

CA Water Plan – Volume 2: Resource Management Strategies



Advisory Committee Meeting,
October 31, 2008

Introduction

There are 28 Resource Management Strategies contained in 6 Management Objectives

- Reduce Water Demand
- Improve Operational Efficiency and Transfers
- Increase Water Supply
- Improve Water Quality
- Practice Resource Stewardship
- Improve Flood Management

There is also an “Other Strategies” category for additional topics

Transparency and Public Comments

<http://www.waterplan.water.ca.gov/comments/update2009/>

<http://www.waterplan.water.ca.gov/strategies/index.cfm>

Pre-Administrative Draft California Water Plan Update 2009				
09/16/2008	09/17/2008	J. Hall	East Bay Municipal Utilities District	Regional Reports - San Joaquin River (PDF: 14 KB)
09/23/2008	09/24/2008	Donna Miranda-Begay	Tubatulabals of Kern Valley	Volume 1 (PDF: 52 KB)
09/27/2008	09/27/2008	Iovanka Todt	Floodplain Management Association	Volumes 1-3 (PDF: 46 KB)
09/29/2008	09/29/2008	Teresa Jordan	General Public	Regional Reports - South Coast (PDF: 385 KB)
09/29/2008	09/29/2008	Lloyd Fryer	Kern County Water Agency	Volume 1 (PDF: 80 KB)
10/03/2008	10/03/2008	Steve Cruz	California Building Industry Association	Resource Management Strategies - Urban Water Use Efficiency (PDF: 32 KB)
10/03/2008	10/03/2008	Celeste Cantu	Santa Ana Watershed Project Authority	Resource Management Strategies - Recycled Municipal Water (PDF: 2456 KB)
10/03/2008	10/03/2008	Susan Lauer	Water Education Foundation	Volume 1 (PDF: 33 KB)
10/03/2008	10/03/2008	Gary Estes	American River Watershed Institute	Resource Management Strategies - System Reoperation (PDF: 41 KB)
10/03/2008	10/03/2008	John Hopkins	Institute for Ecological Health	Volume 1 - Chapter 4 (PDF: 11 KB)
10/03/2008	10/03/2008	Joyce Dillard	General Public	Volumes 1-3 (PDF: 16 KB)
10/03/2008	10/03/2008	Tracy Hemmeter	Santa Clara Valley Water District	Volumes 1-3 (PDF: 93 KB)
10/03/2008	10/03/2008	Debbie Davis	Environmental Justice Coalition for Water	Volumes 1-3 (PDF: 307 KB)
10/07/2008	10/08/2008	Kathy Mannion	Regional Council of Rural Counties	Volumes 1-3 (PDF: 74 KB)
10/07/2008	10/07/2008	Evon Chambers	Planning and Conservation League (PCL)	Resource Management Strategies - Desalination (PDF: 114 KB)
10/07/2008	10/07/2008	Evon Chambers	Planning and Conservation League (PCL)	Volume 1 (PDF: 114 KB)
10/07/2008	10/07/2008	Lloyd Fryer	Kern County Water Agency	Resource Management Strategies - Agricultural Water Use Efficiency (PDF: 155 KB)

Water PIE (Data sites)
Subjects:
 Analytical Tools
 Climate Change
 Management Strategies
 Regional Reports
 Scenarios
 Water Quality
Participation:
 Calendar and Materials
 Steering Committee
 Advisory Committee
 Administrative Corner
 Regional Outreach
 WAN
 Tribal Communication
 Contacts and Comments



by October 03, 2008. Thank you.

Update 2009 Resource Management Strategies	Working Drafts available for download JUNE '08	Working Drafts available for download JUNE '08	Notes from Workshops JULY '08	Pre-Admin Drafts available for download AUG. '08	Pre-Admin Drafts available for download AUG. '08	Notes from Plenary RMS breakout sessions SEPT '08
Reduce Water Demand						
Agricultural Water Use Efficiency	231 KB	154 KB	Notes	459 KB	190 KB	Notes Summary
Urban Water Use Efficiency	499 KB	185 KB	Notes	548 KB	198 KB	Notes Summary
Improve Operational Efficiency and Transfers						
Conveyance (combined)	151 KB	113 KB	Delta Notes Reg/Local Notes			
Conveyance - Delta				368 KB	232 KB	Notes Summary
Conveyance - Regional/Local						Notes Summary
System Reoperation	coming soon	coming soon	Notes			Notes Summary
Water Transfers (1st draft from Update 2005)	172 KB	96 KB	Notes			Notes Summary
Increase Water Supply						
Conjunctive Management & Groundwater Storage	234 KB	446 KB	Notes			Notes Summary
Desalination - Brackish and Seawater	193 KB	80 KB	Notes			Notes Summary
Precipitation Enhancement	336 KB	367 KB	Notes	407 KB	375 KB	Notes Summary
Recycled Municipal Water	202 KB	273 KB	Notes	991 KB	708 KB	Notes Summary
Surface Storage --			Notes			Notes

Cooperation and Collaboration

Agricultural Lands Stewardship

Ken Trott

CA Department of Food and Agriculture

Bruce Gwynne

CA Department of Conservation

Elizabeth Patterson

CA Department of Water Resources

Agricultural Water Use Efficiency

Baryohay Davidoff

CA Department of Water Resources

Conjunctive Management & Groundwater Storage

Shengjun Wu

CA Department of Water Resources

Eric Hong

CA Department of Water Resources

Conveyance

Jim Wilde

CA Department of Water Resources

Victor Pacheco

CA Department of Water Resources

Desalination

Brian Smith

CA Department of Water Resources

Dean Reynolds

CA Department of Water Resources

Drinking Water Treatment and Distribution

Betsy Lichti

CA Department of Public Health

Moeller, Lewis

CA Department of Water Resources

Economics Incentives Policy

Lorraine Marsh

CA Department of Water Resources

Ray Hoagland

CA Department of Water Resources

Ecosystem Restoration

Michael Perrone

CA Department of Water Resources

Flood Impact Reduction

Allan Oto

CA Department of Water Resources

Floodflow Management

Mark Horne

CA Department of Water Resources

Forest Management

Barry Hill

U.S. Forest Service

Chris Keithley

CALFIRE

Groundwater Remediation/Aquifer Remediation

James Giannopolos

State Water Resource Control Board

Brian Bernados

CA Department of Public Health

Carl Hauge

CA Department of Water Resources

Rik Rasmussen

State Water Resource Control Board

Moeller, Lewis

CA Department of Water Resources

Some things we've heard...

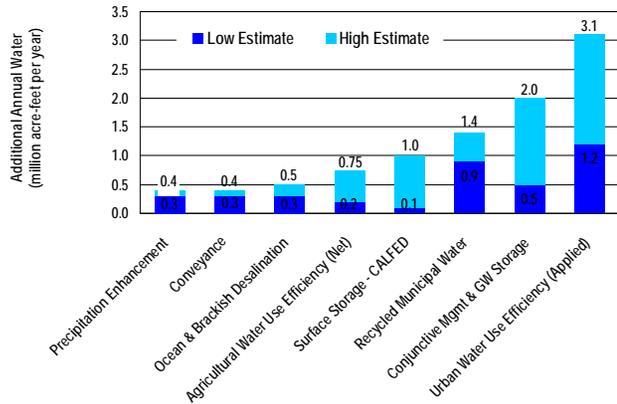
- Additional Workshops needed
 - Agricultural Water Use Efficiency – October 2
 - Salt Management – November 4
 - Land Use Planning and Management – November 7
 - Flood Management – November 10

- Prioritize and order Recommendations
- Update Costs and Benefits
- Expand and Integrate Tradeoffs and Linkages
- Regional Applicability

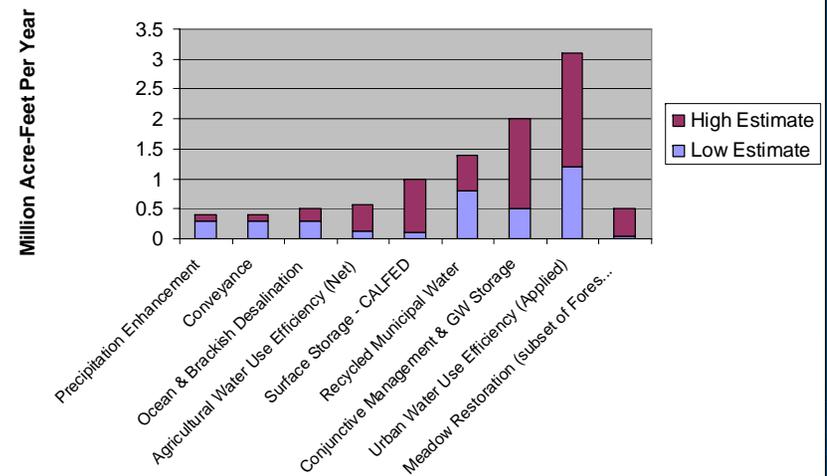
Additional Annual Water

Figure 2.1-1

Range of Additional Water for Eight Resource Management Choices



Update 2009 - Additional Annual Water



Strategy Summary Table 2.1-1

Table 1-1 Strategy summary table										
	Water Management Objectives								Cumulative Cost of Option by 2030 (\$ Billion) See narratives for backup	
	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
Resource Management Strategies										
Reduce Water Demand										
Agricultural Water Use Efficiency	*	*	*	*	*	*	*	*	*	0.3 - 4.0
Urban Water Use Efficiency	*	*	*	*	*	*	*	*	*	2.5 - 6.0
Improve Operational Efficiency & Transfers										
Conveyance	*	*	*	*	*	*	*	*	*	0.2 - 2.4
System Reoperation	*	*	*	*	*	*	*	*	*	
Water Transfers	*	*	*	*	*	*	*	*	*	
Increase Water Supply										
Conjunctive Management & Groundwater Storage	*	*	*	*	*	*	*	*	*	1.5 - 5.0
Desalination - Brackish	*	*	*	*	*	*	*	*	*	0.2 - 1.6
-- Seawater	*	*	*	*	*	*	*	*	*	0.7 - 1.3
Precipitation Enhancement	*	*	*	*	*	*	*	*	*	0.2
Recycled Municipal Water	*	*	*	*	*	*	*	*	*	6.0 - 9.0
Surface Storage - CALFED	*	*	*	*	*	*	*	*	*	0.2 - 5.6
Surface Storage - Regional/Local	*	*	*	*	*	*	*	*	*	
Improve Water Quality										
Drinking Water Treatment and Distribution	*	*	*	*	*	*	*	*	*	17.0 - 21.0
Groundwater/Aquifer Remediation	*	*	*	*	*	*	*	*	*	20.0
Matching Quality to Use	*	*	*	*	*	*	*	*	*	0.1
Pollution Prevention	*	*	*	*	*	*	*	*	*	15.0
Urban Runoff Management	*	*	*	*	*	*	*	*	*	
Practice Resource Stewardship										
Agricultural Lands Stewardship	*	*	*	*	*	*	*	*	*	5.3
Economic Incentives (Loans, Grants, and Water Pricing)	*	*	*	*	*	*	*	*	*	
Ecosystem Restoration	*	*	*	*	*	*	*	*	*	7.5 - 11.3
Floodplain Management	*	*	*	*	*	*	*	*	*	0.5
Recharge Areas Protection	*	*	*	*	*	*	*	*	*	
Urban Land Use Management	*	*	*	*	*	*	*	*	*	
Water-Dependent Recreation	*	*	*	*	*	*	*	*	*	3 - 6% of total
Watershed Management	*	*	*	*	*	*	*	*	*	0.5 - 3.6
Other Resource Management Strategies										
Essential Support Activities to Integrate Strategies and Reduce Uncertainty										
The following support activities are essential for successfully integrating packages of these resource management strategies. Compared with the costs of implementing the resource management strategies, the costs are relatively small for the essential support activities shown below (see Chapters 2 and 4 of Volume 1).										
Regional Integrated Resource Planning & Management										0.25
Statewide Water Planning										0.17
Data & Tool Improvement										0.25
Research & Development										0.25
Science										3 - 5% of total

The resource management strategy estimates are not additive. Although presented individually, they are in most cases alternatives that will either complement each other or compete for limited system capacity, funding, water supplies or other component necessary for implementation.

Table 1-1 - Strategy Summary Table										
	Water Management Goals								Cumulative Cost of Option by 2050 (\$ Billion) See narratives for backup	
	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
Resource Management Strategies										
Reduce Water Demand										
Agricultural Water Use Efficiency	*	*	*	*	*	*	*	*	*	
Urban Water Use Efficiency	*	*	*	*	*	*	*	*	*	
Improve Operational Efficiency & Transfers										
Conveyance—Delta	*	*	*	*	*	*	*	*	*	
Conveyance—Regional/Local										
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	*	*	*	*	*	*	*	*	*	66
Groundwater/Aquifer Remediation	*	*	*	*	*	*	*	*	*	
Matching Quality to Use	*	*	*	*	*	*	*	*	*	
Pollution Prevention	*	*	*	*	*	*	*	*	*	
Salt Management	*	*	*	*	*	*	*	*	*	
Urban Runoff Management	*	*	*	*	*	*	*	*	*	
Practice Resource Stewardship										
Agricultural Lands Stewardship	*	*	*	*	*	*	*	*	*	
Economic Incentives (Loans, Grants, and Water Pricing)	*	*	*	*	*	*	*	*	*	
Ecosystem Restoration	*	*	*	*	*	*	*	*	*	
Forest Management	*	*	*	*	*	*	*	*	*	
Land Use Planning and Management	*	*	*	*	*	*	*	*	*	
Recharge Area Protection	*	*	*	*	*	*	*	*	*	
Water-dependent Recreation	*	*	*	*	*	*	*	*	*	
Watershed Management	*	*	*	*	*	*	*	*	*	
Improve Flood Management										
Flood Impact Reduction	*	*	*	*	*	*	*	*	*	
Floodflow Management	*	*	*	*	*	*	*	*	*	
Objectives vary by component (see narratives in remainder of Volume 2)										
Strategy includes the following components:										
Crop Idling for Water Transfers	*	*	*	*	*	*	*	*	*	
Desalination or Atmospheric Pressure Desalination	*	*	*	*	*	*	*	*	*	
Fog Collection	*	*	*	*	*	*	*	*	*	
Irrigation Land Retirement	*	*	*	*	*	*	*	*	*	
Rainfed Agriculture	*	*	*	*	*	*	*	*	*	
Waterbag Transport/Storage Technology	*	*	*	*	*	*	*	*	*	
Essential Support Activities to Integrate Strategies and Reduce Uncertainty										
The following support activities are essential for successfully integrating packages of these resource management strategies. Compared with the costs of implementing the resource management strategies, the costs are relatively small for the essential support activities shown below (see Chapters 2, 5, and 6 of Volume 1).										
Regional Integrated Resource Planning & Management										0.25
Statewide Water Planning										0.17
Data & Tool Improvement										0.25
Research & Development										0.25
Science										3 - 5% of total



Questions?

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