

# Priorities for California's Water

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# State's highly variable climate was on display this year



Oroville Dam spillway failure

- 5-year drought ended, but had some lasting impacts
  - Lowered groundwater levels, stressed freshwater species
- Near record precipitation
  - Stressed dams, levees
  - Added more fuel to fire-prone landscapes

# A road map of water priorities for California

- Ensure clean and reliable water supplies
  - State must improve capacity to store water, manage demands, provide safe drinking water to underserved communities
- Enhance the environment
  - Health crisis in freshwater ecosystems and headwater forests highlights need for new approaches
- Tackle problems in key watersheds
  - Big decisions lie ahead on supply, environment for Colorado River and Sacramento–San Joaquin Delta

# Outline

- Ensure clean and reliable water supplies
- Enhance the natural environment
- Tackle problems in key watersheds

# Changing climate will affect snowpack, floods, drought

- State's dams designed, operated for past climate patterns
- Systems inadequate for recharging aquifers in wet years



Folsom reservoir in drought

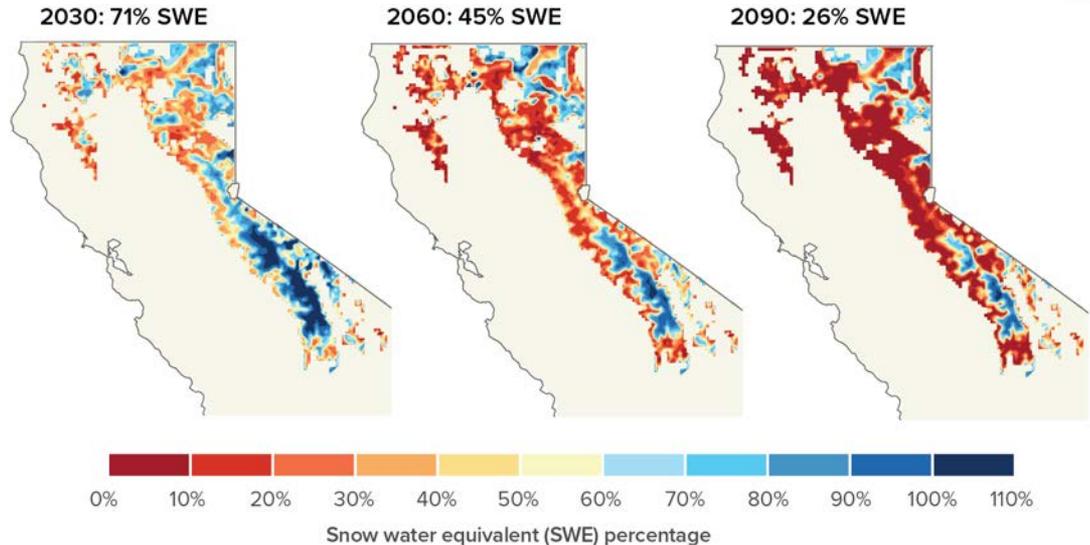


Oroville Dam spillway, 2017

# California needs forward-looking storage management

- Manage surface and groundwater together
- Remove barriers to groundwater recharge
- Evaluate, modernize dams to adapt to changing climate

Rising temperatures will shrink Sierra snowpack



Source: Cayan et al. 2016

# Managing demand can improve supply reliability

- Plan ahead for urban supply shortages
  - Balance short-term conservation and long-term efficiency
- Manage agricultural demand
  - Reducing groundwater overdraft will require better accounting, basin-scale approaches
- Make it easier to trade water
  - Process is too complex, especially for short-term drought-related trades

# All Californians deserve safe drinking water



East Porterville gets safe drinking water

- Several hundred small systems unable to provide safe drinking water
  - Improve estimates of population at risk
  - Prioritize support for underserved communities
  - Protect and mitigate dry wells during droughts

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# Headwater forests are overly dense, in poor health



Recent tree die-off in Sierra headwaters

- More small trees, fewer large ones
- Latest drought effects:
  - 15 million more dead trees per year, most from beetle outbreak
  - Two of largest wildfires in state history
- Forest benefits at risk

# Forest health should be a top priority for management

- Expand pace and scale of treatments (managed fire, mechanical thinning)
- Improve accounting of at-risk forests, treatments used
- Offset costs by bundling harvest with other treatments
- Use new collaborative tools



Malheur National Forest, Oregon

# Troubled freshwater ecosystems need more reliable protection, better water management

- Promote projects that benefit people and nature
- Develop watershed-scale plans to build ecosystem health
- Adopt ecosystem water budgets for key watersheds
- Create more reliable sources of funding



# Outline

- Ensure clean and reliable water supplies
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# Difficult decisions lie ahead for two key watersheds

- Over-allocation, drought affects Colorado River basin—a major water supply for Southern California
- Reliability of Delta water supply at risk from climate change, levee failures
- Complex environmental problems affect both basins

# Collaboration is key to Colorado River solutions

- Work with other states to foster flexible solutions, avoid mandatory water cuts
- Support implementation of agreement with Mexico
- Build momentum for addressing health and environment concerns at Salton Sea



Hoover Dam in drought

# The Delta is a complex, enduring water challenge

- It's time to decide: what is the future of Delta water supply?
- With or without tunnels project, priorities include:
  - Changing focus from species to ecosystems
  - Adopting comprehensive plan for Delta levees



The Sacramento–San Joaquin Delta

# Thank you!



## About these slides

These slides were created to accompany a presentation. They do not include full documentation of sources, data samples, methods, and interpretations. To avoid misinterpretations, please contact:

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Thank you for your interest in this work.

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