

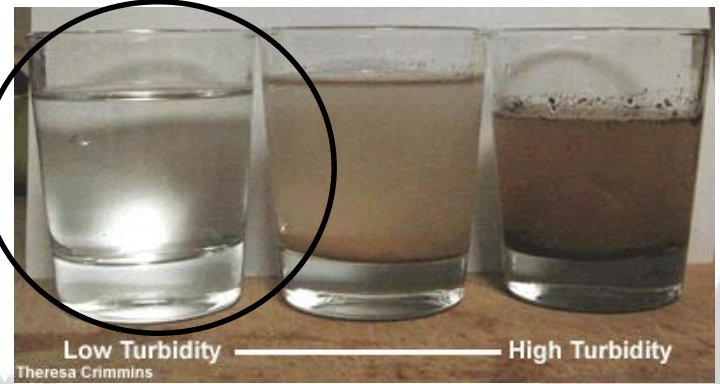
Delta Smelt and Salmon Habitats Beyond the Estuary

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Wild Delta Smelt: Extinction

Estuary:

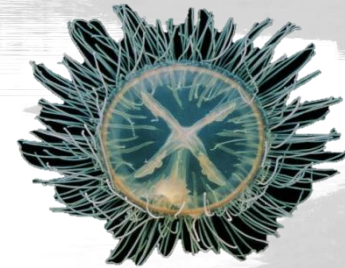
Too clear



No food



Luis A. Solorzano



http://www.wrobelphoto.com/gallery/main.php?g2_itemId=1565

Too hot

Delta smelt: winter-seasonal fish in Suisun Marsh
(Moyle *et al.* 1986)



<https://www.freshwatersystems.com/t-boilwateralerts.aspx>

Wild Salmon: Extinction

Rivers/estuary:



Too clear

Bad restaurants



Too hot



Domesticated



<https://arnoldzwickly.org/2013/07/30/little-fat-sheep/>

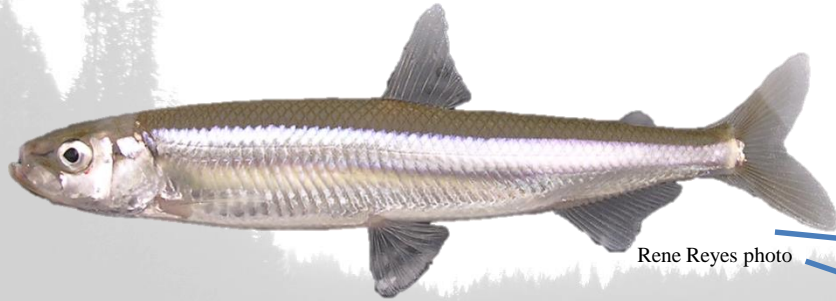
*Pre-development
San Francisco
Estuary
Watershed*



Novel San Francisco Estuary Watershed



Delta Smelt and Reservoirs: First Opportunity (of Two)



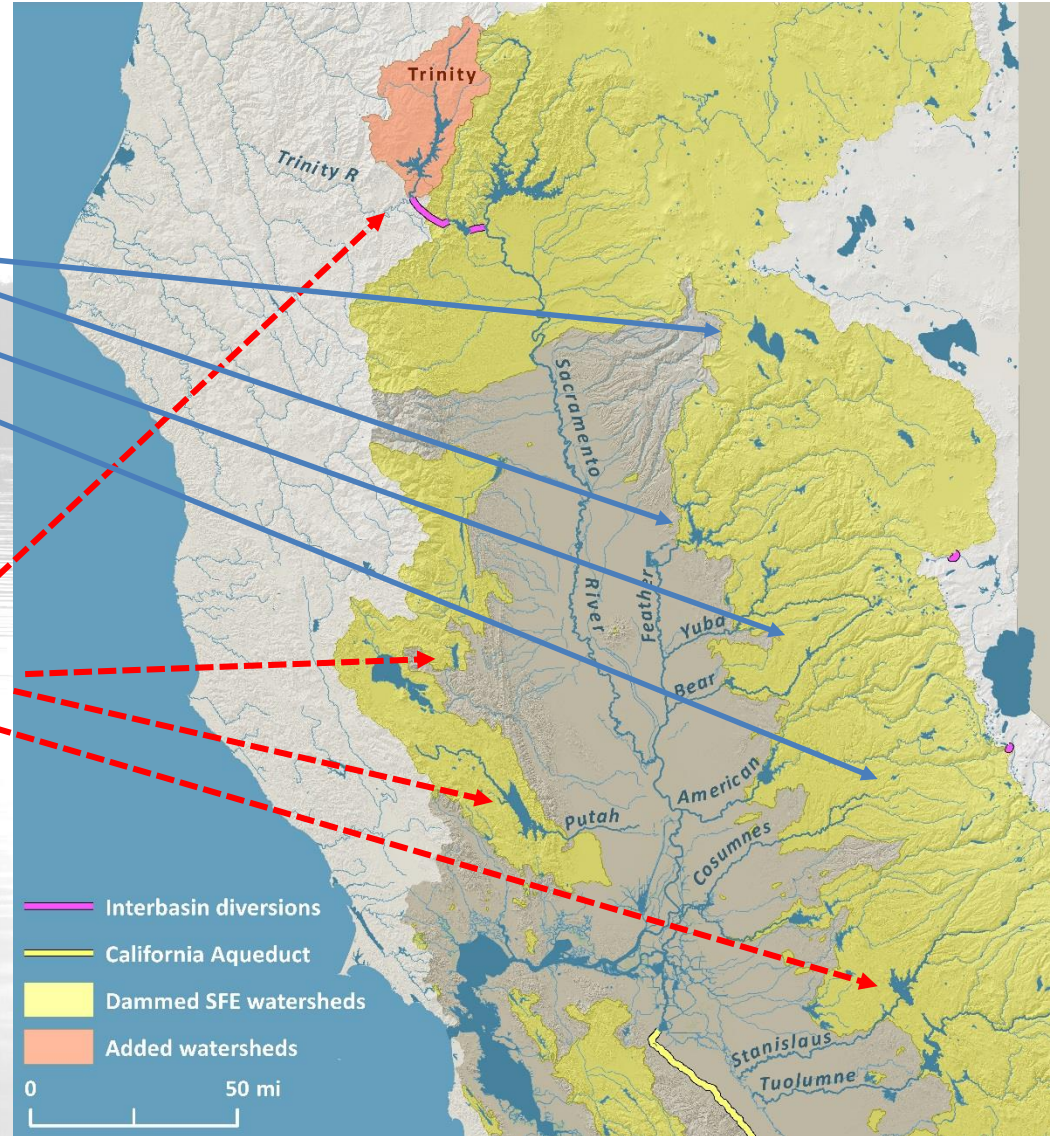
Rene Reyes photo

wakasagi: non-native smelt species



<https://wdfw.wa.gov/fishing/salmon/sockeye.html>

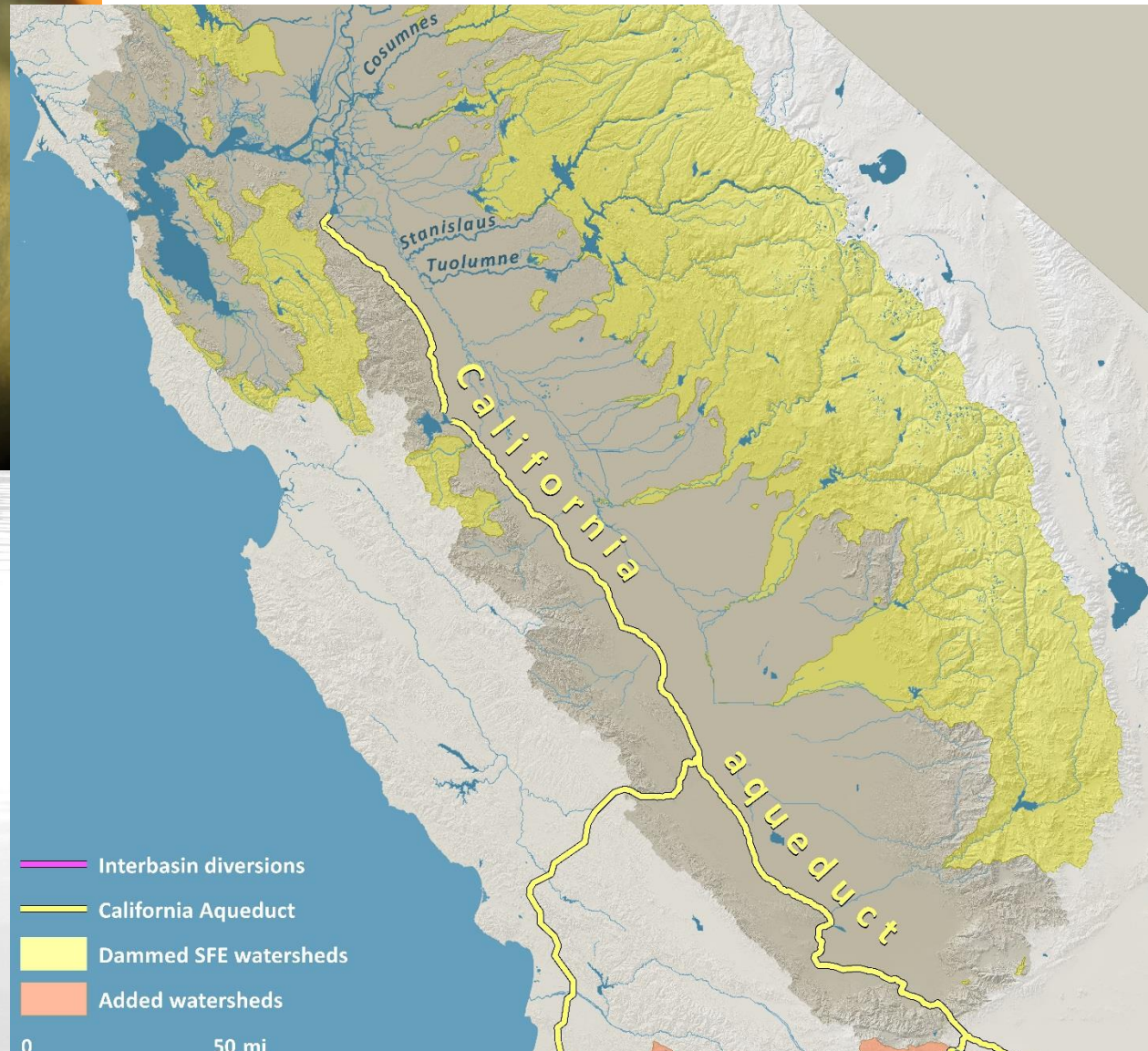
kokanee: cold-water plankton-eater



Delta Smelt and Reservoirs: Second Opportunity (of Two)



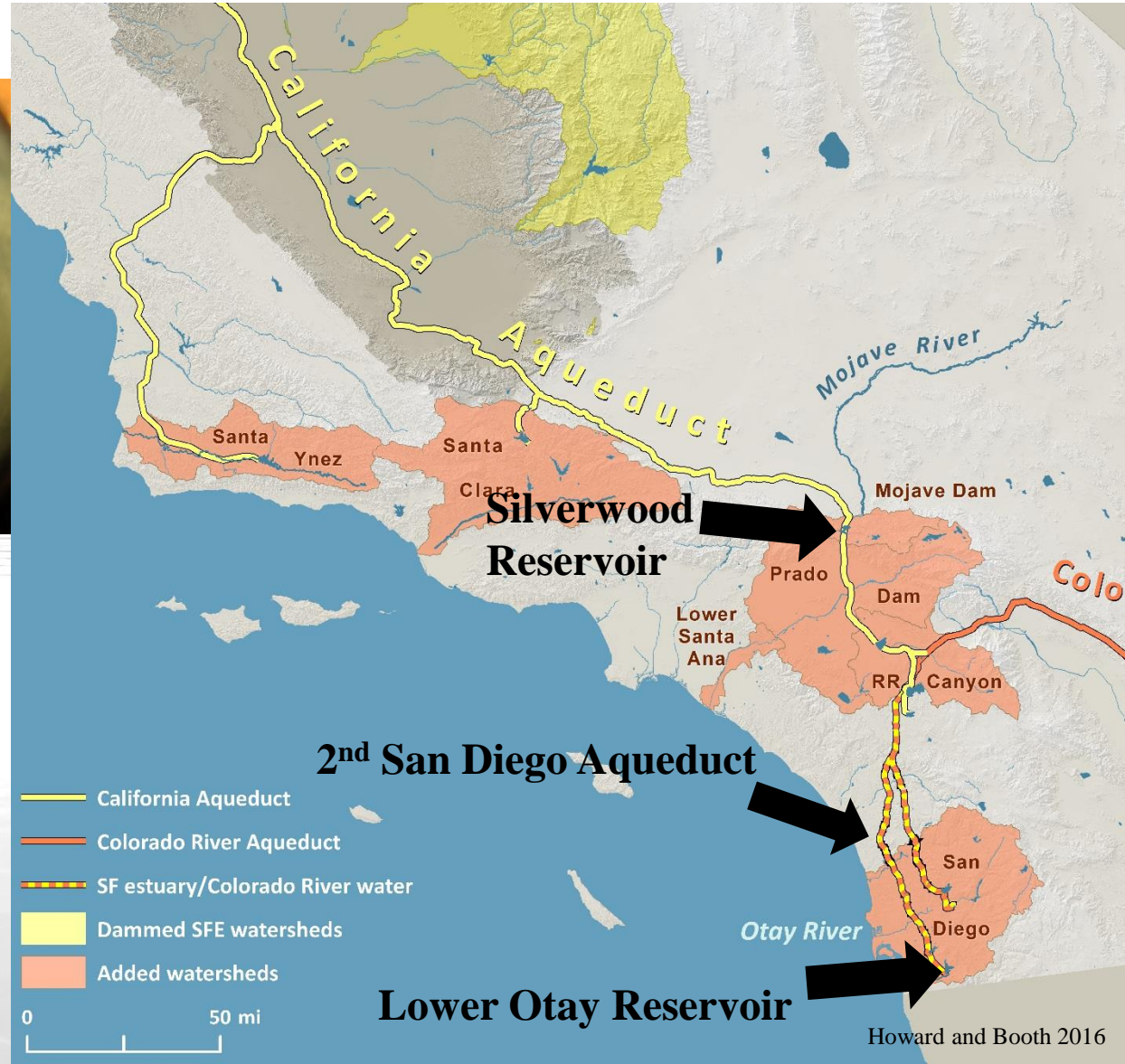
shimofuri goby



Delta Smelt and Reservoirs: Second Opportunity (of Two)



shimofuri goby

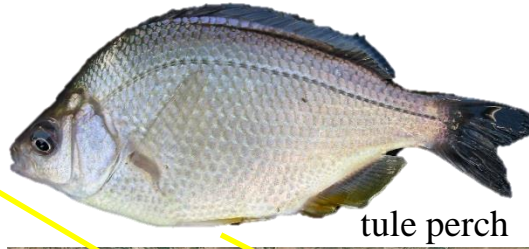


Delta Smelt and Reservoirs: Second Opportunity (of Two)



Rene Reyes photo

hitch



tule perch



splittail



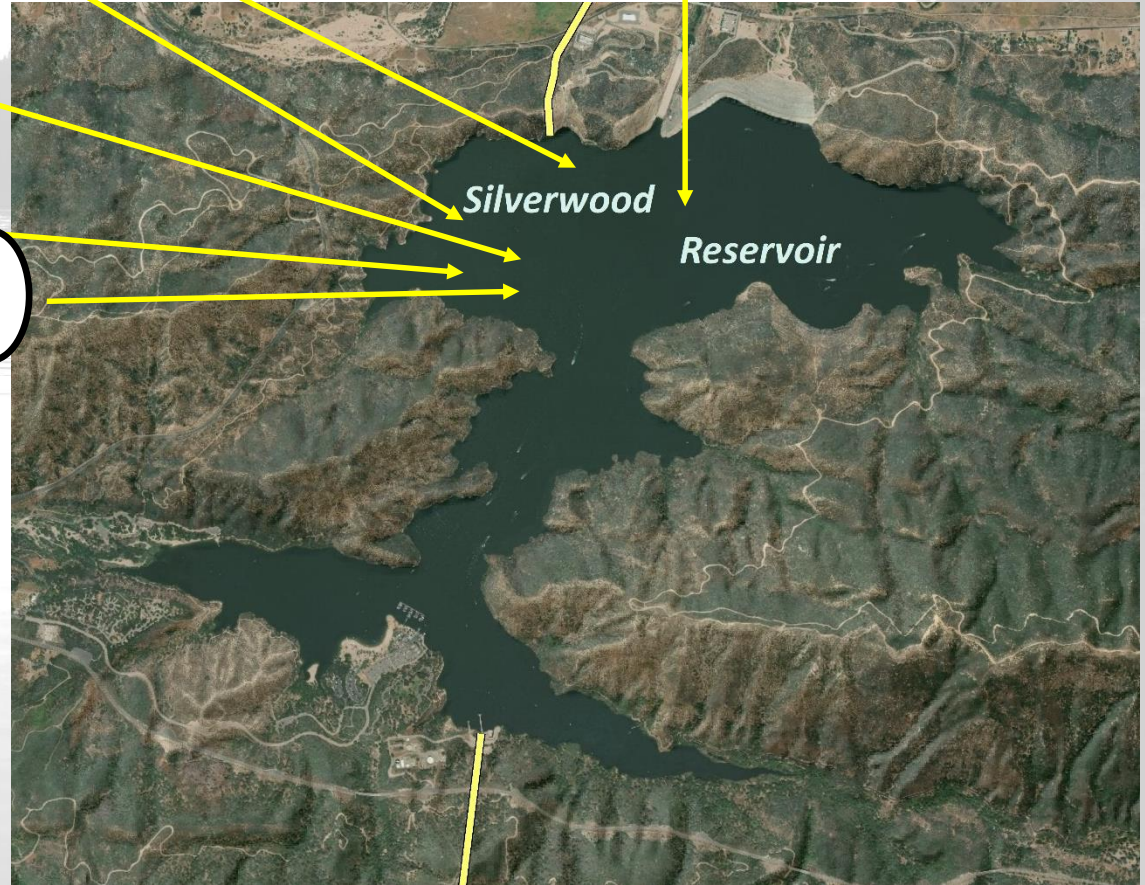
Rene Reyes photo

prickly sculpin

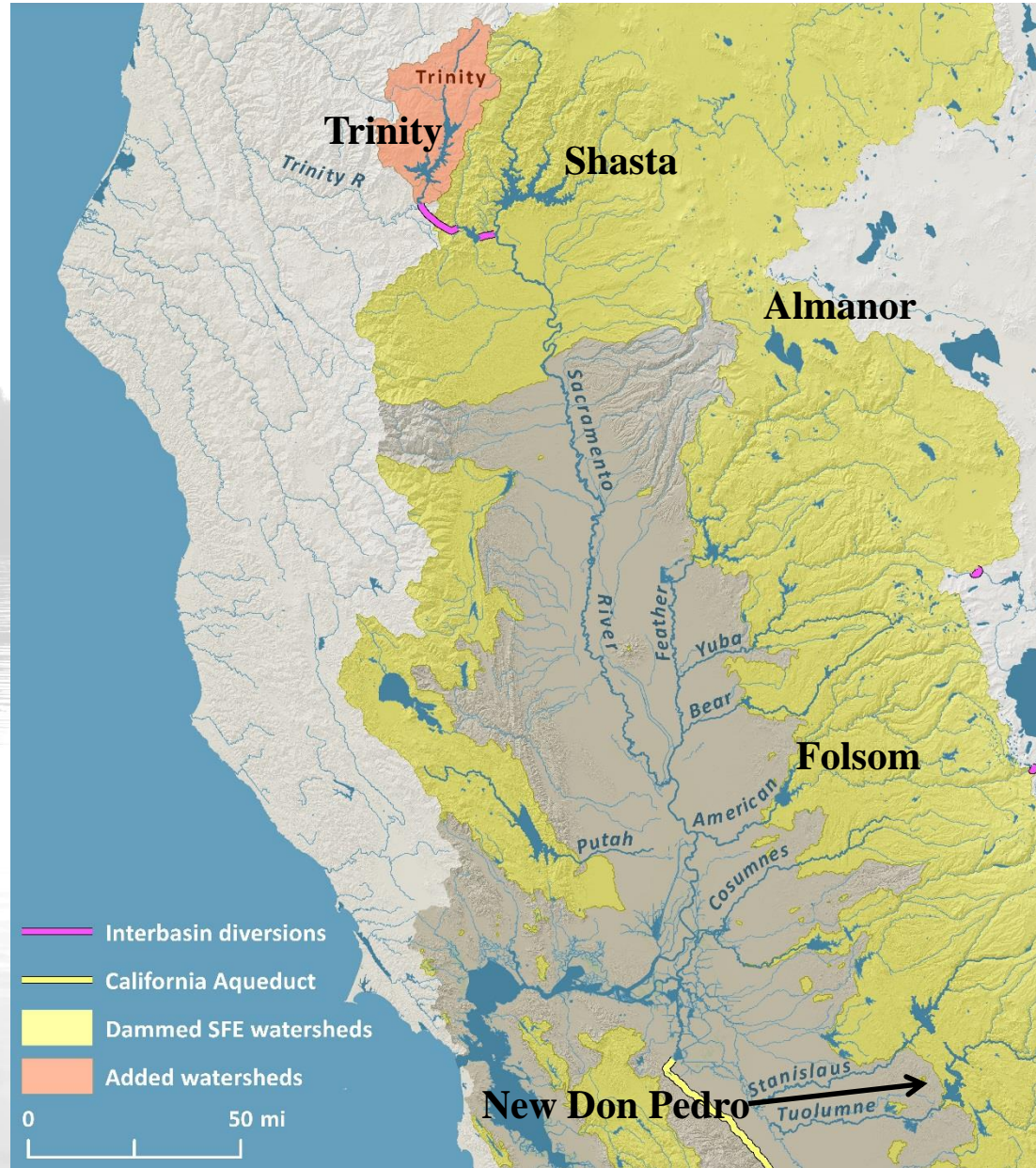


Rene Reyes photo

shimofuri goby

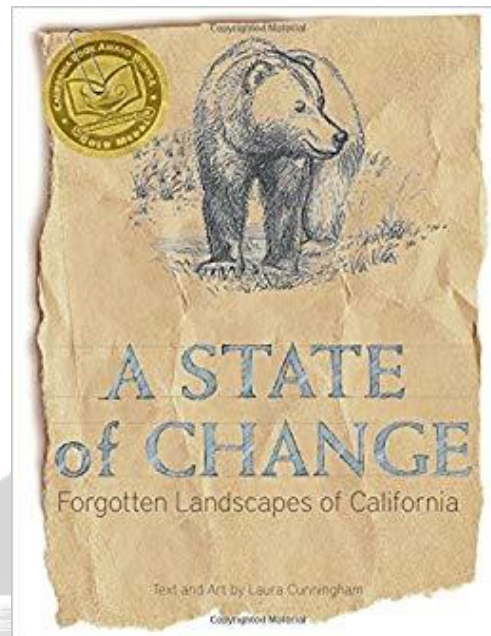
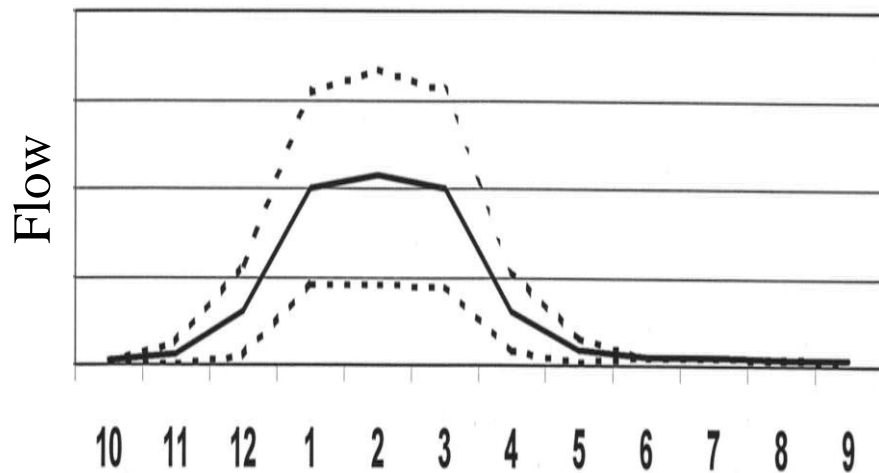


Salmon and Reservoirs



Salmon and Reservoirs

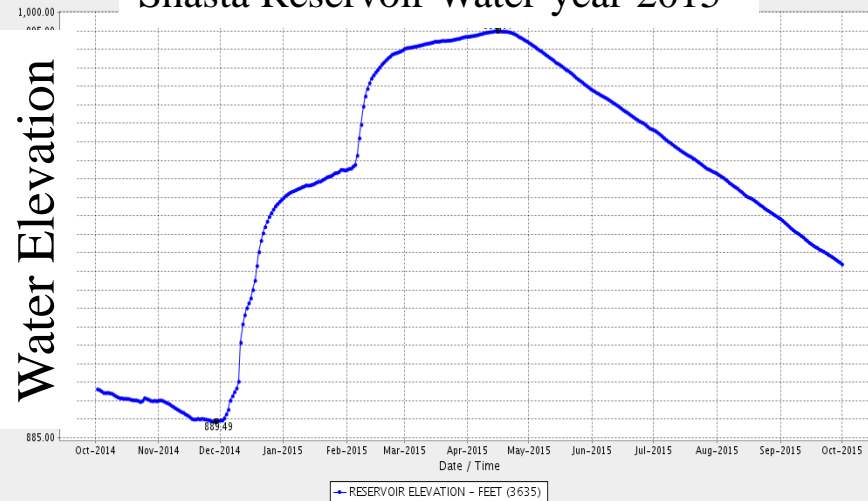
Yolo Bypass (Sommer *et al.* 2001)



Folsom Reservoir Water-year 2011

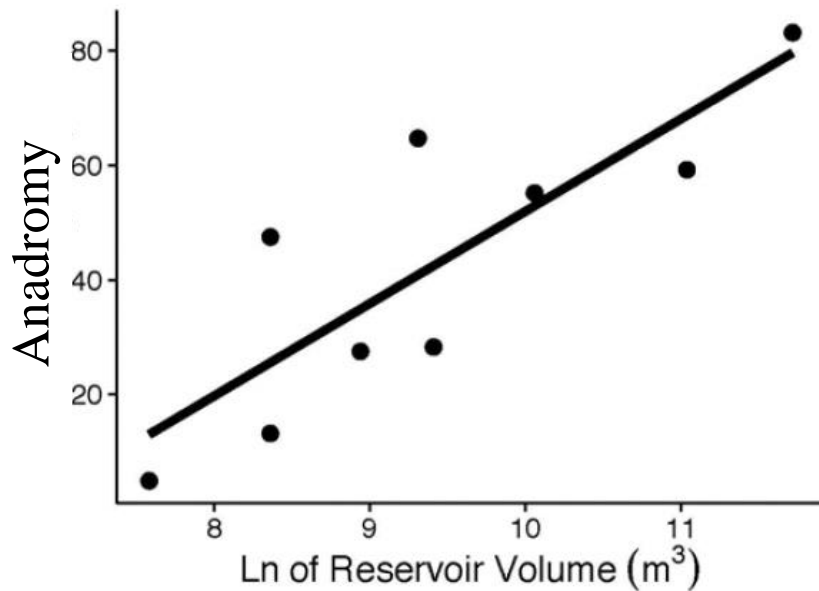


Shasta Reservoir Water-year 2015



Steelhead and Reservoirs

Pearse and Garza (2015): ...native
O. mykiss...dominate above the
dams

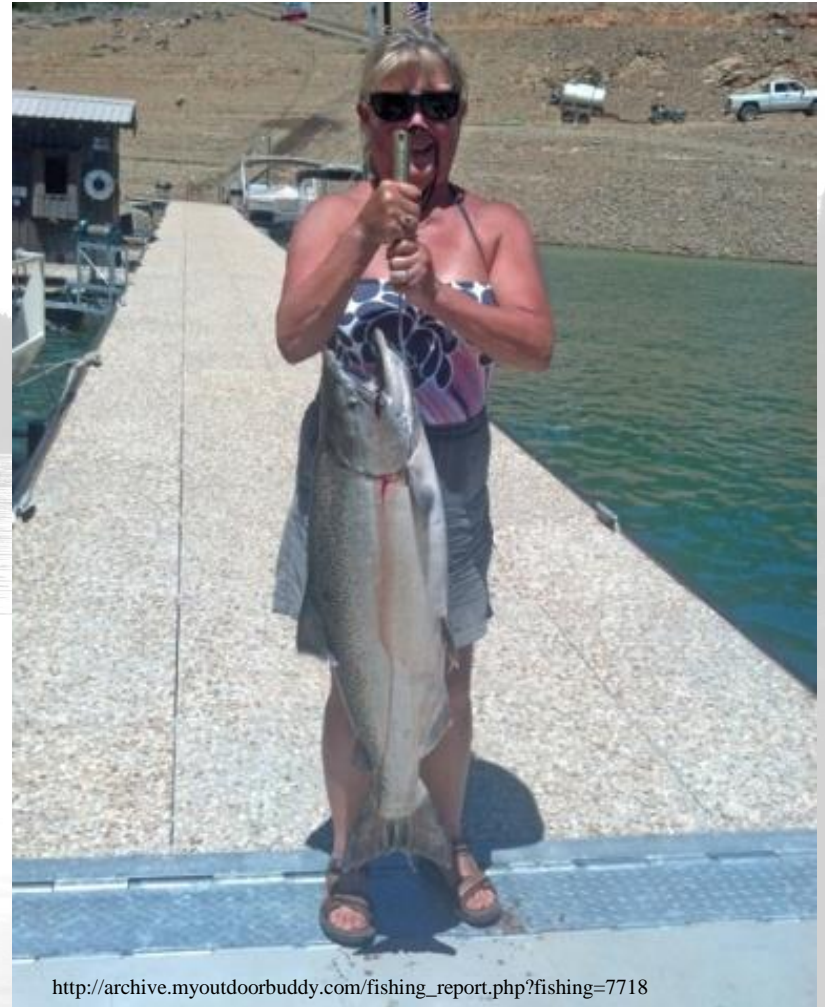


SF Eel River? No – SF American above Folsom

Leitwein *et al.* 2017

Reservoirs for Native Fishes

- **Delta smelt in Central Valley reservoirs**
- **Monitor California Aqueduct reservoirs**
 - Unknown Delta smelt?
 - Enhance estuary understanding
- **Native salmonid conservation reservoirs**
 - Wild
 - Spread extinction risk
 - Primed for dam removal



http://archive.myoutdoorbuddy.com/fishing_report.php?fishing=7718

Three-foot Chinook salmon from Trinity *Reservoir*



Thanks!



References

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