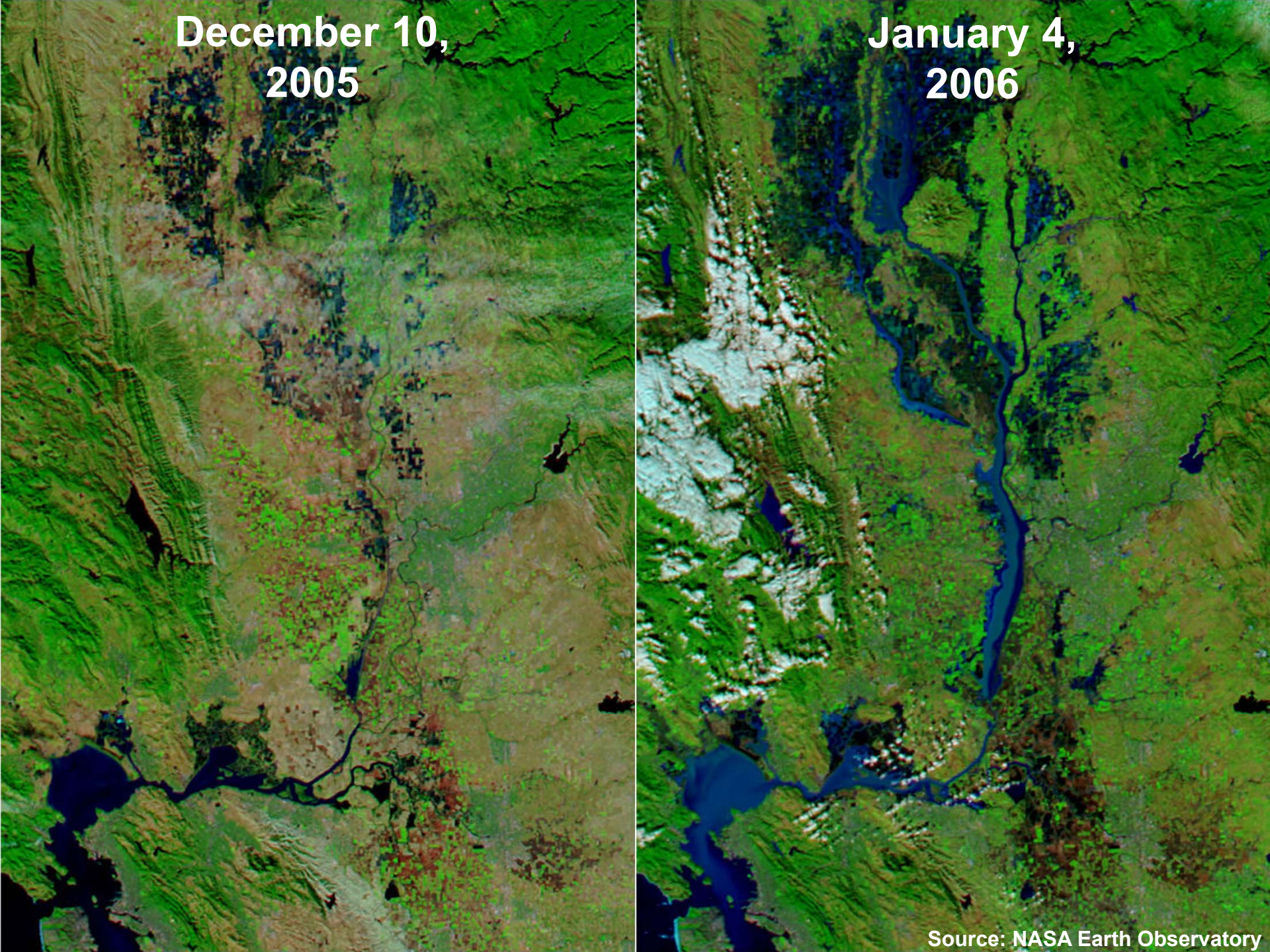
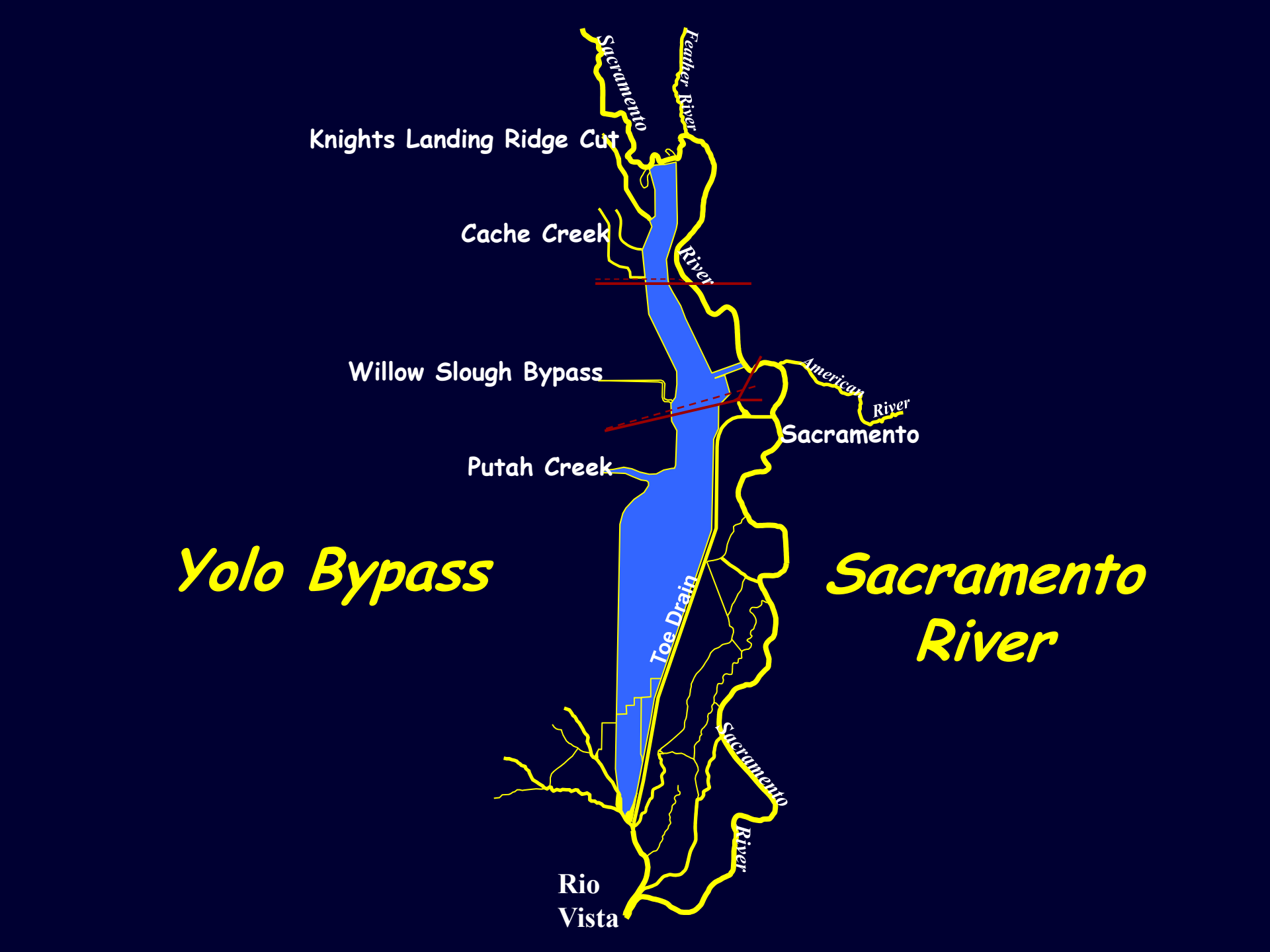
The Yolo Bypass Floodplain: An Example Monitoring Framework

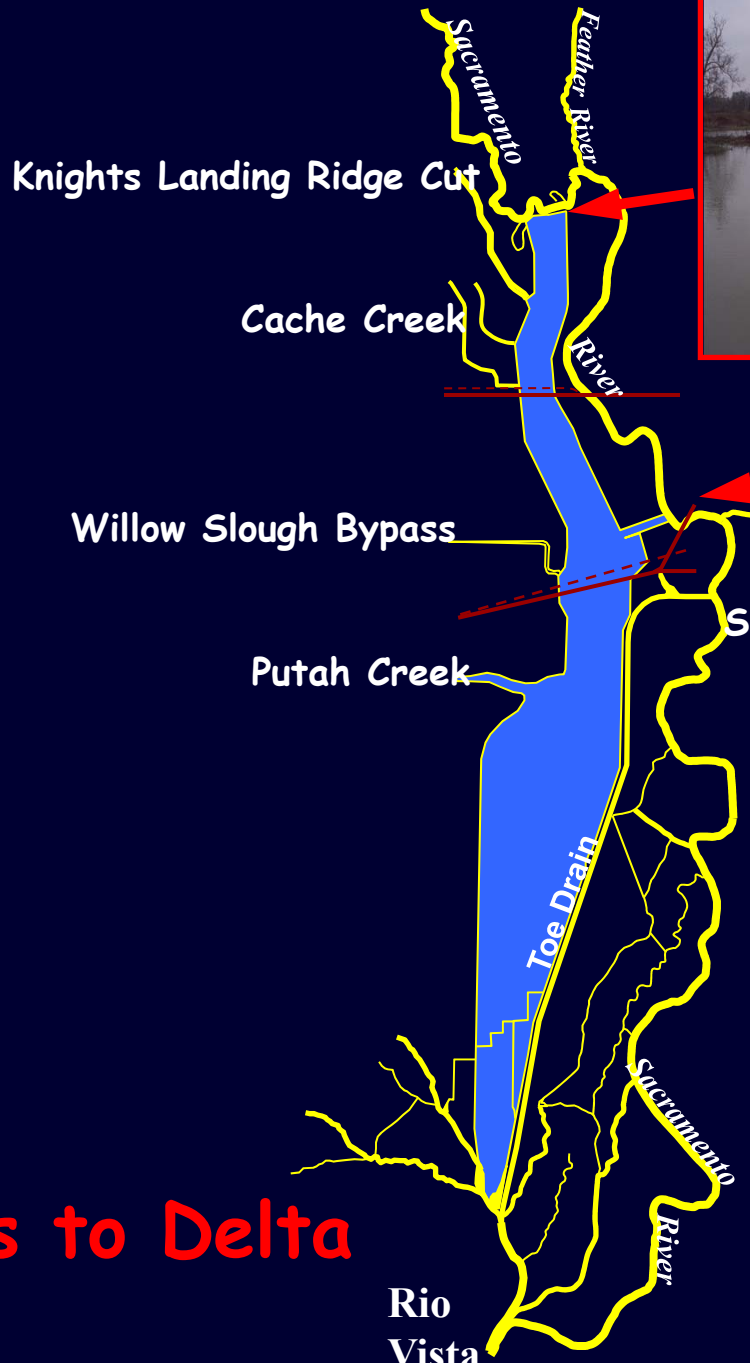
Ted Sommer

California Department of Water Resources


December 10, 2005
January 4, 2006
Source: NASA Earth Observatory

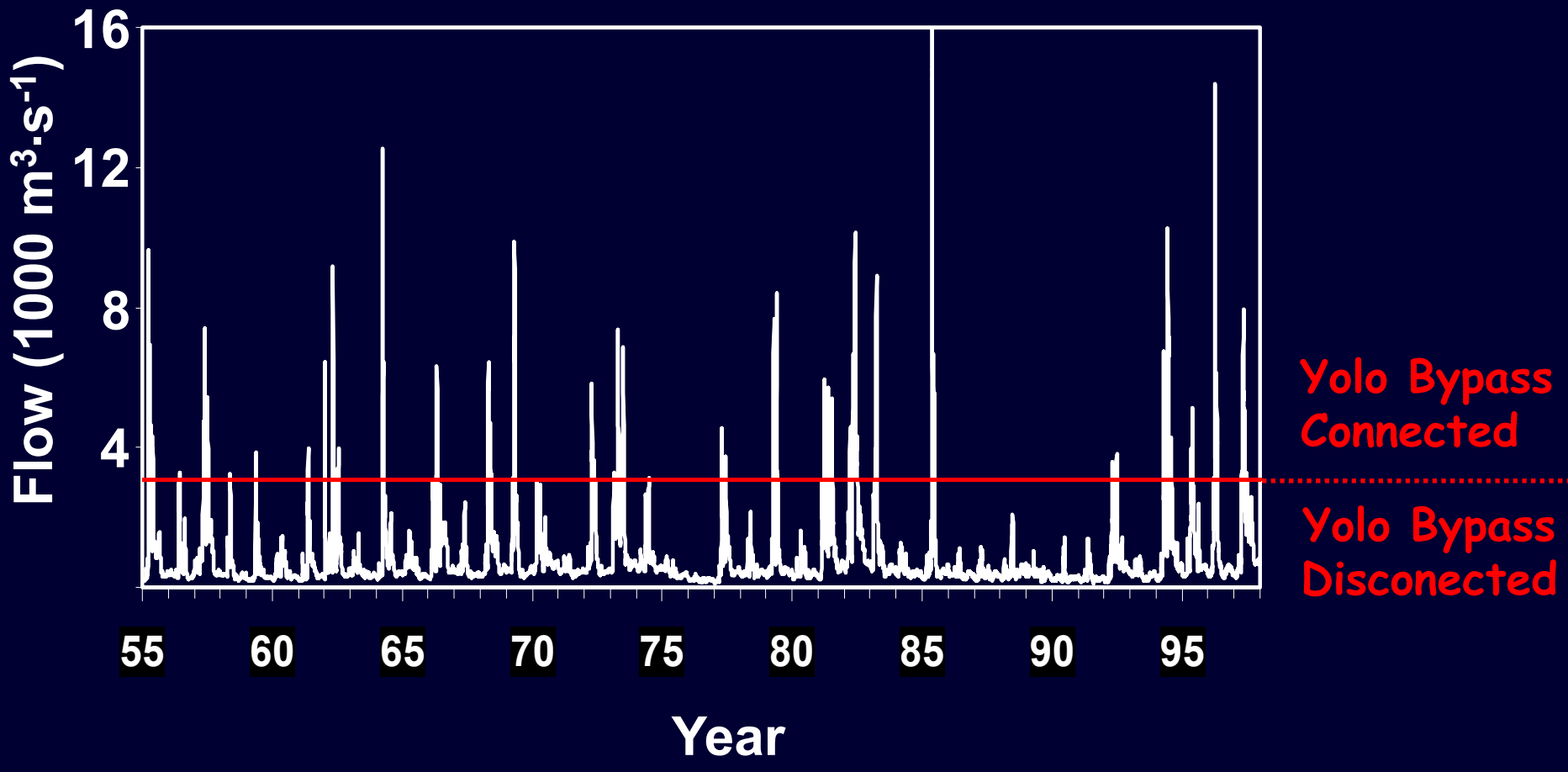

Sacramento
Feather River
Knights Landing Ridge Cut
Cache Creek
River
Willow Slough Bypass
American River
Sacramento
Putah Creek
Yolo Bypass
Sacramento River
Toe Drain
Sacramento River
Rio Vista

Sacramento River Inputs



Drains to Delta

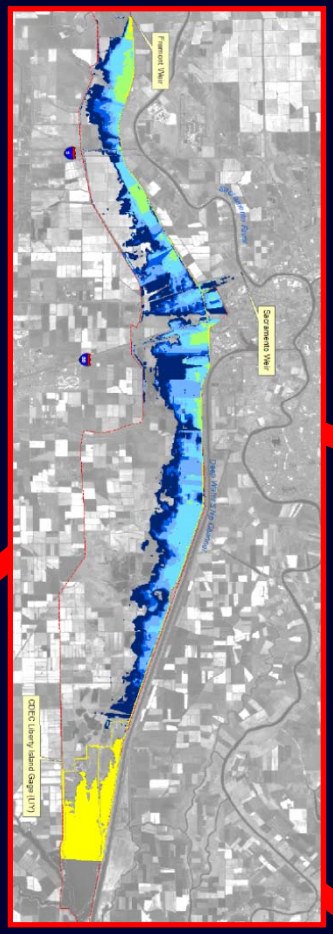
Incomplete Connectivity With Sacramento River



Why Yolo Bypass Matters

-Shallow
-Light currents
-Long residence time
-More habitat

Simple Restoration Concept



Fish Passage

Rearing Habitat

Exports to Estuary

Lots of Baseline Data

Beach Seine (98-Present)

Screw Trap (98-Present)

Fyke Trap (99- Present)

Water Quality & Food Web (98-Present)

Ability to Make Side-by-Side Comparisons

Yolo Bypass

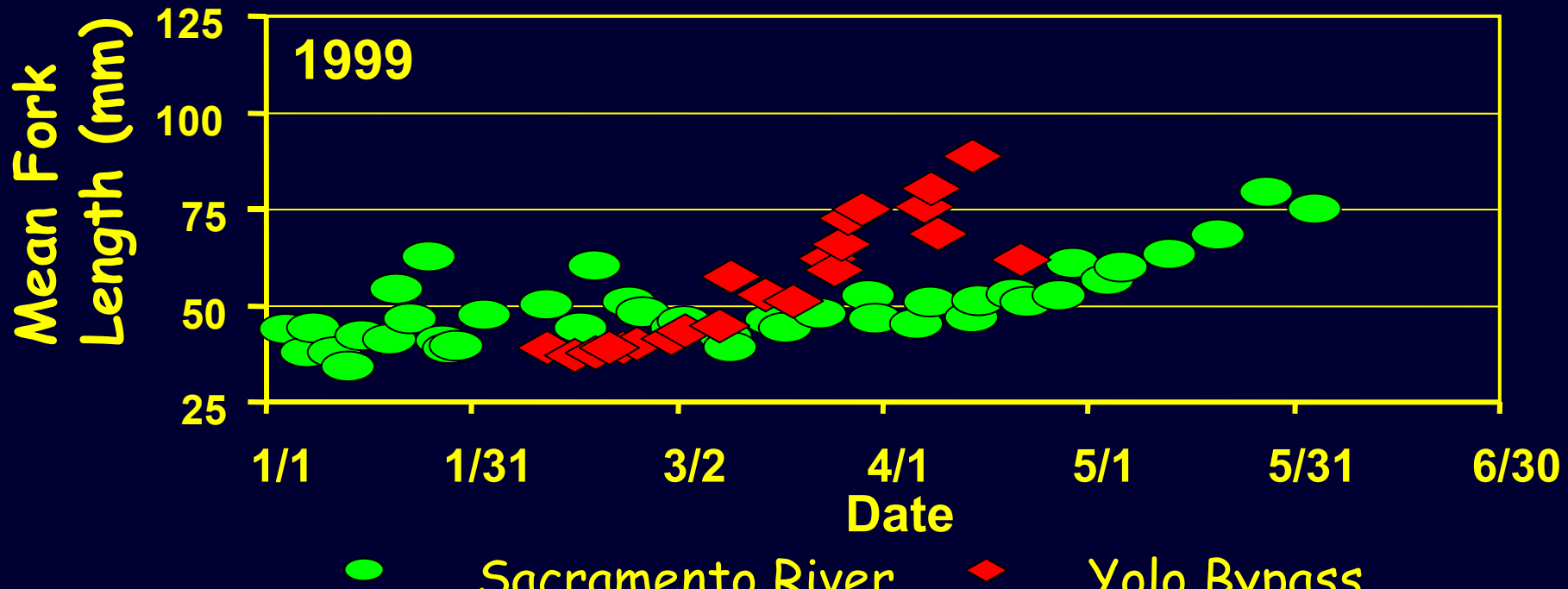
Sacramento River

Sacramento-San Joaquin Delta

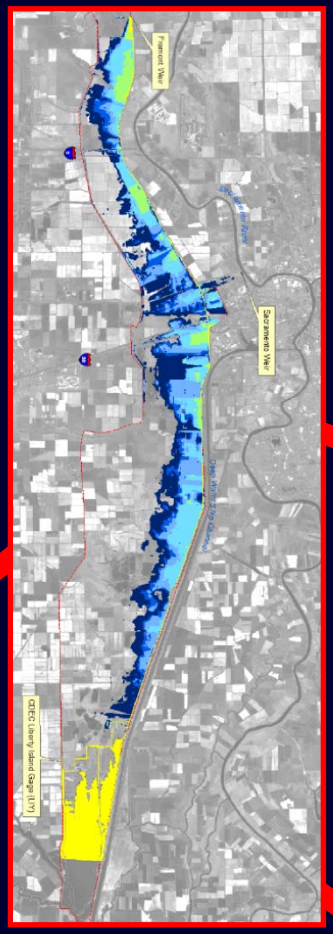
San Francisco Bay

Floodplain Habitat Supports Phenomenal Growth

Photo: Jeffres et al. (2007)



Ability to Do Active Management

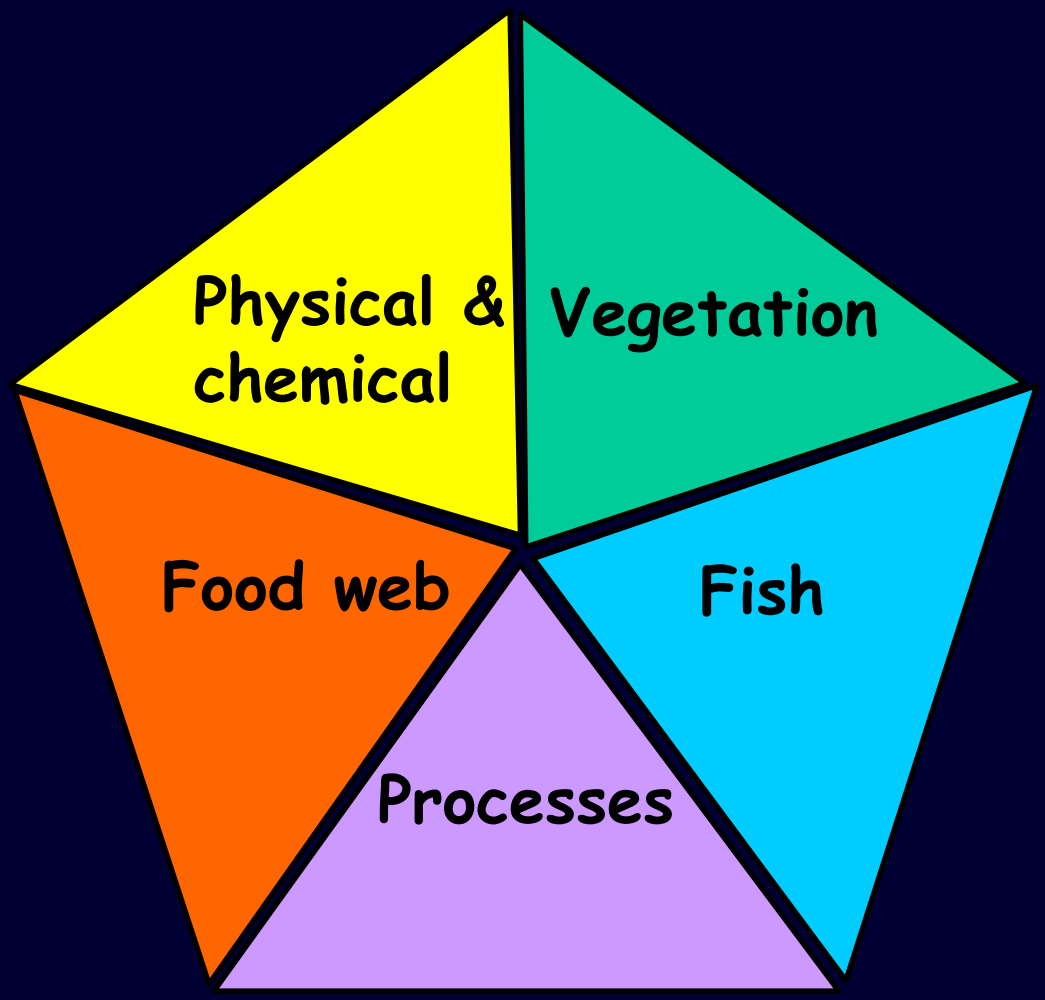


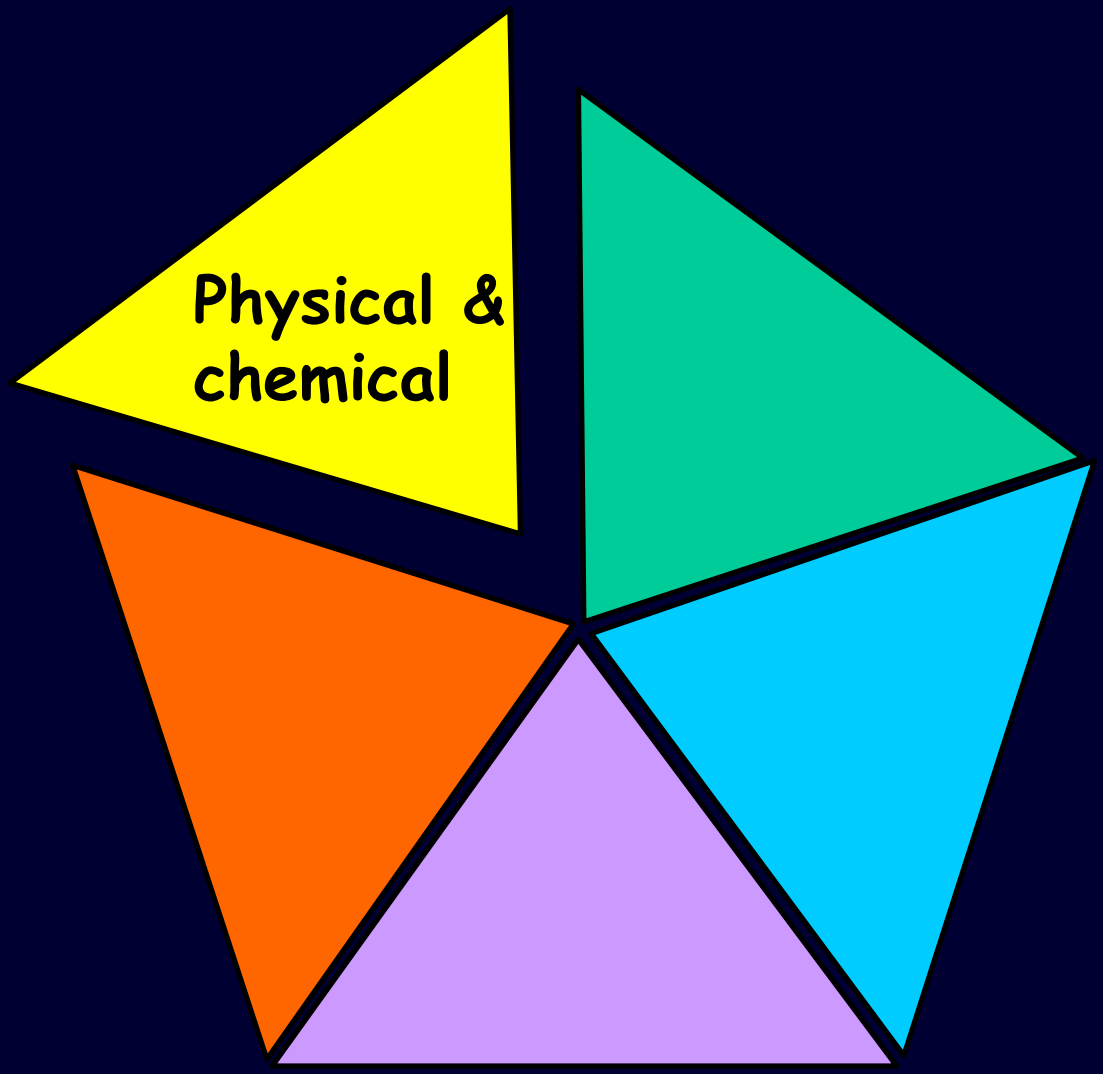
Fish Passage

Rearing Habitat

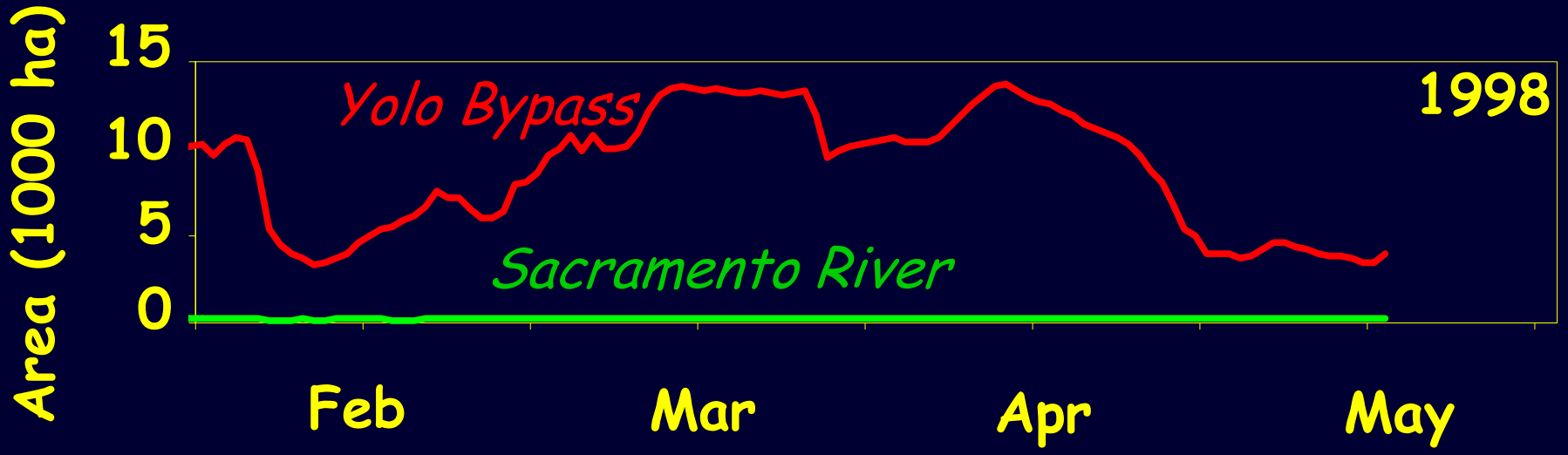
Exports to Estuary

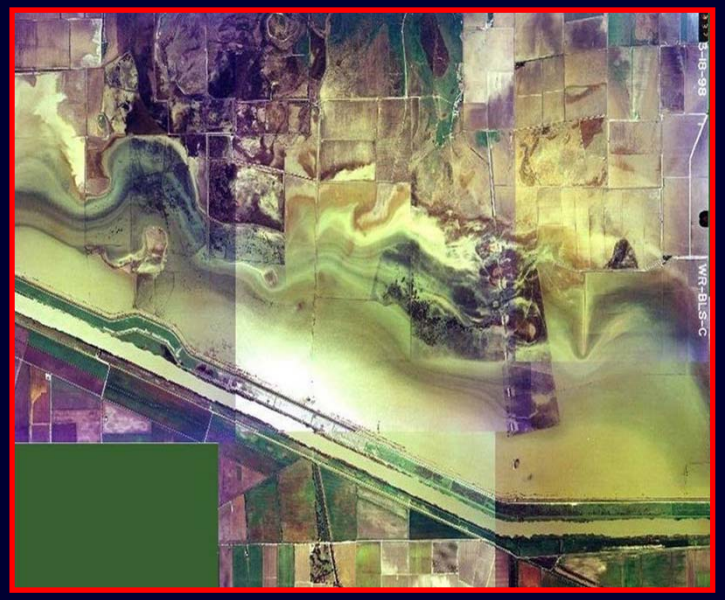
Basic Suite of Metrics

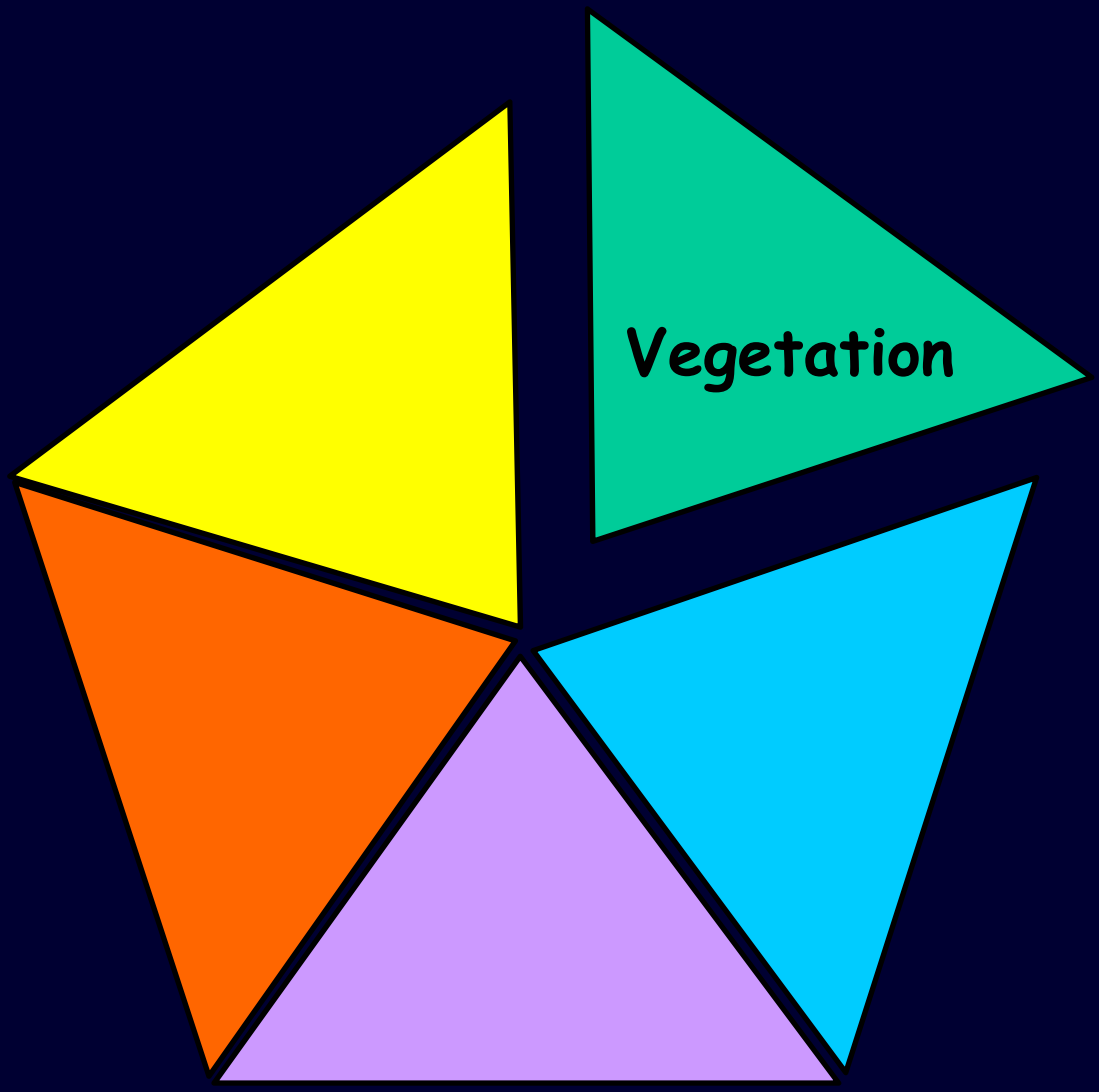



Physical &
chemical

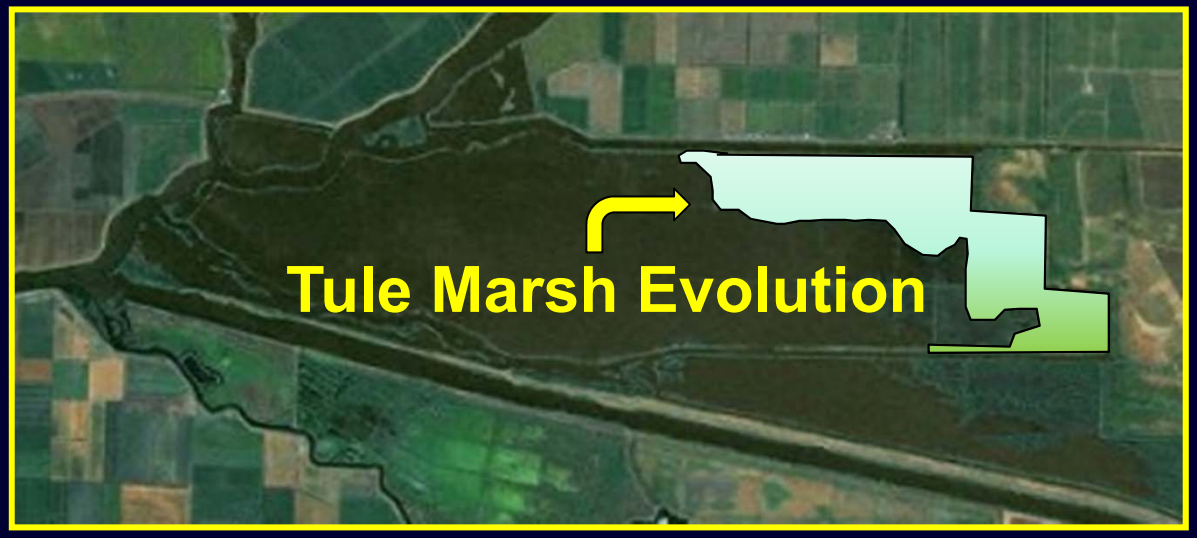
Inundated Area Metrics

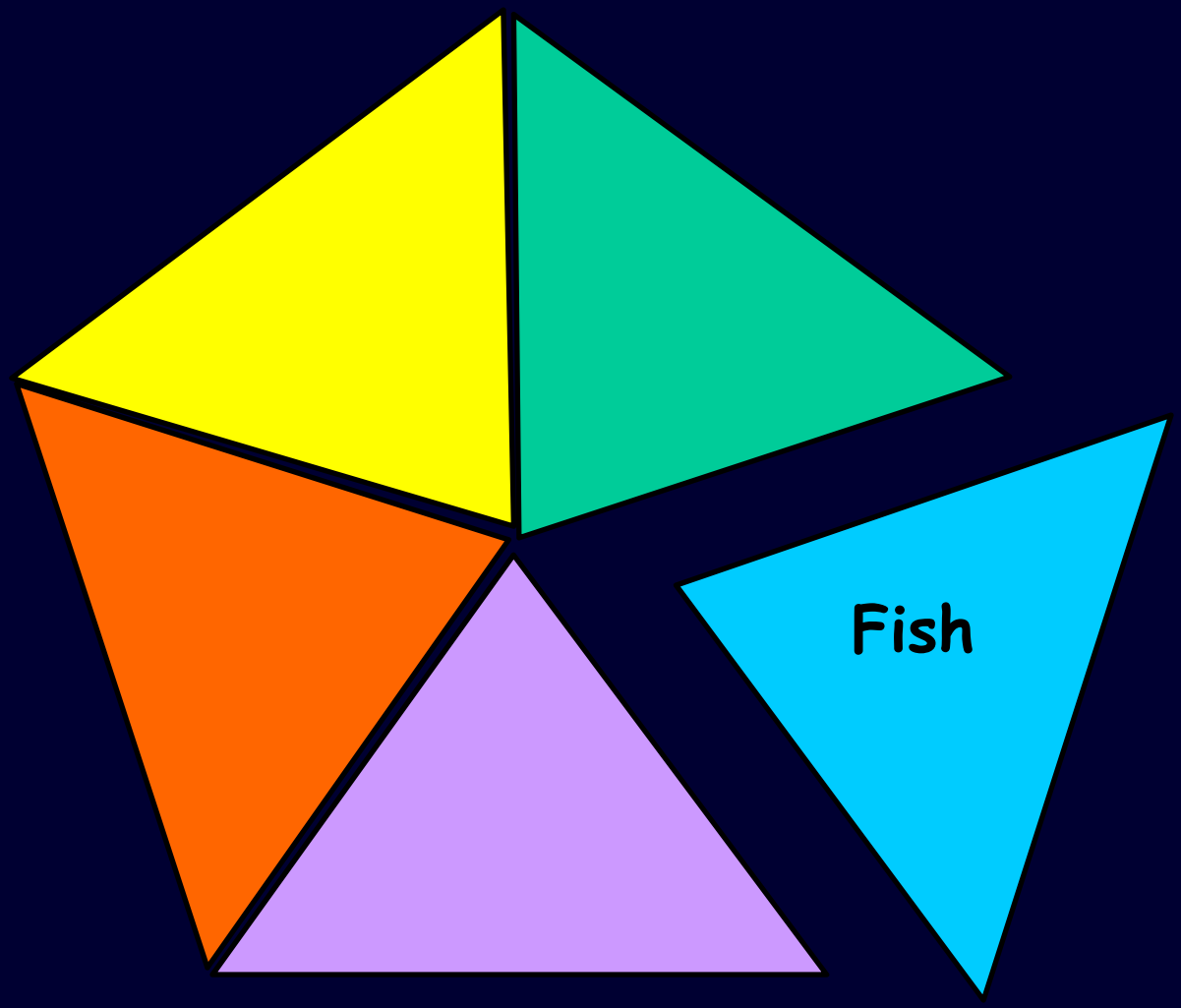





Vegetation

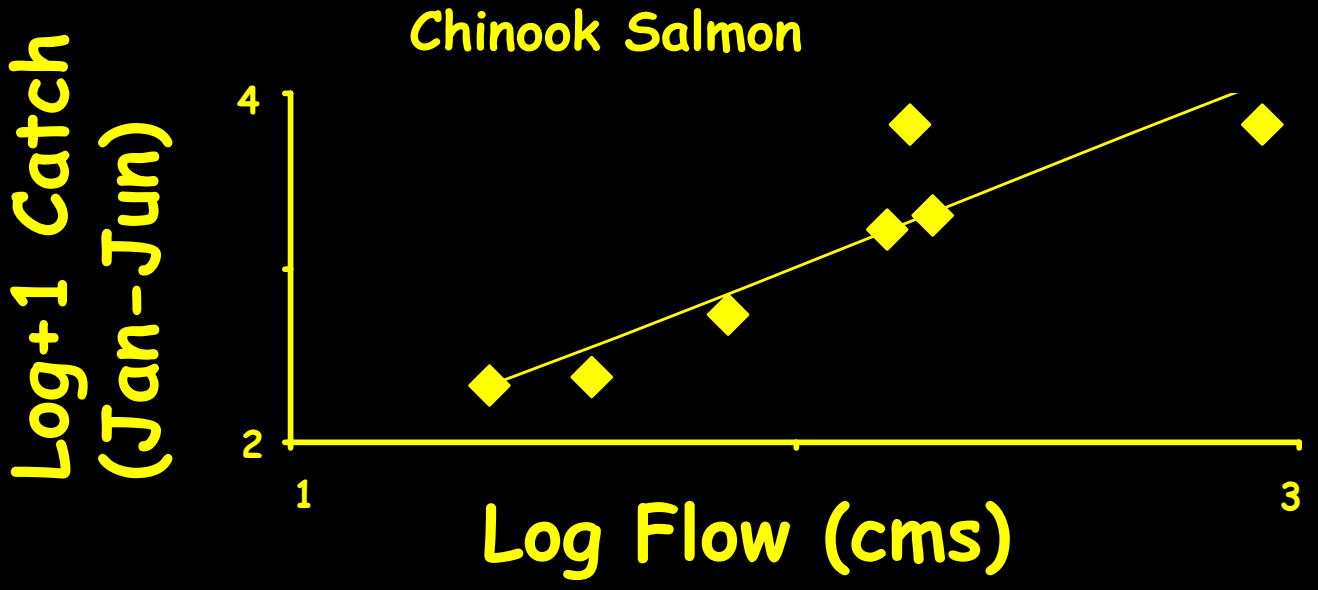
Use of Aerial Photos to Monitor Vegetation



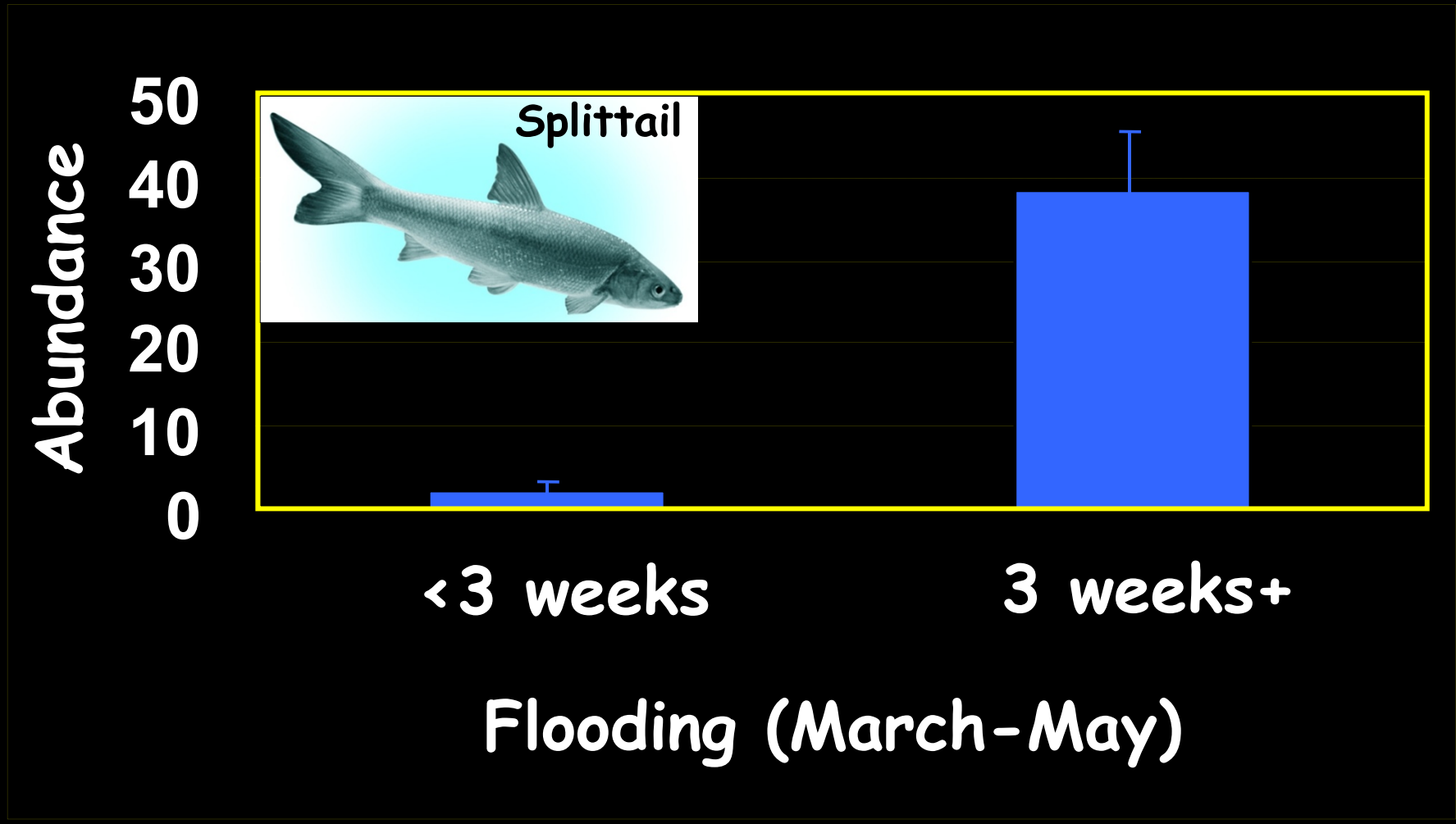

Fish

Fish Passage at Fremont Weir

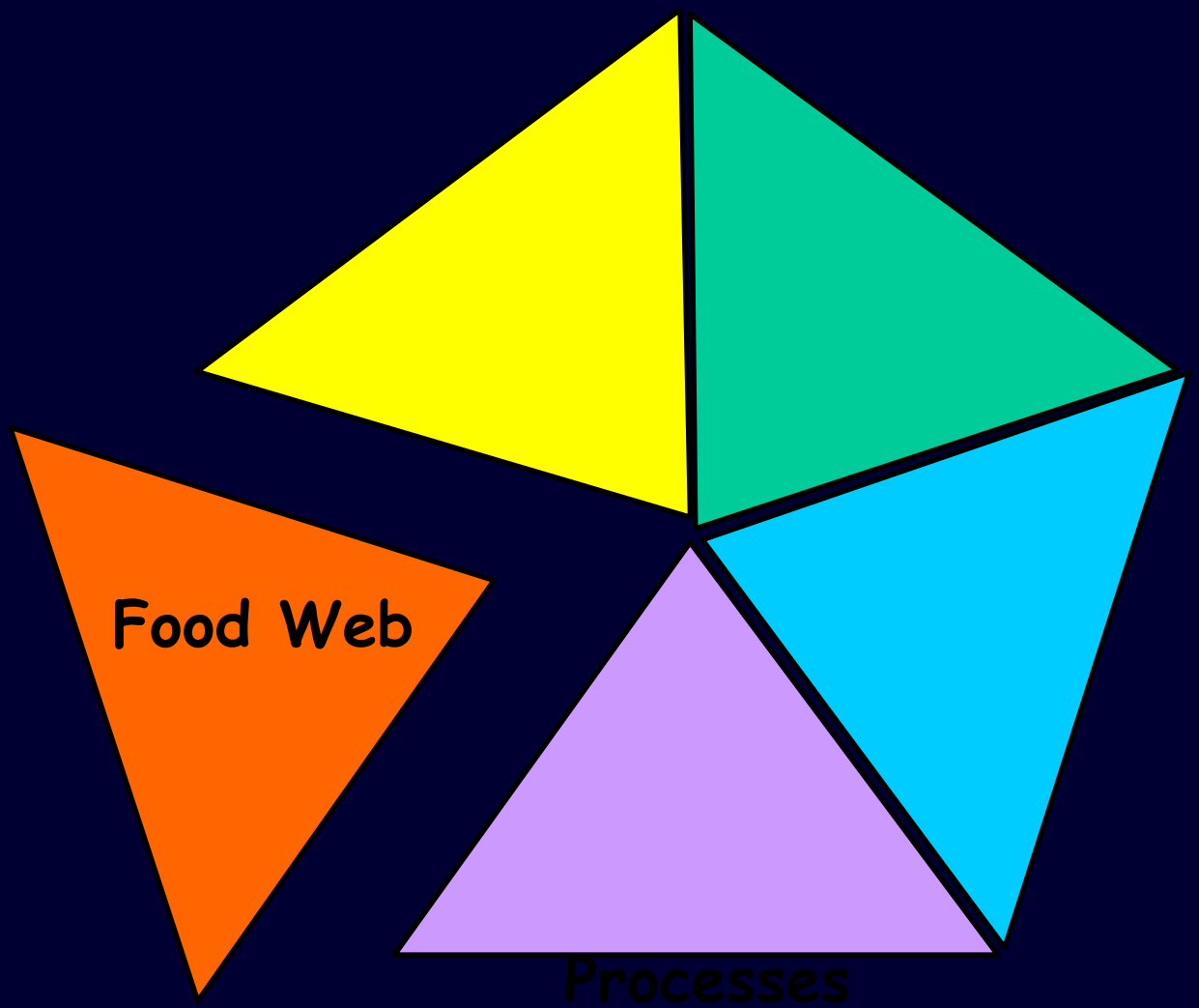
Does Salmon Use Increase With More Flow?



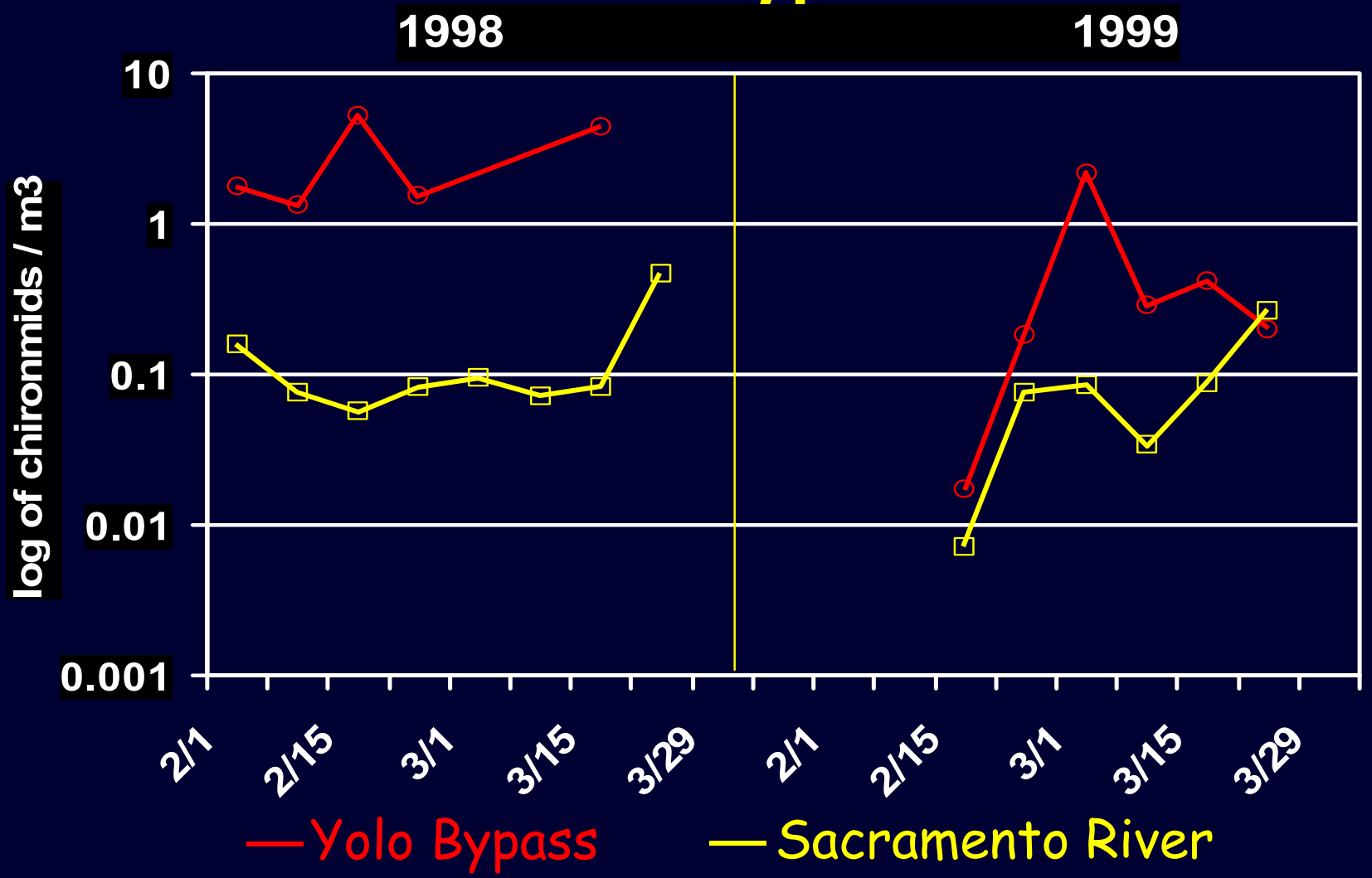
Reponse of Splittail to Flooding



Source: Sommer et al. (2001)


Food Web
Processes

Enhanced Production of Invertebrates in Yolo Bypass



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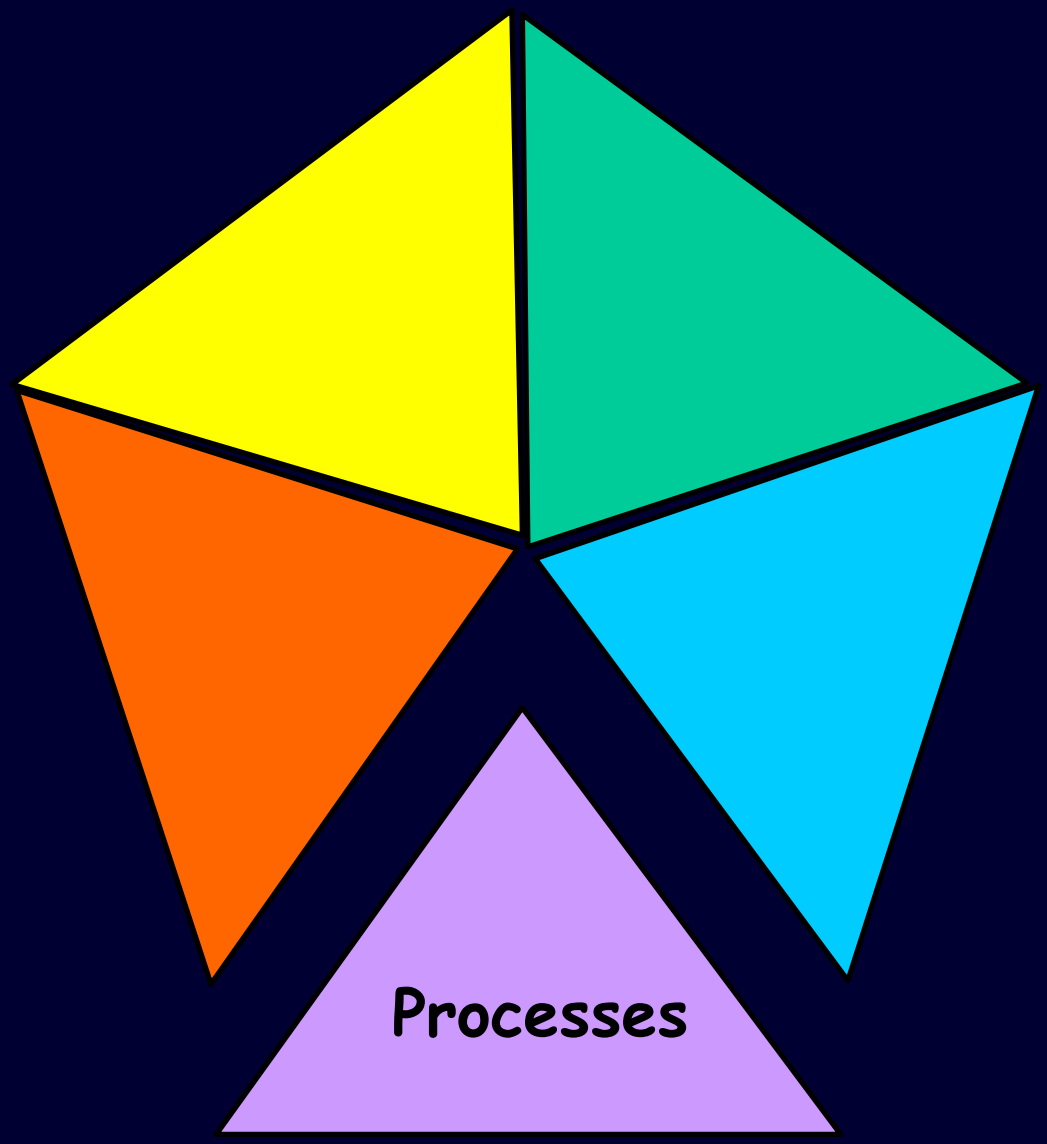
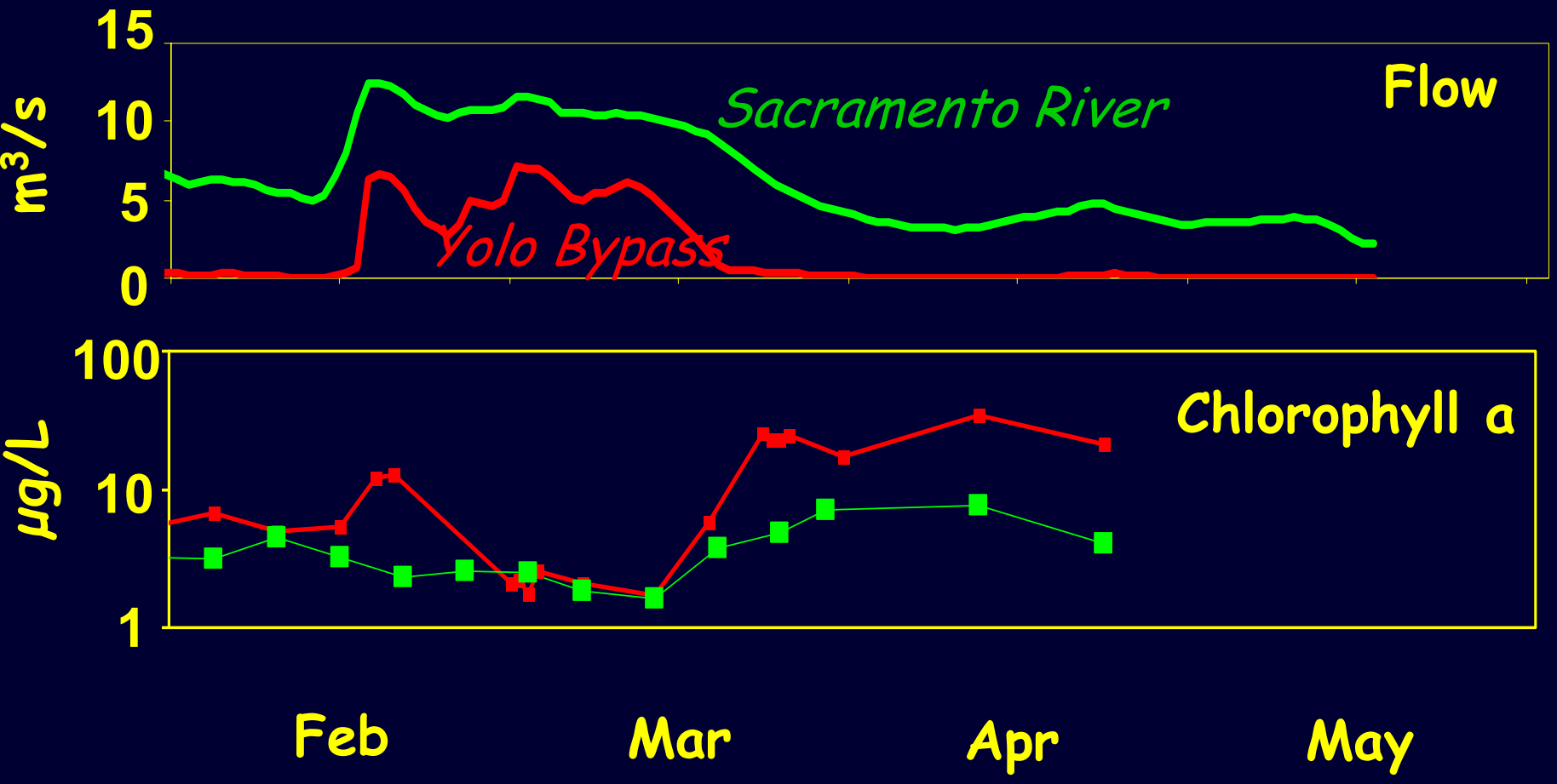

Processes

Response of Chlorophyll a Export?



Source: Sommer et al. (2004)

For More Information….

http://www.water.ca.gov/aes/pubs