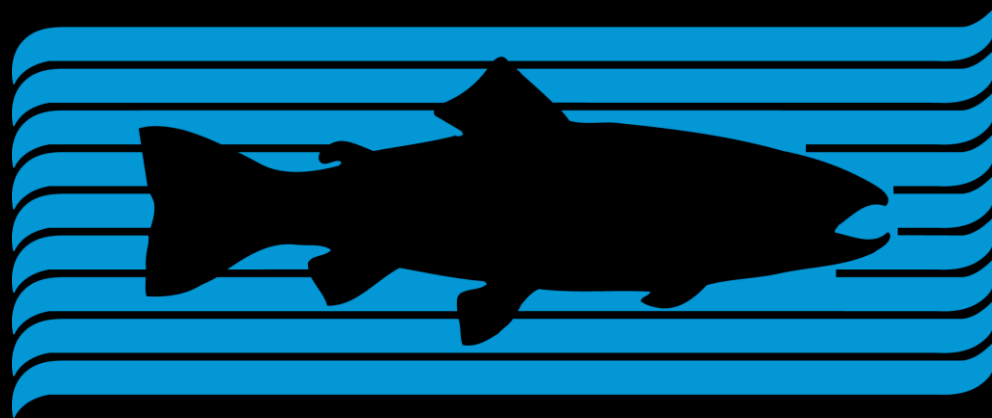


Managed Floodplain Fish Food: Bringing Dry-Side Food Webs to Wet-Side Fish

CALIFORNIA TROUT

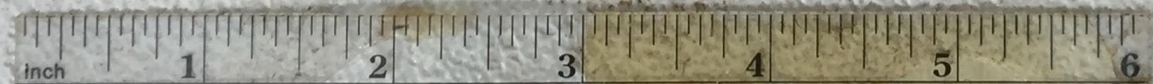


FISH · WATER · PEOPLE

Floodplain

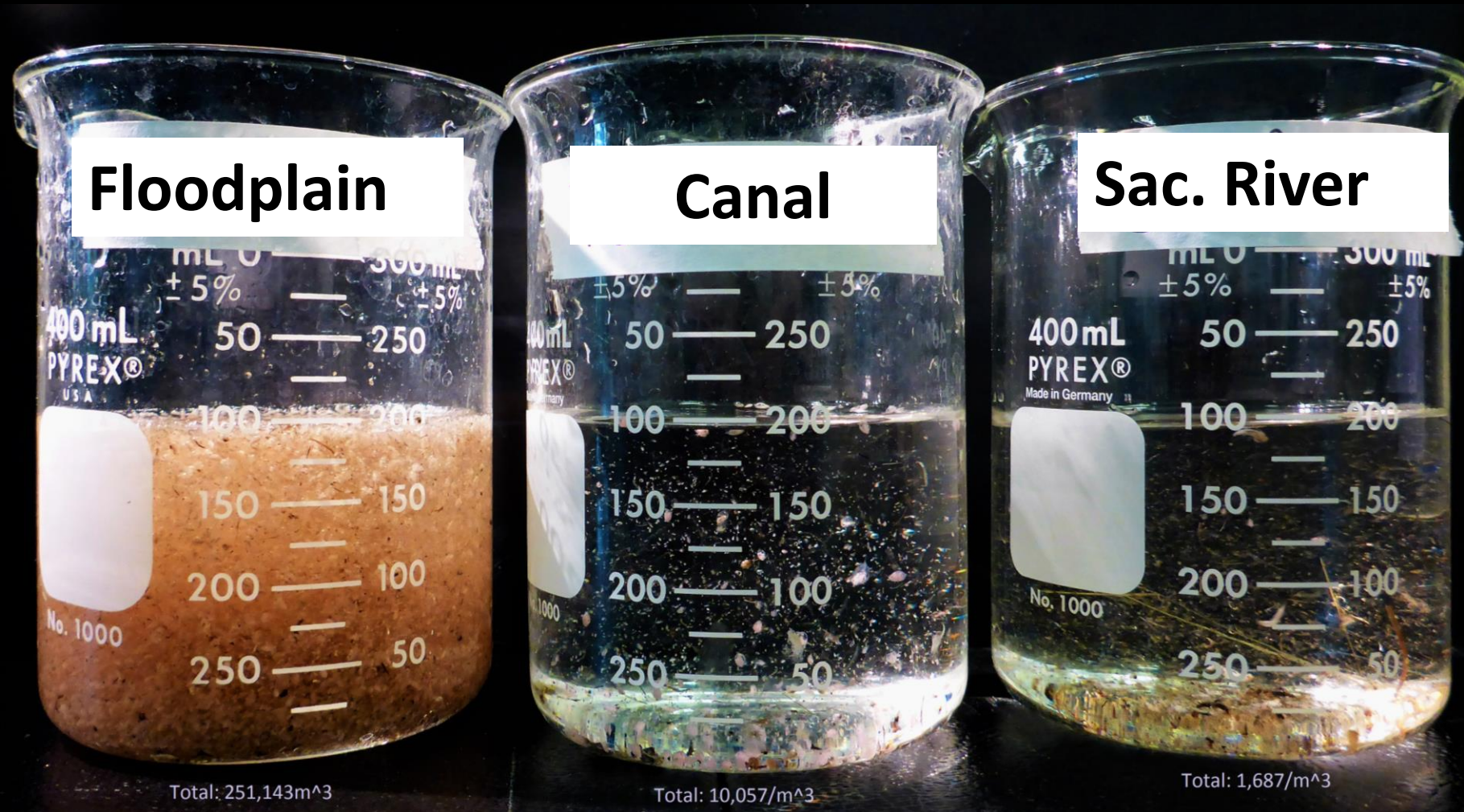
Canal

River



These fish were the same size 3 weeks prior to photo

The Food is on the Floodplain



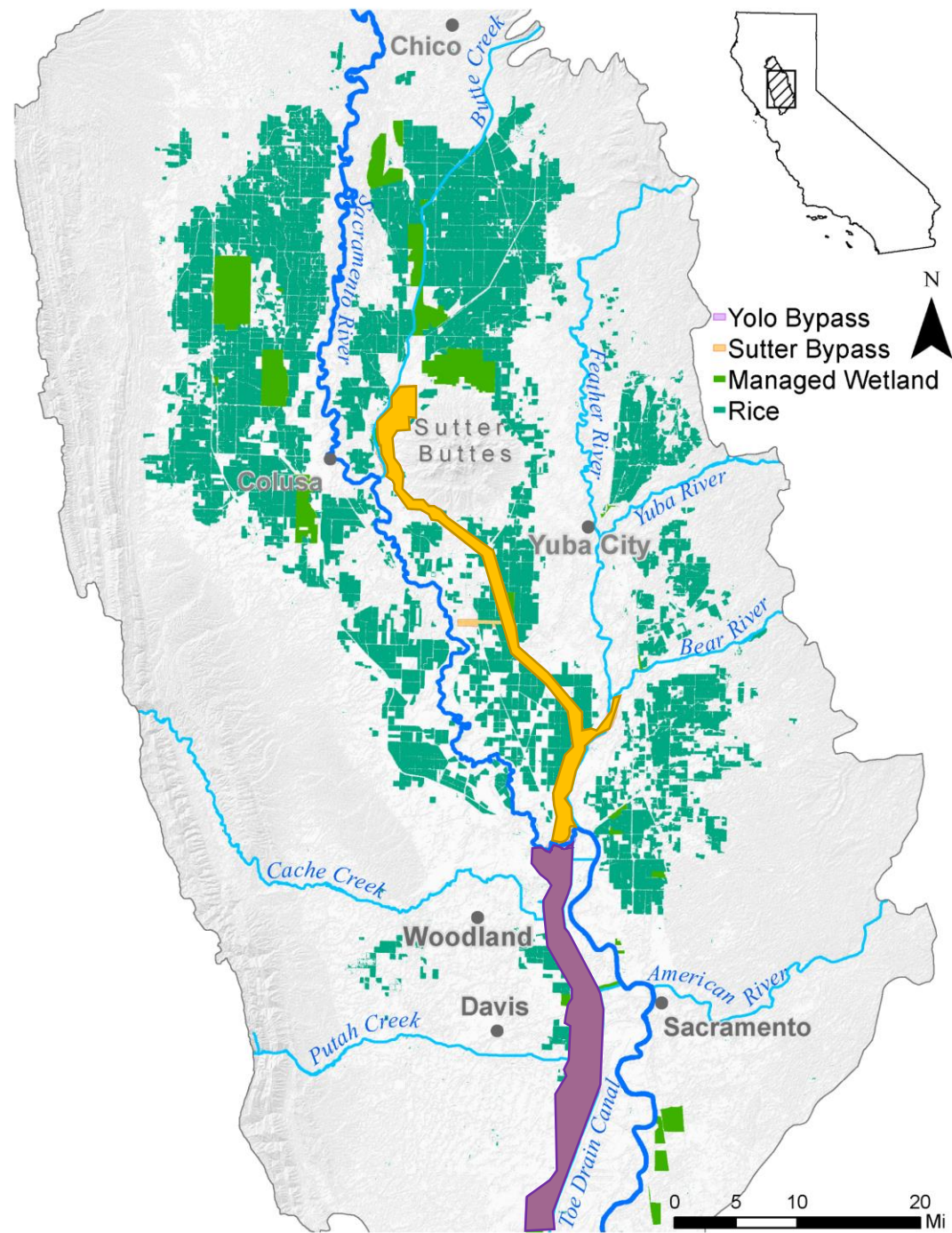
Bug
Density **149x**

6x

x

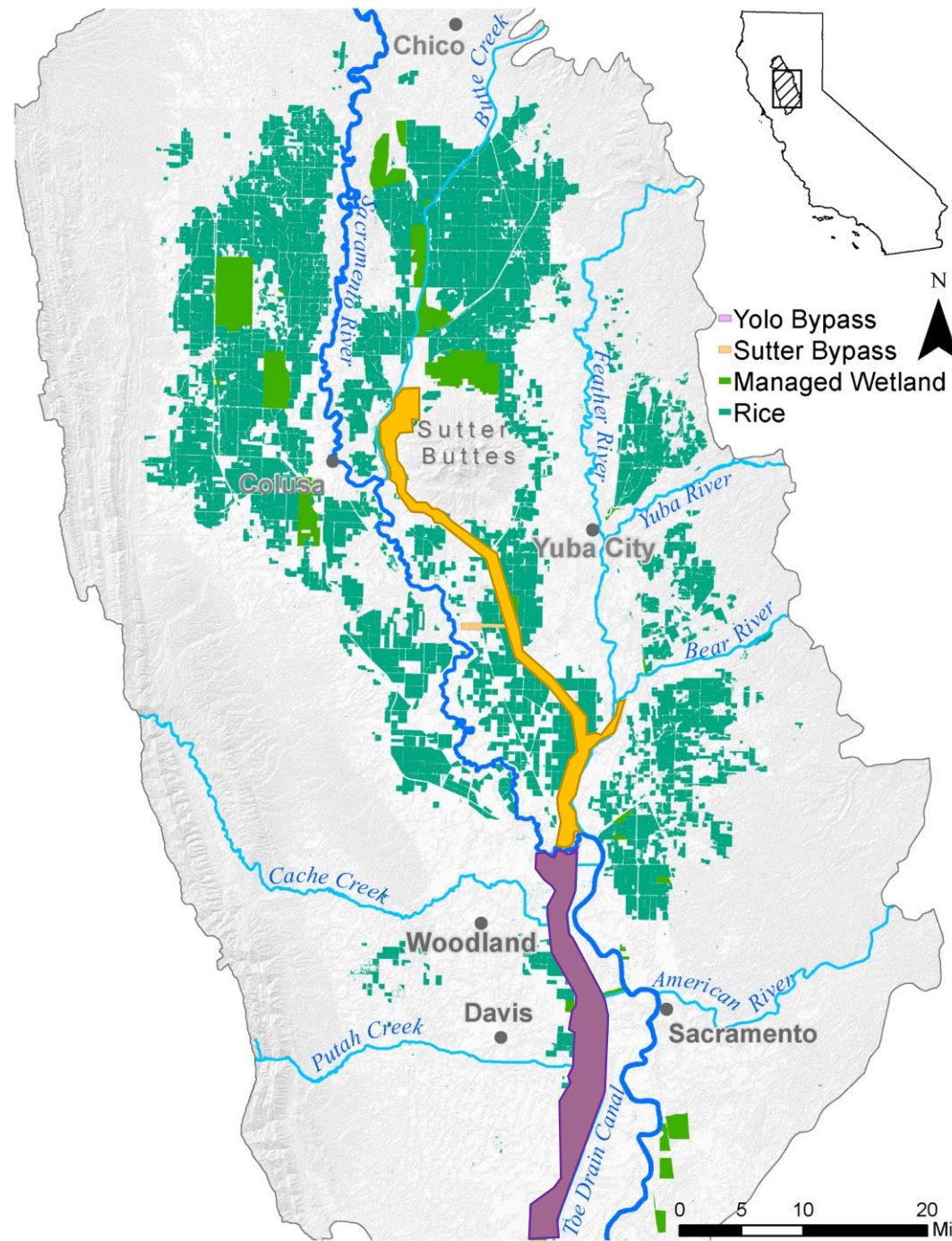


Date: 1873



Date: 2020

Dry Side



Wet Side



Wet Side

- Passive connectivity between fish and floodplain via weir overtopping
- Multiple land uses include: flood control, agriculture, fish and wildlife habitat
- ~90,000 acres total
- Floodplain conservation goal: increase frequency and duration of flood events
- Flagship project: Nigiri

Dry Side

- Absolutely no fish access from rivers
- Managed export of floodplain water via massive flood control pumps
- ~500,000 acres total
- Floodplain conservation goal: grow and export floodplain resources to fish-bearing rivers
- Flagship project: Fish Food



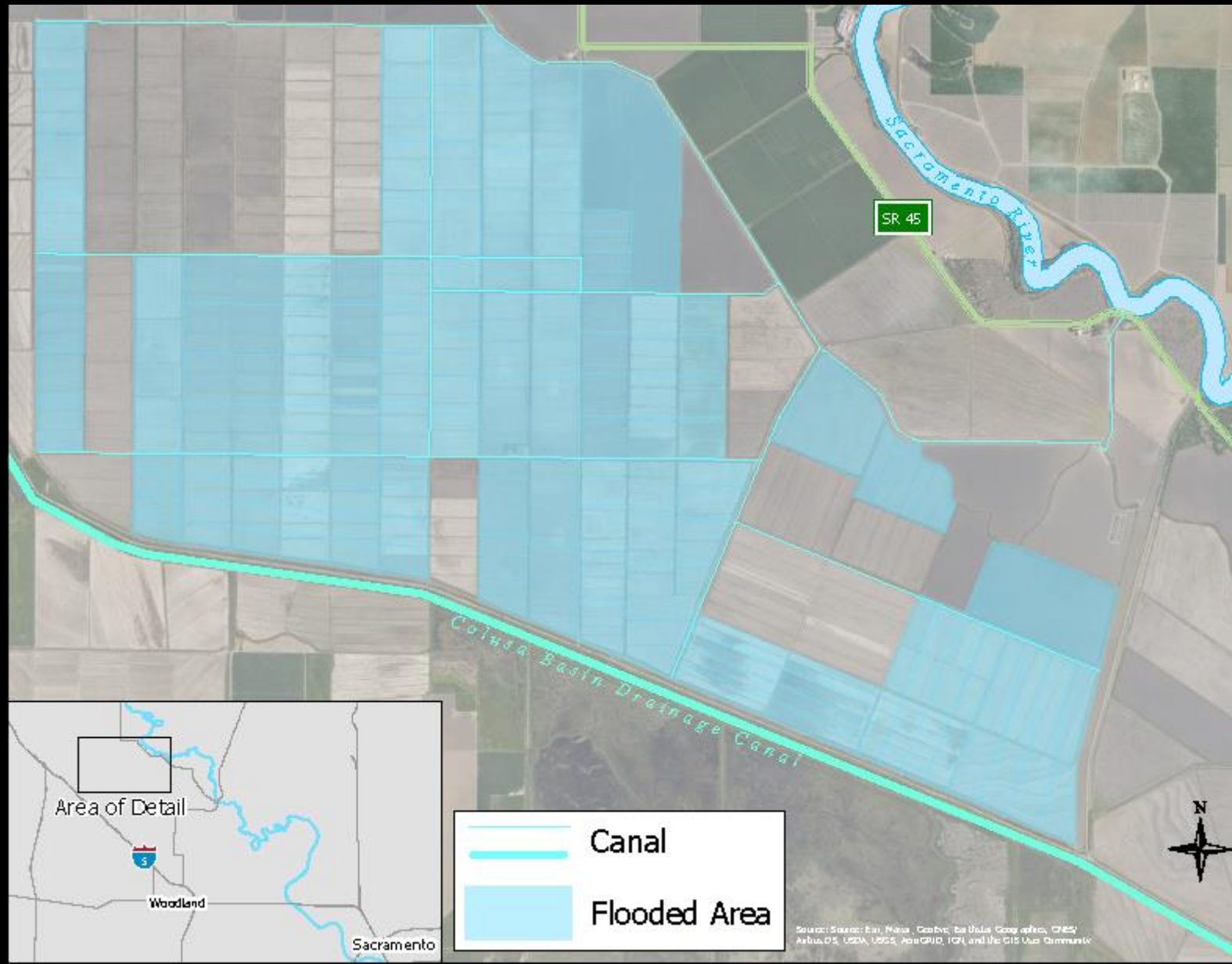
Dry Side



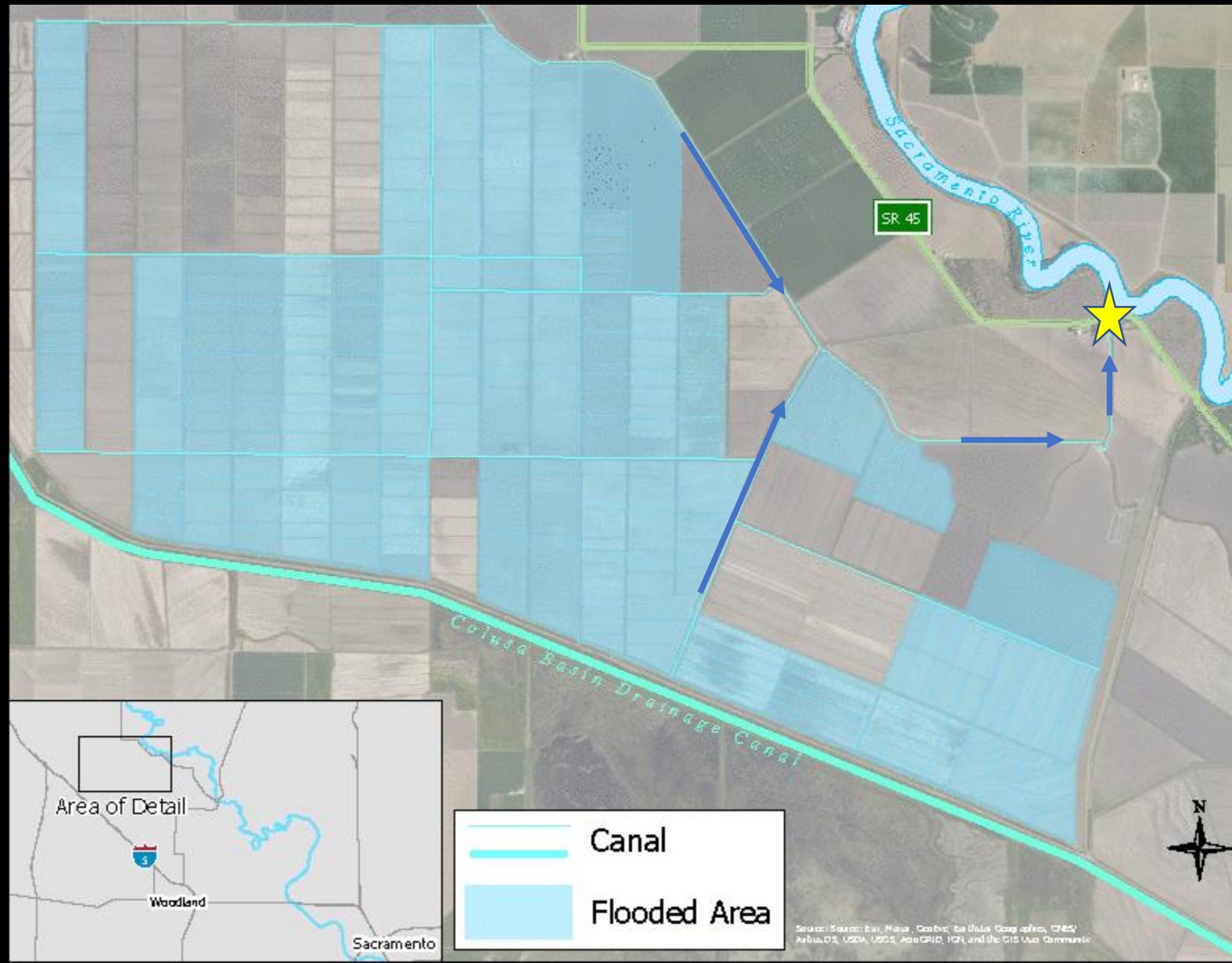
Wet Side



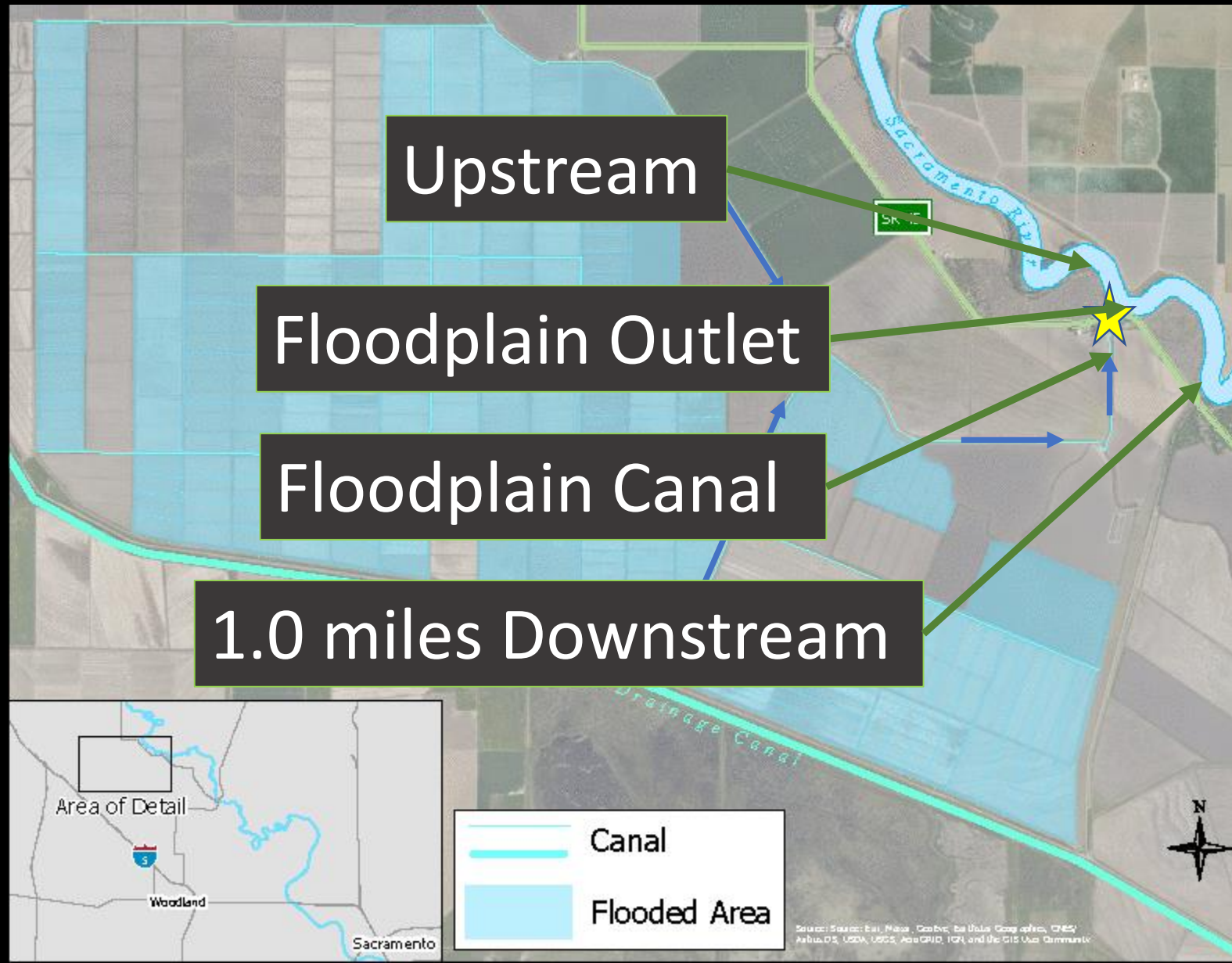
5,435 Acres of Managed Agricultural Floodplain



Exported to the Sacramento River via RD 108

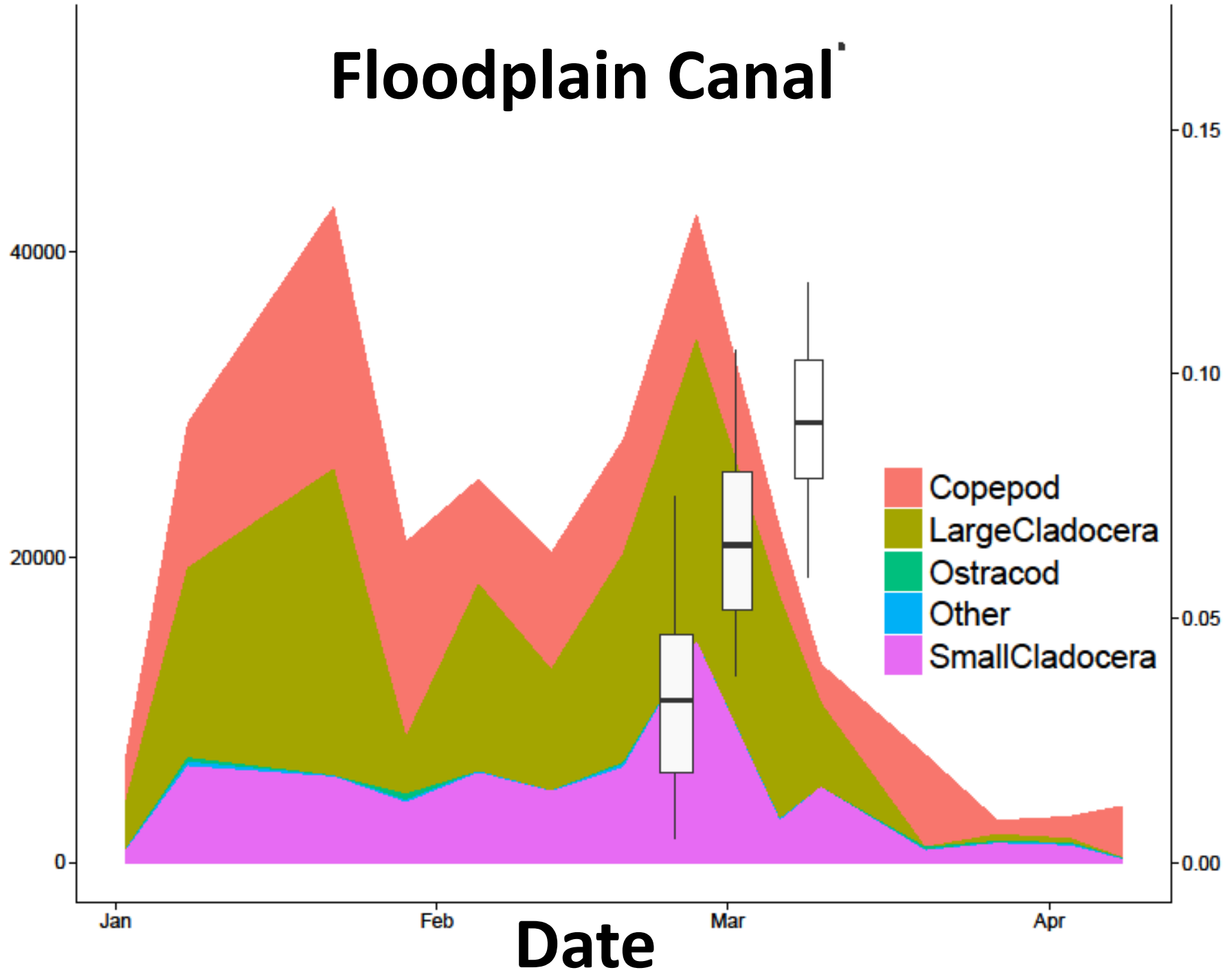


Monitor zooplankton, enclosure fish growth rates



Zooplankton Biomass
(micrograms per cubic meter)

Floodplain Canal



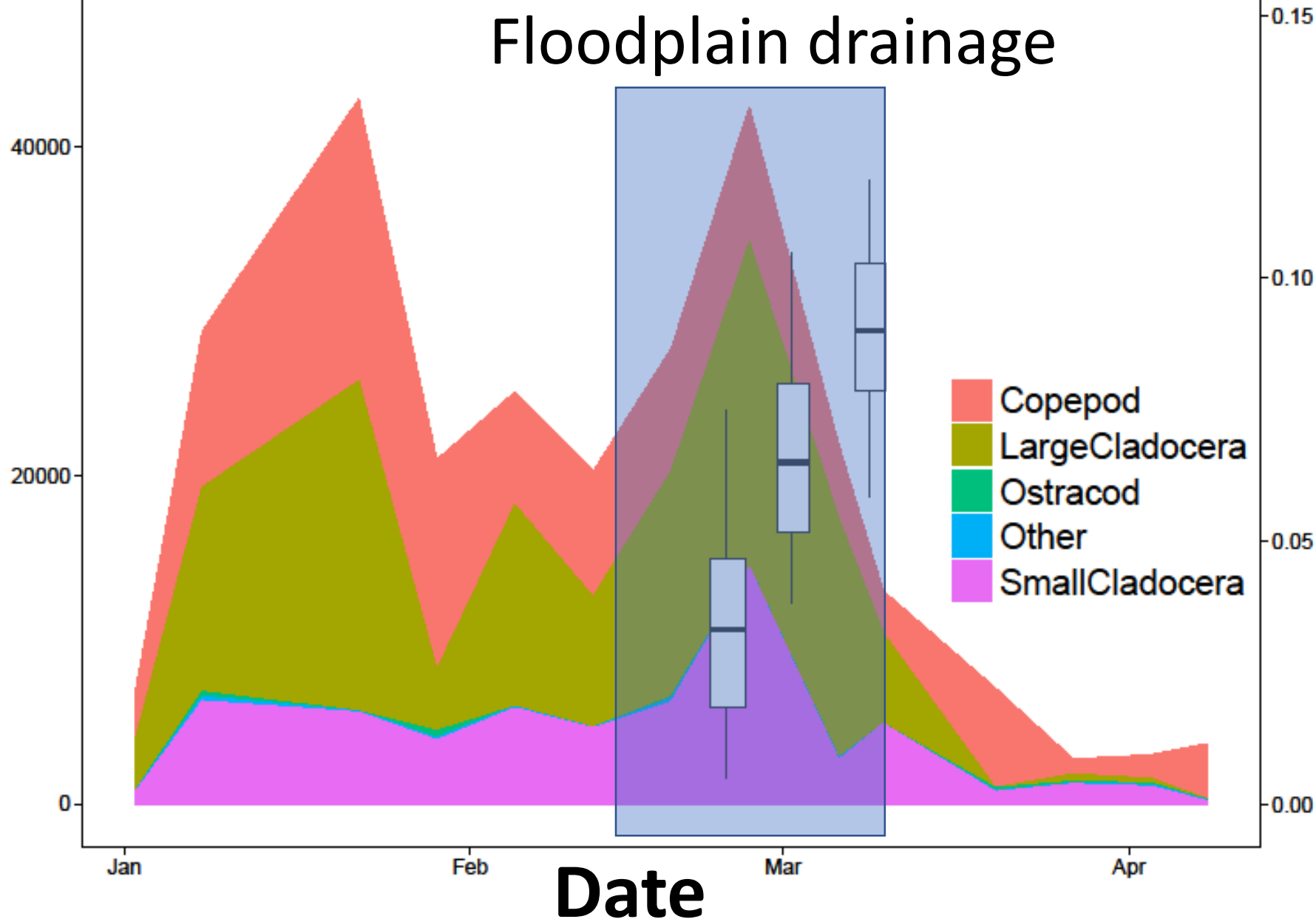
Fish Growth
(grams per day)

Zooplankton Biomass
(micrograms per cubic meter)

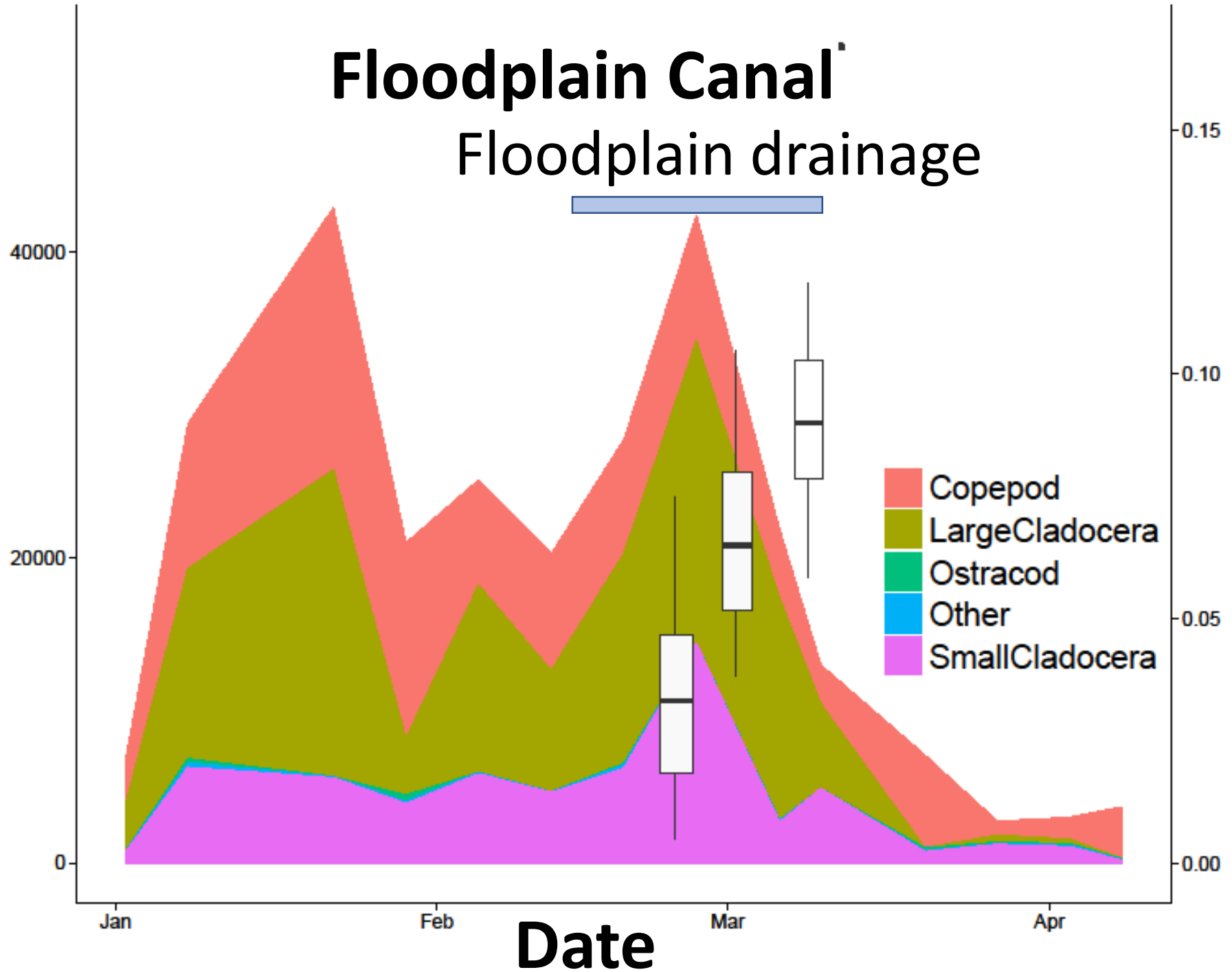
Floodplain Canal

Floodplain drainage

Fish Growth
(grams per day)

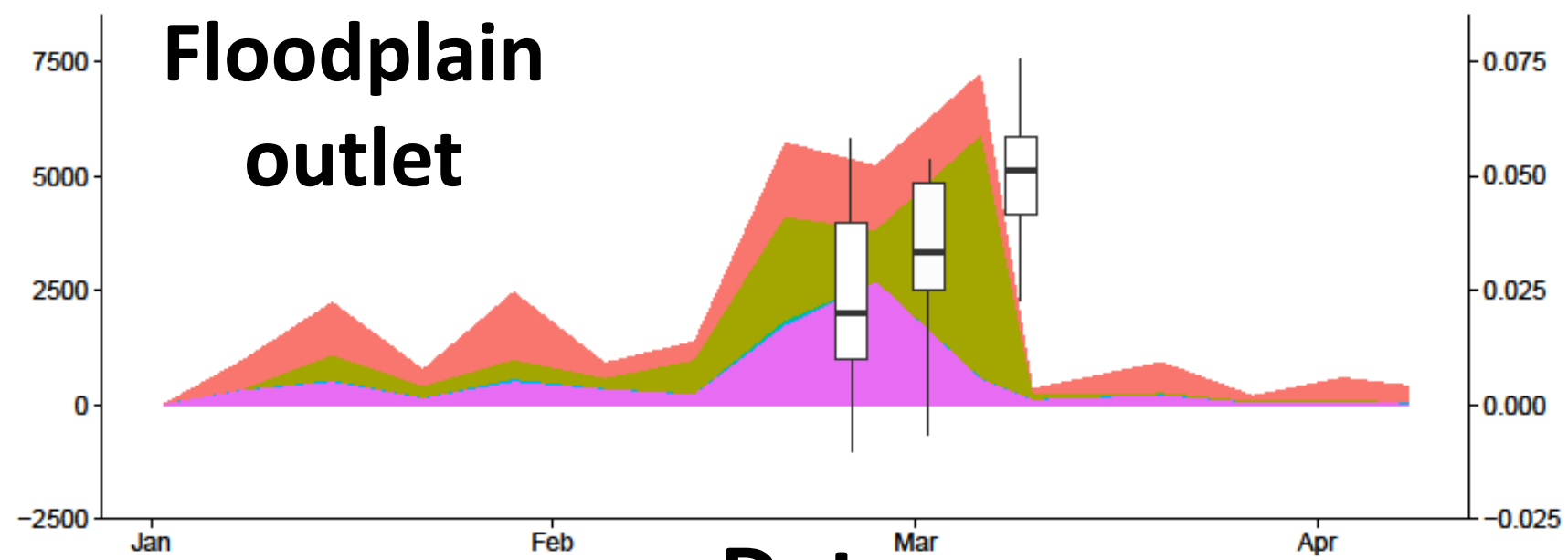
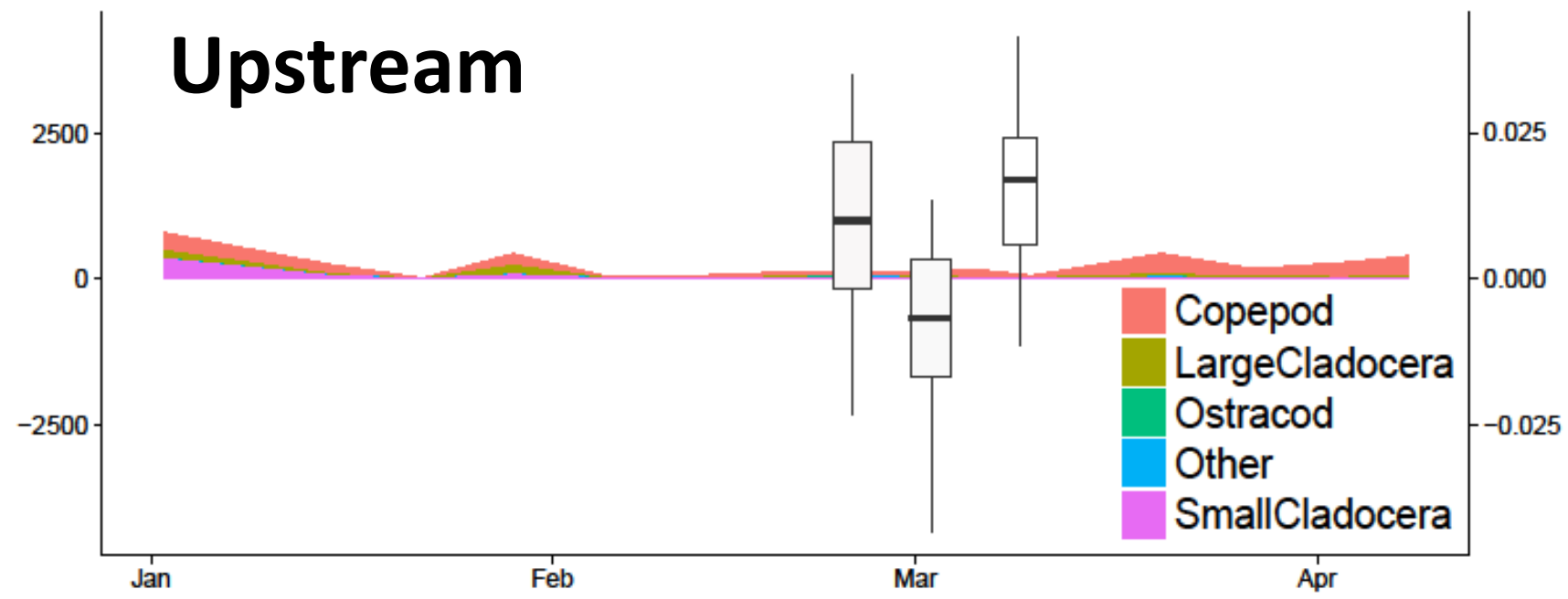


Zooplankton Biomass
(micrograms per cubic meter)



Fish Growth
(grams per day)

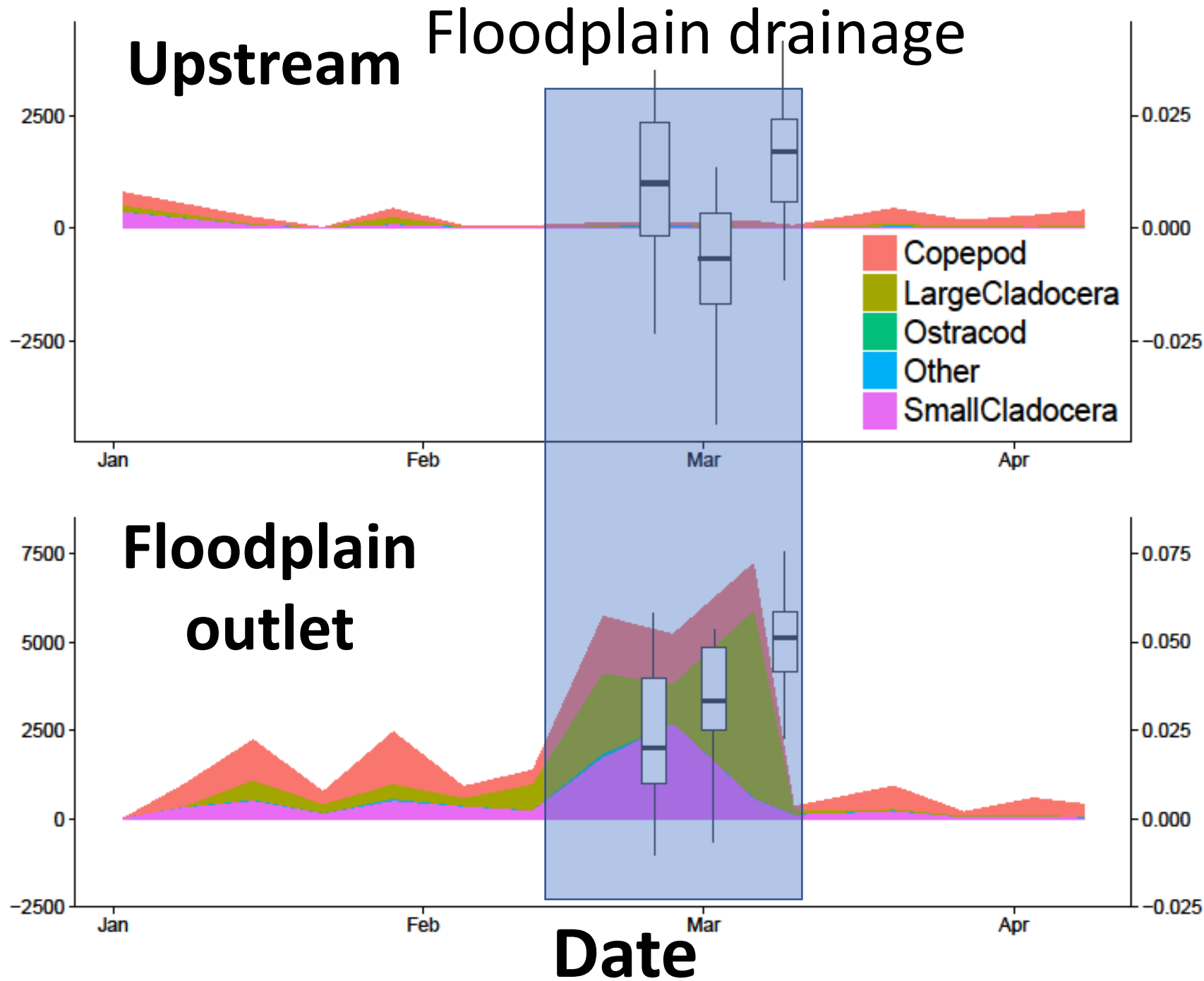
Zooplankton Biomass
(micrograms per cubic meter)



Date

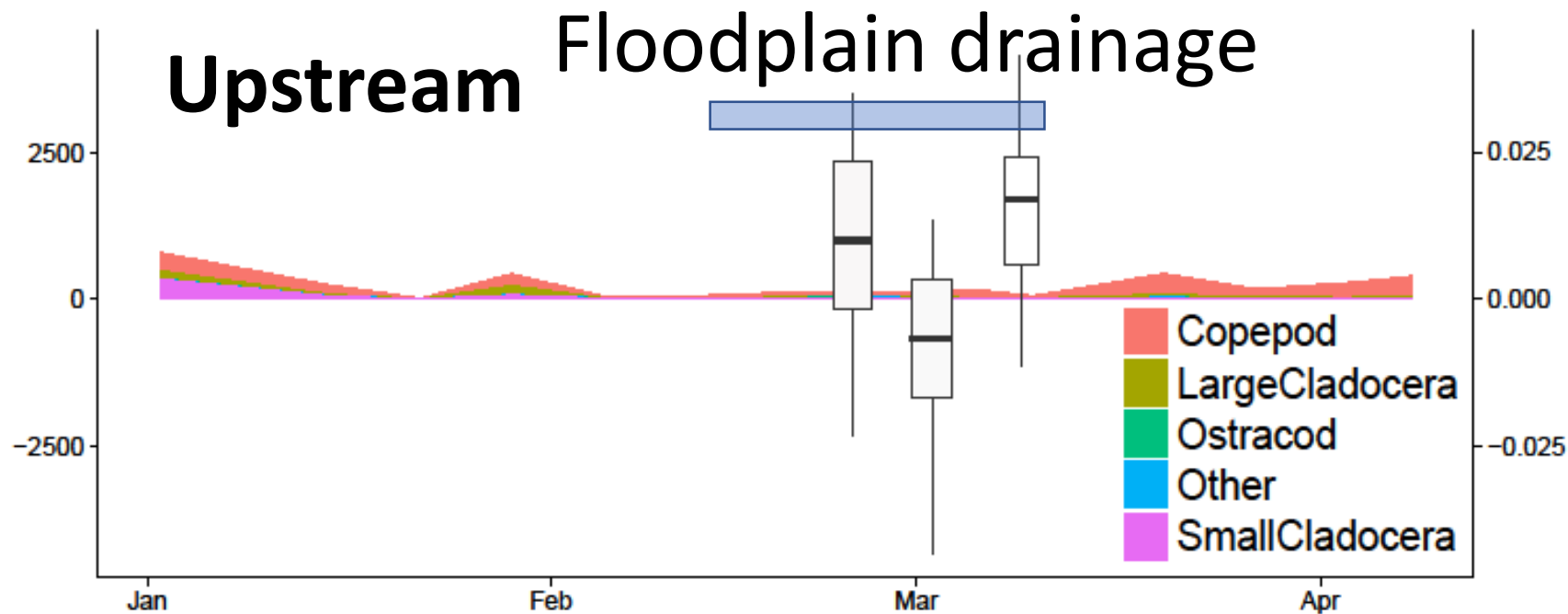
Fish Growth
(grams per day)

Zooplankton Biomass (micrograms per cubic meter)

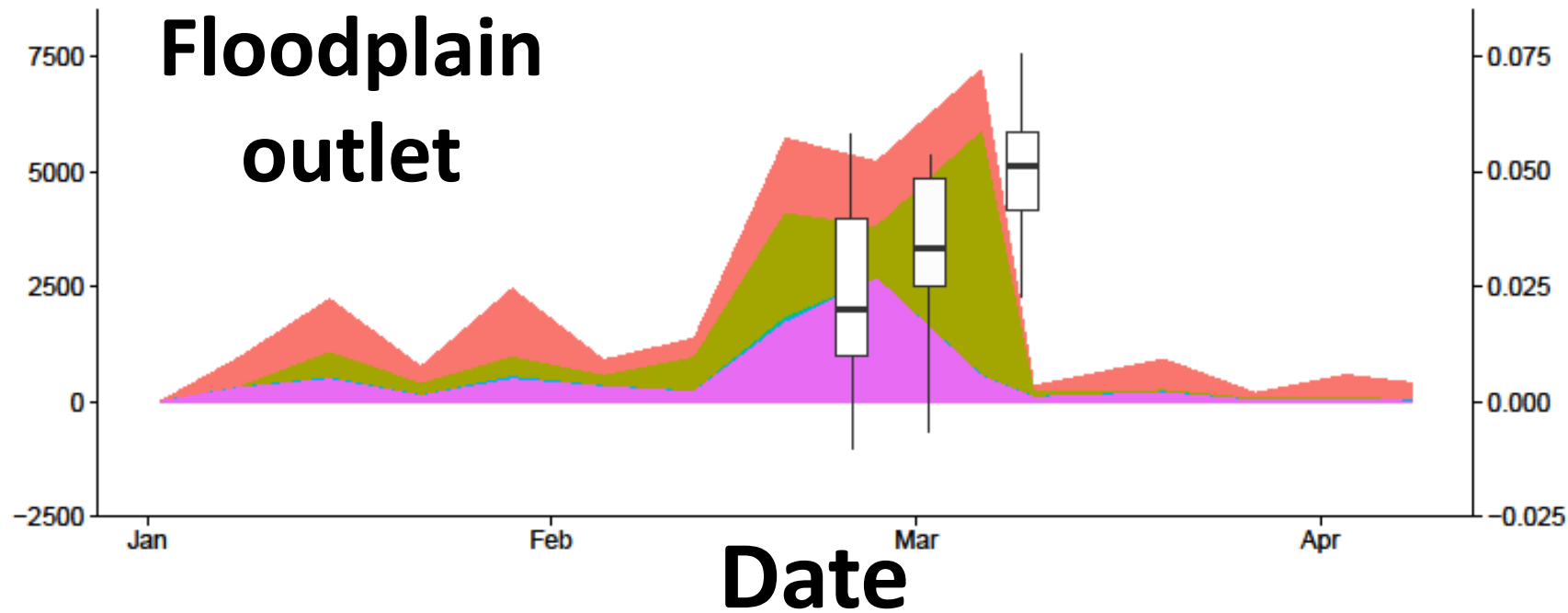


Fish Growth (grams per day)

Zooplankton Biomass (micrograms per cubic meter)



Fish Growth (grams per day)



Start Date: 2/21/2019



Upstream

Growth Rate:
Length ~ 0.10 mm/d
Weight ~ 0.01 g/d

End Date: 3/12/2019



Floodplain Outlet

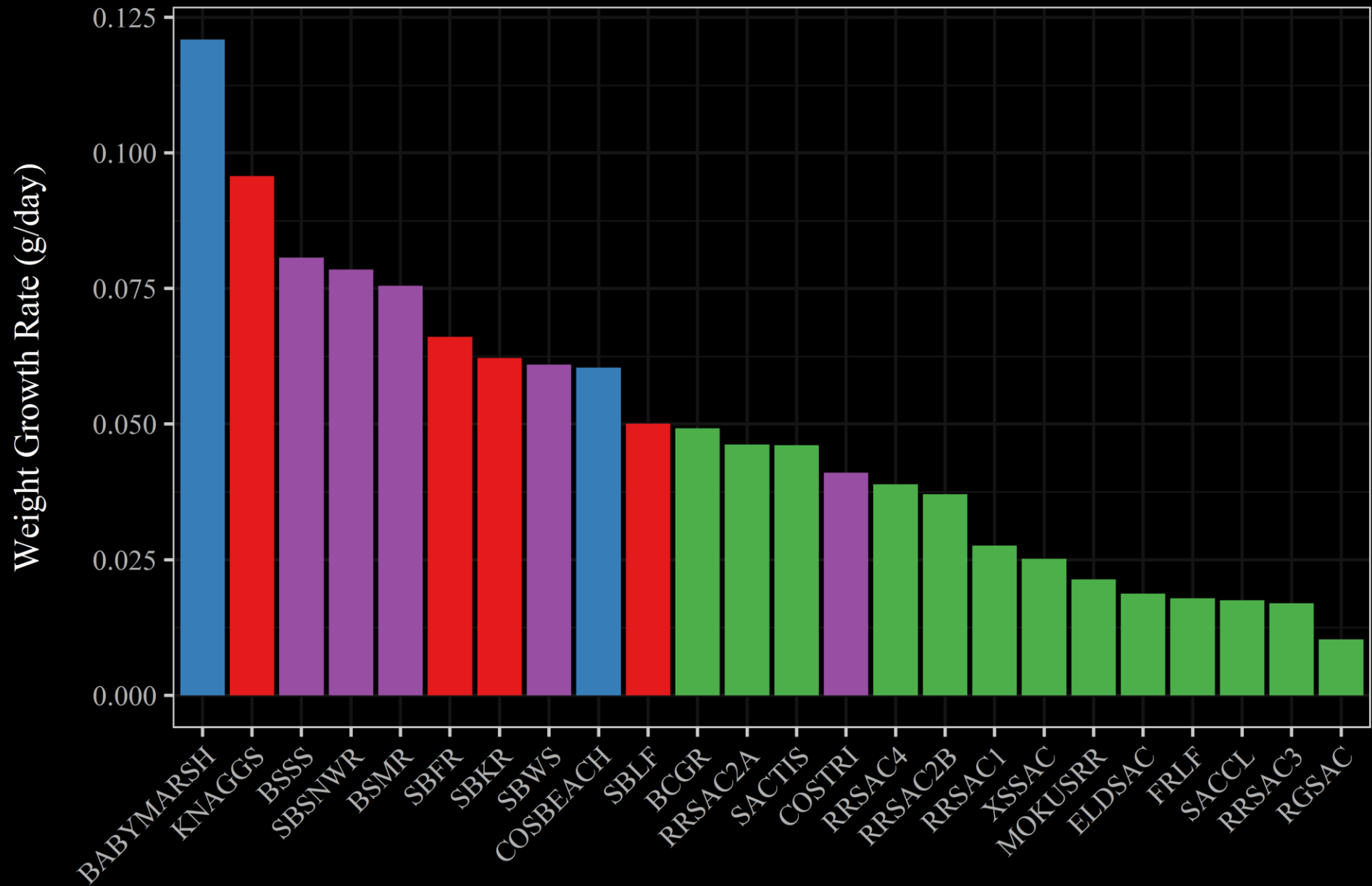
Growth Rate:
Length ~ 0.50 mm/d
Weight ~ 0.05 g/d



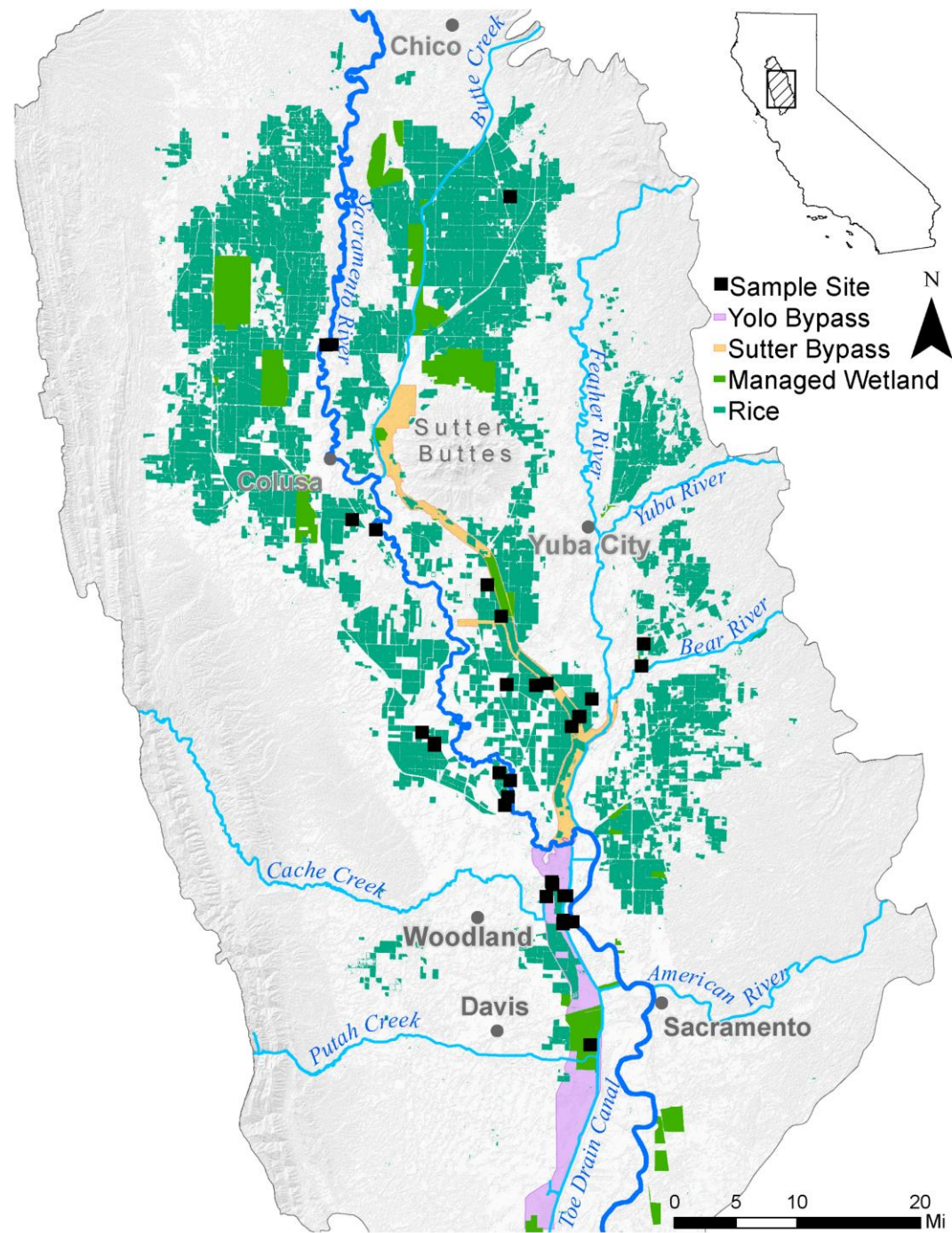
1-mile Downstream

Growth Rate:
Length ~ 0.35 mm/d
Weight ~ 0.04 g/d



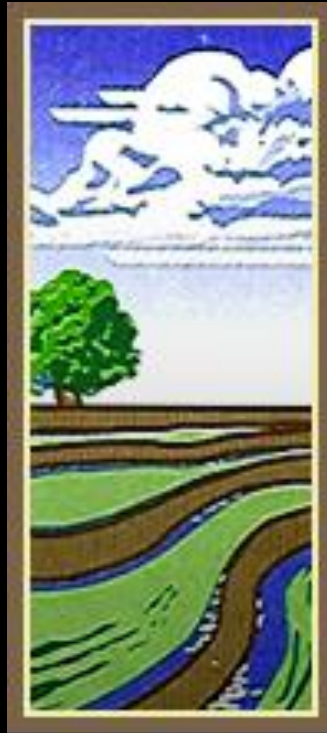


Type ■ Agriculture ■ Intertidal ■ River ■ Wetland



Thank You!

- 5150 Duck Club
- DER
- Double S Farms
- Rehman Family Farms
- Roberta Schreiner
- Bill Geer
- T & P Farms
- River Garden Farms
- Lewis Bair
- Jordan Navarrot

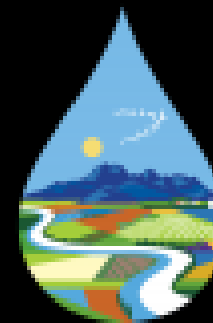
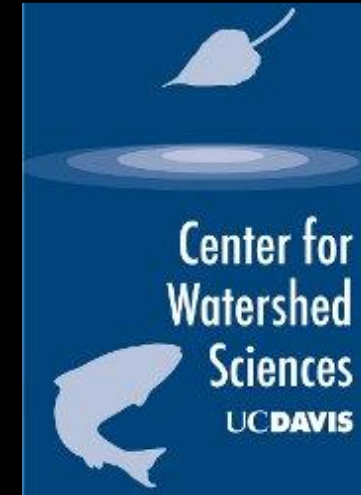


Reclamation
District

108



— BUREAU OF —
RECLAMATION



NCWA
Northern California Water Association