

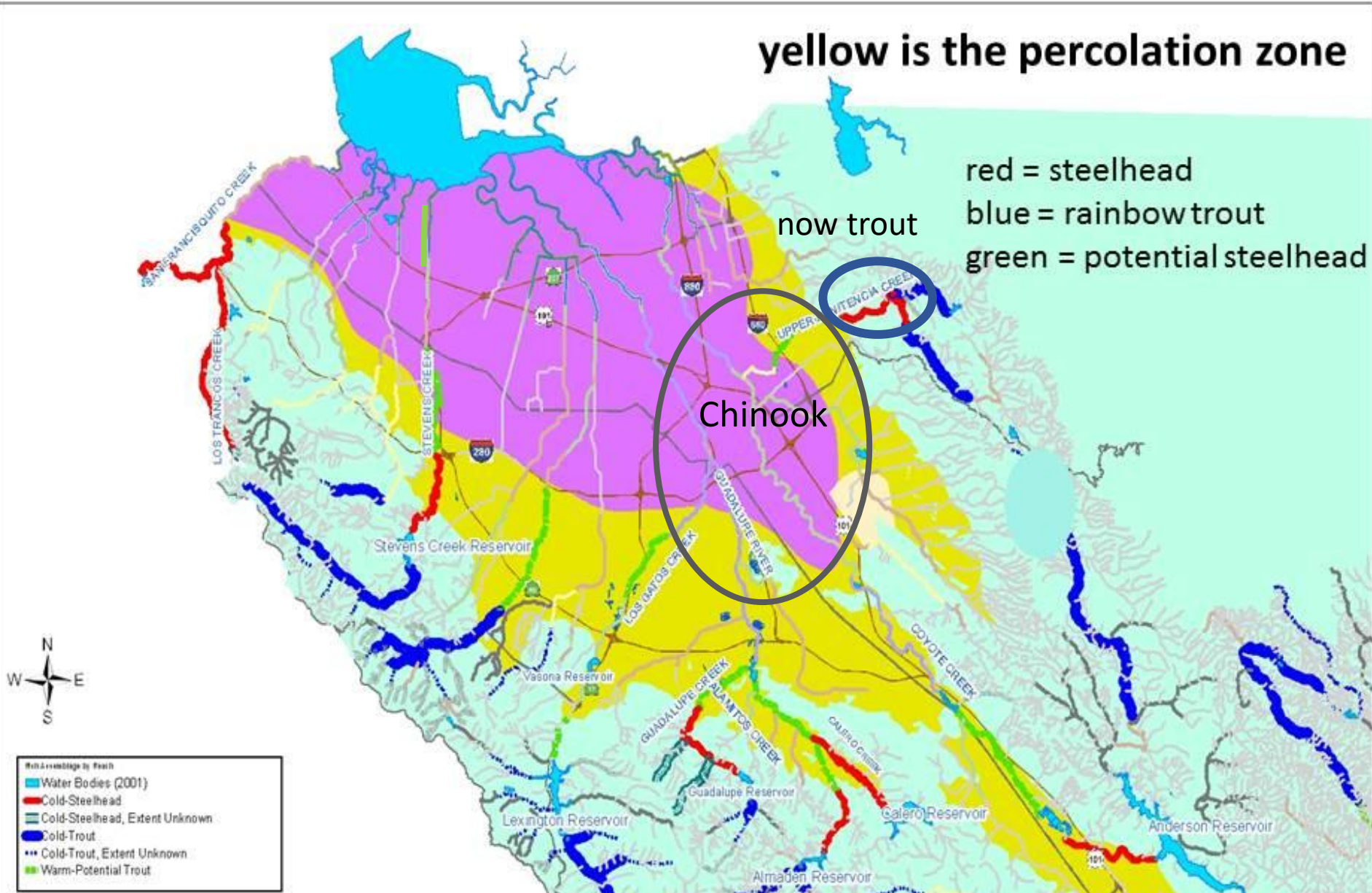
# Stevens Creek Steelhead 2013-2022

Droughts, Habitat and  
Migration Challenges

Jerry Smith, Professor emeritus  
San Jose State University



# Northern Santa Clara County Steelhead and Rainbow Trout



\*timing is everything

adult migration \*

January - April

ocean rearing  
1-3 years

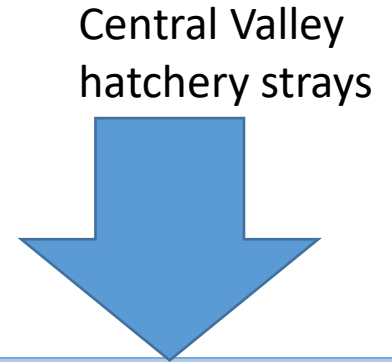
**Steelhead life cycle**  
(\*resident rainbow trout  
if migrations blocked)

spawning  
Jan - April



smolt outmigration \*  
mid-March-May  
bigger go first

rearing  
1-2 years



adult migration  
Aug-Nov

ocean rearing  
1-3 years

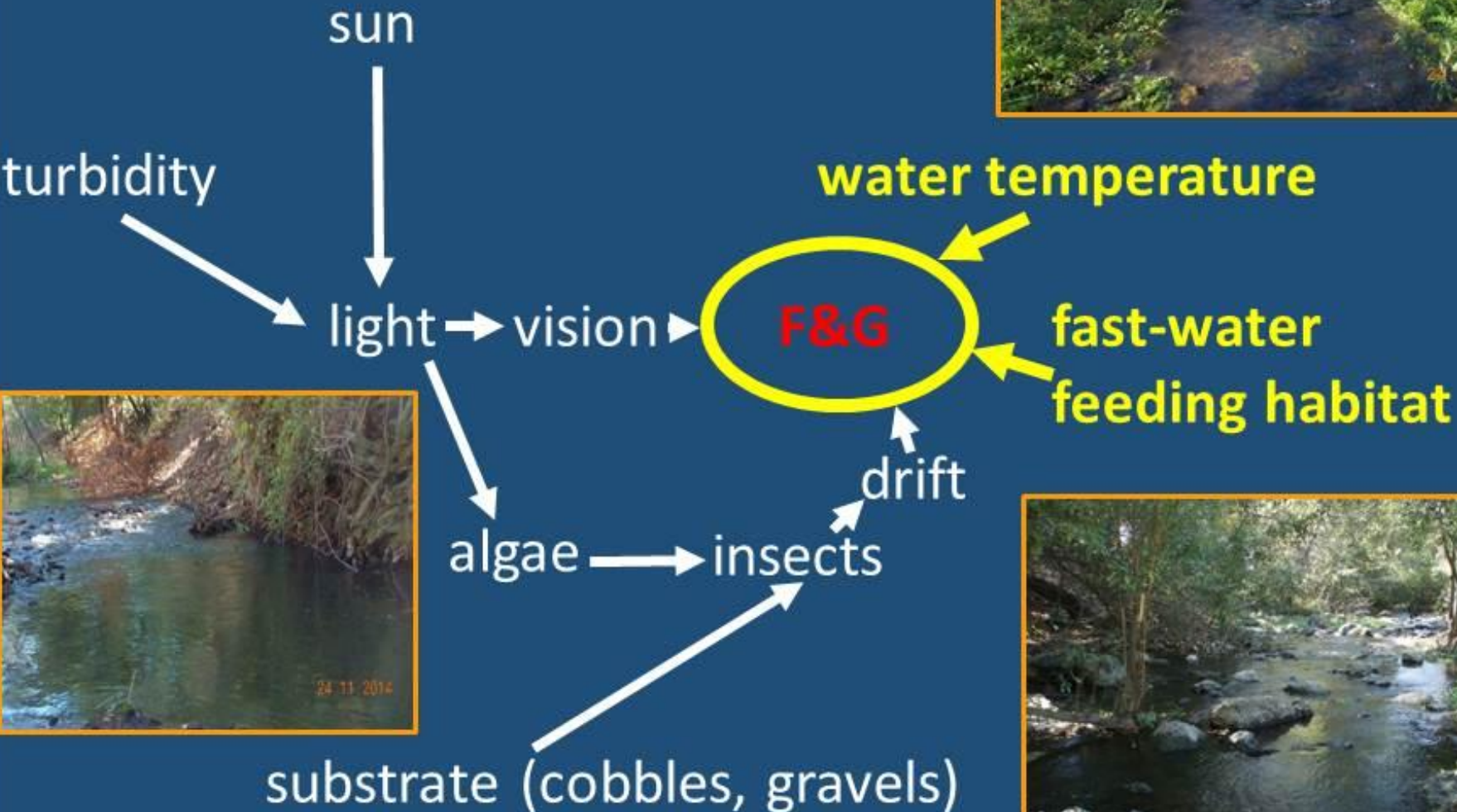
spawning  
Oct-Nov

**Chinook**

\* smolt  
outmigration  
March-May

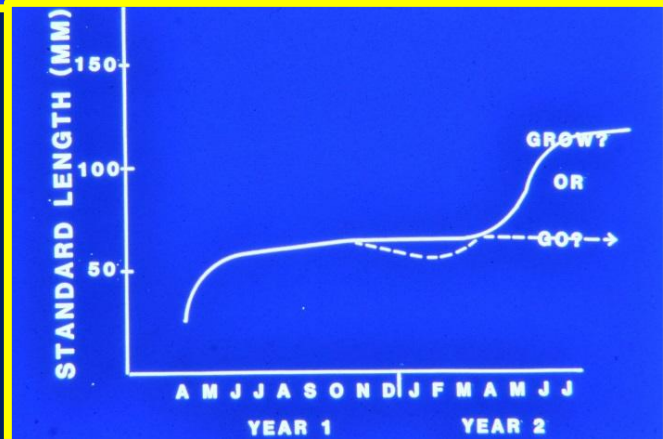
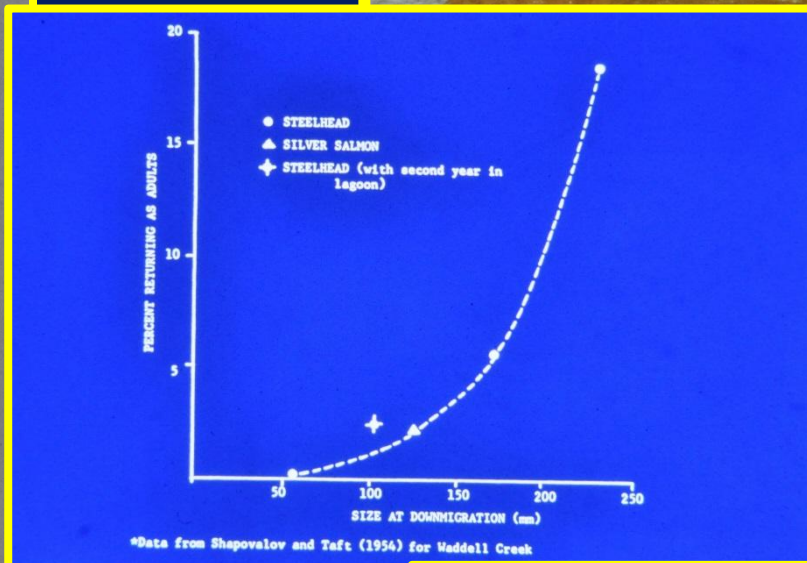
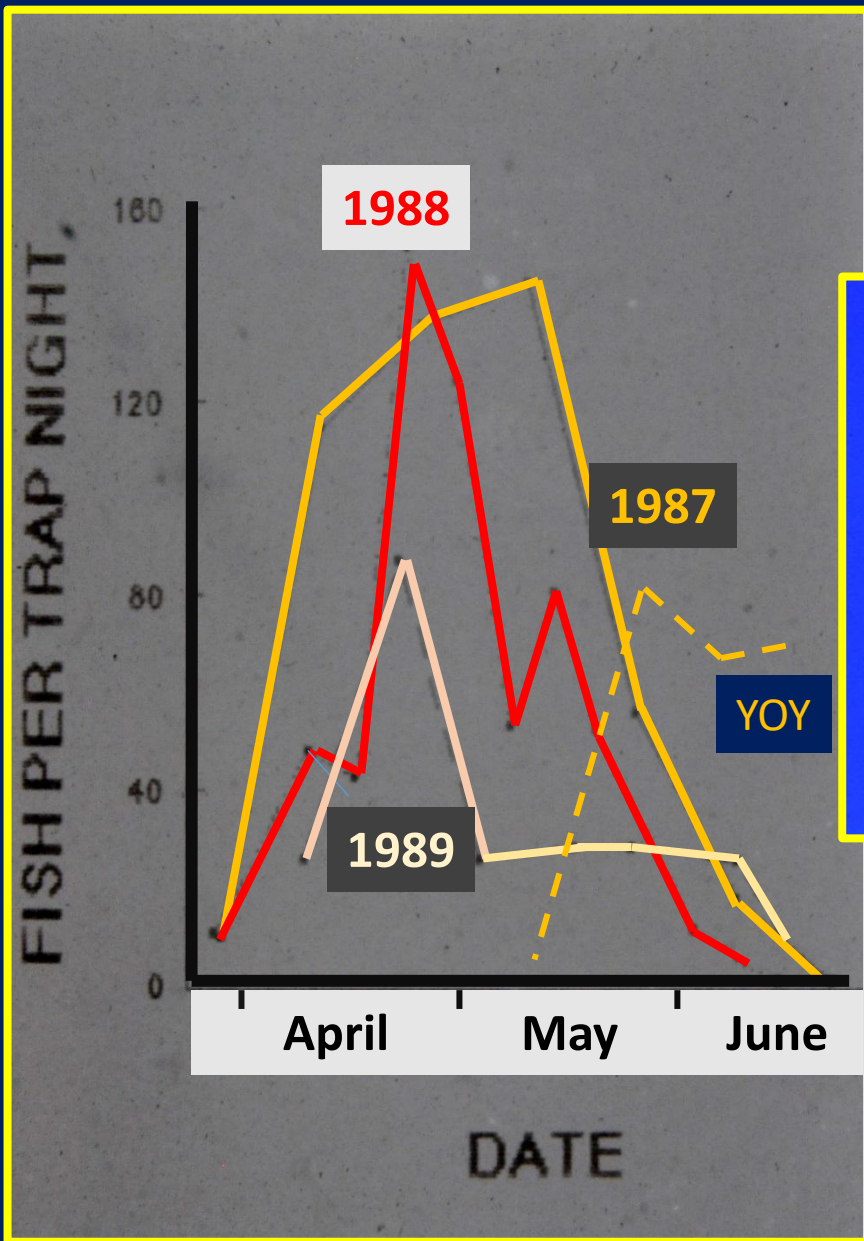
rearing  
Dec-May  
3-5  
months

# FEEDING AND GROWTH

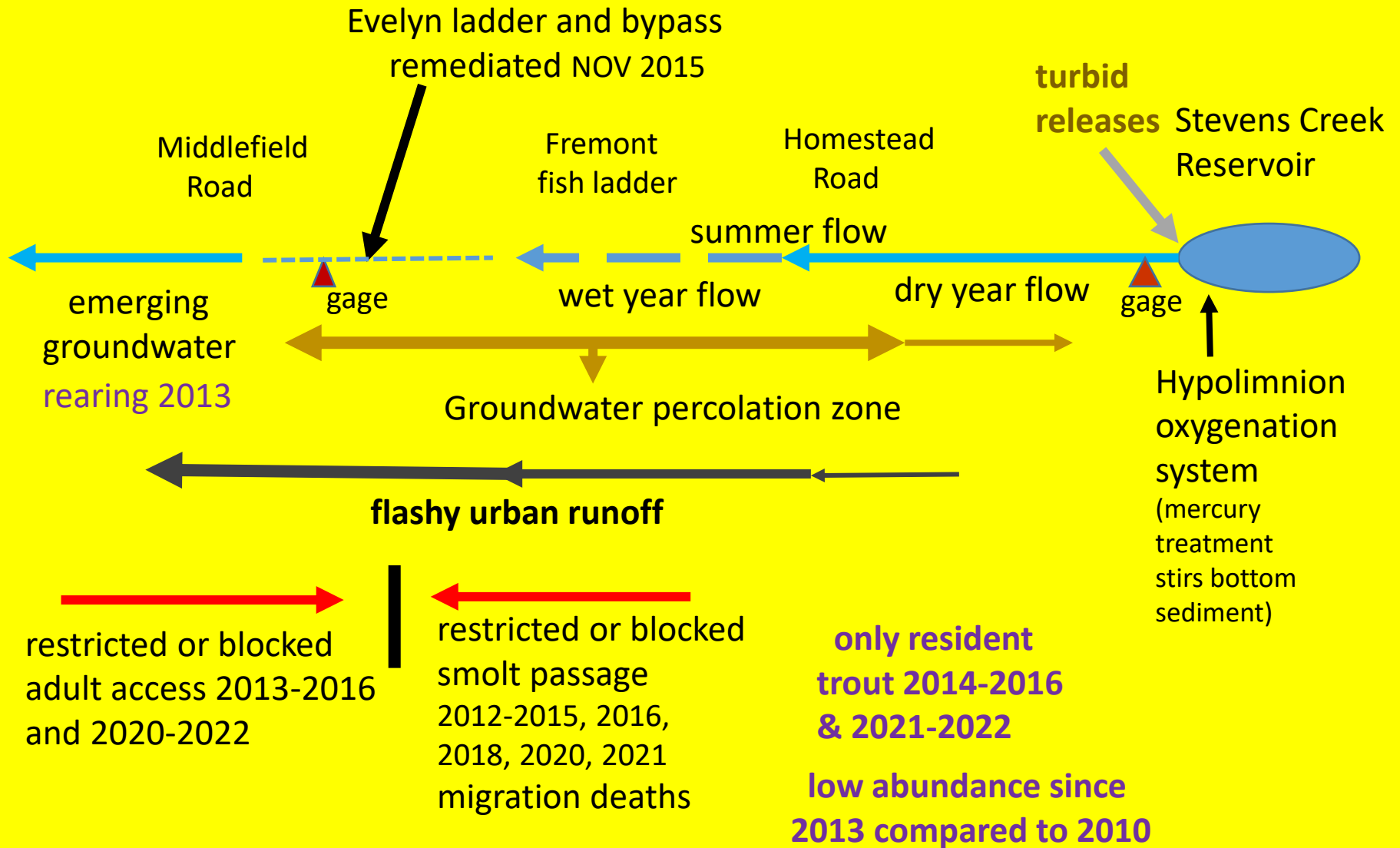


\*complex interactions require sampling the fish & determine responses

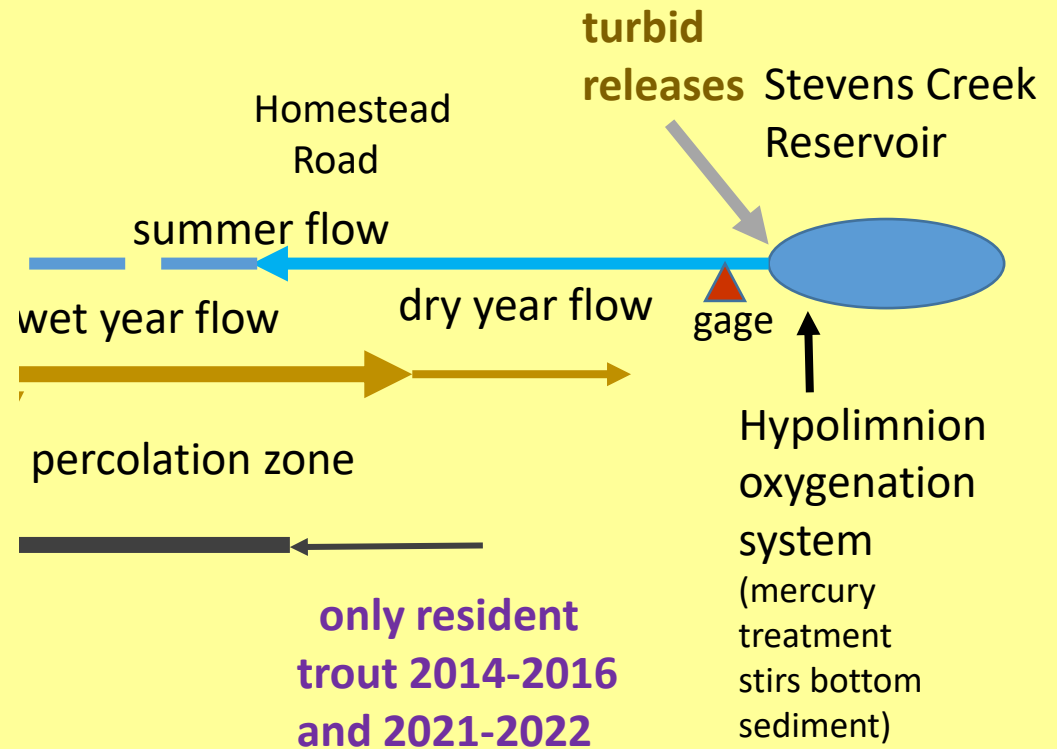
# San Lorenzo R. Smolt Migration



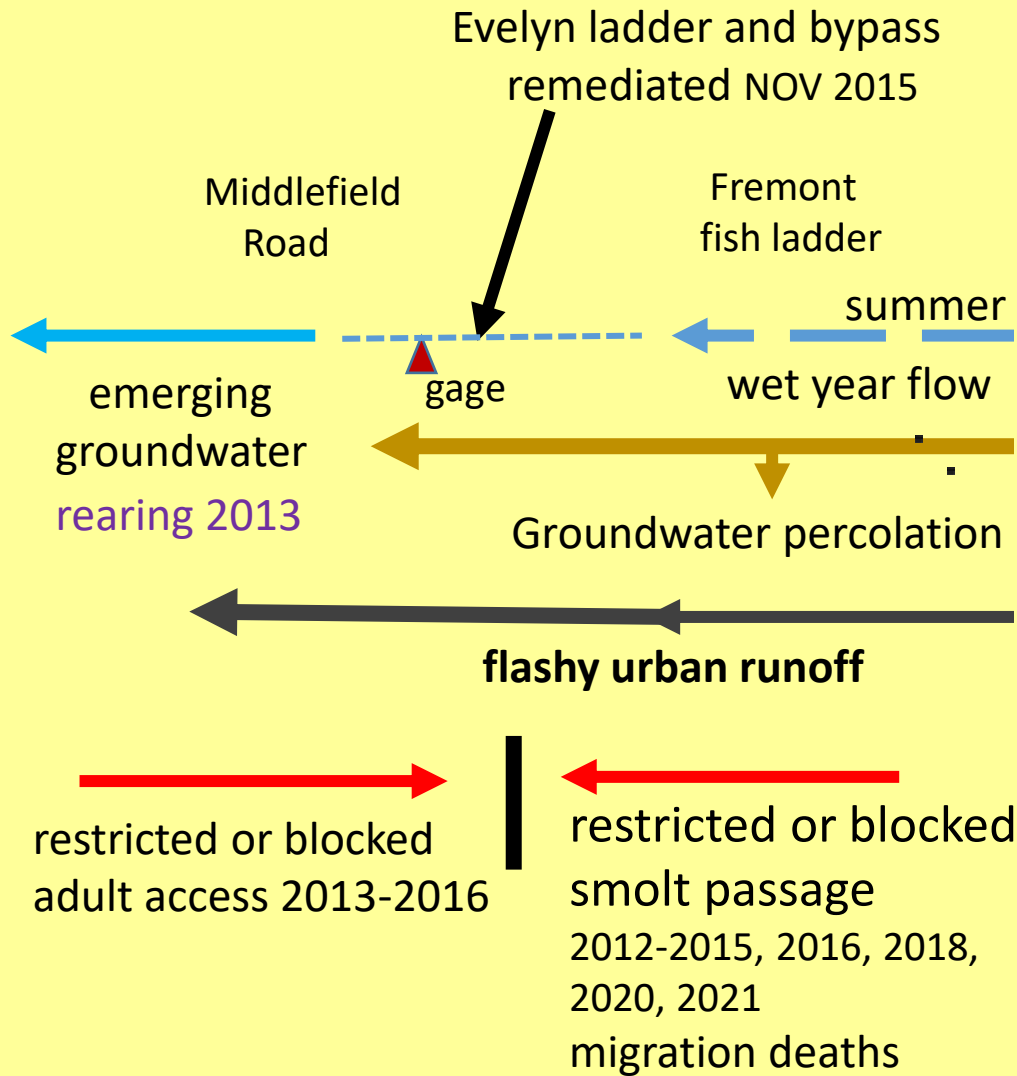
# Stevens Creek Plumbing and Ecology



# Stevens Creek Plumbing and Ecology



# Stevens Creek Plumbing and Ecology



only resident trout 2014-2016  
 low abundance since 2013 compared to 2010

# Assessment

Steelhead scarce & at risk of loss (or becoming resident trout populations) due to:

- \*Water scarcity and management during drought (blocked passage and reduced percolation operations)
- \*Poor or no smolt passage due to percolating stream reaches and inadequate, extended spring passage flows
- \*Rearing stream flow versus temperature; sediment, turbidity, on-channel ponds (predation and temperature)