

The Future of **Integrated Water Management**: Moving the Program Forward

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CA Department of Water Resources

Santa Ana River
Watershed 2013
Conference
April 11, 2013



Benefiting California's Future

Integrating Water Management

Today's Presentation

- Defining California's Water Challenges
- Regional & Statewide/system-wide investment
- Integrated Water Management moving forward



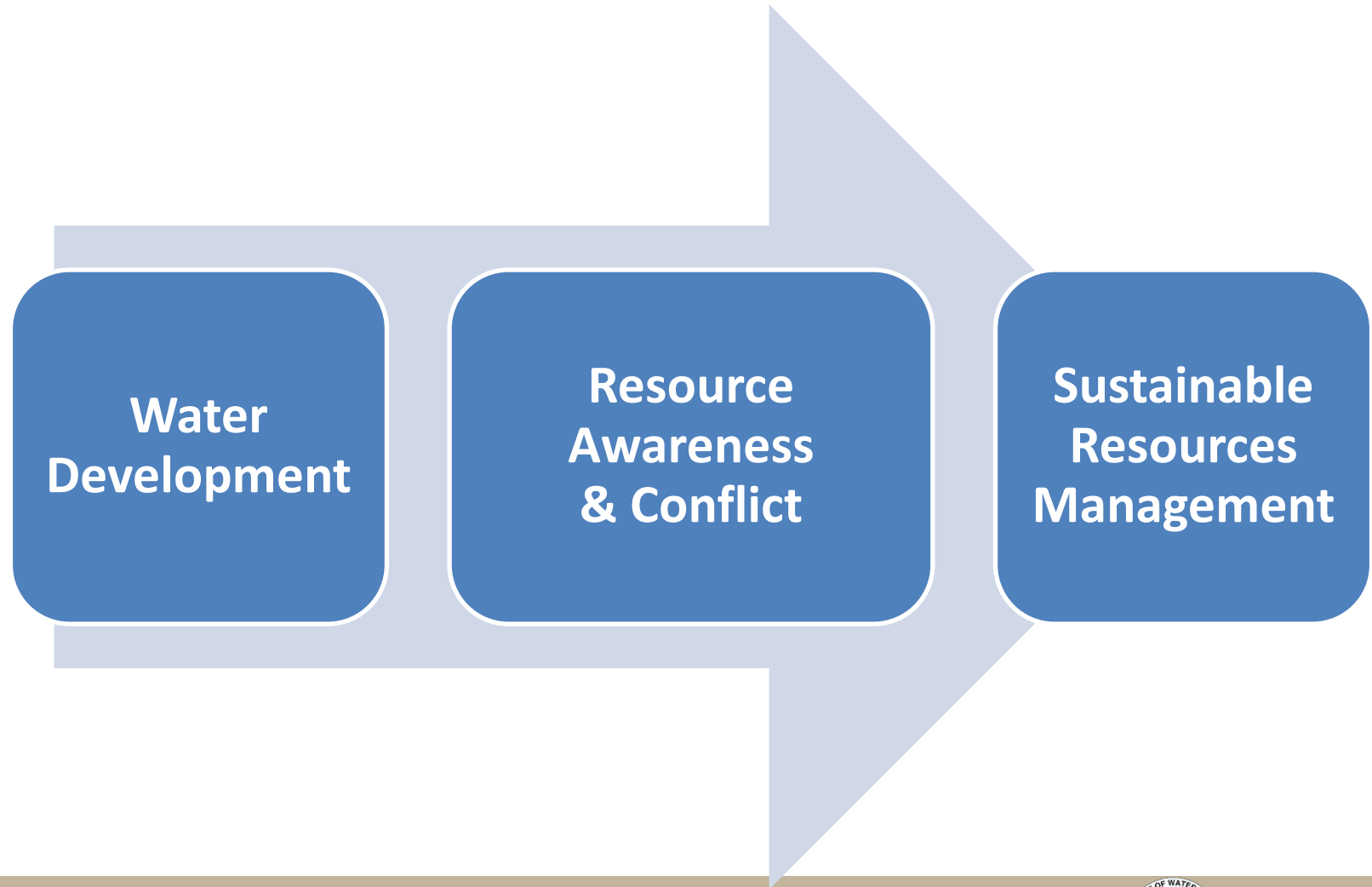
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ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY



California Water Policy Trends



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Defining California's Water Challenges Today



Major system deficiencies put public safety, financial stability and economic well being of the State at risk of flooding.



California's Bay-Delta ecosystem is declining with many fish populations at record lows.



Water supplies from the Delta are less reliable. Aging infrastructure and growing population put more pressure on water systems.



Multi-year drought has further stressed water supplies for all purposes. Reservoirs are low and groundwater levels are declining.



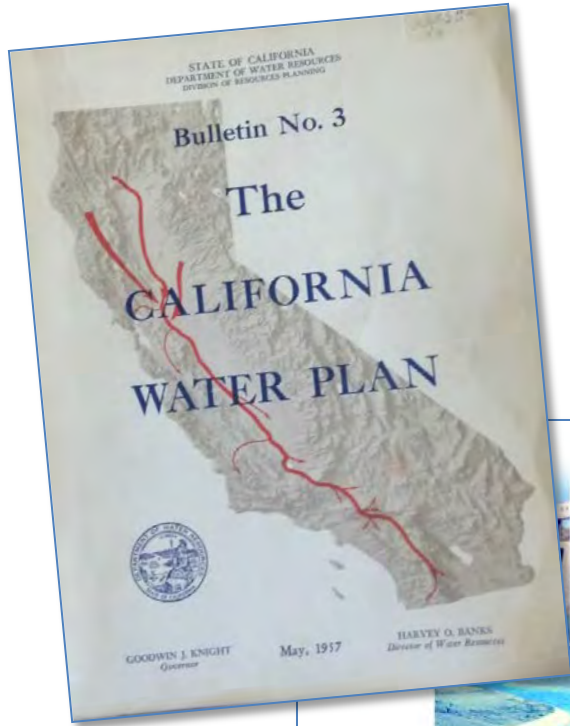
Climate change impacts, including less snowpack, higher flood peaks, and sea level rise, create new uncertainties.



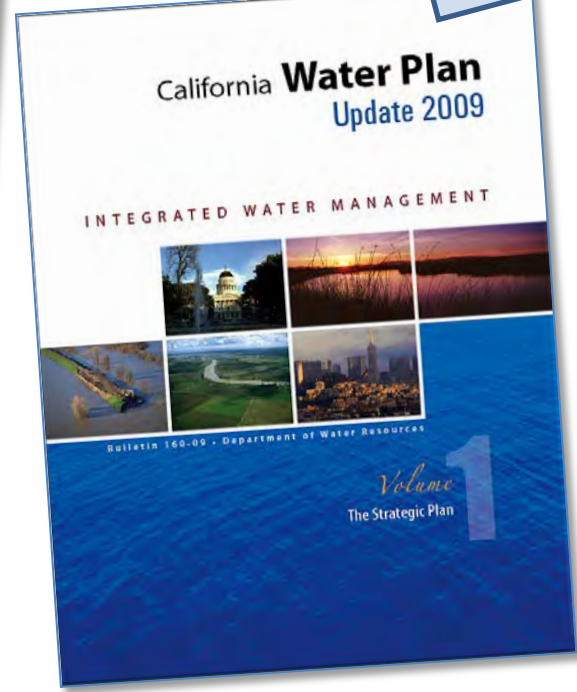
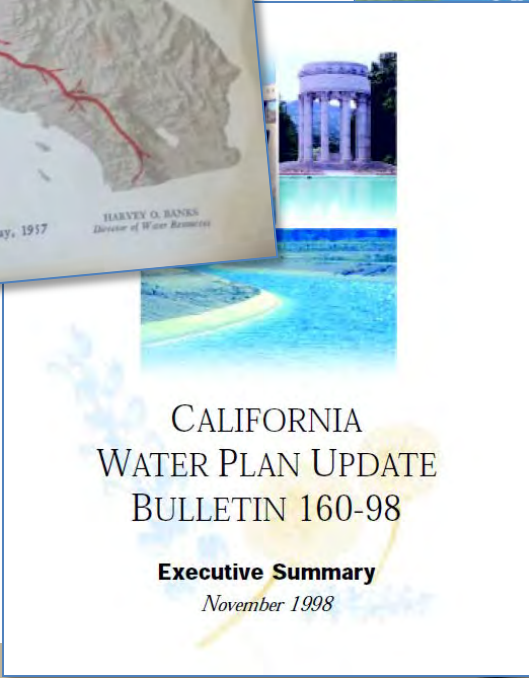
The economic climate has changed

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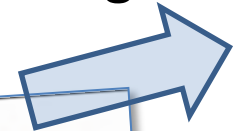
Evolution of the California Water Plan



1957



Update
2013 Now
in Progress



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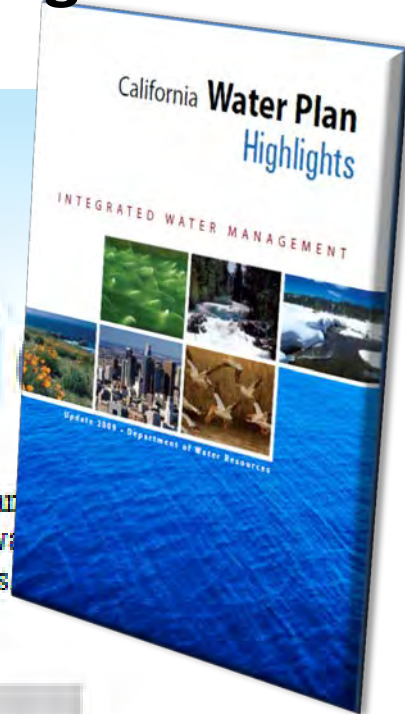
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California Water Plan Updates 2005 and 2009: Introducing Tools for Integrated Water Management



Integrated water management undertakes water and flood management at all fronts and on many levels—regionally and statewide, for multiple uses and benefits, for sustaining watersheds, water uses, and water and flood management systems, while weighing the risks of uncertain futures.

The 27 resource management strategies presented here provide a range of choices and are the building blocks for this approach. The strategies are grouped by their intended outcome, and the potential benefits and implementation cost are presented for each strategy.

Potential Strategy Benefits ¹										
Provide Water Supply Benefit	Improve Drought Preparedness	Improve Water Quality	Operational Flex & Efficient	Reduce Flood Impacts	Environmental Benefits	Energy Benefits	Recreational Opportunities	Reduce GW Overdraft	Accumulated Cost by 2050 (\$ Billions)	
MMF/year - Applied Water										



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History of IWM Policy and Funding

- **March 2000** - Prop 13 (Costa-Machado Water Act of 2000)
- **March 2002** - Prop 40 & AB2434 (Pavley)
- **November 2002** - Prop 50 created IRWM program inspired by **Santa Ana Watershed Project Authority**
- **November 2006** – Prop 84
- **November 2006** - Prop 1E for storm water projects.
- **September 2008** - SB 1 (Perata) added the IRWM Planning Act

Statewide Regional Investments

- IRWM - Props 50 and 84 bond funded
 - 48 approved regional groups
 - Over **\$600 million in IRWM grant funds**
 - **450 IRWM projects funded** of wide variety of types
 - **Total investment of nearly \$3.5 billion** generating over **2 million ac-ft** per year
-
- **Award \$131M this year,**
 - **\$472M pending appropriation**

Return on Investment – Regional Examples

- Lake Elsinore/Canyon Lake Remediation
- Groundwater Desalination – Perris II Desalter Project
- Aquifer Storage and Recovery
- Stormwater Capture and Recharge Projects

Comprehensive Nutrient Reduction Plan for Lake Elsinore and Canyon Lake
July 2, 2012

EMWD
Water Supply Desalination Infrastructure
September 2012

Eastern Municipal Water District
PO Box 6300
2270 Trumble Rd.
Perris, California 92570-4300
TEL: 951 928-3777
FAX: 951 928-8177
www.emwd.org
Wilmington, DC contact

Monte Vista Water District
Aquifer Storage and Recovery Program
Enhancing the Management of the Chino Groundwater Basin

What is Aquifer Storage and Recovery?
Aquifer Storage and Recovery (ASR) is a process of improving water and groundwater quality by managing a groundwater basin, or aquifer, as an ASR well injects high quality water into the ground when water is plentiful. When additional groundwater production is needed, in the hot of severe drought, ASR wells reverse operations and extract production water. By injecting higher of lesser quality, ASR wells produce a "bubble" of better water at a later time. Additional water over a number of overall quality of water increasing local water. Monte Vista Water first of its kind in the

Graphic Illustration of the ASR Process

Phase I - Infrastructure
Phase II - Land Infr
Total Pr
Total Es

Monte Vista Water District's Aquifer Storage and Recovery
The Monte Vista Water District Aquifer Storage and Recovery Program consists of four ASR wells (one jointly owned with the City of Chino). These wells will be able to inject high quality imported water from Northern California which is treated at the Agua de Lejos Water Treatment Plant in Upland.
The District began construction of the wells in 2005 after the completion of a Groundwater Recharge Feasibility Study by Camp Dresser & McKee Inc. in 2003. All four wells will be in operation by Summer 2008 and will be able to inject a combined total of 4.9 million gallons per day.



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Return on Investments – Regional Programs SAWPA's IRWM Process is Exemplary



Santa Ana River Watershed 2013

The Power of Partnerships



Thursday, April 11, 2013
Westin South Coast Plaza
Costa Mesa, CA

- ✓ Transparent and accountable
- ✓ Excellent communications!
- ✓ Inclusive of diverse stakeholders and interests
- ✓ Wide variety of multi-objective projects
- ✓ Robust project evaluation metrics

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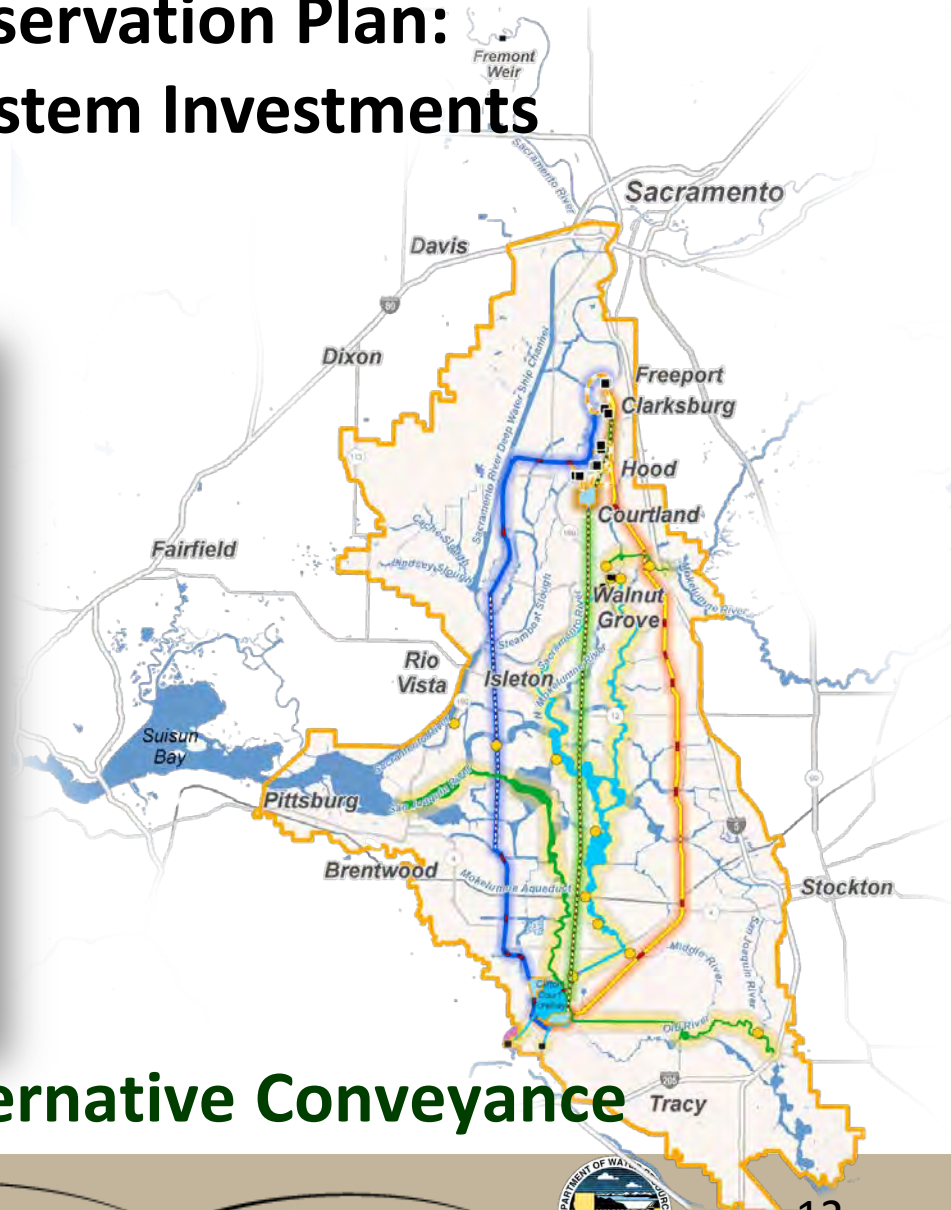
Central Valley Flood Protection Plan: An Example of System Investments



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Bay-Delta Conservation Plan: An Example of System Investments

- Large Scale Restoration



- Alternative Conveyance



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Finding Common Ground: Communicating Value

Public Safety

- Making communities safe
- Planning ahead to achieve best collaboration
- Emergency planning and response

Environmental Stewardship

- Helping ecosystems thrive
- Creating healthier communities by enhancing the environment
- Responsible and reasonable balance between protecting people and the environment

Economic Stability

- Providing for our families' future
- Protecting businesses and investments
- Enhancing communities

Moving the Program Forward.....

*DWR is promoting a modern, holistic
360-degree approach to water management*

Steps moving forward:

- Communicate Common Vision
- Continue to advance IWM planning and implementation:
- Identify measures of progress and success



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Framework for Implementing Integrated Water Management



TOOLS

METRIC OF SUCCESS

Number of Analyses Used

ROLE OF STATE

- Models & Tools
- Water Management Analyses
- Assessments
- Improve Science

ACTIVITY ADDRESSED

- Identify Hazards
- Assess Exposure
- Describe Performance
- Evaluate Consequences



PLANS

Number of Management Actions Implemented

- Investment Priority
- System Infrastructure
- Strategic Planning
- Objectives & Goals

- Setting Objectives
- System Performance
- Cost of Investment
- Program Implementation



ACTIONS

Benefits of Management Actions Implemented

- Leverage Funding
- Implementing System Infrastructure
- Supporting Regional Projects
- Mitigation & Enhancement

- Cost Share Agreements
- Grants / Loans
- Reimbursements
- Direct Work by State



RESULTS

Resiliency of Investments

- Improve Public Safety
- Foster Environmental Stewardship
- Support Economic Stability



Moving the Program Forward.....

- Improve alignment in our regulatory processes at all levels of government
- Improve Planning Tools
- Improve Investment in Science
- Effective tracking of Progress (System Resiliency)
- Develop stable financing



This is *Integrated Water Management*.

Integrating Water Management



Benefiting California's Future

Improve Public Safety . Foster Environmental Stewardship . Support Economic Stability



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