An Overview of California Groundwater Programs

Dialogue on the Economic and Policy Implications of Water Banking

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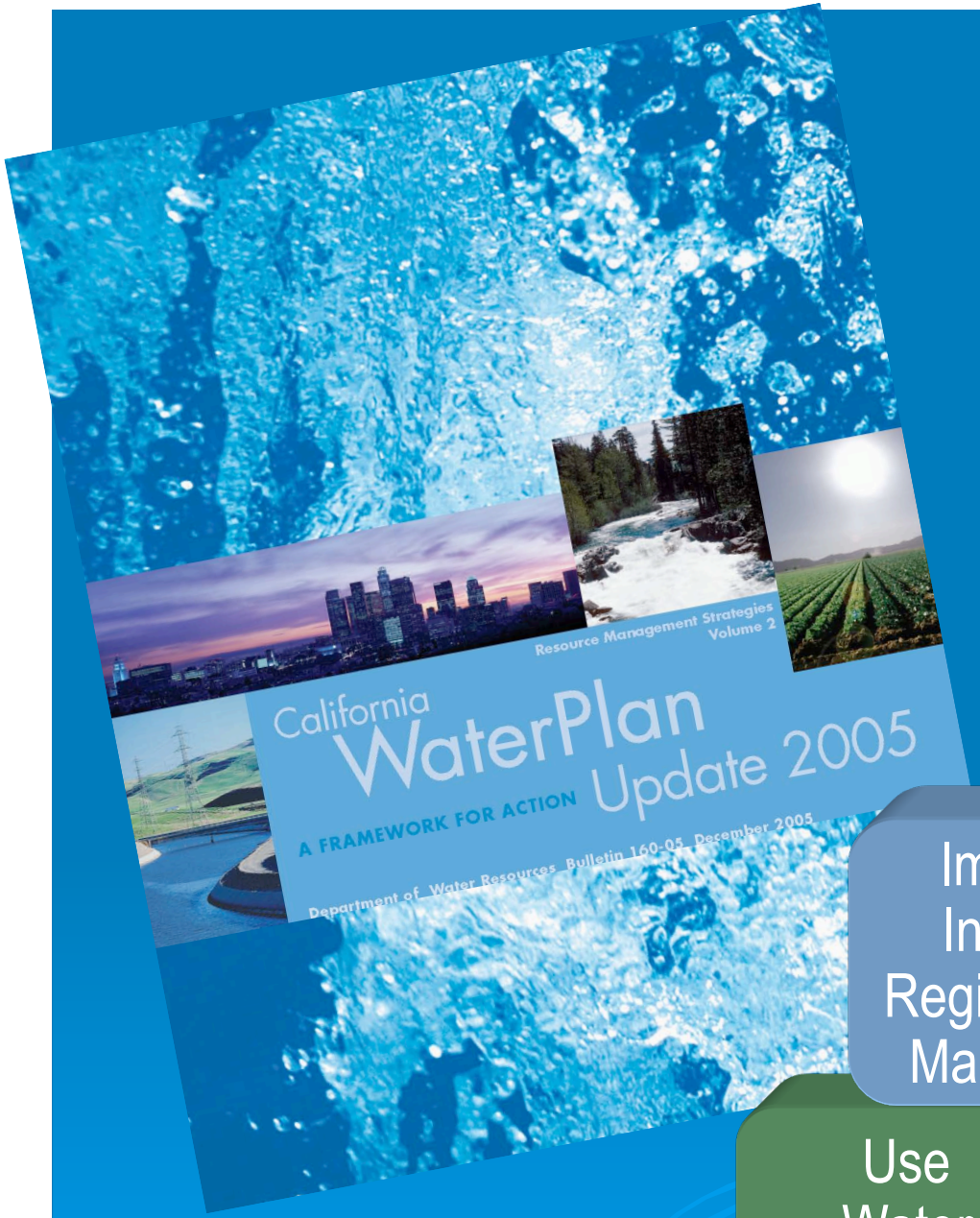


Vital Economy
Healthy Environment
High Standard of Living

Implement Integrated Regional Water Management

Improve Statewide Water Management Systems

Use Water Efficiently

Protect Water Quality

Support Environmental Stewardship

http://www.waterplan.water.ca.gov/cwpu2005/index.cfm

IRWM Program Objectives

Direct Objectives

- Improve water supply reliability
- Protect and improve water quality
- Ensure sustainability through environmental stewardship

Higher-Level Objectives

- Promote multiple benefits
- Financial incentive to promote integration and regional planning
- Streamline grant processes

Resource Management Strategies

Reduce Water Demand

- Agricultural Water Use Efficiency
- Urban Water Use Efficiency

Improve Operational Efficiency & Transfers

- Conveyance
- System Reoperation
- Water Transfers

Increase Water Supply

- Conjunctive Management & Groundwater Storage
- Desalination –Brackish & Seawater
- Precipitation Enhancement
- Recycled Municipal Water
- Surface Storage – CALFED
- Surface Storage - Regional/ Local

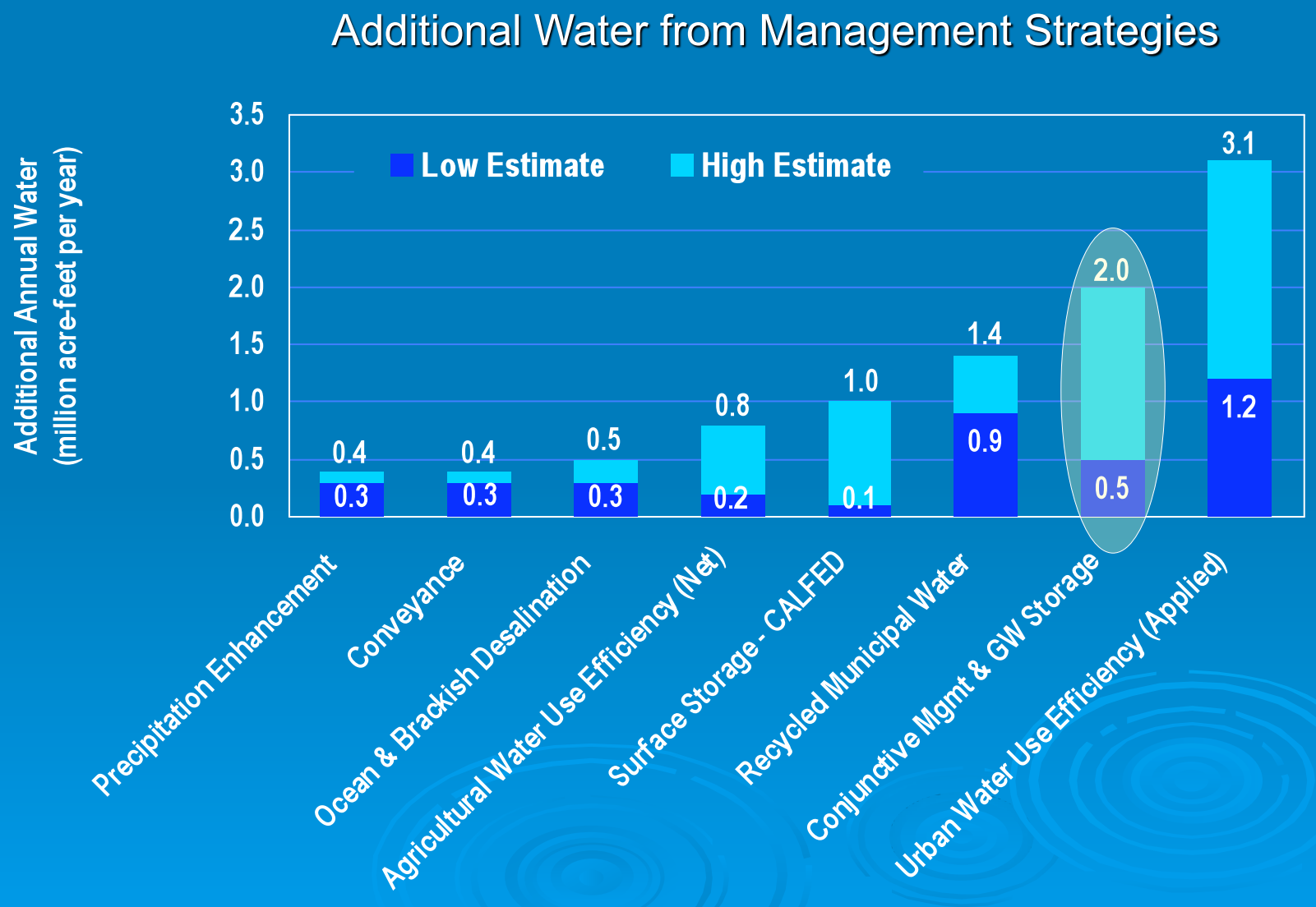
Improve Water Quality

- Drinking Water Treatment and Distribution
- Groundwater/Aquifer Remediation
- Matching Quality to Use
- Pollution Prevention
- Urban Runoff Management

Practice Resource Stewardship

- Agricultural Lands Stewardship
- Economic Incentives (Loans, Grants, and Water Pricing)
- Ecosystem Restoration
- Floodplain Management
- Recharge Areas Protection
- Urban Land Use Management
- Water-Dependent Recreation
- Watershed Management

California Water Plan



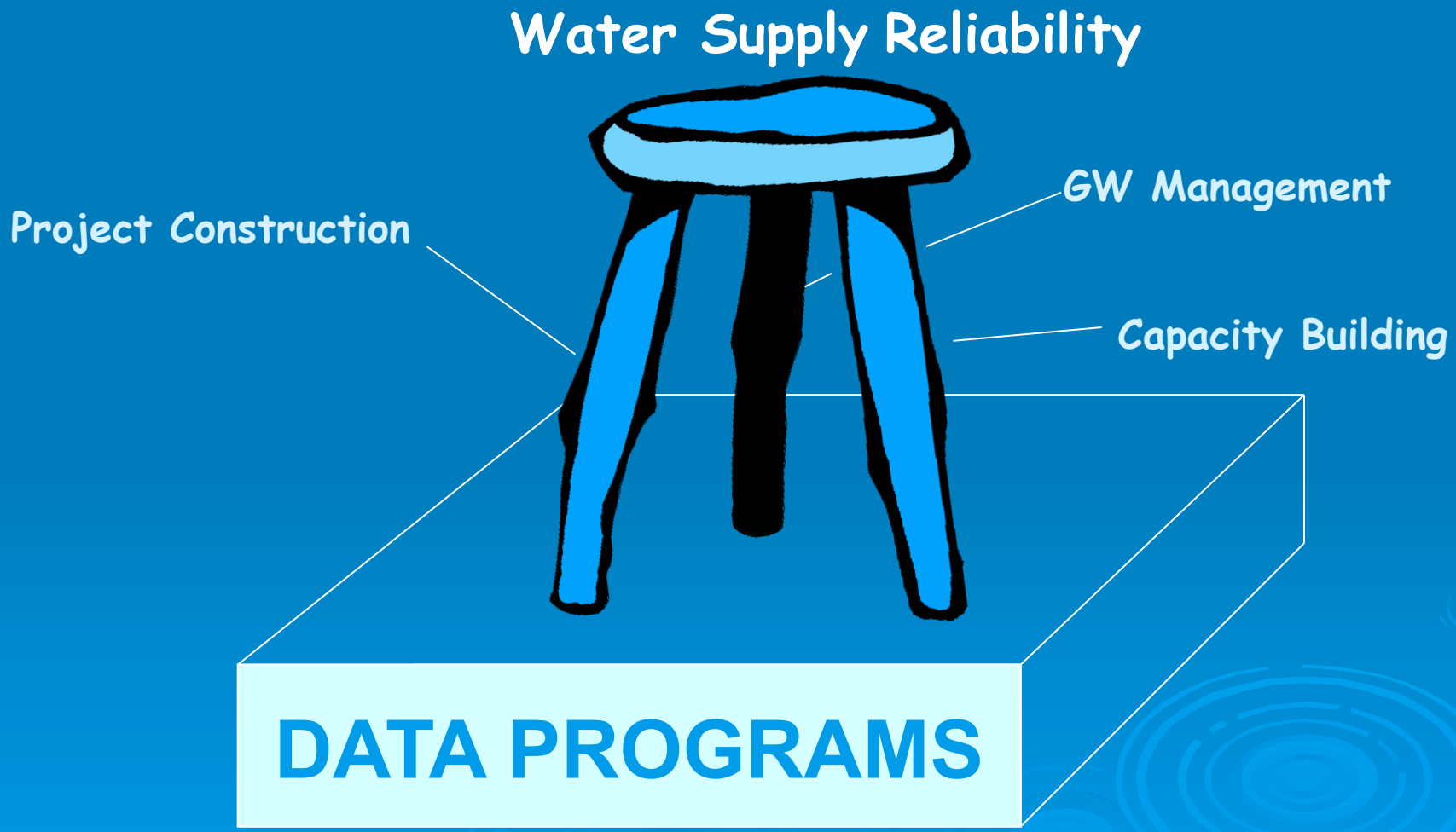
What's in a Name?

- Aquifer Storage and Recovery
- Conjunctive Use
- Conjunctive Water Management
- Cyclic Storage
- Groundwater Banking
- Groundwater Recharge
- Groundwater Storage
- Water Banking

Why Conjunctive Management?

- Focus is on water supply reliability
- Water quality, overdraft, subsidence, flood control, environment can also benefit
- Local self-sufficiency
- Advantages and disadvantages relative to surface storage
  - Cost
  - Environmental impact
  - Rates of input and extraction
  - Flood control benefit

The State's Role



DWR Conjunctive Management Principles

- Locally driven planning process,
- Local control of proposed projects
- Voluntary implementation of projects
- Priority for in-basin water needs
- Compensation for out-of-basin transfers
- Basin-wide planning and monitoring
- Flexibility

Conjunctive Water Management Branch
MOU Partners

Local Partnerships

- Technical assistance
- Facilitation
- Stakeholder driven planning
- Local development of projects

February 2005

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Local Groundwater Assistance Grants

- $38 million in grants over six fiscal years
- 178 studies and projects
  - Monitoring wells, sampling and analysis
  - Groundwater modeling
  - Aquifer testing and pilot studies
  - Well destruction
  - Groundwater storage feasibility studies
  - Management plan development

Construction Grants

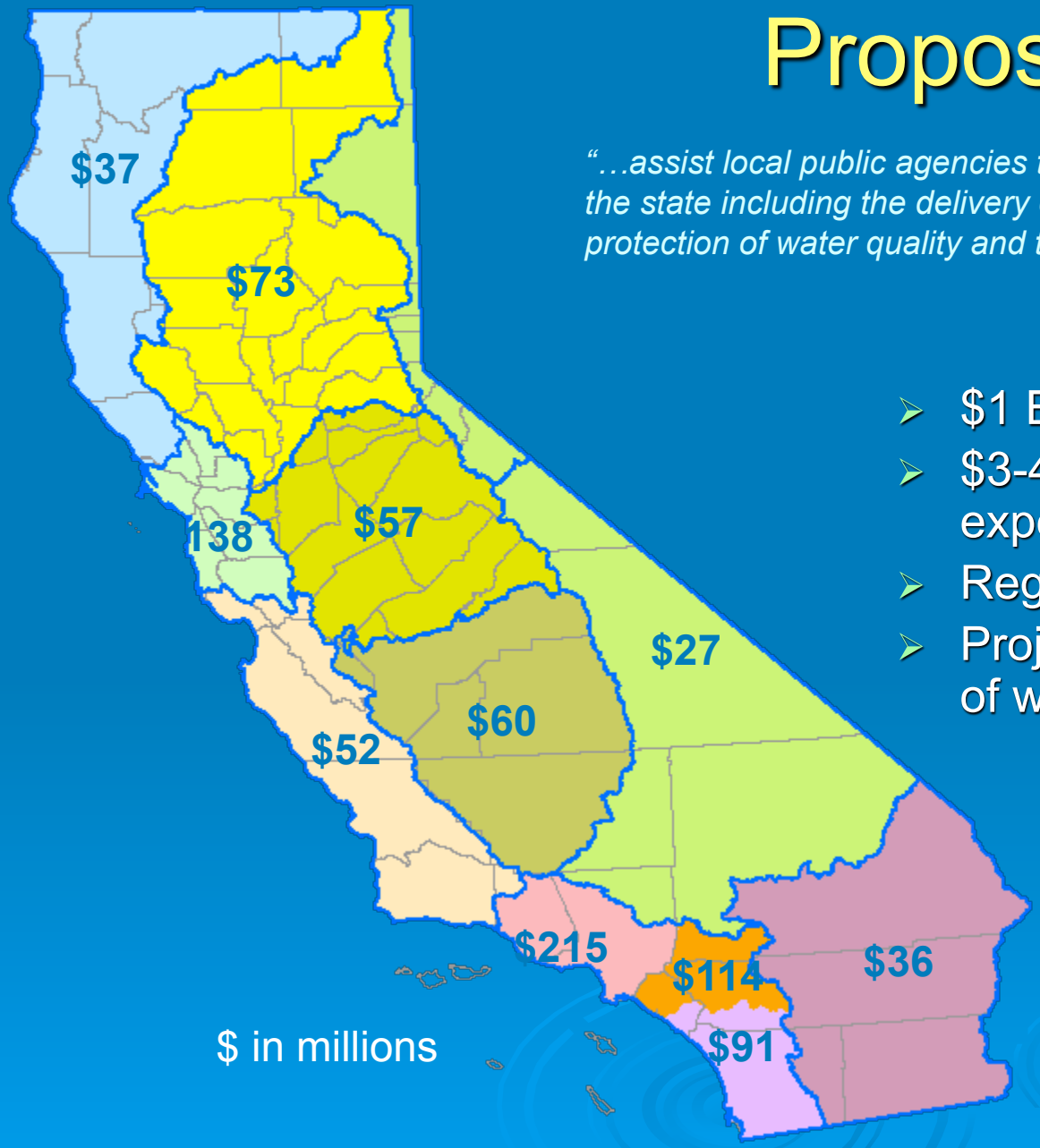
- Proposition 13 provided over $250 million for construction of conjunctive use facilities
  - Funded 63 projects
  - Yield of over 300,000 acre-feet of water annually
  - Total project costs over $1 billion through local cost share
- Proposition 50 provides $500 million for multiple project categories

Proposition 50
Groundwater Related Projects

- $365 million has been awarded for IRWM implementation projects.
- Although not specifically targeted at groundwater projects, many of the projects would expand groundwater storage, desalt brackish groundwater, or improve groundwater quality to make new supplies available.
- Overall, about 40% of the awarded funds will go toward groundwater projects.

Proposition 84

"…assist local public agencies to meet long term water needs of the state including the delivery of safe drinking water and the protection of water quality and the environment."



- $1 Billion for IRWM grants
- $3-4 billion local cost share expected
- Regional allocations
- Projected 1.2 million acre-feet of water supply

Needs and Issues

- Technical
  - Stream/Aquifer Interaction
  - Climate change
  - Environmental Benefits/Consequences
  - Water Quality Implications of Recharge
  - Subsidence Measurement and Monitoring
  - Improved Models
  - Energy
  - Site Specific Factors – hydrogeology, recharge rates, etc.
  - Science-based Policy

Needs and Issues

- Political/Institutional
  - Land use
  - Water agency vs. County control
  - Public trust vs. private use
  - Water Quality
- Legal
  - Water rights
  - Storage rights
- Economic
  - Third party impacts
  - Benefit/Cost
  - Public funding


Questions?