

Chapter 5 Managing an Uncertain Future

1. About This Chapter

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 actions with more sustainable outcomes. The chapter presents an approach using multiple future scenarios for making these evaluations and examples of what was learned during preparation of this Water Plan update.

- Planning Approach
- Recognizing and Reducing Uncertainty
- Assessing Risk
- Managing for Sustainability
- Planning for an Uncertain Future
- Summary

2. Planning Approach

[This section will be a light update from Update 2009. It will describe how in the past, water planners relied heavily on historical information to plan for the future. With climate change and many other uncertainties we must now anticipate change when we plan for the future, and plan for uncertainty, risk, and sustainable management.]

- a. Overview
- b. Traditional Planning Approach—The Past is a Model for the Future
- c. New Planning Approach—Anticipate Change

3. Recognizing and Reducing Uncertainty

[This section will be a light update from Update 2009. The section will describe two broad types of uncertainty: uncertainty due to random events like earthquakes and floods, and uncertainty due to lack of knowledge or scientific information.]

4. Assessing Risk

[This section will be a light update from Update 2009. The section will describe methods for considering risk in water planning and provide risk assessment examples]

- a. Accounting for Risk

b. Risk Assessment Example

5. Managing for Sustainability

[Significant redraft of this section to reflect new work for Update 2013. We will describe the Water Sustainability Indicator Framework developed with technical assistance from UC Davis. The Framework links Water Plan goals and objectives to quantifiable sustainability indicators. The section will describe work with USEPA to quantify several indicators including a Water Footprint for California. Section will summarize other water sustainability efforts underway in California, the United States, and across the globe Section will also present a prototype of a web-based Decision Support Tool with selected examples to demonstrate transparent water sustainability assessment.]

- a. What is Sustainability?
- b. Sustainability Indicators
- c. Water Footprint as an index of sustainability
- d. Examples of Managing for Sustainability
- e. Water Sustainability Decision Support Tool

6. Planning for an Uncertain Future

[Significant redraft to highlight improvements to the analytical tools. Section will describe the key statewide and hydrologic region information on how future water demands might change in response to population growth, land use decisions, and climate change. A more comprehensive evaluation of resource management strategies will be provided for the Sacramento River, San Joaquin River and Tulare Lake Regions. For these regions this section will evaluate how a number of resource management strategies perform in light of population growth, land use decisions, and climate change. An assessment will be provided of key water management vulnerabilities that California might face through 2050.]

- a. Scenario Factors Affecting Future Water Management
- b. Statewide and Hydrologic Region 2050 Water Demands
- c. Evaluating Resource Management Strategies and Supporting Decisions
- d. Water Management Vulnerabilities

7. Summary

8. Selected References