# Chapter 1
# Introduction

This chapter of the Laguna Creek Watershed Management Action Plan (Plan) provides the purpose and background on how the Plan was developed, presents how the Plan is organized, and describes how the Plan will be implemented.

## 1.1 Purpose of the Management Action Plan

This Plan recommends actions to ensure a healthy, vibrant watershed community for present and future generations living in and visiting the Laguna Creek Watershed. The watershed community includes the environmental resources and the people who call this place home.

The 65-square-mile Laguna Creek Watershed is located in an urbanizing area of south and eastern Sacramento County (Figure 1-1). Despite the rapid growth in residential and commercial land uses in recent years, the watershed still contains valuable natural resources, including open space, and provides nearly 400 acres of vernal pools and associated habitat for threatened and endangered wildlife species such as giant garter snake, Swainson's hawk, and vernal pool tadpole and fairy shrimp.

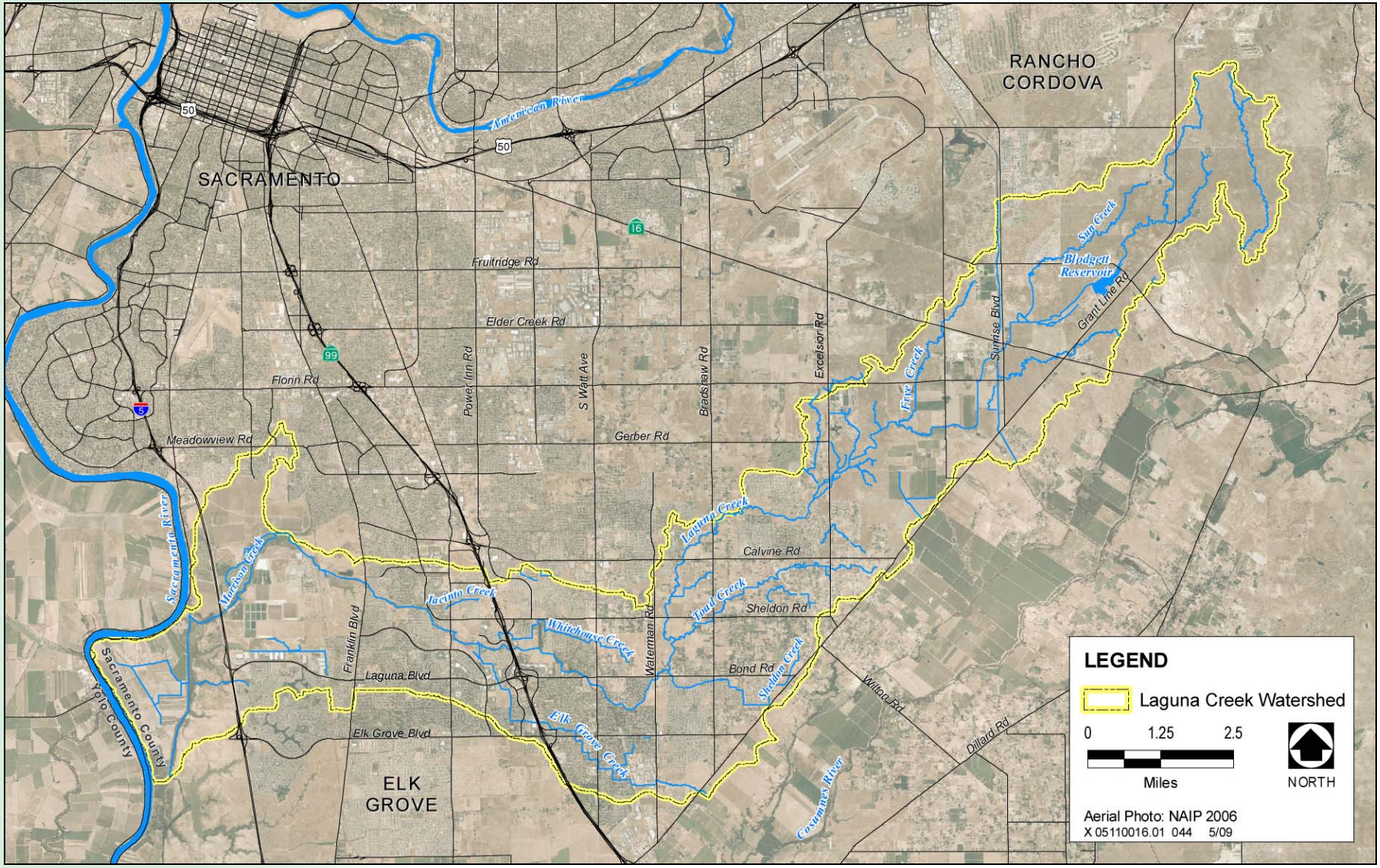


Figure 1-1 Laguna Creek Watershed

Laguna Creek carries water about 25 miles from its headwaters east of the City of Rancho Cordova and north of the Keifer Landfill in eastern Sacramento County to its confluence with Morrison Creek near the Sacramento Regional Wastewater Treatment Plant (SRWTP) located just west of Elk Grove near the Sacramento River (see Figure 1-1). Ultimately, the water travels to the Sacramento River within the Sacramento-San Joaquin Delta (Delta) region of central California.

Historically, the creek and its tributaries dried up during the hot summer months. This is still the case today in the undeveloped headwaters area, but the rest of the waterways are now wet year-round due to increased runoff from agricultural irrigation and urbanized areas. A full description of the watershed, including the creek and its tributaries, can be found in Chapter 2.

There is a unique opportunity in the less-developed upper portion of the Watershed to influence land use decisions being made by Sacramento County and the City of Rancho Cordova. As land is converted from agricultural to urban uses, the goal must be to promote conservation, preservation, and protection of the creek corridor and upland natural resources as much as possible.

The lower portion of the watershed presents a different set of challenges and opportunities. Here, there are stream reaches associated with development projects constructed in the late 1980s and 1990s where Laguna Creek was protected with a wide floodplain and natural buffer. However, there are also some waterways in the older, more intensively developed areas of the lower watershed – such as Elk Grove Creek – which were straightened and confined in channels traveling behind residents' backyard fences. The opportunities here are more limited to restoration and enhancement retrofits, perhaps addition of recreational trails, and possibly a few pockets where infill development can be done differently and new flood detention might be added. This diversity of stream habitats interfacing with residential developments creates unique challenges, as well as opportunities.

By studying the damage that has been done to the creek as a result of a half century of development and encroachment in the lower watershed; engineers, ecologists, and other scientists can learn to proactively apply more environmentally-sensitive drainage design techniques to new development in the upper watershed and retrofits in the lower watershed. There are also great opportunities for education and stewardship projects with a motivated community in the lower watershed and a growing community of interested stakeholders in the upper watershed.

*As development proceeds in the upper watershed, there is an opportunity to learn from the lessons of outdated drainage design techniques applied over the last half century in the lower watershed.*

There are many different stakeholders in the watershed—from the residents (a diverse population of over 100,000 people) to public agencies to ranchers and farmers (just over one-third of the watershed is owned and/or managed by


*At its headwaters, Laguna Creek flows through agricultural grazing lands, some destined to convert to urban land uses over the next 20 years.*

agricultural interests) to developers (some landowners have sold to developers or are developing their own land). The Plan seeks to integrate the interests of all the stakeholder entities and present solutions that balance the different interests.

The Plan holistically addresses the following primary objectives, which are related to vital watershed functions and values:

- Flood Control
- Water Quality
- Habitat
- Ecosystem Processes
- Recreation
- Education and Stewardship

In addition, actions identified in the Plan may address other stakeholder "issues of concern" identified during the community outreach and visioning phase of the project (see Chapter 3), such as the desire to have aesthetically pleasing creeks and for land use planning policies that encourage building orientation towards the creek corridor, instead of backing up to the resource.

The Plan is not intended to address every water resource issue. For example, it does not directly address groundwater quality protection and water supply.

## 1.2 How the Plan Was Developed

This Plan was developed using a watershed-based planning process. Since the late 1980s, watershed organizations and federal and state agencies have moved toward managing water quality through a watershed approach. A watershed approach is a flexible framework for managing water resource quality and quantity within specified drainage areas, or watersheds. This approach includes stakeholder involvement and management actions supported by sound science and appropriate technology.

The watershed planning process works within this framework by using a series of cooperative, iterative steps to characterize existing conditions, identify and prioritize problems, define management objectives, develop protection strategies, and implement and adapt selected actions as necessary. The outcomes of this process are documented or referenced in a watershed plan. Using a watershed approach is beneficial because it addresses the problems in a holistic manner, and the stakeholders in the watershed are actively involved in selecting the management strategies that will be implemented to solve the problems (EPA 2008).

Figure 1-2 describes the process for developing and implementing the Laguna Creek Watershed Management Plan, from project initiation in 2002 to anticipated implementation beyond 2008. The early phase of the process focused on building partnerships, defining project goals, and seeking grant funding. Once funding was secured, key components of the process included:

- assessing both the human and environmental communities to characterize conditions and identify issues and concerns;
- reviewing regulatory and planning influences and policies affecting the watershed;
- conducting data analysis and synthesis, including construction of a cause-and-effect conceptual model to identify and relate stressors and sources of the environmental issues;
- selecting actions to address problems and take advantage of opportunities; and
- developing this Plan with associated recommendations for policies, projects, and long-term monitoring and adaptive management.

Funding for development of the Plan was provided by a Proposition 50 Watershed Protection Grant managed by the Central Valley Regional Water Quality Control Board (Regional Water Board) and the CALFED Bay-Delta Program, now part of the State Department of Conservation.

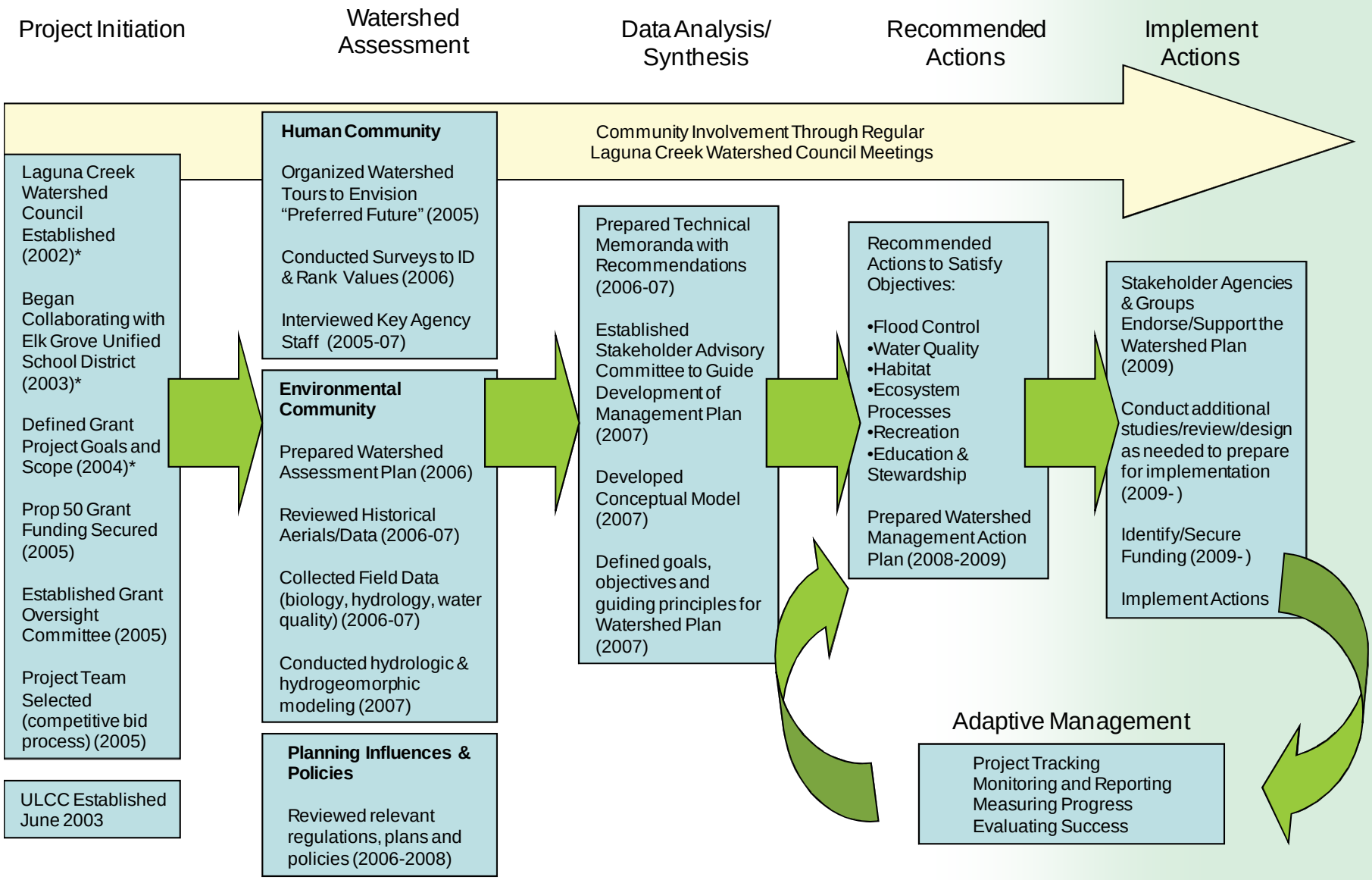


Figure 1-2: Process for Development and Implementation of the Laguna Creek Watershed Management Action Plan

## Engaging the Community

The Laguna Creek Watershed Council has been a partner with the technical project team in development of this Plan and will be responsible for overseeing its implementation in the future. The Watershed Council – described in more detail in Chapter 3 – is a diverse group of watershed residents, community leaders, and local government agency representatives established in fall 2002. Their mission is to protect and restore the many benefits provided by the creek and neighboring waterways by working cooperatively with all stakeholders in the watershed. The group attained non-profit status in 2009 and has become well known as "a voice for the creek" in the Elk Grove community.

*Understanding the community and providing them with meaningful stewardship opportunities is key to building capacity for long-term watershed protection.*

In addition to regular Watershed Council meetings held throughout the planning process, a stakeholder advisory committee was established to guide and advise the Plan development. Public input was also solicited for the Plan through the website (www.lagunacreek.org), public surveys, and interviews with agency maintenance staff and long-time landowners. Special watershed tours were organized in 2005 to engage the community in envisioning their "preferred future" for the creek corridor and watershed. Additional details about the community involvement process can be found in Chapter 3 and Appendix A.

## Planning and Policy Review

Early in its development, stakeholders requested that the Plan be reflective of applicable environmental regulations and permit requirements, as well as existing planning processes and programs implemented by the various jurisdictional agencies in the watershed. Relevant federal and state laws, regional plans, and local plans and policies were reviewed and are summarized in Chapter 4 and Appendix B. This approach provided the framework for recommending actions that were consistent with existing plans, policies, and regulations.

## Environmental Assessment

The existing physical and natural conditions in the watershed were assessed through a variety of means, including literature searches, meetings with knowledgeable individuals, on-site field inventories and assessments, and the review of various technical studies relevant to the natural resources in the watershed. The following types of data were compiled or collected:

- land use;
- climate, geology, and soils;
- hydrology;

- geomorphology;
- water quality; and
- biology (e.g., vegetation, habitat, wildlife, fish, stream ecology).

See Chapter 5 and Appendix D for the results of this assessment.

### Data Analysis and Synthesis

With input from the California Watershed Assessment Manual team, a cause-and-effect conceptual model was developed to demonstrate the relationship between the myriad issues, stressors, and sources that were identified and considered in preparing the Plan. The model shows the inclusion of stakeholders' interests and concerns and serves as the basis for the recommended actions that make up the Plan.

At this step in the process, the goals, objectives, and guiding principles were defined for the Plan. The principles and objectives integrate the community's values and concerns.

### Selecting and Describing Actions

Following the analysis of the watershed assessment and consideration of stakeholder input, actions were identified to meet one or more Plan objectives (described earlier in this chapter). Also, actions were selected only if consistent with the following guiding principles:

- Laguna Creek, its tributaries, and its watershed represent a community asset that provides basic services.
- Plan actions are consistent with current plans and policies.
- Plan actions have willing participants.
- Private property rights are respected.

Forty-three site-specific and watershed-wide actions were identified through this process. Detailed fact sheets were prepared for each recommended action and are presented in Chapter 6.

A small policy subcommittee was established to help the technical team identify the key recommended policy-related actions, also described in Chapter 6.

### Prioritizing Actions

Unlike other watershed plans perhaps, the technical team did not conduct a watershed-wide prioritization of actions for this Plan. Instead, it was recognized early on that actions would most appropriately be prioritized by the Watershed Council Board of Directors and stakeholder agencies most likely affected by the actions and/or responsible for their implementation.

## 1.3 How the Plan Is Organized

The presentation of the Plan follows the same basic order of the steps taken to create it (see Figure 1-2): watershed assessment, recommended actions, and implementation.

### Watershed Assessment

Chapter 2 – Watershed Description – presents a comprehensive description of the Laguna Creek Watershed, including geographical setting, historical character, and land use and other physical features, such as climate, geology, soils, hydrology, water quality, and biological resources.

Chapter 3 – Watershed Community – profiles the residents and stakeholders, starting at the top of the watershed and working down toward the Sacramento River. This chapter also discusses the ways in which recreation and education connect the community to the natural resources and the community vision for the "preferred future" for the watershed.

Chapter 4 – Regulatory and Planning Influences – describes the regulatory framework, planning influences, and policies which influence the watershed and implementation of this plan.

Chapter 5 – Environmental Assessment – presents an overview of the multi-year assessment process and summarizes the results related to: climate, geology and soils, hydrology, geomorphology, water quality, and biological resources. This chapter is intended as a general summary and therefore refers to technical memoranda and reports in the appendices which detail the study methodologies and data.

### Actions

Chapter 6 – Recommended Actions – outlines the process used to select actions for the Plan, including an explanation of the objectives and guiding principles, then presents those recommended actions. This chapter is the "heart" of the Plan, in that it introduces fact sheets for 43 recommended site-specific and watershed-wide actions, beginning near Laguna Creek's headwaters in Sacramento County and working down through its 25-mile length to its confluence with Morrison Creek in Elk Grove.

### Implementation

Chapter 7 – Partnerships and Funding – discusses the stakeholders, the partnerships required to implement the actions, and potential funding sources.

Chapter 8 – Measuring Performance and Success – outlines the adaptive management process for implementing the Plan; success criteria that can be used to measures progress and periodically update the Plan; and recommended strategies for monitoring, reporting, and project tracking.

## 1.4 How the Plan Will Be Implemented

### Agency/Organization Endorsement and Support

The Plan is intended as an advisory document, to be endorsed and supported as each agency wishes. The organizations expected to consider and take some kind of action on this Plan include:

- Sacramento County,
- City of Elk Grove,
- City of Rancho Cordova,
- City of Sacramento Department of Parks and Recreation,
- Cosumnes Community Services District,
- Southgate Recreation and Park District,
- Cordova Recreation and Park District,
- Florin Resource Conservation District, and
- Sacramento Regional County Sanitation District.

Other organizations that will be affected by or should be involved in implementation of actions recommended in this Plan are:

- Elk Grove Unified School District;
- Stone Lakes National Wildlife Refuge Association;
- Sacramento County Community Planning Advisory Councils, and
- Water purveyors with projects impacting the watershed.

Some agencies may elect to adopt all or part of the Plan, others may integrate or reference key Plan components into another planning document, and yet others may simply pass a resolution agreeing to conduct their land use planning and management activities consistent with the spirit of the Plan. Chapter 7 discusses this more and Appendix I contains an example resolution for supporting the Plan.

### Further Planning and Action Definition

Once the Plan is endorsed or otherwise supported by the various agencies and groups in the watershed, the goal is for stakeholders to work together to further develop the projects, create partnerships, seek funding and implement the actions for the betterment of the watershed community. Some actions will require compliance with the California Environmental Quality Act, as well as other federal, state, and local environmental regulations.

### Future Updates

This Plan reflects the best information available during the planning process, but it is understood that new information will become available, conditions will change, and adjustments will be required to keep this Plan "living" and current.

When new information dictates a change to this Plan, it is important that there is an appropriate process established. A suggested hierarchy of procedures to update the plan is presented in Chapter 8 for use by the Laguna Creek Watershed Council.

### Measuring Progress and Evaluating Success

Long-term monitoring and project tracking will be critical to measure progress, evaluate success, and adapt the management program over time. Periodic evaluation is important to help ensure that the purposes and goals of the Plan are being met. Chapter 6, "Recommended Actions," and Chapter 8, "Measuring Performance and Success," contain many specific recommended actions that involve monitoring in the watershed and evaluation of the effectiveness of management actions. Cumulatively, these efforts will provide feedback regarding the success of the overall stewardship effort.

A review of the achievement of the objectives of the Plan should be prepared every 5 years following the date of completion of the Plan or subsequent updates. A status report is recommended at this juncture to document this review and make recommendations for future work. This report should serve as a basis for updating this Plan and adjusting ongoing stewardship practices.

## 1.5 Bibliography

U.S. EPA. 2008 (March). *Handbook for Developing Watershed Plans to Restore and Protect our Waters*. US EPA document EPA 841-B-08-002.