# How do *Pseudodiaptomus forbesi* growth rates depend on abundance and types of available food within different habitats?

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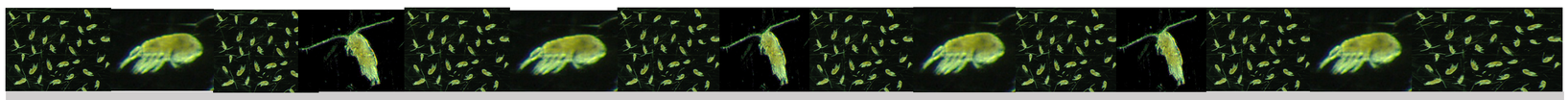
## CONTEXT & STUDY OBJECTIVES

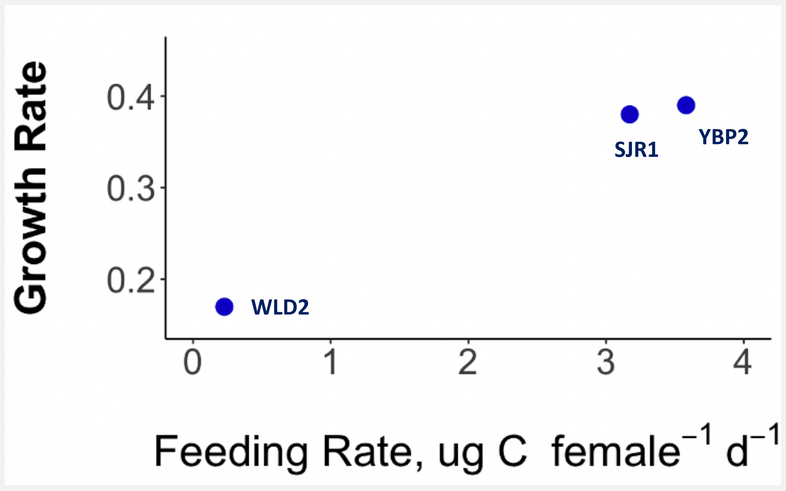
Copepods are a critical link in the upper San Francisco Estuary foodweb, where food limitation constrains foodweb support for native pelagic fishes. This study aims to examine the relationships between copepod growth rate and three factors of food: food quantity, food consumption, and how food and growth rate differ between shallow water habitats and deep channel habitats.



## Preliminary results: Copepod **growth rates positively related** to **feeding rates**

## GROWTH RATES AND FEEDING RATES COMPARED

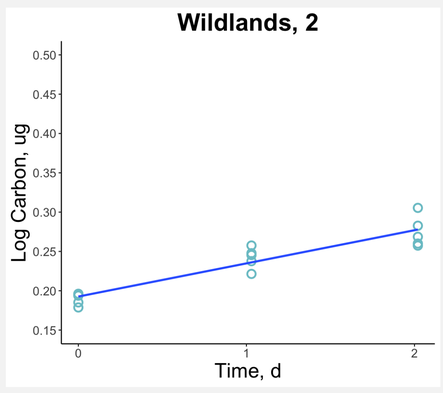
Growth Rate and Feeding Rate by Location



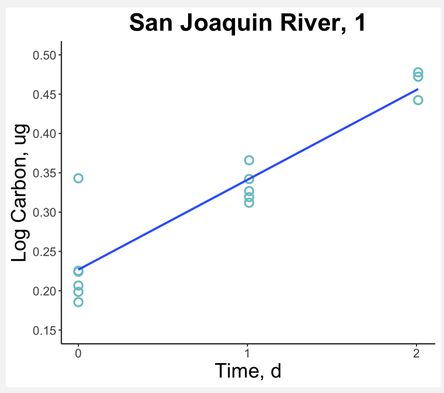

- Growth rates correlated with feeding rates per station.

- WLD2—Wildlands, shallow wetland
- SJR1—San Joaquin River, open water channel
- YBP2—Yolo Bypass, shallow wetland slough

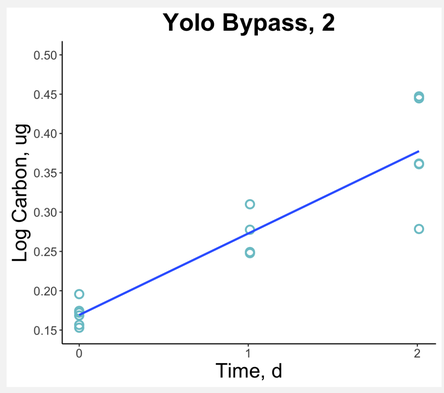
Growth Rates Compared Between Sites




Shallow habitat



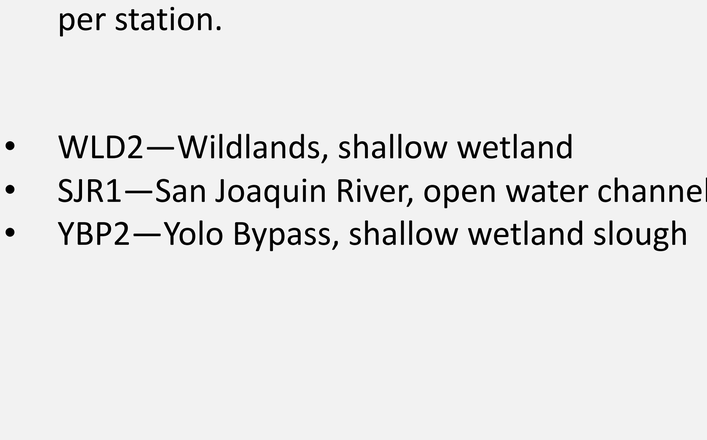

Channel Habitat




Shallow habitat

## NEXT STEPS

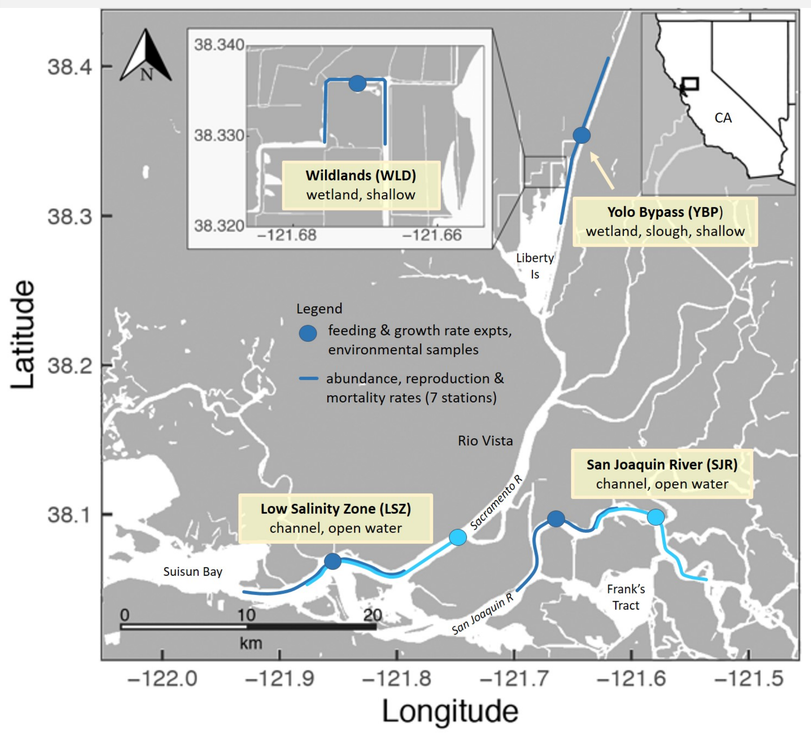
- Calculate growth rates for five remaining 2019 stations.
- Collect more samples in early fall 2020.
- Analyze copepod growth rates in correlation with microzooplankton species present.
- Analyze copepod growth rates in correlation with phytoplankton species present.




Feeding rate on chlorophyll at all eight sites

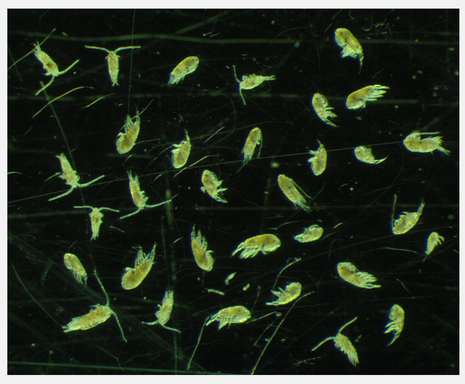
## STUDY DETAILS

### COLLECTION SITES

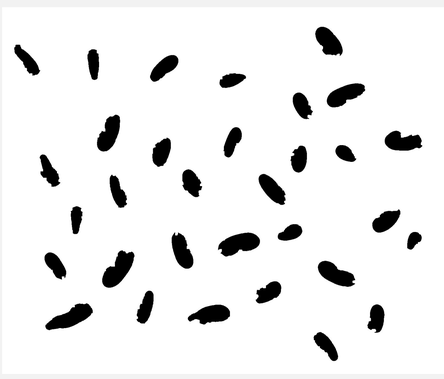



### METHOD: CARBON CALCULATIONS

**Take photo with Spot Idea S8APO digital camera**



**Convert to silhouettes on ImageJ scientific imaging freeware**



**Convert to ellipses for volume calculation then carbon calculation**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**ACKNOWLEDGEMENTS**

We thank Michelle Jungbluth, Austin Gearty, Charlie Norton, Cheryl Patel, and Rowan Yelton for field and lab assistance. We also thank David Bell, Luis Hernandez and Amanda Dostie (EOS Center Marine Ops staff) for vessel support. This work was funded by Delta Science Program, Watershed and Delta Ecosystem Restoration Grant Programs (Prop 1 funds) (to PI Wim Kimmerer/SFSU, contract #18212) and by CSU Council on Ocean Affairs, Science and Technology (COAST).

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