Volume 1 The Strategic Plan (outline)

Chapter 1 Introduction

Chapter 1 Introduction outlines the process for preparing California Water Plan Update 2009 and its new features. It also explains the organization of all five volumes of Update 2009 and its Highlights brochure.

Table of Contents

An Evolving Water Plan
  Influences of Update 2005
  Fair and Transparent
An Expanded Process
  State Agency Steering Committee
  Multi-disciplinary Project Teams
  Advisory Committee
  Regional Outreach
  Federal Government
  SWAN and Shared Vision Planning
  Plenary Meetings
Inclusive Water Planning
  Companion State Plans
  Climate Change
  Integrated Flood Management
  Water Quality
  California Native American Tribes
Expanded Features
  Assumptions and Estimates Brochure and Data
  Future Scenarios
  Regional Reports
  Resource Management Strategies
  Quantification of Scenarios and Management Responses
  Progress toward Implementing Update 2005 Recommendations
Organization of California Water Plan Update 2009

Chapter 2 Imperative to Act

Chapter 2 Imperative to Act lays out the urgent course California must take to ensure that we have enough safe and clean water through year 2050 for California’s cities and towns, farms and businesses, and plants and animals when and where they need it. It describes the features of this important roadmap—themes of this Water Plan and elements of its strategic plan. It also includes key policy recommendations for State government and California for the removal of impediments and harnessing of opportunities that will help us achieve the Water Plan’s vision, mission, and goals. Details of meeting these goals—through objectives and their related actions—are explained in Chapter 7 The Implementation Plan.

Table of Contents

A Course for Action
  An Urgency
  Strategic Plan
Paramount Challenges
  A State of Diversity
Chapter 3 Companion State Plans

The California Water Plan calls for comprehensive and integrated regional management of California’s water resources. To advance State government’s leadership and role in the water community and to promote the Water Plan’s framework, recommendations, and strategies, the State needs to better incorporate water issues, initiatives, and information from other State agencies in the Water Plan update.

This chapter and the work of a 21-member State agency Water Plan Steering Committee is a central feature of Water Plan Update 2009. Chapter 3, Companion State Plans, describes the effort to create a plan that is more than just a plan for the Department of Water Resources; rather, a State Water Plan. Update 2009 embraces companion State programs and policies in order to better understand the full possibilities and constraints for water managers.

Chapter 3 begins with an overview of institutions governing California water and describes the role of the State agency Water Plan Steering Committee in preparing a comprehensive planning document. The chapter then introduces companion State plans—those plans and programs by State agencies that have a direct connection with the Water Plan. It shows how companion State plans were used to develop and augment content in the Water Plan, including its objectives and related actions in Chapter 7 and the resource management strategies in Volume 2. The chapter concludes with a discussion of the implications of the existing policy framework of companion State plans to shape, guide, and constrain water governance in California, including potential opportunities and impediments for improving water management, integrated resource management, and planning at the statewide and regional levels.

California’s water management system is large, complex, and requires cooperation and collaboration among decision-makers at all levels of State, federal, Tribal, regional, and local entities. The Water Plan attempts to cross-reference and coordinate with other State programs to be as accurate, up-to-date, and complete as possible.

Table of Contents

Water Management in California
  Overview
  Legal Framework
  Agencies with Water-related Roles and Responsibilities
  California Government
  Federal Government
  Public Agencies, Districts, and Local Governments
  Tribal Governments, Organizations, and Communities
  State Agency Coordination through the Water Plan Steering Committee
  Companion State Plans and the California Water Plan
  Companion State Plans
Chapter 4 California Water Today

Chapter 4 California Water Today describes California’s diverse communities and environment and the impediments that challenge us in meeting all our water demands. Meanwhile, we are witnessing the effects of climate change—on hydrology (snowpack, river flows), storm intensity, temperature, winds, and sea levels. This chapter discusses how California’s policy-makers and water communities are finding ways to integrate planning and water management, promote stewardship and sustainable practices, build partnerships, enact legislation, and secure funding. Finally, this chapter explains the many facets of California’s water rights, usage, and allocation.

Table of Contents

A State of Diversity
Land Use and Development Patterns
Water Conditions
  Environmental Water
  Inadequate Streamflows
  Water Supply, Uses, Quality
    Water Supply—Surface Water and Groundwater
    Water Use
    Water Quality
Project Operation and Reoperation
Water Governance
  California Constitution
  Federal Land Management
  Tribal Water Management
Flood Management
Challenges
  Ongoing Statewide Concerns
    Dry-year period (Drought)
    Floods and Flooding
    Environment/Ecosystem
    Climate Change
    Water and Energy
    Contamination of Surface Water and Groundwater
    Delta Vulnerabilities
    Deferred Maintenance and Aging Infrastructure
    Catastrophic Events and Emergency Response
    Data Gathering and Sharing
    Disadvantaged Communities
    Funding
Regional and Local Challenges
Responses and Opportunities
  Stewardship and Sustaining Natural Resources
    DWR Watershed and Resource Restoration Programs
    Conservation: 20% Reduction by 2020
Regional/Local Planning and Management
  Coordination of Water and Land Use Planning
  Integrated Regional Water Management and Planning
  Integrated Flood Planning and Management
Statewide and Interregional Planning and Response
   Recent Legislation and Litigation
   Drought Response
Governor’s Strategic Growth Plan
AB 32 – California Global Warming Solutions Act
State Water Resources Control Board (California Water Boards)
Delta Planning and the Delta Vision
   SWAN
   AB 162
   Central Valley Flood Protection Act of 2008
Propositions and Bonds
   Proposition 1E – Disaster Preparedness and Flood Protection Bond Act
   Proposition 84
Federal Water for America Initiative
References

Chapter 5 Managing an Uncertain Future

Chapter 5, Managing an Uncertain Future, emphasizes the need for decision-makers, water and resource managers, and land use planners to use a range of considerations in planning for California’s water future in the face of many uncertainties and risks. It provides examples of uncertainties and discusses the need to assess risks in planning for a more sustainable future. The chapter presents an approach for making these evaluations and examples of what was learned during preparation of this Water Plan Update to identify the types of investments that may be useful for a more sustainable future.

Table of Contents

Planning Approach
   Overview
      Traditional Planning Approach – The Past is a Model for the Future
      New Planning Approach – Anticipate Change
Recognizing and Reducing Uncertainty
Assessing Risk
   Accounting for Risk
   Risk Assessment Examples
Managing for Sustainability
   What is Sustainability?
   Sustainability Indicators
   Examples of Managing for Sustainability
Water Scenarios 2050—A Range of Considerations
   Water Plan Baseline Scenario Descriptions
   Scenario Water Demands
   Example Regional Responses
Summary
Chapter 6 Integrated Data and Analysis

Chapter 6 highlights key actions needed to improve water resources information and analysis by State government, particularly the Department of Water Resources, and by the many other research institutions, and federal, regional, and local water management entities. This chapter is organized into the following sections.

- Purpose and motivation for improving our technical infrastructure to support water management decisions.
- Summary of several recent efforts that have suggested specific actions needed to improve our technical capabilities.
- Description of existing technical limitations and challenges.
- Critical activities that support a long term vision for improving water resources information and analysis.
- Description of the analytical approach applied by DWR for Update 2009 to quantify future water management conditions and evaluate alternative water management strategies.

Table of Contents

Purpose and Motivation
  Improving Technical Support for Decision-making in Light of Uncertainties
  Improving technical support for Integrated Regional Water Management
Recent Studies and Forums for Improving Water Management Information and Analysis
  Update 2005, Volume 1, Chapter 4
  CWEMF Strategic Analysis Framework
  San Francisco Estuary & Watershed Science paper ‘Internalizing Climate Change - Scientific Resource Management and the Climate Change Challenges’
  DWR Climate Change Adaptation White Paper
  SWAN (Statewide Water Analysis Network)
Specific Water Management Information and Analytical Needs
  Information Gaps and Limitations
  Technical Challenges of Integrated Regional Water Management
Implementing Long-term Technical Improvements through Shared Vision Planning
  Critical Long-term Activities
Implementing Analytical Improvements for Water Plan Update 2009
  Quantifying Future Scenarios for Update 2009
  Quantifying Future Scenarios by Region
  Strengths and Limitations of Update 2009 Future Scenarios
Conclusions and Next Steps
References
Chapter 7 Implementation Plan

Chapter 7 lays out the implementation plan for California Water Plan Update 2009 by presenting 13 objectives and their 92 related actions.

Table of Contents

Implementation Plan Organization
Objectives and Related Actions

Objective 1 - Promote, improve, and expand integrated regional water management to create and build on partnerships that are essential for California water resources planning, sustainable watershed and floodplain management, and increasing regional self-sufficiency.

Objective 2 – Use water more efficiently with significantly greater water conservation, recycling, and reuse to help meet future water demands and adapt to climate change.

Objective 3 – Advance and expand conjunctive management of multiple water supply sources—surface water and groundwater—to prepare for future droughts and climate change.

Objective 4 – Protect and restore surface water and groundwater quality to safeguard public and environmental health and secure California’s water supplies for beneficial uses when feasible.

Objective 5 – Practice, promote, improve, and expand environmental stewardship to protect and enhance the environment by improving watershed, floodplain, and instream functions and to sustain water and flood management systems.

Objective 6 - Promote and practice integrated flood management to provide multiple benefits including better emergency preparedness and response, higher flood protection, more sustainable flood and water management systems, and enhanced floodplain ecosystems.

Objective 7 – Promote and practice management for a sustainable California Delta by setting as co-equal goals a healthy Delta ecosystem and a reliable water supply for California and by recognizing the Delta as a unique and valued place.

Objective 8 – Prepare prevention, response, and recovery plans for floods, droughts, and catastrophic events to help residents and communities make decisions that reduce the consequences of these events when they occur.

Objective 9 – Reduce the energy consumption of water and wastewater management systems to mitigate greenhouse gas emissions.

Objective 10 - Improve and expand monitoring, data management, and analysis to support decision-making in light of uncertainties that support integrated regional water management and flood and water resources management systems.

Objective 11 - Identify and fund applied research on new water technology to help carry out water programs and better manage water systems.

Objective 12 – Develop Tribal consultation, collaboration, and access to funding for water programs and projects to have more sustainable Tribal water and natural resources.

Objective 13 – Increase the participation of small and disadvantaged communities in State processes and programs to achieve fair and equitable distribution of benefits, to consider mitigation of impacts from the implementation of State government programs and policies, and to ensure that these programs and policies address the most critical public health threats in disadvantaged communities.