

Yolo County and California Water

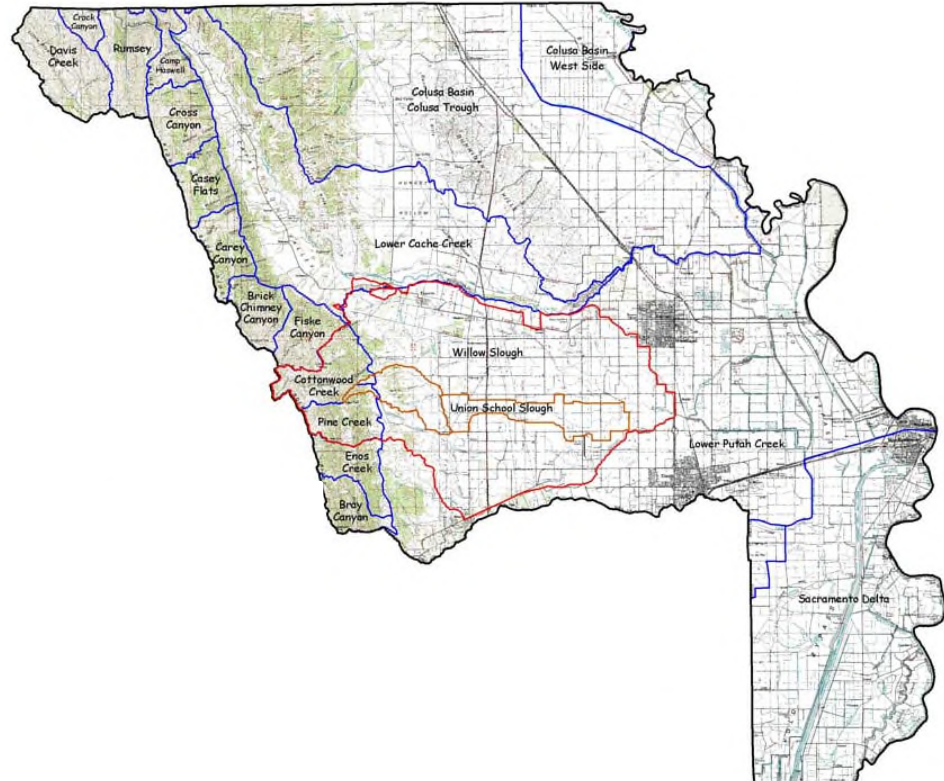
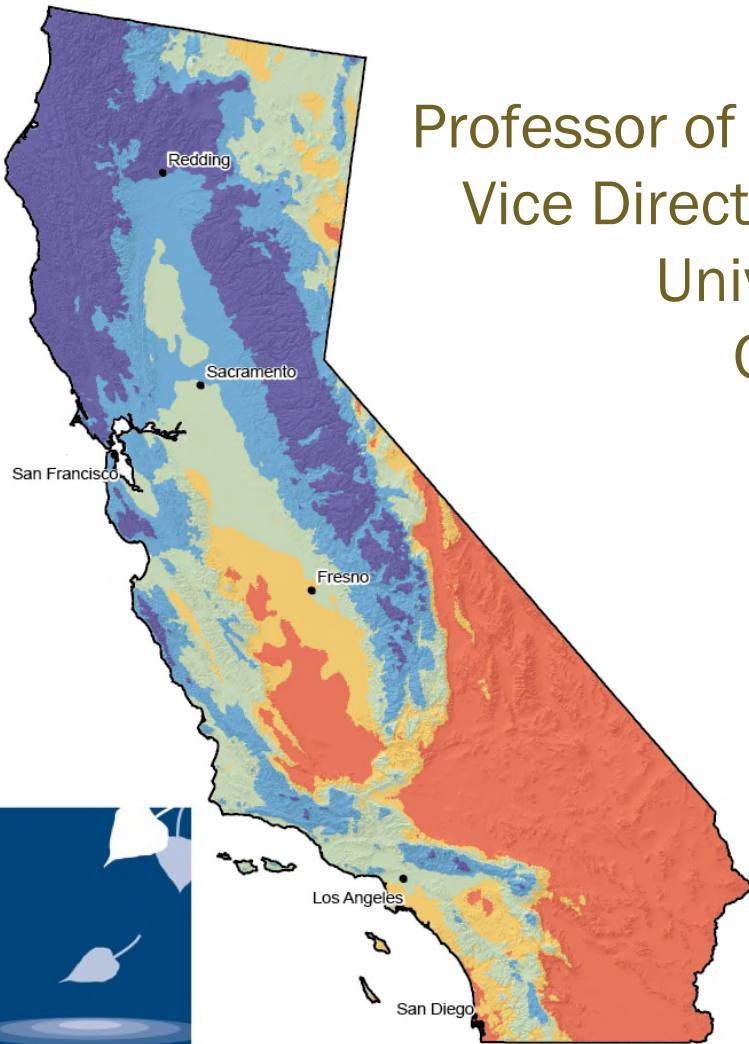
Jay Lund

Professor of Civil and Environmental Engineering

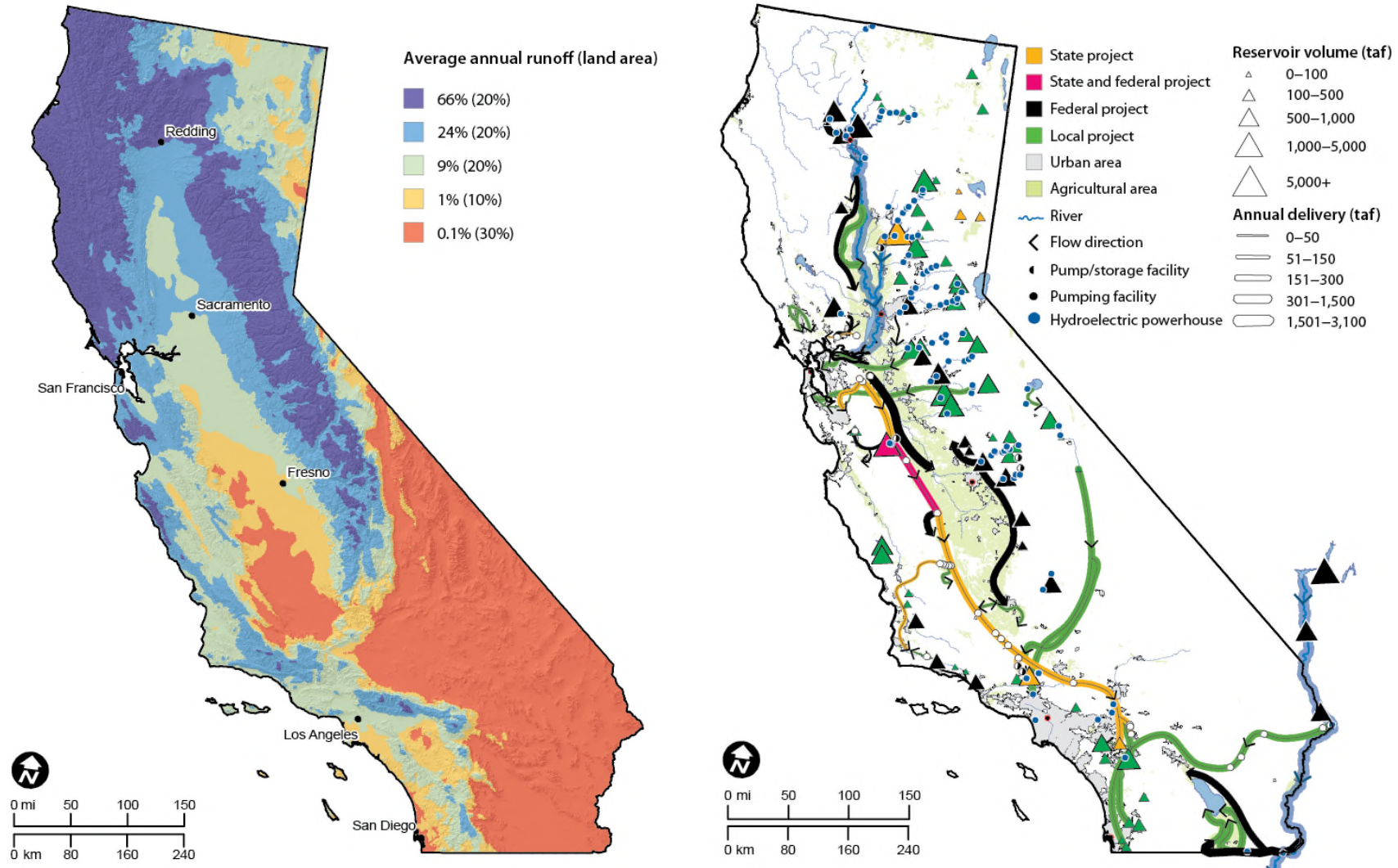
Vice Director, Center for Watershed Sciences

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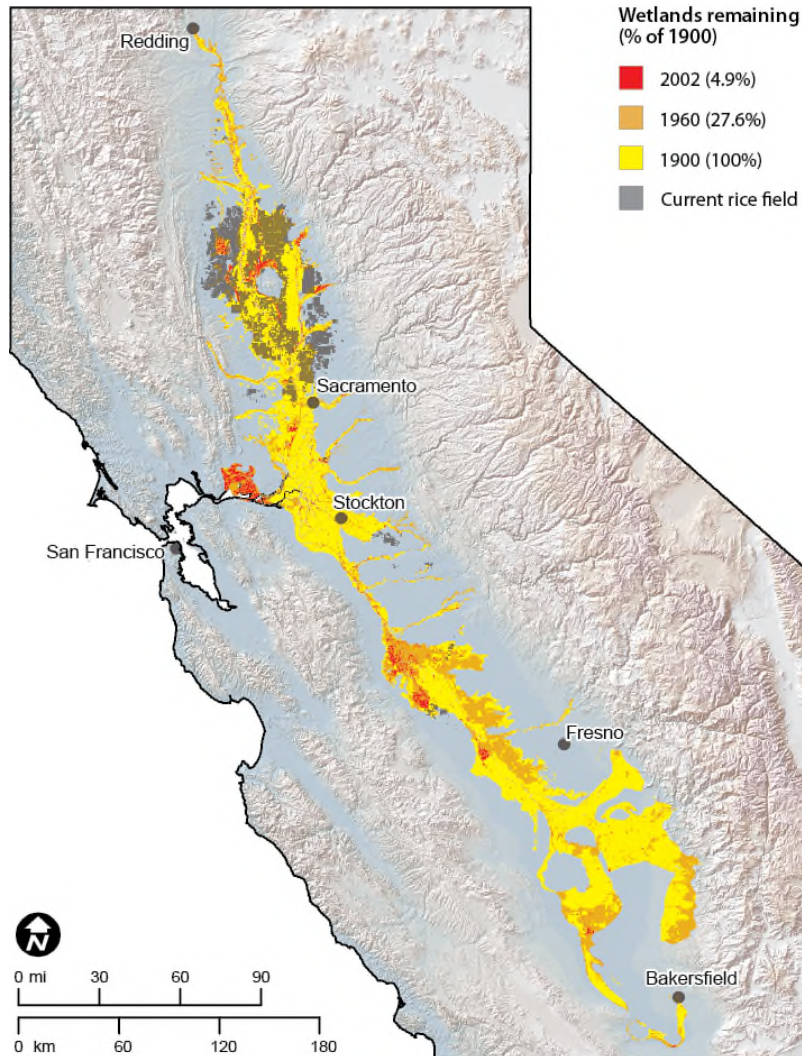
CaliforniaWaterBlog.com



California depends on an engineered water network



Massive Losses of Floodplain and Wetland Habitat



- Habitat declines from water and land development
- Effects on fishes
- Effects on waterfowl

- Rice farming as a partial substitute

Change is not new to California

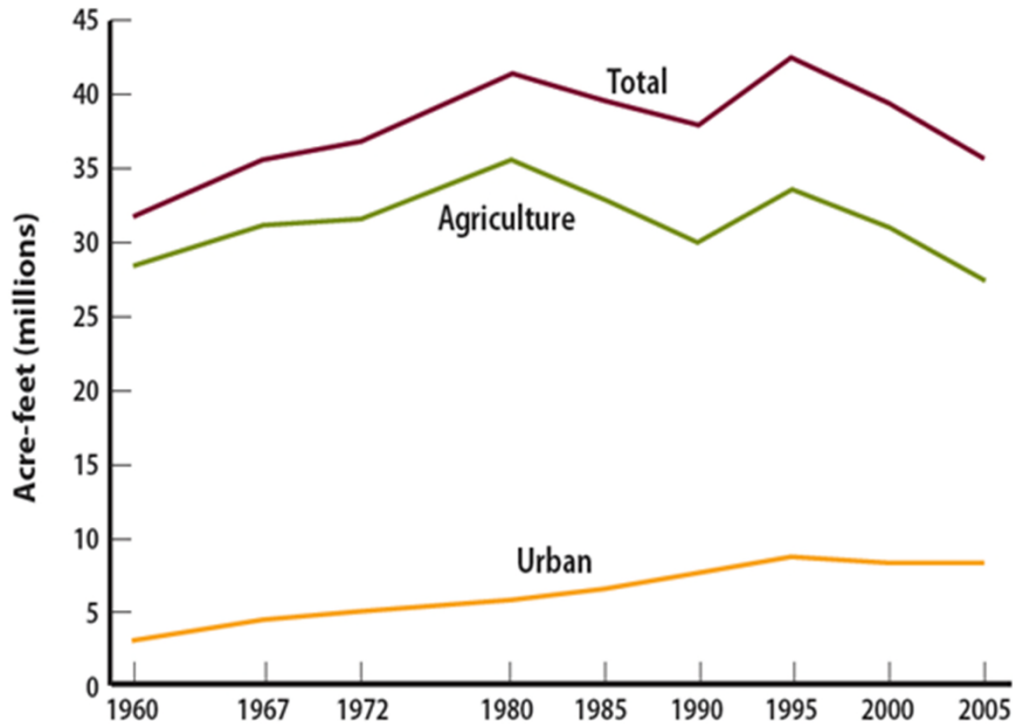
History of change in California water

Drivers of change:

- Deterioration
- Climate
- Economic and demographic transitions
- Changing ecosystems, invasive species
- Scientific and technological progress



Has human water use peaked?



- Urban conservation
- Agricultural build-out
- Urbanization of some agricultural land
- Salinization of some agricultural land
- Water scarcity
- SGMA increases scarcity

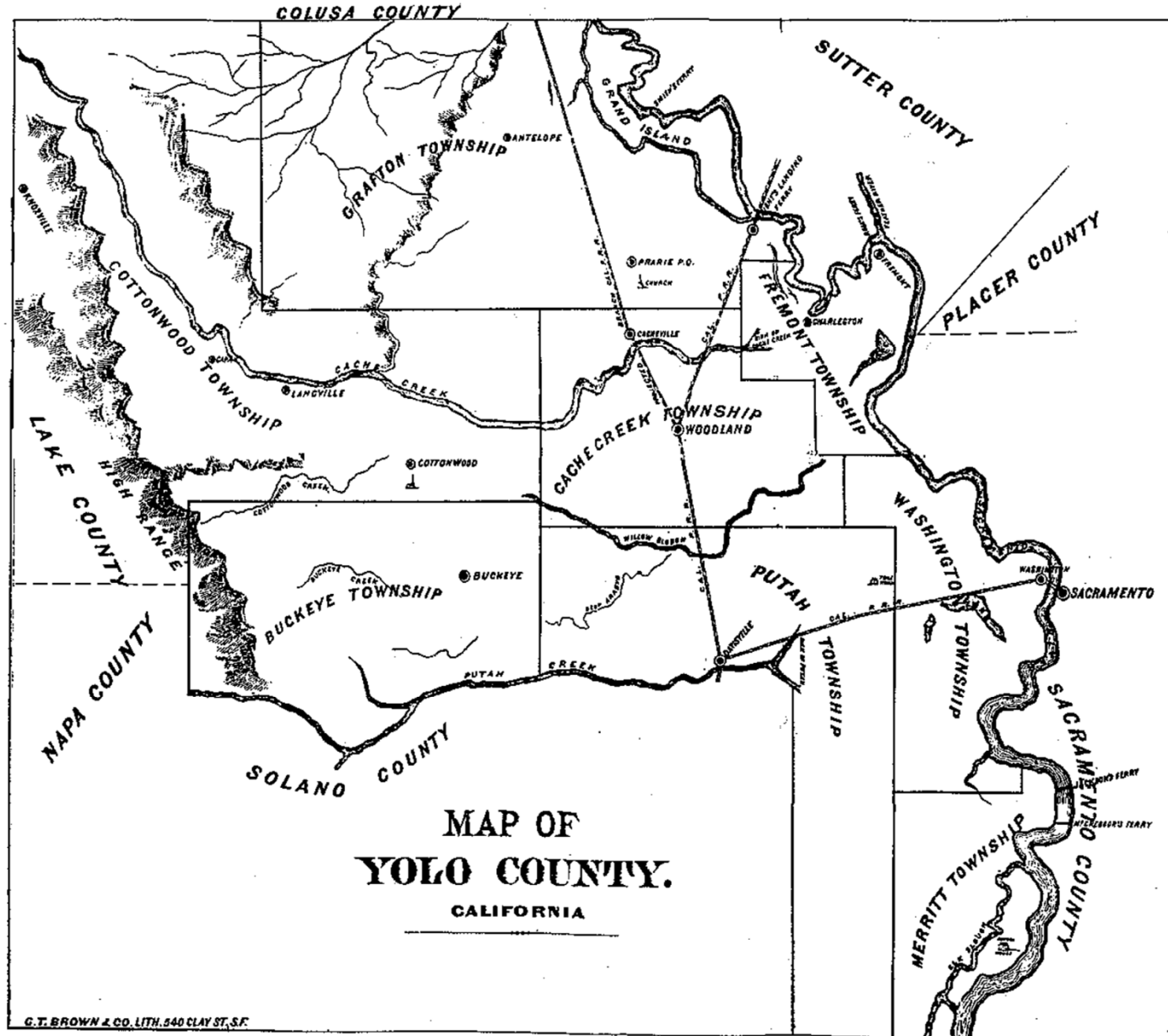
SOURCE: Authors' calculations using data from *California Water Plan Updates* (Department of Water Resources, various years).

Early Yolo County Water

Battling the
Inland Sea:

Floods

Groundwater



Yolo County Water Uses

- Water supply
 - Agriculture
 - Cities
 - Rural wells
 - Wetlands



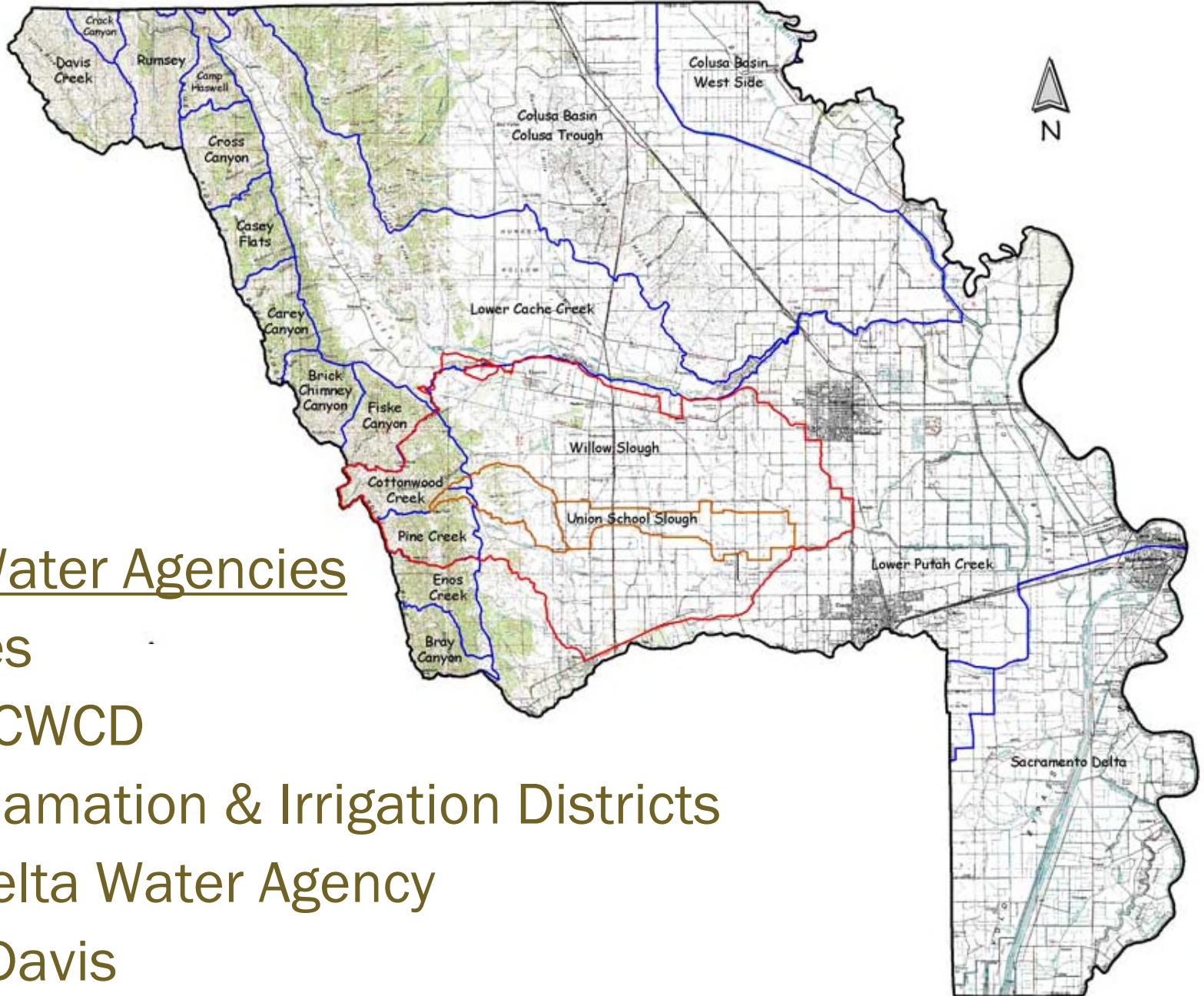
- Floods
 - Woodland
 - West Sacramento
 - Clarksburg, Knight's Landing
 - Yolo bypass



- Recreation
- Flyway and fish
- Shipping, W. Sac.



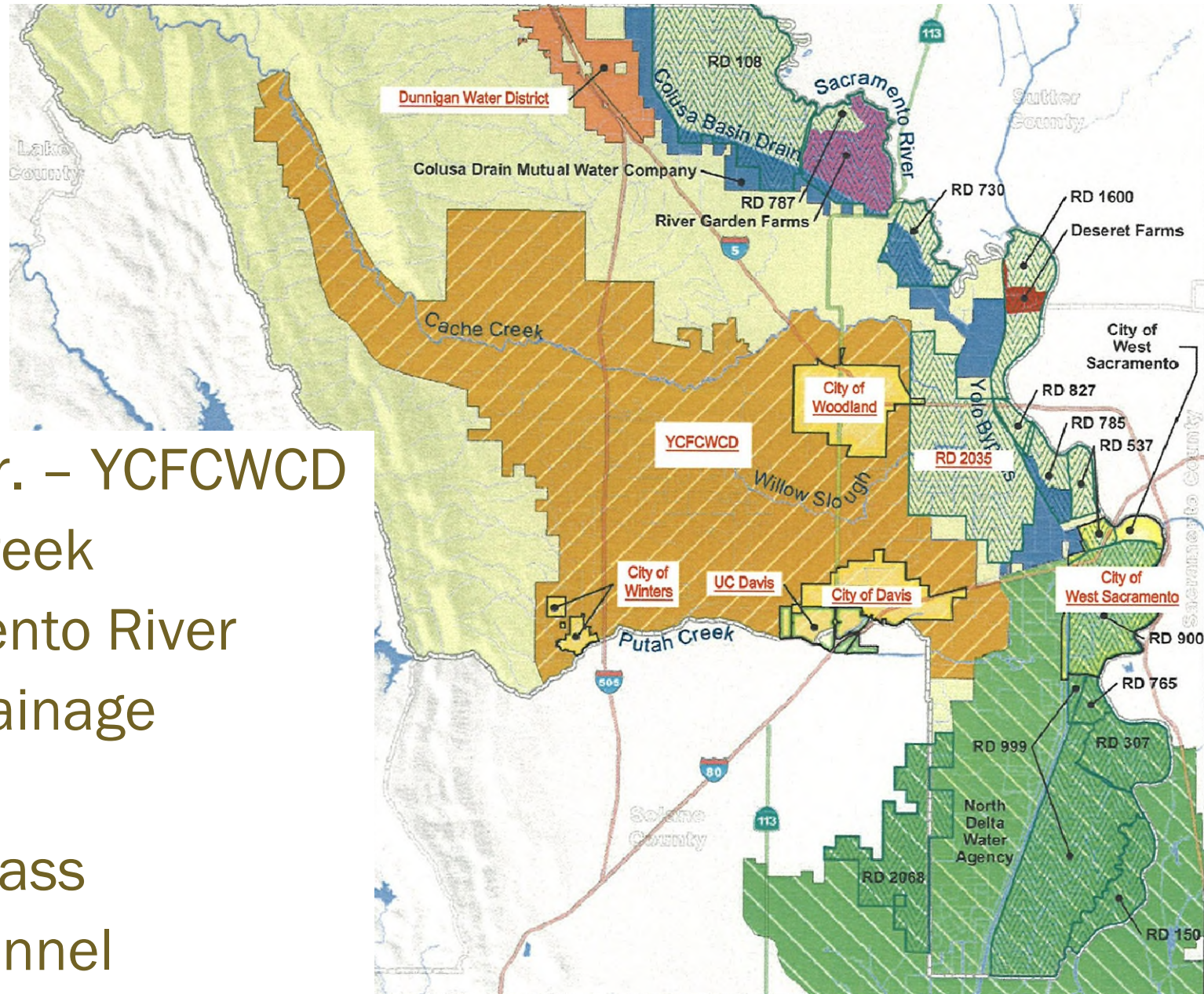
Watersheds of Yolo County



Yolo Water Agencies

- Cities
- YCFCWCD
- Reclamation & Irrigation Districts
- N Delta Water Agency
- UC Davis

Major Features of Yolo County Water



- Cache Cr. – YCFCWCD
- Putah Creek
- Sacramento River
- Local drainage
- Aquifer
- Yolo Bypass
- Ship channel

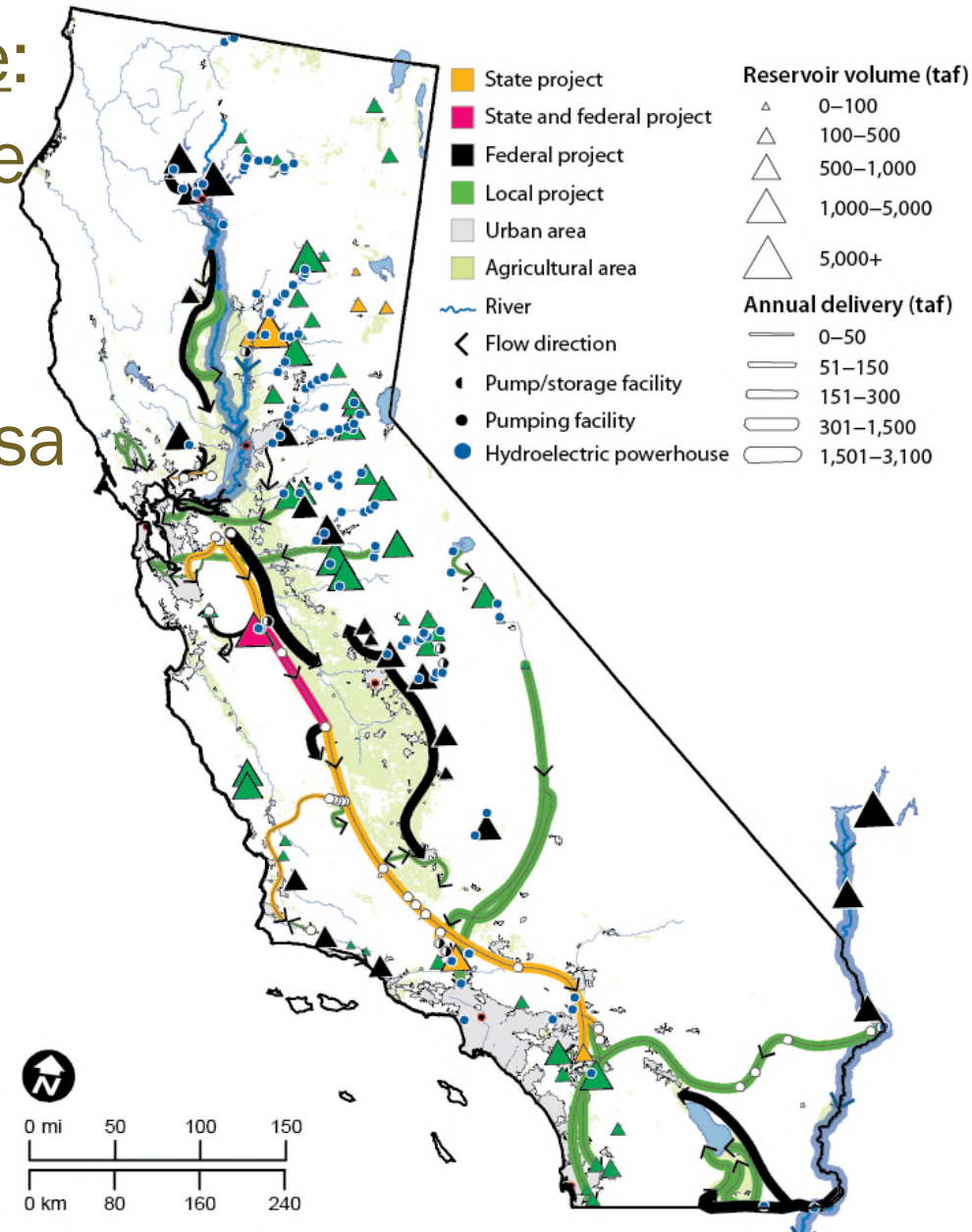
Major links outside Yolo County

Upstream sources/storage:

- Cache Creek - Clear Lake & Indian Valley storage
- Sacramento River
- Putah Cr. - Lake Berryessa
- Groundwater

Outside partners

- Flood control partners
- Environmental partners
- Shipping partners
- Economic linkages
- Outside water users



Some water issues for Yolo County

1. Groundwater

- Drought storage
- Rural drinking water

2. Ecosystem management

- Yolo bypass
- Habitat redevelopment

3. Flood management

4. Water conservation – Agriculture, urban

5. Water markets & habitat as threats & opportunities?

6. How to deal with so many agencies & stakeholders?

Climate change underlines all issues.



Further reading

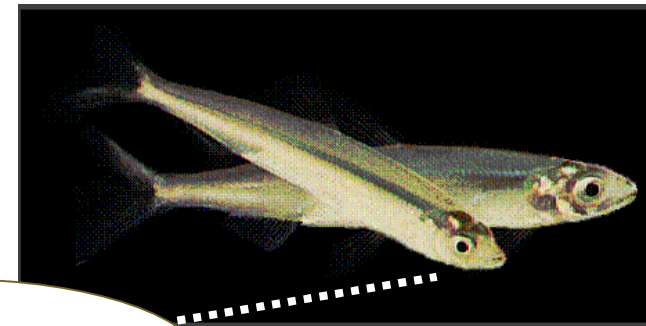
- Kelley (1989) *Battling the Inland Sea*, UC Press.
- Hanak, et al (2011) *Managing California's Water - from conflict to reconciliation*
- Jenkins, *Conjunctive Use Without Management*, MS thesis, 1992
- ycfcwcd.org
- yologroundwater.org
- MavensNotebook.com
- CaliforniaWaterBlog.com



Managing California's Water

From Conflict to Reconciliation

Ellen Hanak • Jay Lund • Ariel Dinar
Brian Gray • Richard Howitt • Jeffrey Mount
Peter Moyle • Barton "Buzz" Thompson



Any questions?