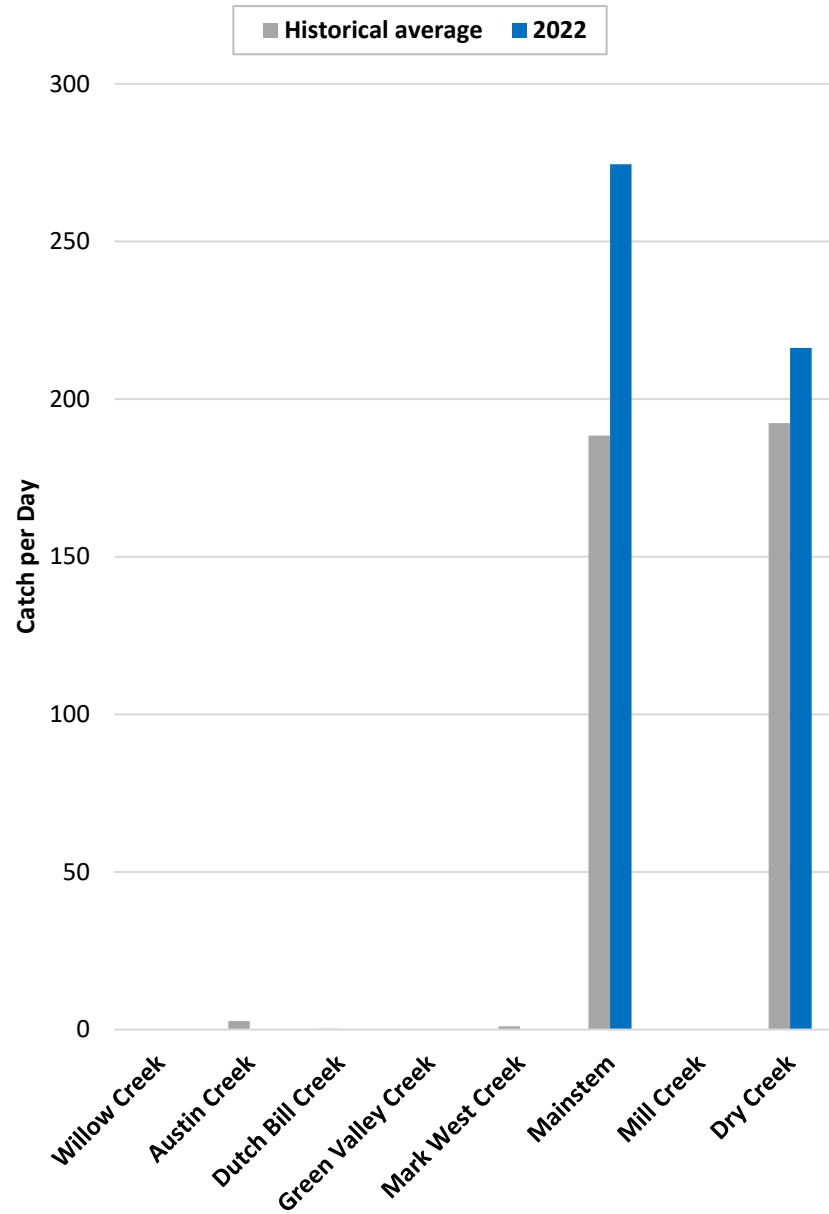
Cumulative Adult Chinook Salmon Run (2000-2020)



2021-2022 Stage at Hacienda



Chinook Salmon Downstream Migrant Trap Catch per Day (data through 4/28)



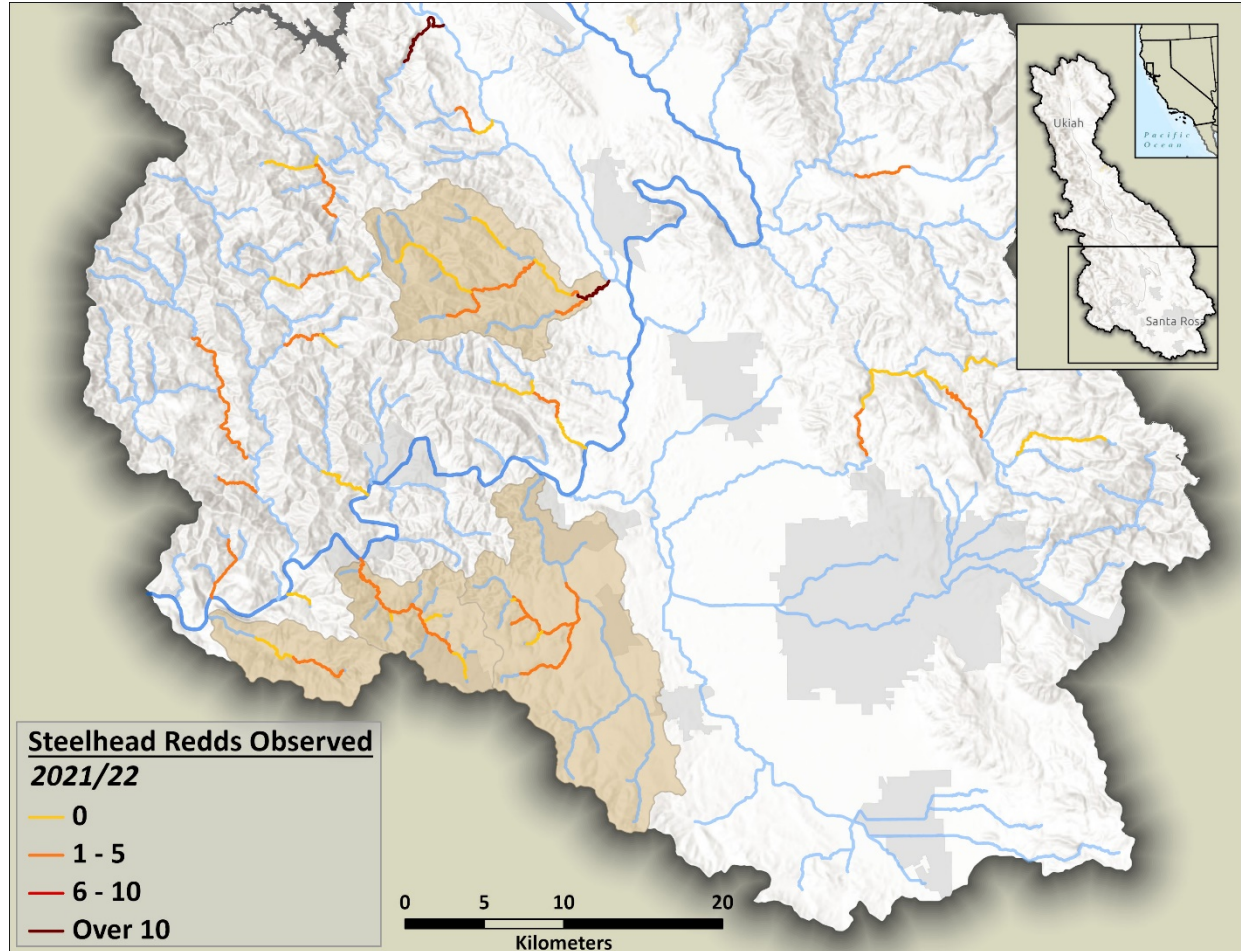
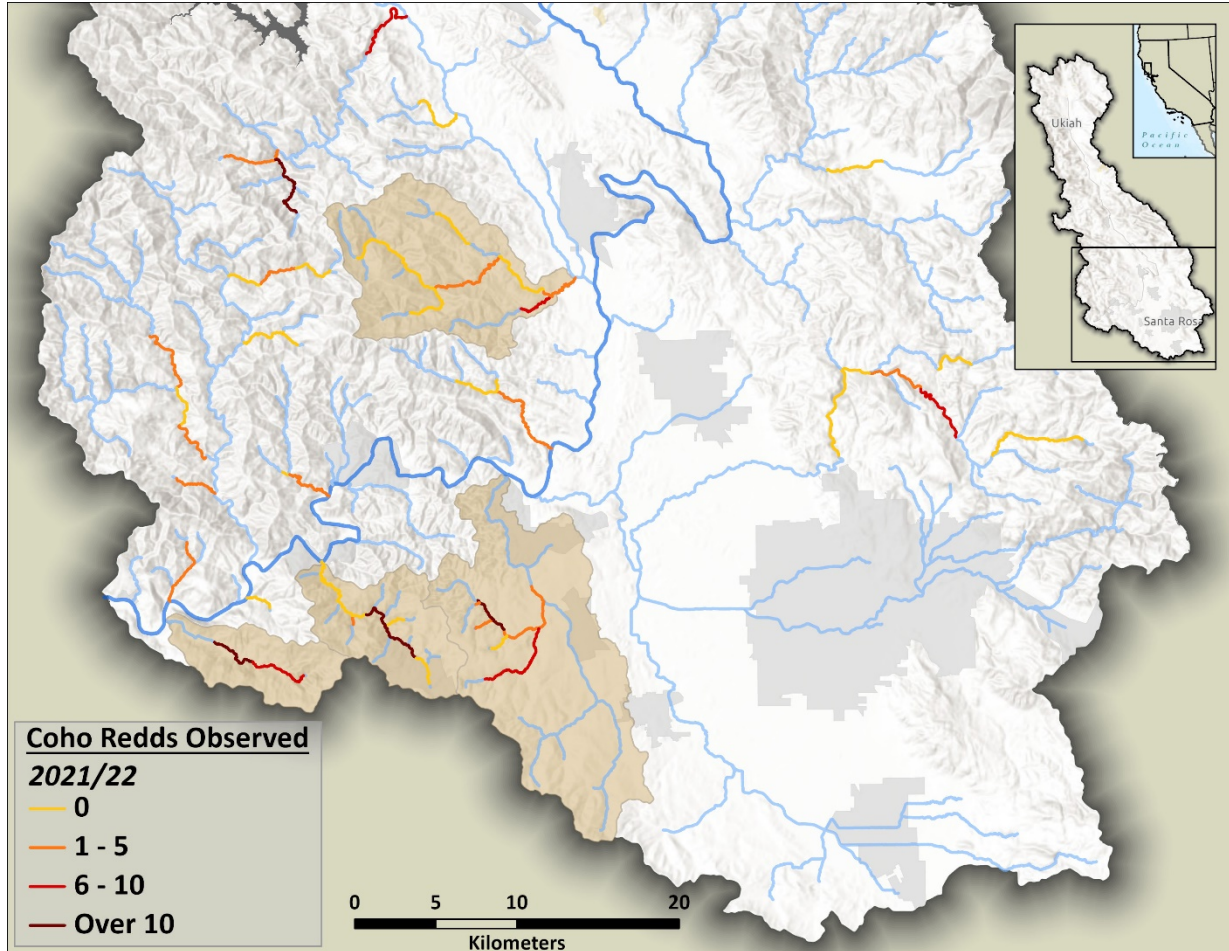
Coho Salmon



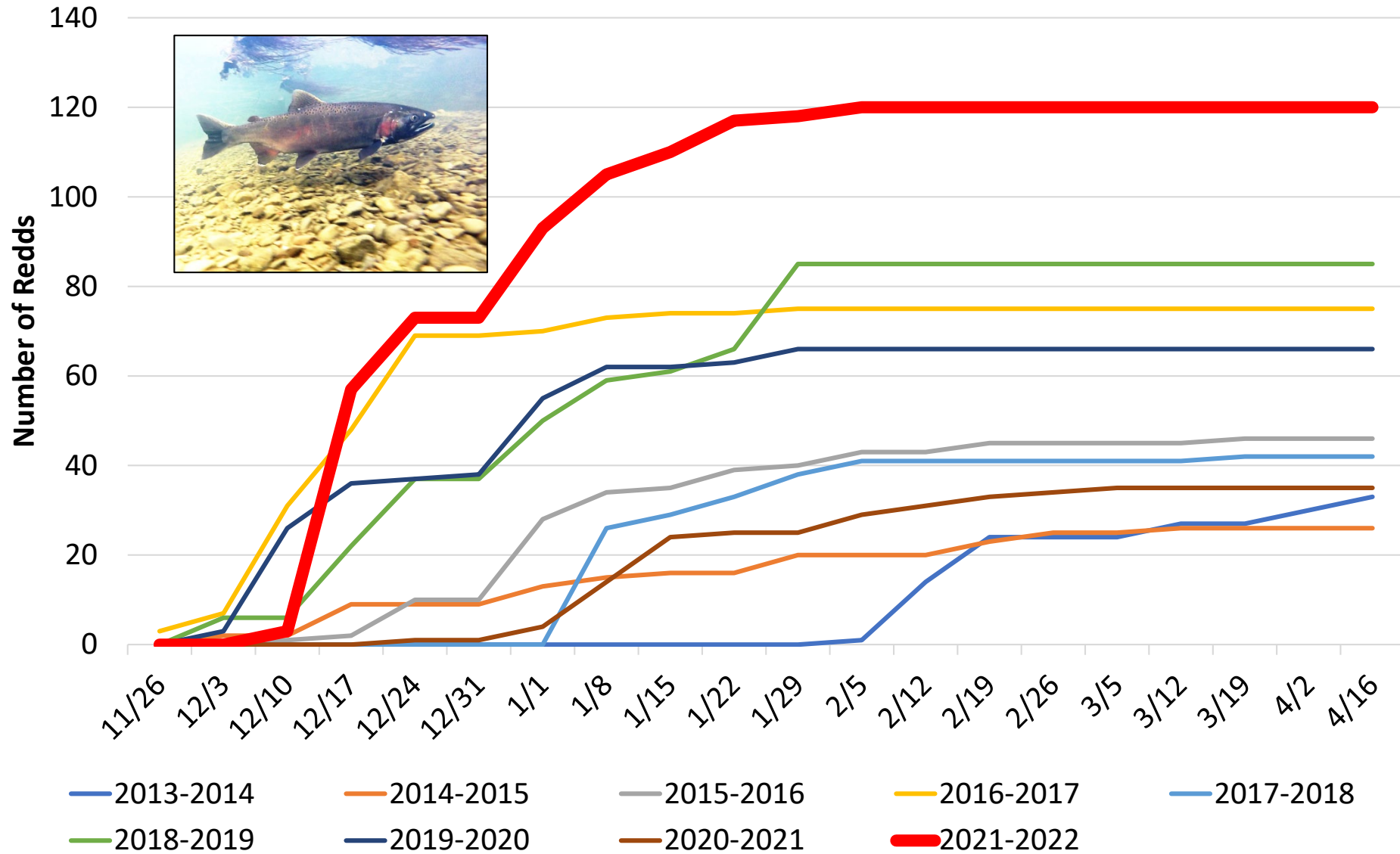
Steelhead



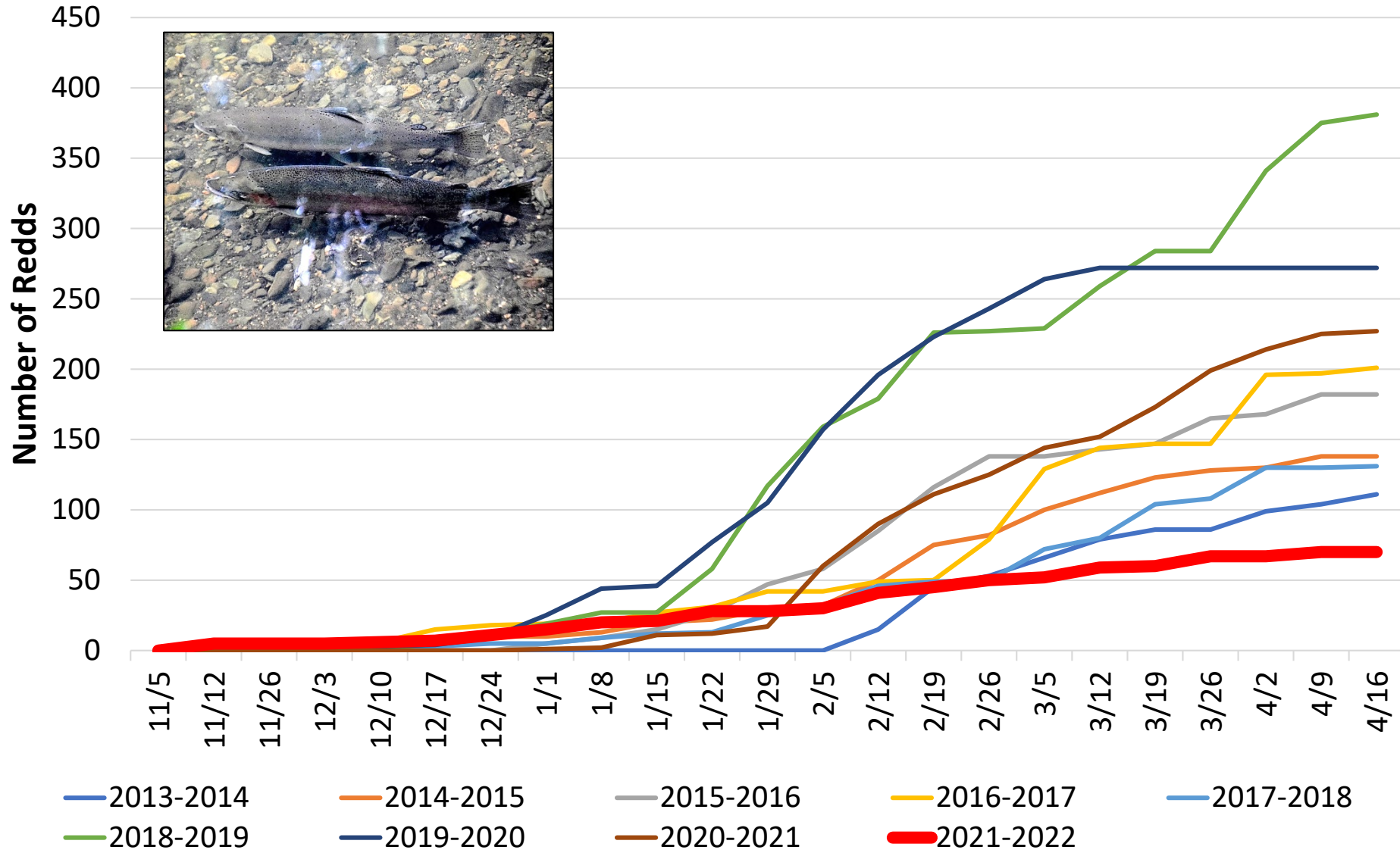
Spawner Surveys (2021/22)



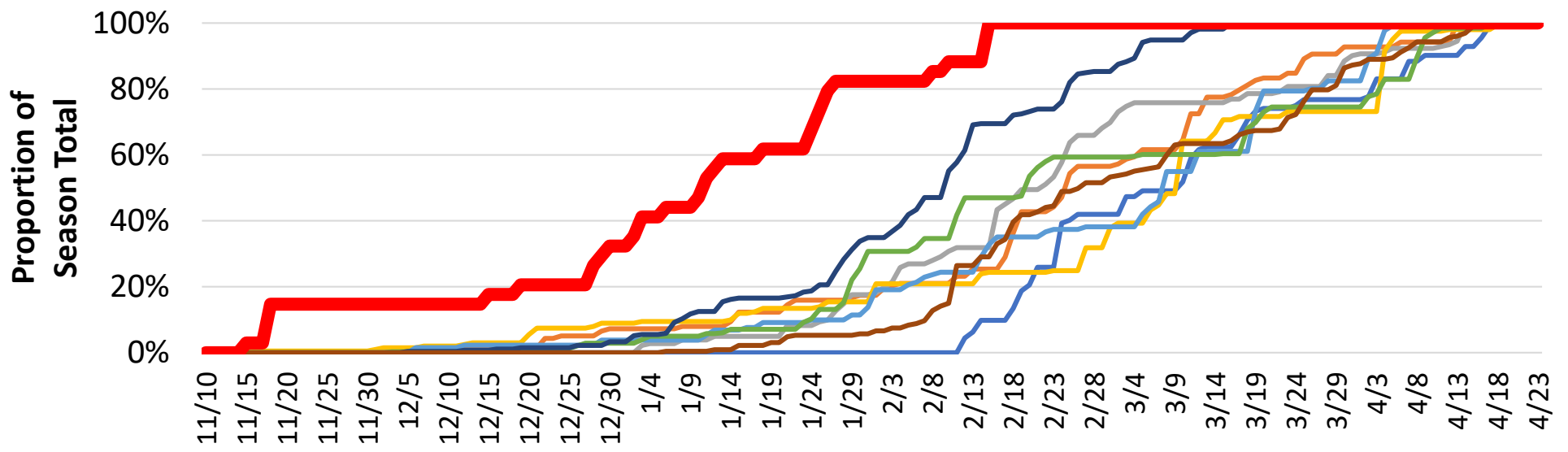
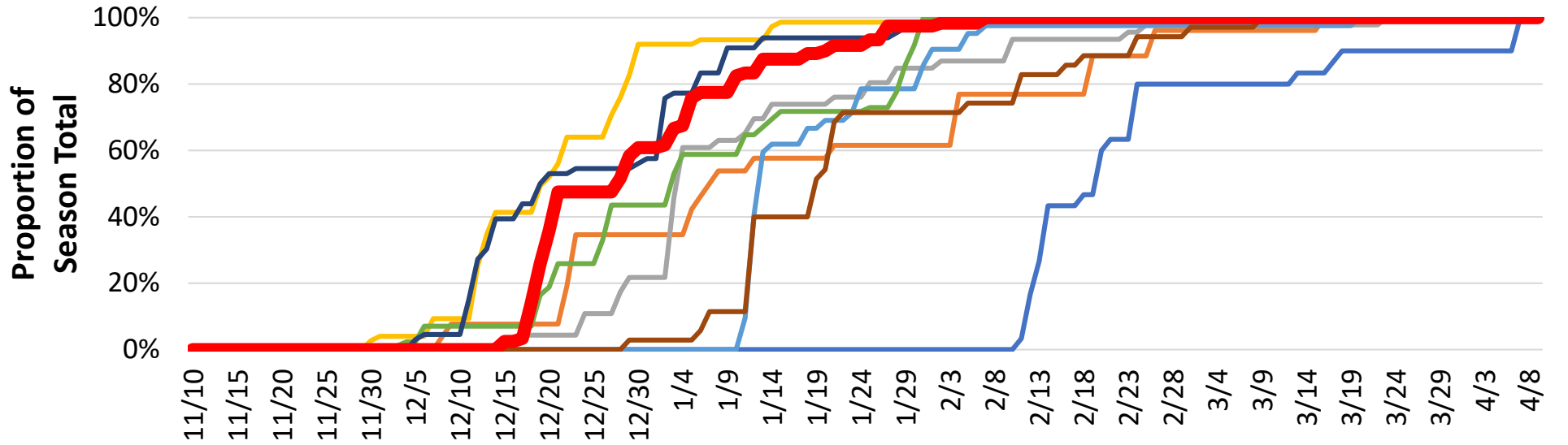
Number of Coho Redds (2021/22)



Number of Steelhead Redds (2021/22)

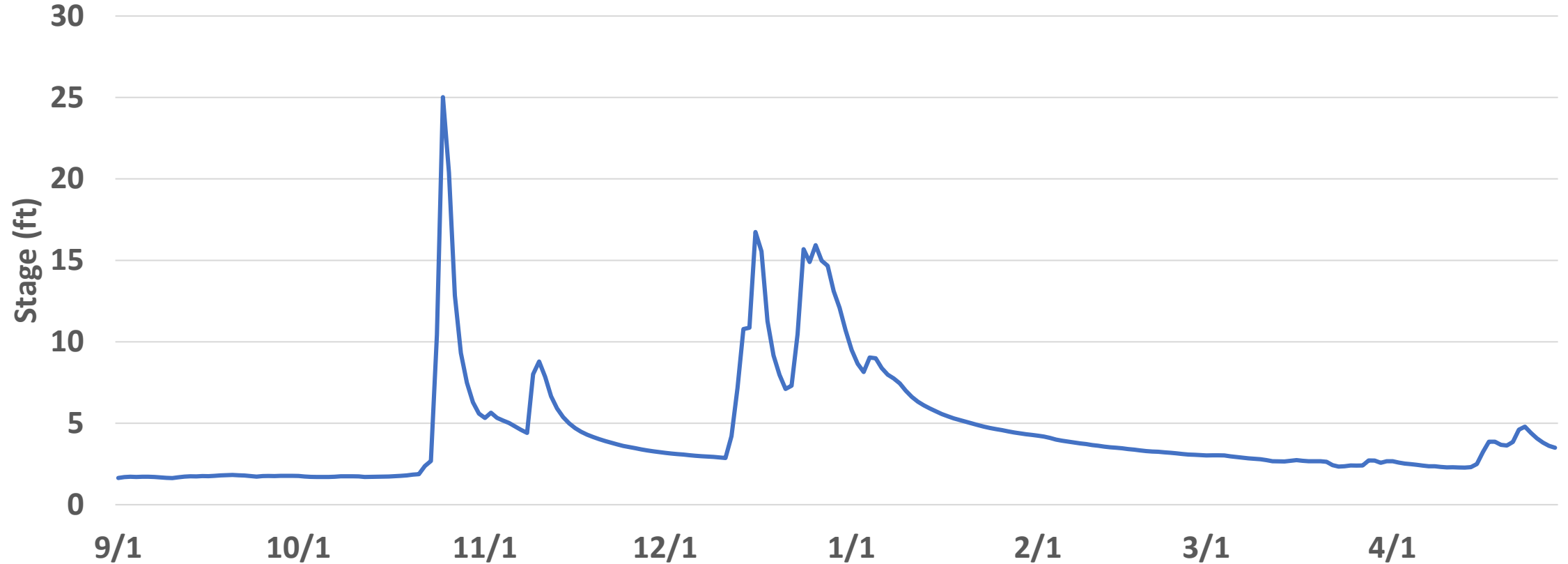


Spawning Activity Timing



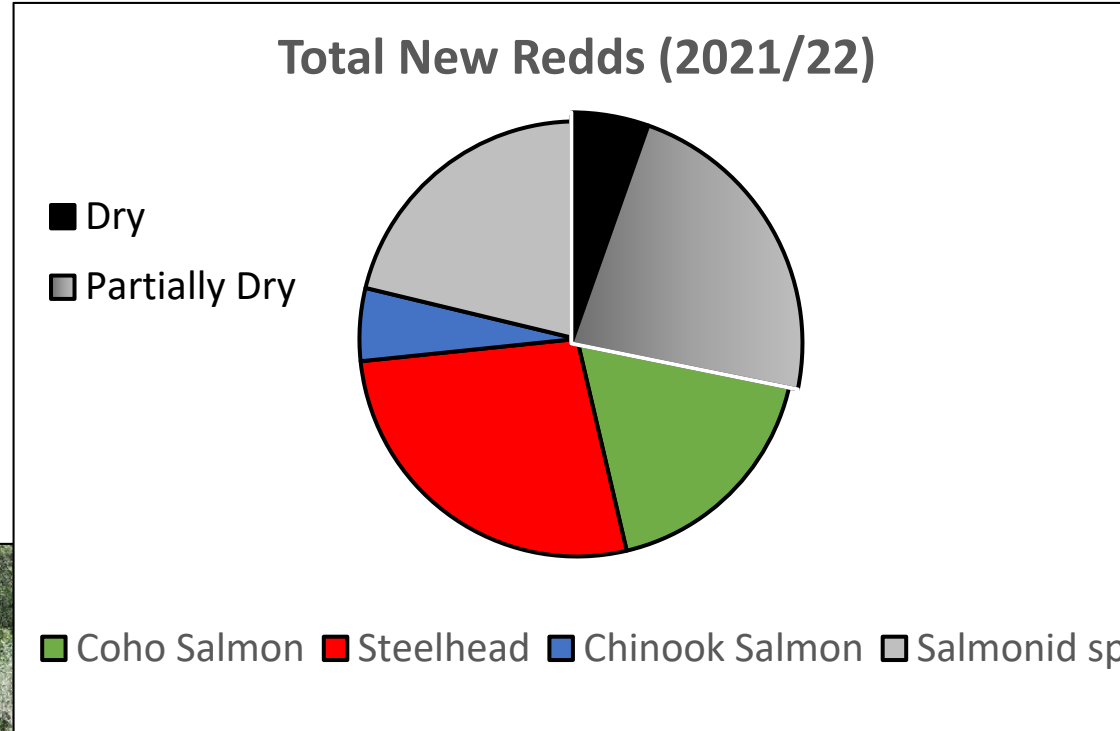
Favorable Flow Conditions

2021-2022 Stage at Hacienda



Redd De-watering

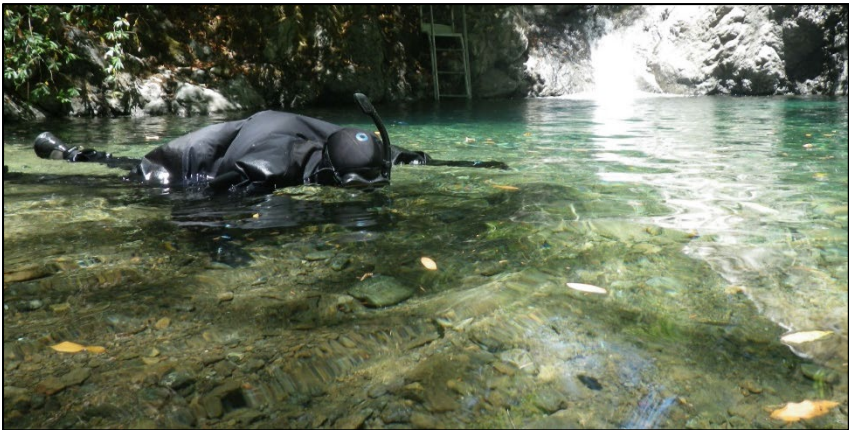
- 259 total redds recorded



- 28% either dry or partially dry



Juvenile De-watering

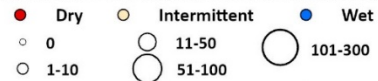


Mill Creek: 2021 Juvenile Salmonid Distribution & Wetted Habitat

Russian River Salmon and Steelhead Monitoring Program



2021 Salmonid YOY Observed and Late Season Baseflow



2021 Wetted Habitat Conditions



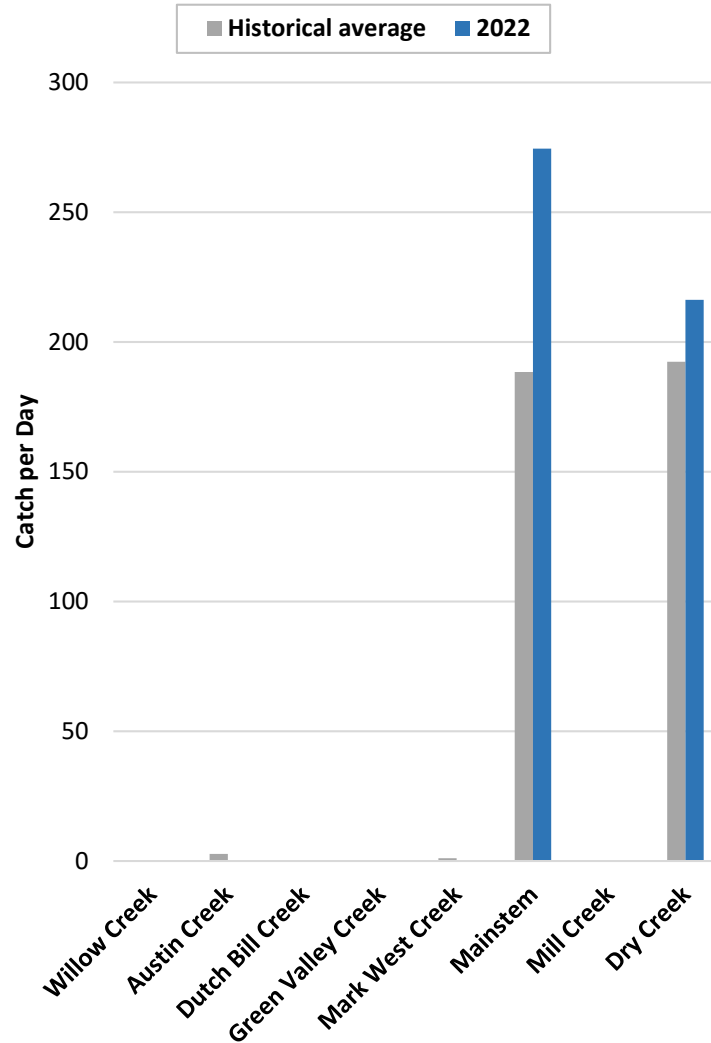
Projection: NAD 1983 UTM Zone 10N
 Source: Streams (County of Sonoma),
 Map Prepared By: California Sea Grant, Santa Rosa, CA



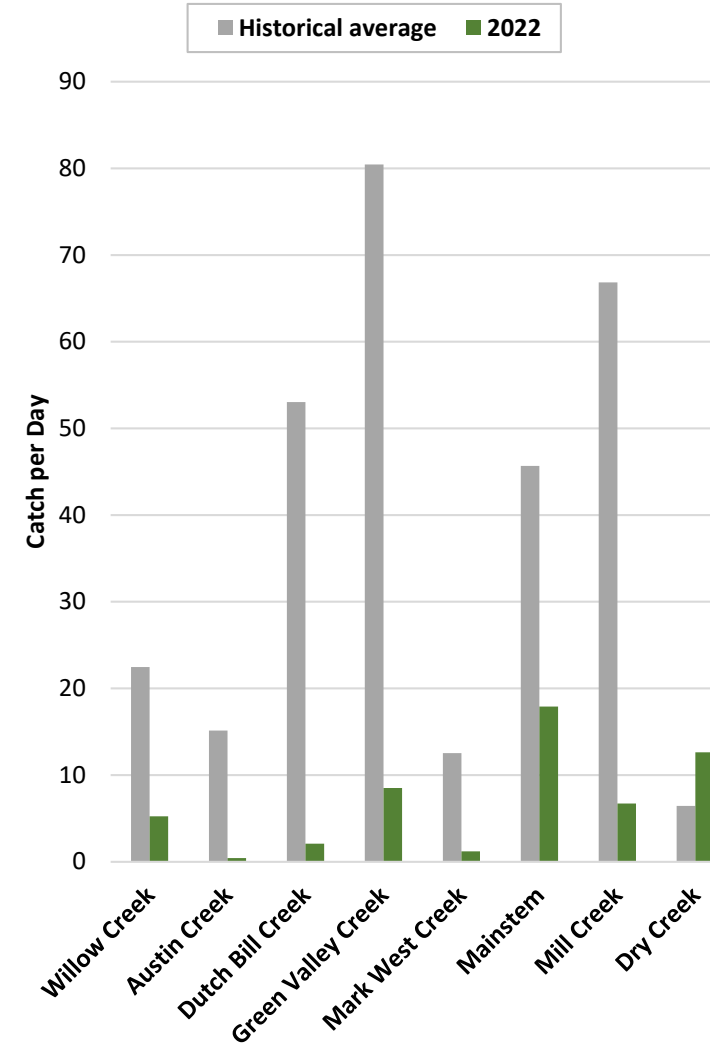
Sonoma Water
 ENVIRONMENTAL RESOURCES

Smolt Catch per Day

Chinook Salmon Downstream Migrant Trap
Catch per Day (data through 4/28)



Coho Salmon Downstream Migrant Trap
Catch per Day (data through 4/28)



Habitat Preferences: Coho, Steelhead and Chinook

Coho Salmon



- *Small tributaries*
- *Cool water*
- *Lower gradient*

Steelhead



- *Smaller tributaries*
- *Broad water temperature*
- *Higher gradient*

Chinook Salmon



- *Larger tributaries/mainstem*
- *Limited time in freshwater*