

Are California's water sectors ready?

Letitia Grenier
Director, Water Policy Center

October 28, 2025



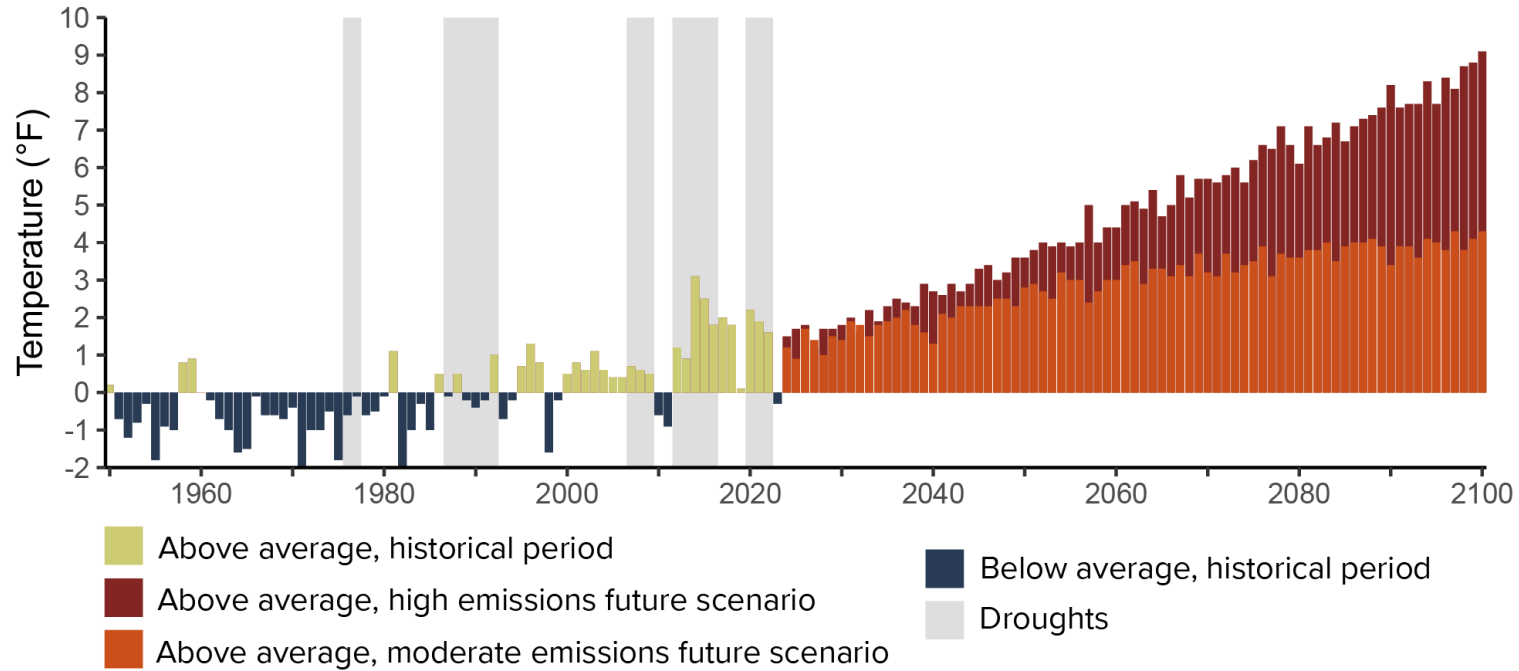
PPIC

PUBLIC POLICY
INSTITUTE OF CALIFORNIA

30 YEARS

PPIC WATER POLICY CENTER

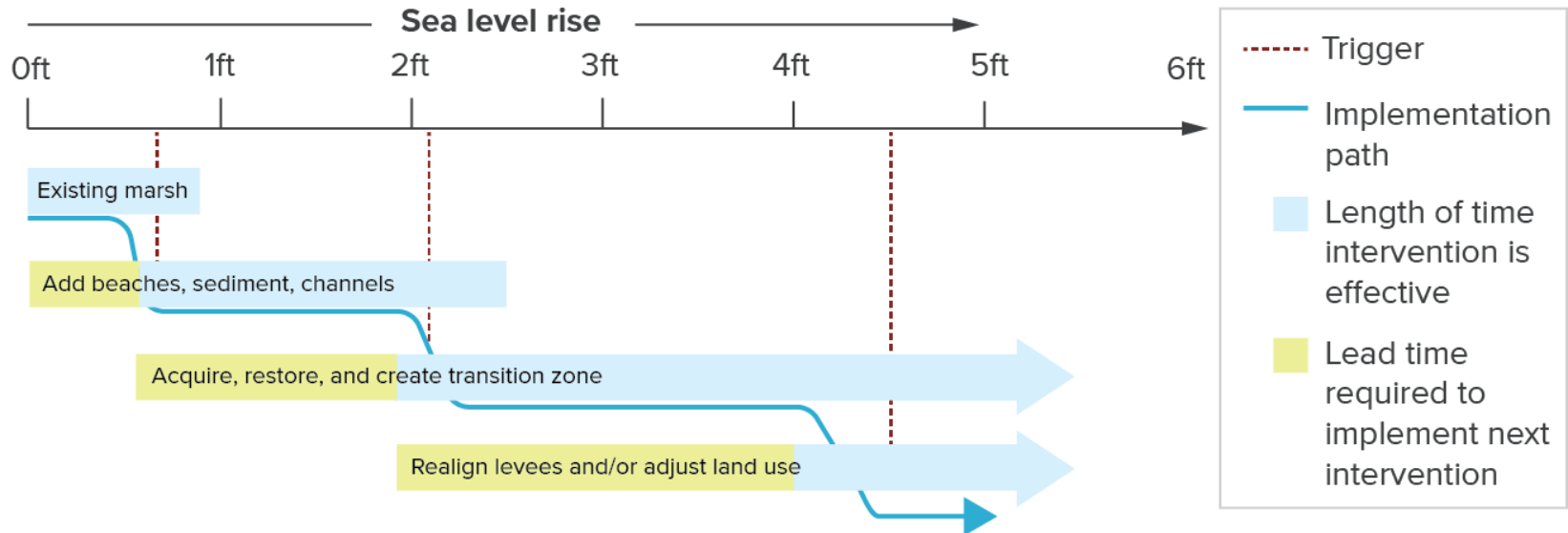
The heat is on...



Climate pressures are impacting water management



Thinking differently about climate change: Adaptation pathways



Adapted from *The Baylands and Climate Change: What We Can Do*

Meeting the challenges of today with adaptations for tomorrow: is California ready?

- Water for communities
- Water for farms
- Headwaters & wildfire
- Flood management
- Ecosystem health



Adaptation: Water for communities and farms

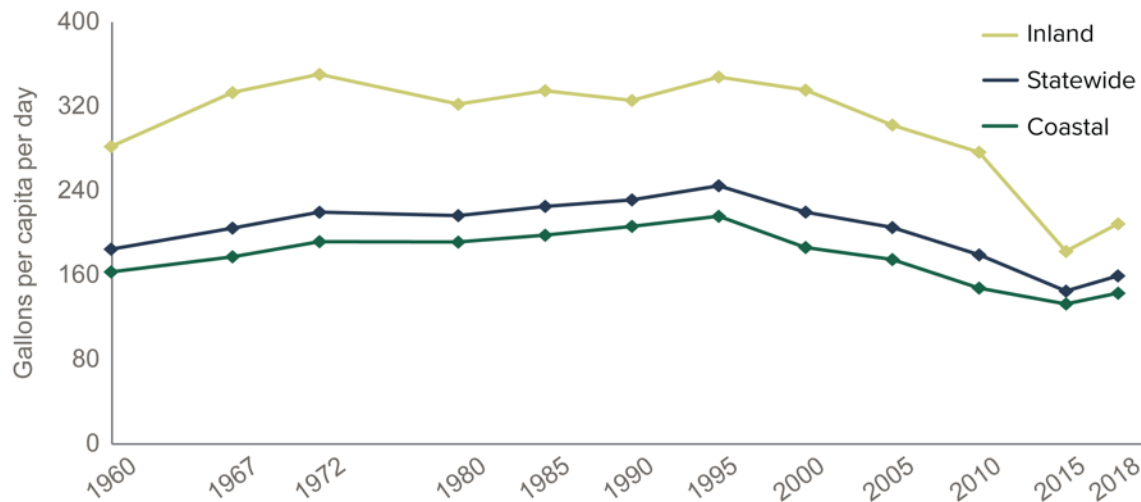


Adaptation: Water for communities and farms

Current Challenges	Climate Effects	Adaptation Measures
Declining Colorado reliability	Warming, volatility, drought intensity lead to decline in supply	Improve groundwater recharge, infrastructure, trading
Declining Delta export reliability	Warming and seasonality increase crop water demand	Adapt reservoir operations, including FIRO
Cutbacks to meet SGMA	Increased heat impacts on crops and farm labor force	Increase investment in community water systems
Drinking water quality, costs	Decline in drinking water quality due to warming, wildfire, HABs.	Incentivize sustainable water and land use in farming regions
Water rights and governance		Promote cost-effective solutions to manage price increases

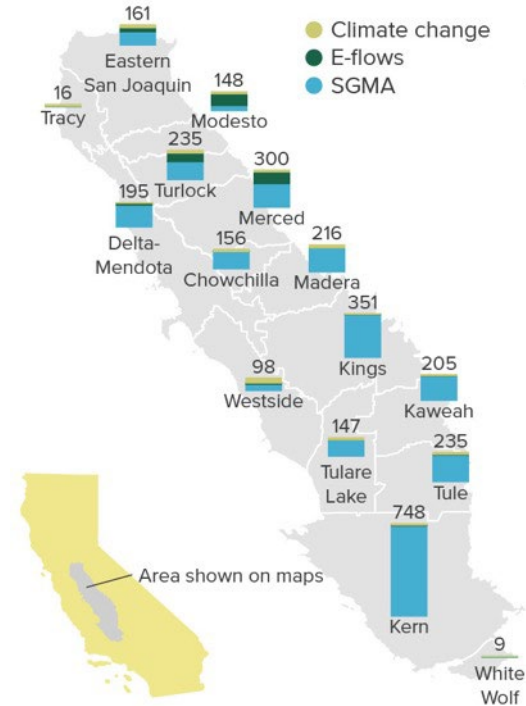
Making good progress: Water for communities

Per capita water use continues to decline



Source: California Water Plan Update

Difficult work underway: Water for farms



Reductions in applied water (taf)

Adaptation: Headwaters & wildfire



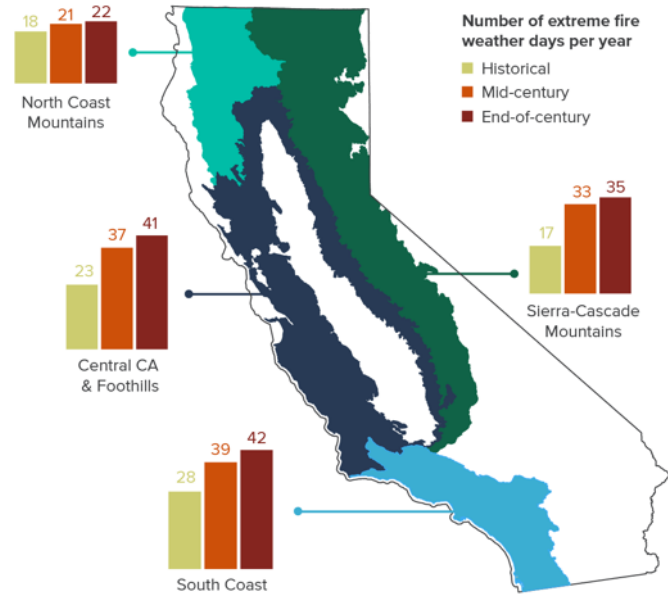
Adaptation: Headwaters & wildfire

Current Challenges	Climate Effects	Adaptation Measures
Increasing # of high-severity fires	Warmer conditions lead to drier vegetation	Expand prescribed burns and thinning
People increasingly in harm's way	Diminished snowpack dries landscapes	Expand managed wildfire
Drought and tree disease	Shorter rainy season extends high fire risk	Restore forests and wetlands
Post-fire erosion impacts water quality	Climate whiplash expands fuels	Revive wood products industry
	Conversion of forest to shrubland	

Difficult work underway: Headwaters & wildfire



Increasing extreme fire weather



Adaptation: Flood management



Adaptation: Flood management

Current Challenges	Climate Effects	Adaptation Measures
Aging, outdated infrastructure	Increasing storm intensity increases flood peaks	Modernize planning to accommodate risk
Dated, insufficient protection standards	Increasing volatility complicates reservoir ops	Use natural and updated built infrastructure
Low insurance uptake and lack of incentives	Rising sea level increases coastal flood risk	Create new funding opportunities
Constrained funding, "fiscal orphan"	Combined coastal flooding risk increasing	Incentivize insurance uptake in all communities
Inadequate, forward-looking planning	Coastal groundwater rise mobilizes contaminants	Expand emergency response and recovery
Equity		

Major overhaul needed: Flood management

Population living in 500-year floodplain



Value of structures in 500-year floodplain



Adaptation: Freshwater ecosystems



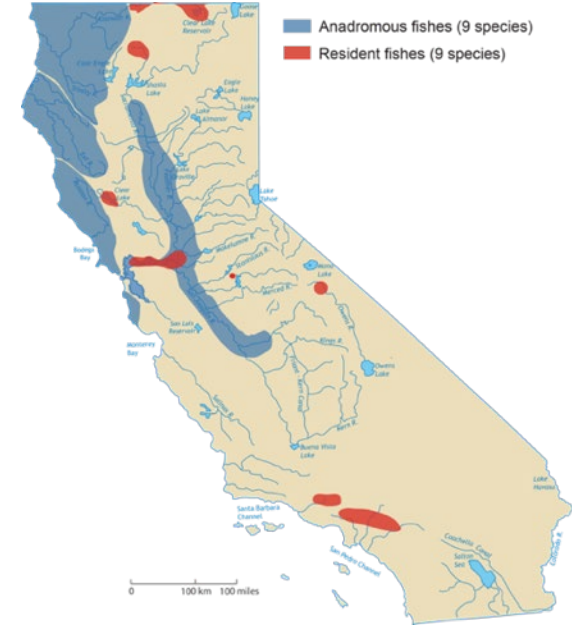
Adaptation: Freshwater ecosystems

Current Challenges	Climate Effects	Adaptation Measures
Decline in native biodiversity	Increasing temperature degrades habitat	Ecosystem health a priority not constraint
Degraded ecosystem health	Loss of habitat to drought intensity	Ecosystem-based management
Funding constraints, “fiscal orphan”	Climate volatility inhibits population recovery	Climate-smart conservation framework
	Sea level rise harms estuary habitat	Environmental water assets and manager

Major overhaul needed: Ecosystem health



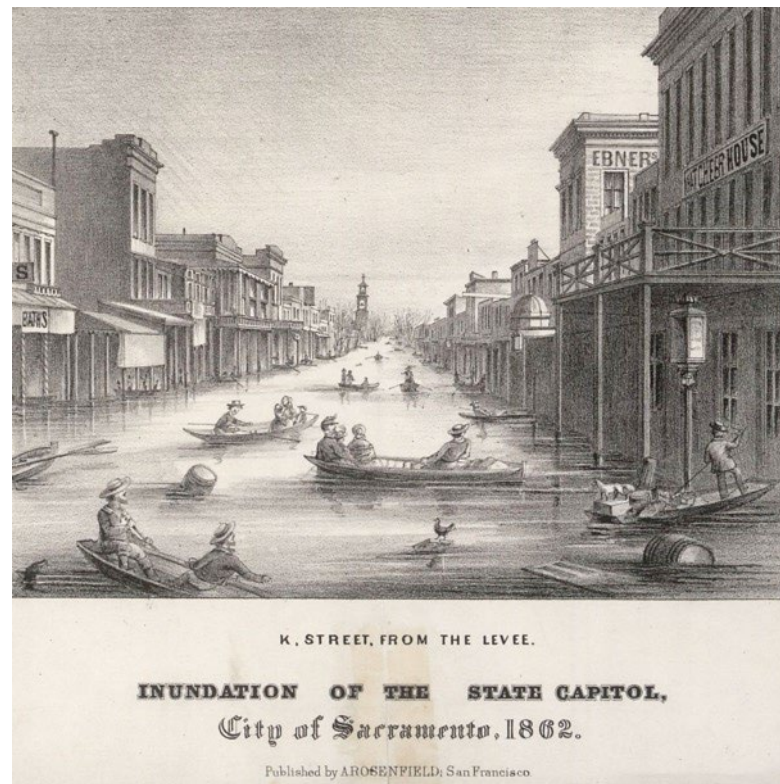
Half the fish at high risk of extinction in recent droughts are *not* listed under ESAs



Source: Hanak et al. (2015)

Summary

- Making progress in community water supplies
- Doing hard work on farm supplies and headwater forests and wildfire
- Need to reboot flood and ecosystem management
- Crisis spurs change
- Partnerships and collaboration have created the most resilient solutions



Thank you! Visit us at ppic.org/water:

