



**MARIN  
WATER**

**Fisheries Monitoring Update  
Watershed Committee Meeting**

**December 15, 2022**



Coho Salmon navigating the “Ink Wells” in San Geronimo Creek  
(Credit: Jaclyn Sherman)

# Lagunitas Creek Watershed

*Tomales Bay*

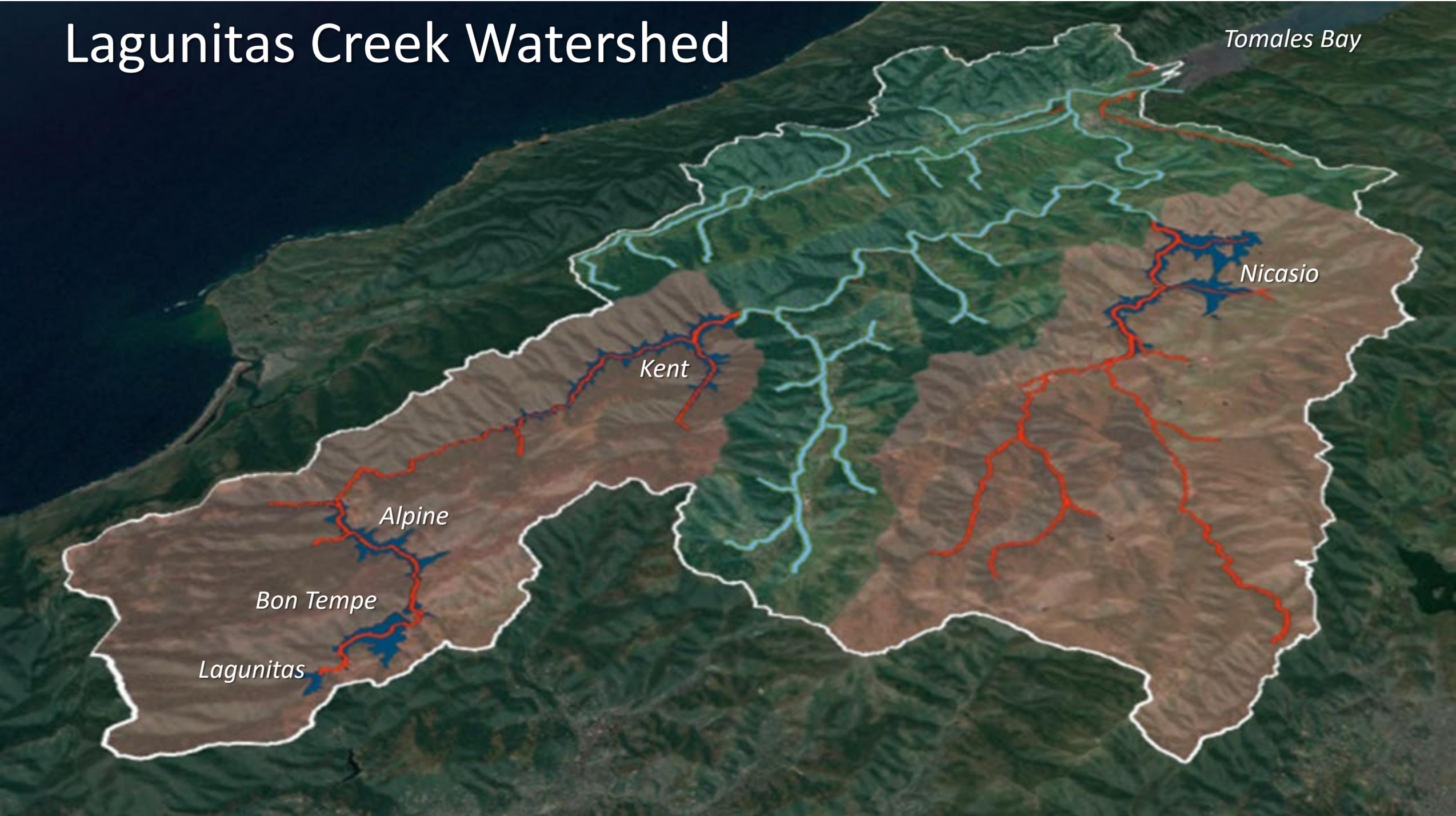
*Nicasio*

*Kent*

*Alpine*

*Bon Tempe*

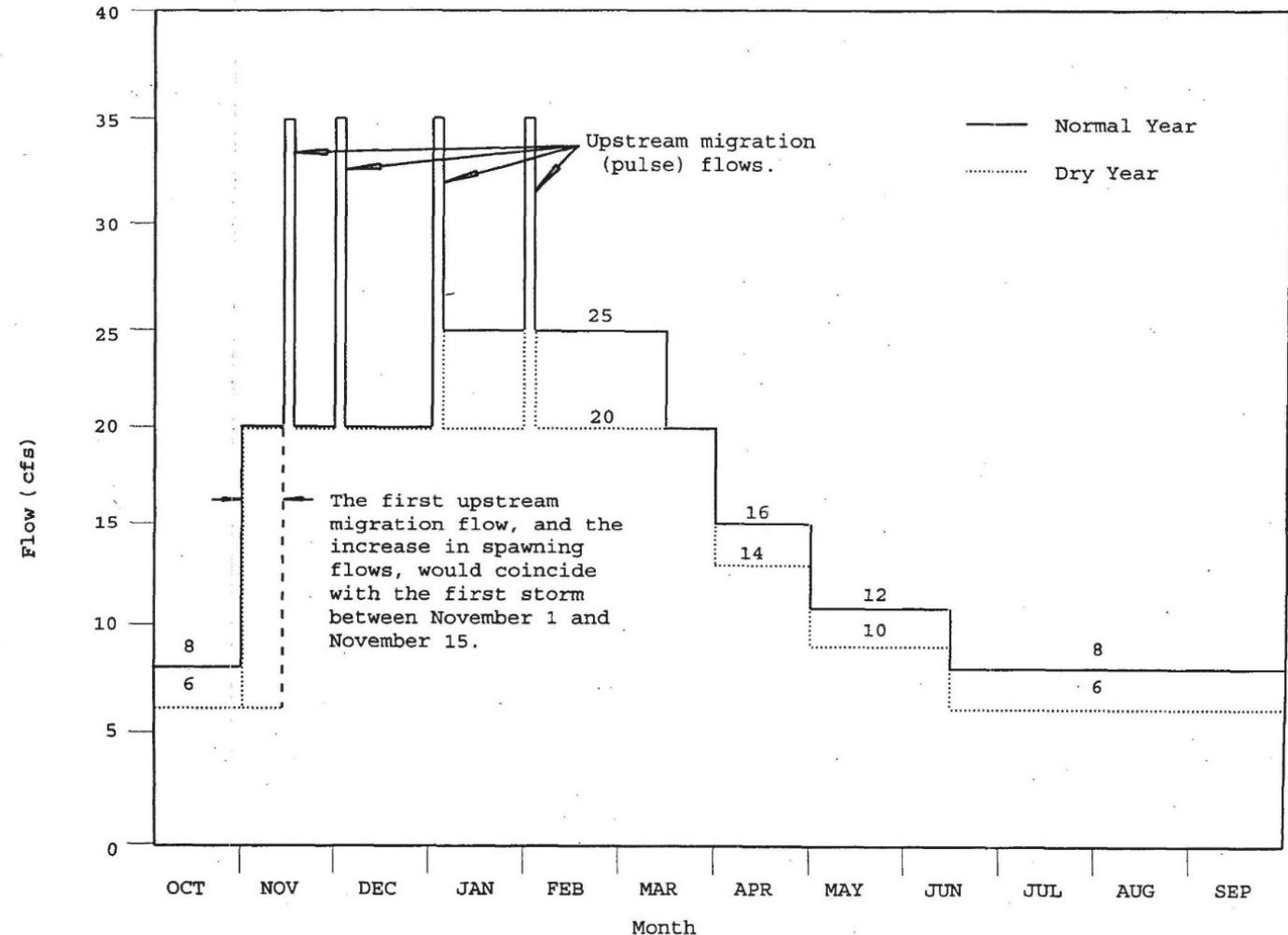
*Lagunitas*



# State Water Board Order WR95-17

## Issued in 1995, following the expansion of Kent Lake

- Includes 11 conditions for operations, mitigation actions, and monitoring
- Established minimum flow requirements for Lagunitas Creek
  - Combination of natural runoff and District releases from Kent Lake
  - Measured at USGS streamgauge in Samuel P. Taylor State Park



# State Water Board Order WR95-17

- Led to the development of the *Lagunitas Creek Stewardship Plan* in 2011
  - Guiding document for Marin Water's monitoring and restoration efforts
  - Requires population monitoring of three protected species in Lagunitas Creek:

## Coho Salmon

Endangered - State and Federal



## Steelhead

Threatened - Federal



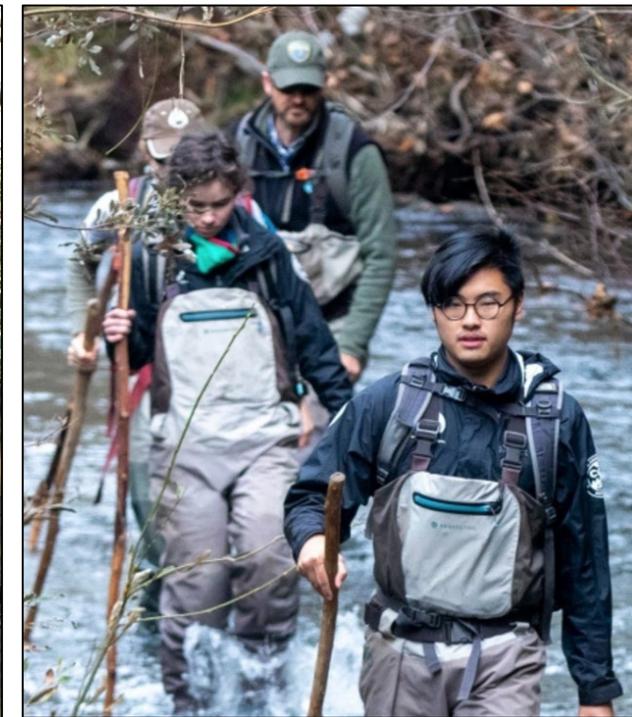
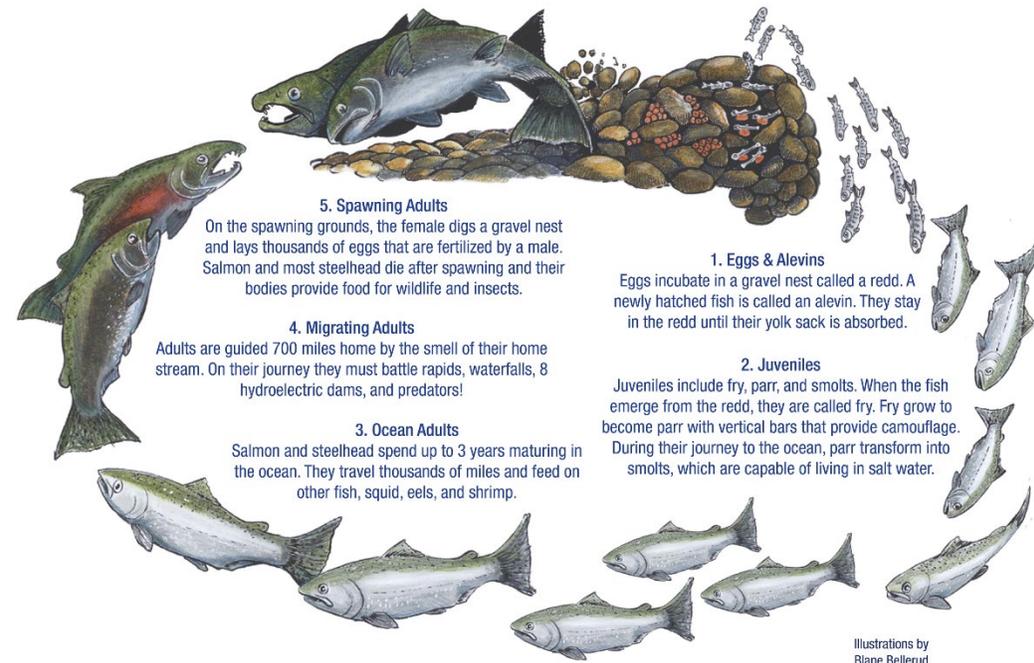
## California Freshwater Shrimp

Endangered – State and Federal



# Fisheries Monitoring

- Adult Spawning Surveys (Oct-Mar)
- Smolt Trapping (Mar-Jun)
- Juvenile Abundance Surveys (Jun-Oct)



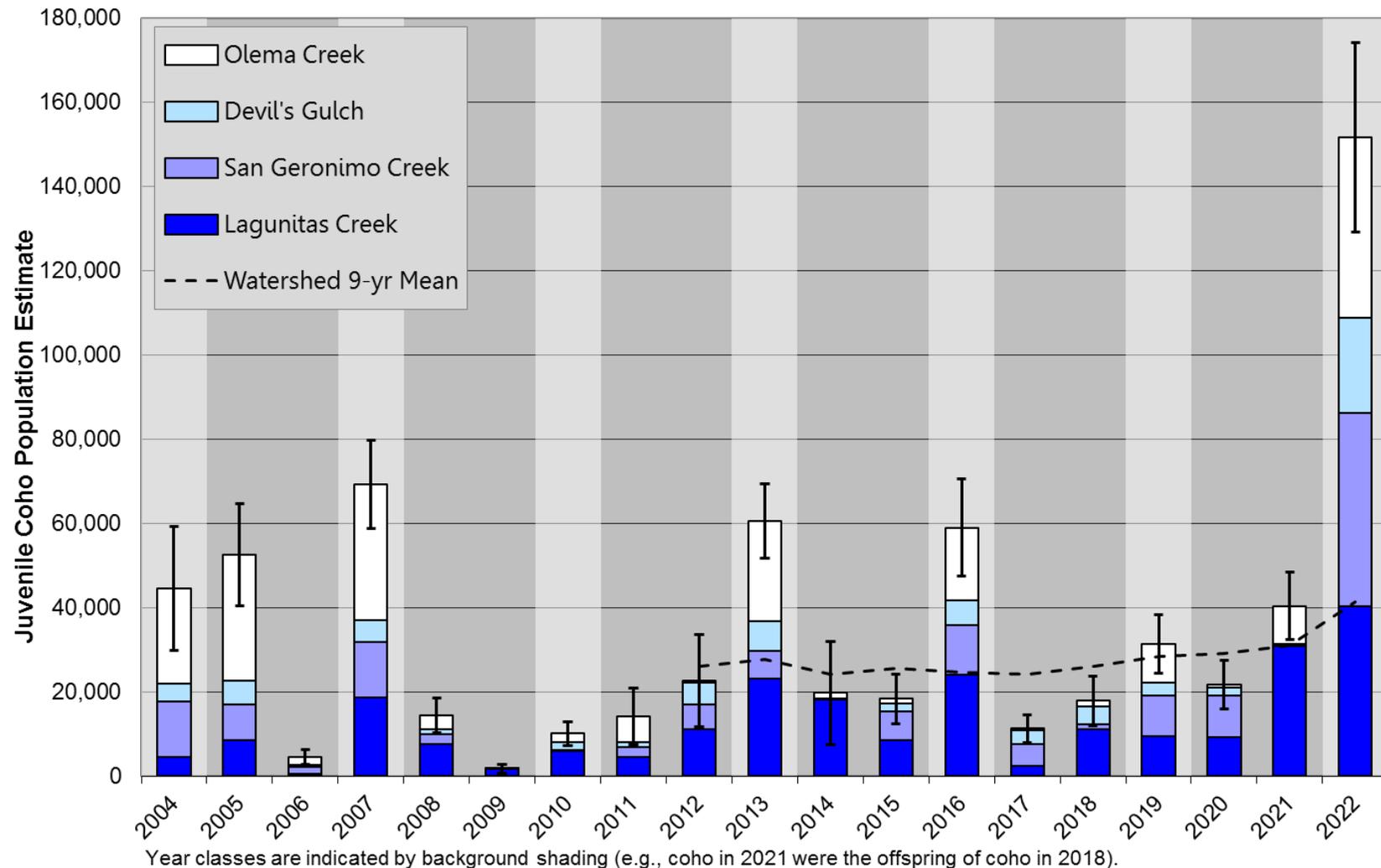
# 2022 Juvenile Monitoring

- Marin Water has surveyed the same 13 reaches since the 1990's
  - Lagunitas Creek
  - San Geronimo Creek
  - Devil's Gulch



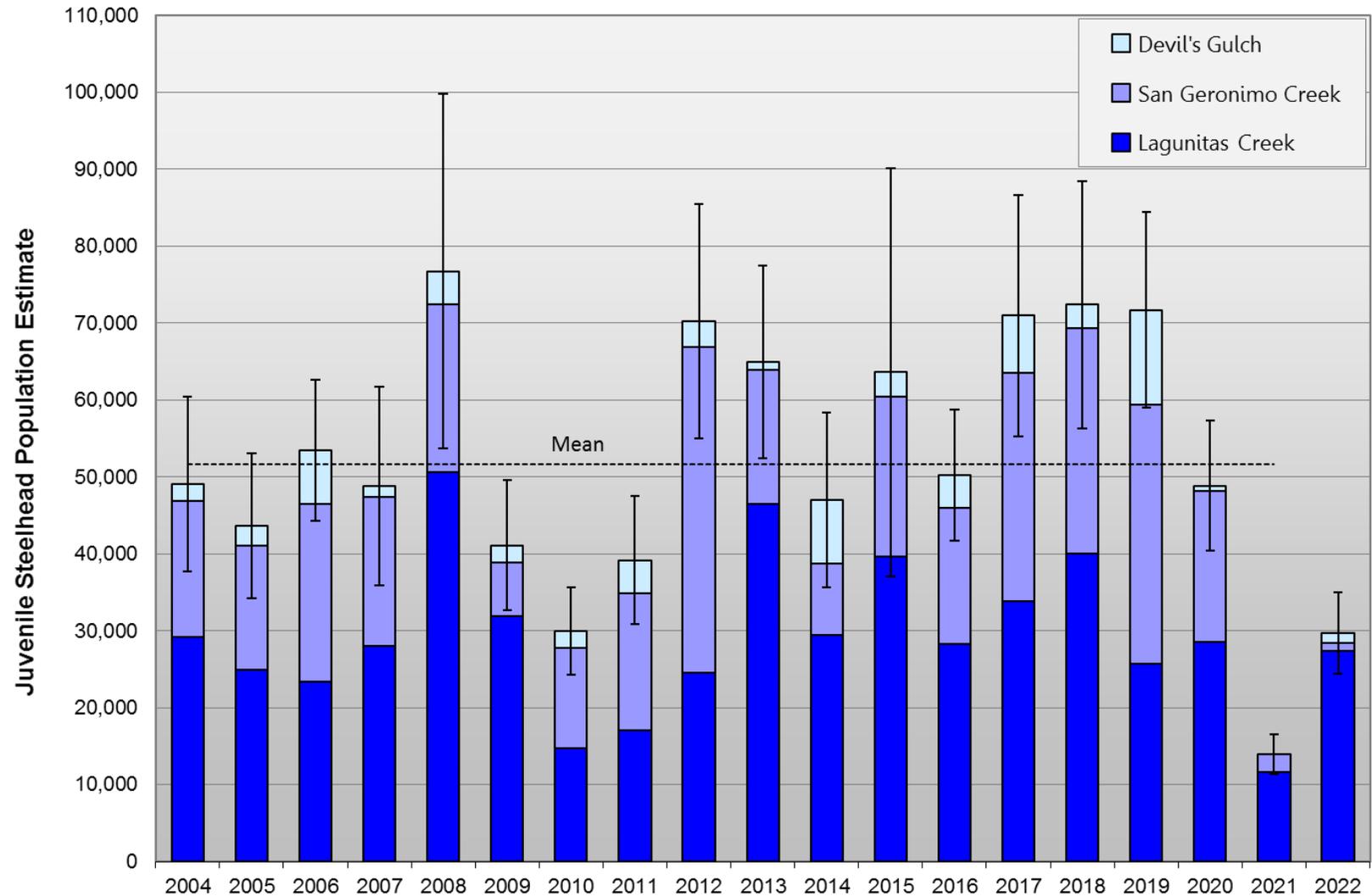
# 2022 Juvenile Monitoring Results – Coho Salmon

- Highest coho abundance ever observed
- Combination of factors:
  - Abundant adults (parents)
  - Early season rains provided access to spawning grounds
  - Mild weather throughout the incubation period



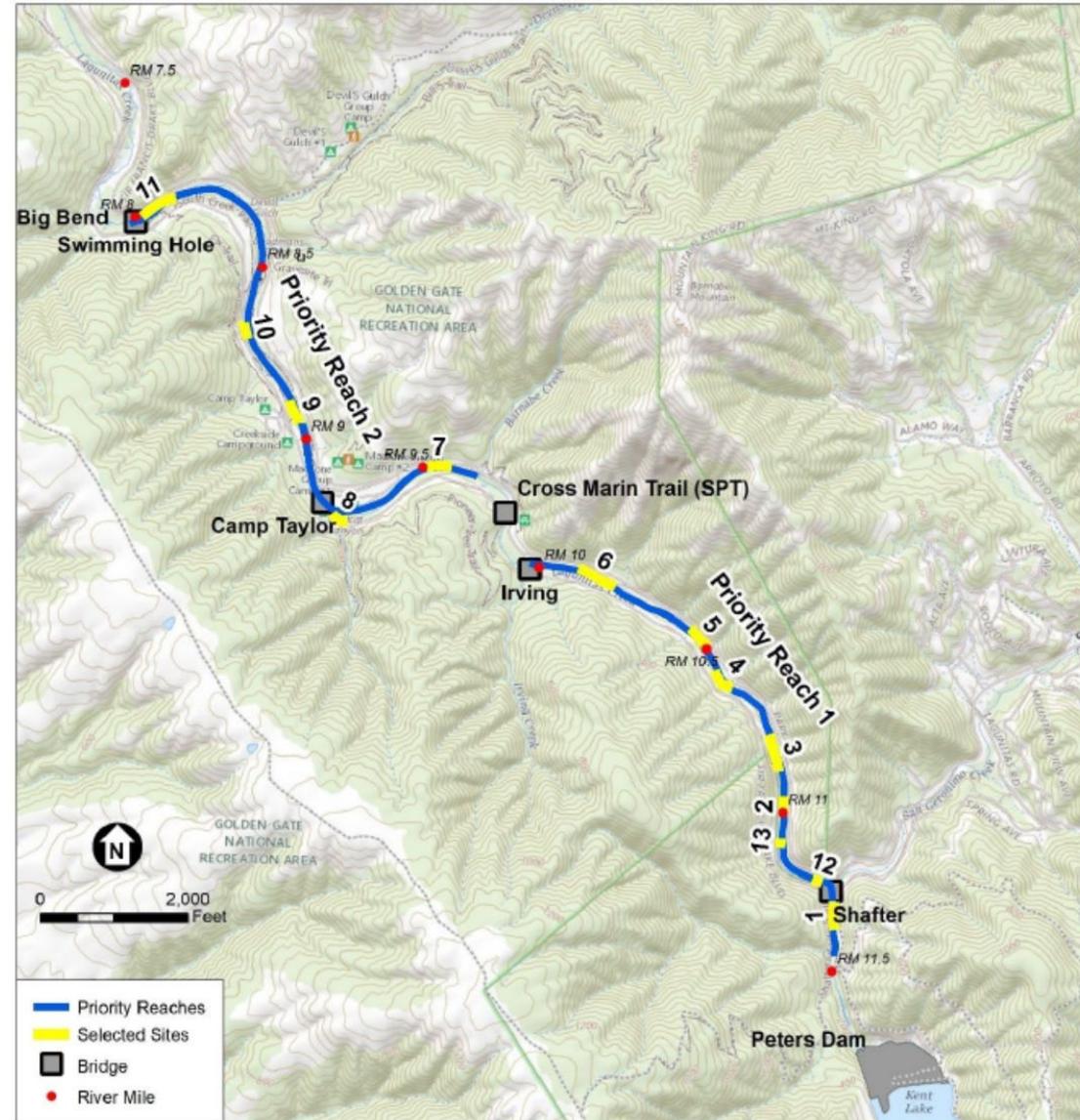
# 2022 Juvenile Monitoring Results – Steelhead

- Below average steelhead abundance
- Combination of factors:
  - Average number of adults (parents)
  - Limited access to spawning grounds during later spawning season (Feb-May)



# Lagunitas Creek Habitat Enhancement Project

- Collaboration with State Parks, Lagunitas TAC, and resource agencies (CDFW, NMFS, etc.)
- 13 sites on Marin Water and State Parks property downstream of Kent Lake
- Designed to be constructed independently in phases with grant funding
  - In progress: CDFW Prop 1 Planning Grant
  - Secured US Bureau of Reclamation implementation grant for 2024
  - Currently submitting additional grant proposals



# Lagunitas Creek Habitat Enhancement Project



Existing simple, low-quality habitat



Planned complex, high-quality habitat