Chapter 3
Watershed Community

This chapter describes the community that lives and works in the watershed, including a historical perspective showing the evolution of the people and their connection with the land and natural resources. The description begins at Laguna Creek's headwaters in the unincorporated county and ends at the creek's confluence with Morrison Creek in Elk Grove. Recreational and educational programs that connect the community to the resources are described. Finally, a conceptual vision for the watershed's future – conceived by the community stakeholders engaged in this planning process – is presented.

3.1 Community Profile

The Laguna Creek Watershed is home to a diverse community of over 100,000 people, and the profile of that community is evolving, as described in this section. The Laguna Creek Watershed Management Action Plan seeks to integrate the interests of all the stakeholder entities and present solutions that balance the different interests.

Ranchers and Farmers in the Upper Watershed

East of Excelsior Road in the upper watershed, farmers and ranchers continue to raise crops and livestock (see Figure 2-3). Some of these landowners, like the Waegell family, have farmed this land for nearly 100 years and remember a time

when lush creekside grasses, wildflowers, and oak trees were more prevalent in the landscape. While agricultural practices are expected to continue in the upper watershed, some of this land is destined for conversion to houses and businesses in the next 20 years. Some land will likely receive permanent open space protection as envisioned by the South Sacramento Habitat Conservation Planning effort; this type of conservation has already occurred in areas like the County's Andal Park (see Figure 2-3).

Notable features in the upper watershed include the Kiefer Solid Waste Landfill operated by Sacramento County and Blodgett Reservoir, an approximate 60 surface-acre water body created by construction of a dam in the early 1900s. The reservoir is now owned by the Waegell Family and operated under a permit with the State Division of Dams and Safety as a recreational fishing business (Waegell, pers. comm., 2008).

Large Lot Homes in the Vineyard Area

Downstream of Excelsior Road in the Vineyard area of the upper watershed, low density housing began springing up with the Silver Springs development in the late 1980s as people sought large homes with 1-acre lots in the grasslands of the unincorporated county. In recent years, the density of residential developments in the Vineyard area have increased to about seven homes per acre, and some multi-family housing is planned for the future in developments in the Carmencita Avenue area. Amidst this growth remains pockets of residents – such as the Spiva Road community - who purchased their ranch homes on 2 to 5 acres in the 1940s and 1950s and have no immediate intention of leaving the area or developing their land.

Residents in the Vineyard area are fortunate to have access to recreational trails along sections of the creek protected with wide floodplains in a natural state. However, increased flows and piped drainages delivering residential runoff to the creek over the years have damaged the system and led to erosion and sedimentation problems. Also, homeowners' landscaping and irrigation practices are contributing excess water along with fertilizers and pesticides to the creek. All of these practices can impair water quality and wildlife habitat, and more education is needed. Actions are recommended in Chapter 6 that will help address this issue.

Residents of the Vineyard area view the creek and its wide natural floodplain from the recreational trails that wind through the grasslands.

A Rural Lifestyle in East Elk Grove

In the Sheldon and Triangle areas of east Elk Grove, residents enjoy a semi-rural lifestyle that is anticipated to continue since the City of Elk Grove has adopted General Plan land use polices discouraging development densities exceeding one unit per 1 or 2 acres. Homes built on 2 acres or more do not receive public water and sewer services and therefore rely on groundwater wells and septic systems. And rather than sidewalks with curb and gutter and drainage pipes, most stormwater runoff is conveyed in vegetated roadside ditches. Residents in these areas may keep horses and other animals and/or raise crops, grapes, and fruit trees. Some landowners have tributaries to Laguna Creek running through their property, with associated ponds created over the years for livestock, fishing, and waterfowl nesting. There is a need to outreach to these property owners about steps they can take to care for and protect the creek's water quality. Recently, members of the Sheldon Homeowners Association worked with the City of Elk Grove to prepare guidelines for rural road improvements intended to protect heritage trees and other natural features as much as possible.

Preserving the Past in Old Town Elk Grove

Laguna Creek and three of its tributaries – Elk Grove, Whitehouse, and Jacinto Creeks – traverse the built-out portion of Elk Grove, where development began in 1852 with the construction of the first hotel and stage stop by James Hall in

what is now Elk Grove Regional Park (Pinkerton 2002). Upon arrival of the railroad, the town center shifted from what is now Highway 99 to its present location east of Elk Grove Florin Road in the area between Laguna and Elk Grove Creeks. A Special Planning Area (SPA) was adopted by the City of Elk Grove in 2005 in an effort to protect the historic integrity of this business district, define land uses, and establish design guidelines. Present-day residents of this area of Elk Grove and the Old Town Merchants Association are proud of the history and committed to protecting Old Town's heritage. Historical accounts claim that the little boys of this area of Elk Grove learned how to swim in a watering hole in Elk Grove Creek on the Lacey Ranch (Pinkerton 2002).

Residents and Businesses in Central Elk Grove

Starting in the early 1900s, former dairy farms, ranches, orchards, vineyards, and croplands were converted to residential neighborhoods and commercial malls with the largest growth spurt beginning in the mid 1990s. Today's residents experience the creeks in different ways, depending on where they live and work. Along Elk Grove Creek upstream of Highway 99, light industrial areas and houses were built facing away from the creek. This portion of the creek has become known as "the staircase" due to the straightened, confined, and partially concrete-lined channel and 90-degree bends (see Figure 2-1). Over the years, the creek in this area has suffered from erosion, sedimentation, and an abundance of nuisance aquatic plants and beaver activity that have increased the flood risk. Many property owners and residents are not informed and therefore some do not appreciate the creek, often throwing their yard debris into the channel over their back fences. Watershed tours and tree planting projects are helping to promote awareness, and civic groups like the Girl Scouts have taken an interest and are adopting reaches of the creek for regular cleanup.

Residents and local businesses straddling Elk Grove Creek may not even know that the creek is there.

Starting in the late 1980s, developments like Fallbrook and Camden sprung up on the banks of Laguna and Whitehouse Creeks east of Highway 99 and downstream of Waterman Road (see Figure 2-3). The developers worked with Sacramento County and Cosumnes Community Services District (CCSD) in those days to set back the houses around a protected wide corridor with meandering recreational trails. Protection of the creek's floodplain allows room for water to spread out in the days following heavy winter storms, and residents have come to appreciate and enjoy the natural resource. This type of development – especially when the creekside vegetation is preserved in its natural state rather than planted with sod and non natives - is seen as one model for future development in the Upper Laguna Creek Watershed (see Section 3.8).

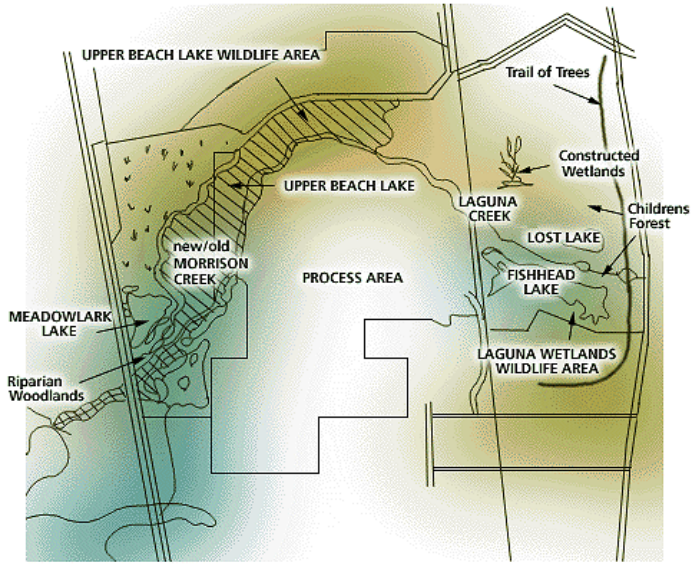
The Confluence of Laguna and Morrison Creeks in the Lower Watershed

The Laguna Creek Watershed ends where the creek joins Morrison Creek (Sacramento's largest creek system) in the 2,650-acre protected Bufferlands surrounding the Sacramento

Regional Wastewater Treatment Plant just west of Franklin Road in Elk Grove (see Figure 2-3). These lands were purchased by the Sacramento Regional County Sanitation District (SRCSD) when the wastewater treatment plant was built in the 1970s and provide an open space buffer between the treatment plant operations and the surrounding communities. The Bufferlands is a natural habitat comprised of wetlands, vernal pools, grasslands, and riparian areas including some old growth riparian woodlands with trees that may be as old as 400 years. Some of the land surrounding the wastewater treatment plant is leased to farmers and the rest serves as a wildlife sanctuary where access is largely restricted, although there are public events and tours offered at certain times each year.

Annual docent-led tours of the Bufferlands allows visitors to appreciate the beauty of the wildlife sanctuary with its centuries-old oak woodlands.

From Morrison Creek, the water flows to seasonal wetlands or is pumped to the Sacramento River. During heavy winter storms, Morrison Creek water spills into the Beach Lake – Stone Lake system in the Stone Lakes National Wildlife Refuge which is managed by the U.S. Fish and Wildlife Service.



Laguna Creek meets Morrison Creek in the Bufferlands around the Sacramento Regional Wastewater Treatment Plant.

3.2 Environmental Organizations

This section describes the primary environmental organizations working in the watershed to advance efforts to protect, restore, and enhance the creek and its resources.

The Laguna Creek Watershed Council

The Laguna Creek Watershed Council (LCWC), established as a grass roots effort in fall 2002, is a diverse group of watershed residents, community leaders, and local government agency representatives. Using seed money from a 319h grant, a watershed coordinator was hired in 2003 to plan and organize meetings, tours, and events to raise awareness and begin engaging the community in meaningful stewardship projects. Sacramento County, CCSD, and the City of Elk Grove provided funding, facilities, and other support to the Watershed Council in its formative years.

Additionally, a partnership was forged with the Elk Grove Unified School District (EGUSD) which remains strong today.

The early 2002 watershed tours sponsored by the Watershed Council generated awareness of the creek and allowed long-time landowners like George Waegell to share their stories.

The role of the watershed coordinator expanded in 2005 when the Prop 50 grant was secured, to include establishing a web site and focusing resources on the Watershed Education and Stream Stewards Programs, discussed later in this chapter. The group incorporated as a California nonprofit public benefit corporation in 2009 and has become known as "a voice for the creek" in the Elk Grove community. LCWC's website is http://www.lagunacreek.org/.

The Upper Laguna Creek Collaborative

The Upper Laguna Creek Collaborative (ULCC) was formed in June 2003 as a regional effort to develop a master plan for upper Laguna Creek (above Waterman Road; see Figure 2-1). The goal is to conserve the stream and its surrounding habitat by planning for anticipated future growth. ULCC consists of a broad group of stakeholders, including LCWC, Urban Creeks Council, Sacramento Valley Conservancy, landowners, and representatives from each of the departments and agencies that influence the land-use planning, infrastructure, and development processes in Sacramento County, as well as the Cities of Sacramento, Elk Grove, and Rancho Cordova.

Historically, stream habitats are diminished when an area transitions from rural to urban use. Often multiple agencies and interests engaged in the planning, permitting, construction, and maintenance of urban infrastructure develop one project at a time, leaving the stream and habitat in a constant state of flux, often to be channelized for use as a drainage ditch. Breaking with tradition, the ULCC's goal is to work together to create a multi-functional corridor along Upper Laguna Creek that preserves the surrounding stream habitat, manages stormwater from new development, and provides an easement for future sewer infrastructure. The ultimate vision of ULCC is to connect the Upper Laguna Creek corridor to the existing corridor along Lower Laguna Creek to establish the Laguna Creek Corridor. This corridor eventually will provide recreational opportunities for residents through open space, bikeways, and a series of natural trails - demonstrating that development and open space can co-exist while providing rich community benefits and conserving natural resources.

Using an open, inclusive approach to planning, the ULCC (http://www.upperlagunacreek.org/) has sought representation from all of the interests that affect and are affected by development in this watershed. These interests are working together to create a Master Plan for the Upper Laguna Creek Corridor (anticipated 2009) to:

- Set expectations for landowners, government agencies, and the public;
- Guide infrastructure and land-use planning activities across multiple jurisdictions, departments, and agencies;

The Laguna Creek Watershed Council envisions a future in which Laguna Creek and neighboring waterways are protected and restored to support diverse aquatic life and are surrounded by multi-functional stream corridors that provide recreational opportunities and open space for the community as well as flood water conveyance and habitat for birds and other wildlife. Residents, businesses, organizations, landowners, and government agencies work collaboratively to implement environmentally-friendly policies and practices that protect the local waterways.

The mission of the Laguna Creek Watershed Council is to protect and restore the many benefits Laguna Creek and neighboring waterways provide, including flood attenuation, fish and wildlife habitat, recreational opportunities, and open space. This is accomplished by working cooperatively with all stakeholders in the watershed.

- Identify mechanisms to coordinate and finance the acquisition and management of lands within the creek corridor;
- Propose development standards for land-use jurisdictions to protect water quality and habitat in the watershed as it accommodates future development; and
- Create a stream-lined environmental permitting process as a benefit of the collaborative process.

Why Should We Care About Creeks?

- *Clean creeks are vital to a safe storm water drainage system.*
- *Creeks offer quiet retreats away from noise and traffic.*
- *Flowing water and streamside trees help moderate the valley's air quality and temperature.*
- *Ninety percent of wildlife in urban areas depend on creeks and adjacent vegetation for survival.*
- *Streamside vegetation provides attractive green spaces in neighborhoods.*
- *Clean, free-flowing creeks add value to property and homes.*
- *Creeks are natural recreation area and places where children can learn to value living things.*
- *Healthy creeks contribute to a safe drinking water supply.*

-Sacramento Urban Creeks Council, – www.sacto-ucc.org

Sacramento Urban Creeks Council

The Sacramento Urban Creeks Council (UCC) is a co-sponsor and partner with Sacramento County in the Proposition 50 watershed grant that made this Watershed Management Action Plan possible. The current Sacramento UCC President, Alta Tura, has been an active member and staunch supporter of LCWC since it was formed in 2002. The nonprofit Sacramento UCC was established in 1988. Its goals are to promote public and private care of natural streams through education, advocacy, and hands-on activity. Educational materials, workshops, field outings, and participation in the decision-making processes that affect the health of area creeks are just some of the tools the UCC uses to achieve its goals. The UCC has joined with individuals, schools, neighborhoods, park districts, civic organizations, businesses, and local government to educate the general public about the abundant aesthetic, recreational, and ecological values that natural streams offer.

Since 1990, the Chapter has sponsored Creek Week which includes field trips, seminars, and demonstrations, capped with a county-wide creek cleanup, held in April each year. This event now involves close to two thousand people.

Stone Lakes National Wildlife Refuge Association

Stone Lakes National Wildlife Refuge Association is a nonprofit public benefit corporation dedicated to the preservation, protection, enhancement, and promotion of the Stone Lakes National Wildlife Refuge (Refuge). The Refuge is located south of the Laguna Creek Watershed and accepts water from the Morrison-Laguna Creek system during heavy winter storms. The 18.2-acre Refuge was established in 1974 and is managed by the U.S. Fish and Wildlife Service. It provides a unique wildlife viewing experience for the enjoyment and educational benefit of the public while protecting and restoring critical habitat for threatened and endangered plant and animal species. It is the 505th refuge in the National Wildlife Refuge System and one of the few urban refuges in the nation.

3.3 Governmental Agencies and Special Districts

Various governmental agencies and special districts own land, hold easements, and/or have land use planning and management authority in the watershed. Each provides outreach, education, and services to the population it serves. Many of the organizations have already committed time and resources to LCWC and the various projects undertaken by the Watershed Council, including the development of this Watershed Management Action Plan. Each agency has been asked to continue their commitment by adopting, endorsing, or otherwise supporting this Plan. Figure 2-2 shows the jurisdictional boundaries for each, and Chapters 4 and 7 provide additional description of these stakeholders and their level of commitment:

- Sacramento County – Departments of Water Resources and Planning
- City of Elk Grove
- City of Rancho Cordova
- Cosumnes Community Services District
- Southgate Recreation and Park District
- Cordova Recreation and Park District
- City of Sacramento Parks and Recreation Department
- Florin Resource Conservation District (FRCD)
- Sacramento Regional County Sanitation District

Other agencies that have been involved in projects or will be affected by or should be involved in implementation of actions recommended in this Plan; see Chapter 4.

Various regulatory agencies are responsible for ensuring compliance with the Clean Water Act and other laws. They have expressed interest and/or have become involved in LCWC's efforts over the years and include:

- Central Valley Regional Water Quality Control Board
- California Department of Fish and Game
- State Water Board
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers

3.4 Schools

As of fall 2008, EGUSD was operating 61 schools in the Laguna Creek Watershed, including nine high schools, nine middle schools, forty elementary schools, and five alternative education schools with a total student population of about 61,000. As discussed later in this chapter, a unique partnership was established between LCWC and the EGUSD in 2003 that has allowed the development of a successful watershed education program (WEP) for K–12. Several retired school teachers are active members of LCWC and lend their expertise to the planning of educational events, curricula, and interpretive signage.

Also, Cosumnes River College is located just outside and north of the watershed on Bruceville Road. The proximity of the college campus provides opportunities for collaboration on future projects. Finally, the success of the stream stewards program discussed later in this chapter was due in part to a partnership developed with University of California, Davis (UC Davis) in 2007, whereby one of their graduate students was able to provide community outreach and education services to this grant project.

3.5 Community Organizations

There are various community organizations active in the watershed that do not necessarily have environmental protection as their primary goal, but nevertheless conduct activities which have the potential to contribute to watershed protection.

Neighborhood and Community Associations

There are many neighborhood associations in the watershed, primarily located in the Vineyard area of unincorporated Sacramento County and within the Elk Grove city limits. Those that have been most active in the watershed protection effort to date include: Sheldon Community, Greater Sheldon Road Estates Homeowners, Fallbrook Neighborhood, Quail Ranch Estates, Camden Neighborhood, and North Laguna Homeowners Associations. Over the years, several community associations have also been formed. The Elk Grove Coalition Advocating Proper Planning, the Elk Grove Community Connection, and the South County Citizens for Responsible Growth have been active in advocating sustainable growth and development and preservation of open space. LCWC includes representatives of several of these associations, and outreach has been conducted with those not well represented related to special projects and actions recommended in this Watershed Management Action Plan that may impact their neighborhoods and members.

Business and Civic Associations

Business associations in the watershed include the Elk Grove Chamber of Commerce and the Old Town Elk Grove Association. Several of the LCWC members are or were local business owners.

Numerous service clubs are active in Elk Grove, such as American Legion, Elks Lodge, Lions, and Rotary. Elk Grove also has a thriving Senior Center. In 2007, LCWC worked with Rotary and CCSD to create a creekside interpretive kiosk at the Del Meyer trailhead park site on Elk Grove Florin Road.

Watershed planning should consider and integrate the interests of businesses in Elk Grove like this car dealership located along the banks of Elk Grove Creek.

There are many businesses with property adjoining or near Laguna Creek or one of its tributaries in the City of Elk Grove. Historically, developments were not oriented toward the creek, but recent years have seen a few examples of improved creek-friendly designs, such as the restaurants located along Elk Grove Creek just south of Laguna Boulevard.

Youth Organizations

Youth organizations in Elk Grove include 4-H, Camp Fire, Teen Center, Future Farmers of America, and Scouts. Many of these youth volunteer for Creek Week cleanups each April. Additionally there are other community service opportunities for learning about and taking care of the creek and its resources. In recent years, two Girl Scout troops in the watershed took the extra step to "adopt" reaches of creeks for stewardship and clean up.

Girl Scout Troop 1563 in Elk Grove has adopted a one-mile stretch of Laguna Creek in the Camden area and sponsors work days to keep the area clean and safe.

3.6 Recreational Community Connections

A description of the Laguna Creek Watershed community would be incomplete without describing the recreational trail system that connects that community to the natural resource and allows residents to link from one section of the creek to another. This, in turn, promotes awareness and interpretation of the creek corridor and its wildlife, instills a stewardship ethic, and gets people out of their cars, reducing air pollution and fostering a healthier lifestyle. The creekside trail system in the watershed is a highly valued feature for residents, as indicated by the community survey results described later in this chapter. Today that trail system is fragmented, and residents and local agencies would like to see connected trails. Actions are recommended in Chapter 6 to address this issue.

History of Trails

From at least the 1970s, Sacramento County planners and supervisors had discussed the idea of creating a bicycle trail along Laguna Creek that would serve as both a recreational opportunity for residents, and a conceptual boundary for future growth in south Sacramento County.

By 1988, the first section of the Laguna Creek Parkway (Parkway) was completed by the City of Sacramento as part of the North Laguna development. Bicycle and walking trails were installed on both sides of Laguna Creek from Center Parkway to Franklin Boulevard (see Figure 3-1), a pedestrian bridge was built over the creek to connect the two trails, and the creek channel itself was modified to increase its conveyance capacity. In addition, both banks were revegetated with native trees and shrubs, and regulations for flood risk reduction, wildlife habitat, and wetlands preservation required the dedication of several hundred feet of open space riparian buffer on both sides of the creek. The North Laguna Wildlife Area reach of trails and open space on the north side of the creek is managed by the City of

Sacramento Department of Parks and Recreation. The trail on the south side is managed by CCSD. Funding for maintenance is provided by a perpetual assessment established in the late 1980s by the first community of residents in the area.

Since the North Laguna trail section was established, the scenario of associating creekside development with dedicated riparian buffers bounded by recreational trails has been repeated several times along Laguna Creek. In 1991, the Fallbrook Subdivision trail reach from Waterman Road to Elk Grove-Florin Road was completed. In the early 1990s, Laguna Creek north of Bond Road was excavated to create the Camden Lakes development with associated parks and trails around a large floodplain. The Parkway regularly floods during the heavy winter storms. Also by the early 1990s, the first phases of development of the Vineyard Springs Comprehensive Planning area (Silver Springs developments) established bicycle, walking, and equestrian trails from downstream of Excelsior Road to a point downstream of Vineyard Road. In the late 1990s, the Laguna Bypass Channel was excavated along the north side of Laguna Creek from Hwy 99 to downstream of Bruceville Road and a bicycle/pedestrian trail was completed along the eastern half of the Bypass reach, from Hwy 99 to Lewis Stein Road. In 2005, the Creekside development at the site of the old fish hatchery implemented improvements to the trail between Elk Grove-Florin Road and Bond Road. All of these trails are shown on Figure 3-1. Ownership and management responsibilities are indicated on Table 3-1.

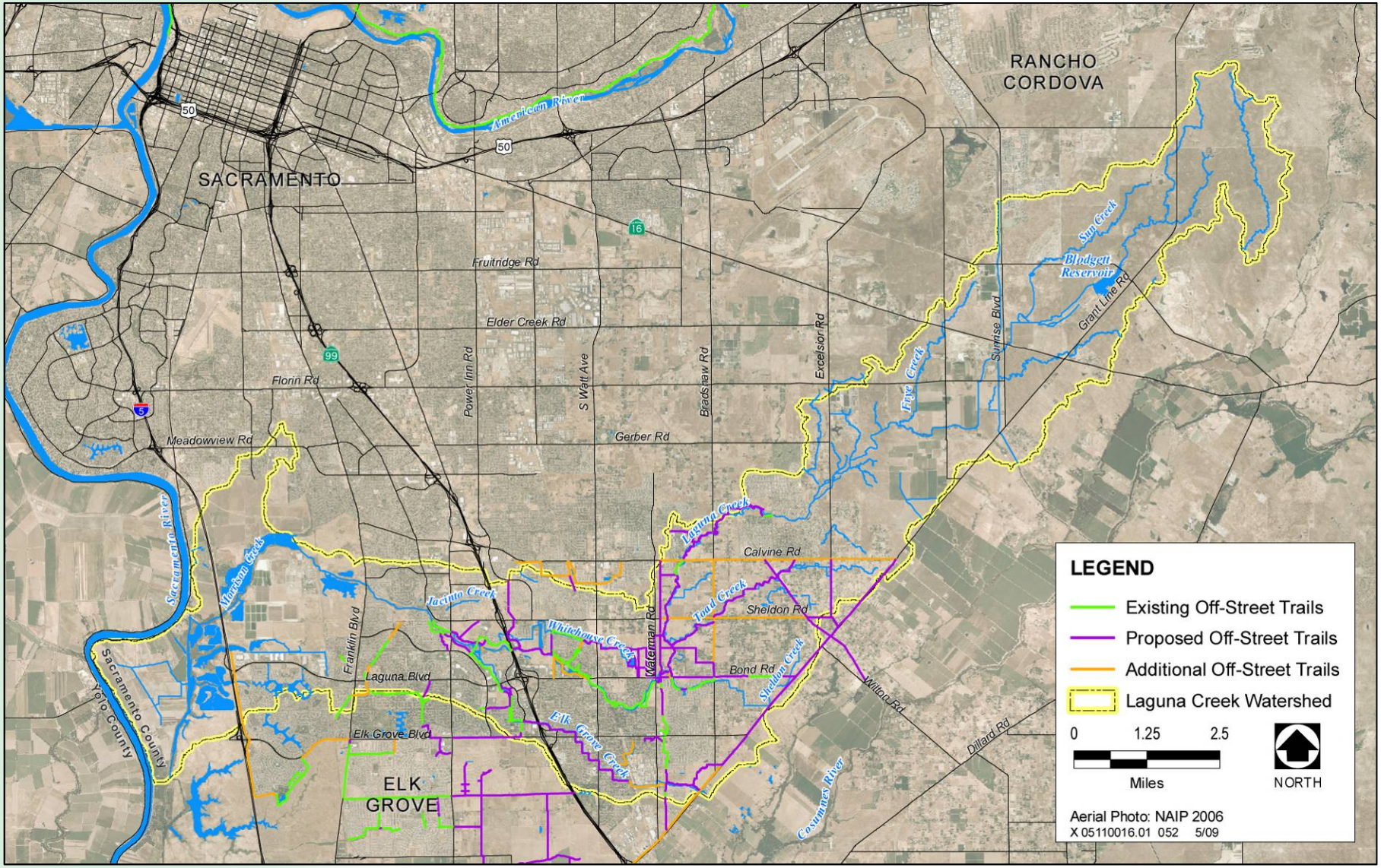
Funding for operation and maintenance of the trail systems, including repair of pavement and irrigation, replanting trees and vegetation, graffiti removal, and litter and trash pickup, is typically provided through assessments that were established when the adjacent land uses were developed. In short, the community residing and working in neighboring areas are paying the local park district or City Parks Department for the long-term upkeep.

Table 3-1
Ownership and Management in the Laguna Creek Parkway

Laguna Creek Parkway Reach	Trail Ownership / Maintenance Easement	Riparian Buffer Ownership
Vineyard	Southgate	Southgate
Fallbrook - from Waterman Road to SP RR	City of Elk Grove	City of Elk Grove
Fallbrook - Jack Hill Park - Del Meyer Park - from SP RR to Elk Grove-Florin Road	CCSD	CCSD
Creekside	CCSD	Bell South LLC
Camden Lakes	CCSD	CCSD
Laguna Bypass	CCSD	City of Elk Grove
North Laguna Wildlife Area	City of Sacramento	City of Sacramento

A Vision for a Connected Regional Trail System

The Parkway is a system of existing and proposed trails envisioned to connect the Sacramento levee trail system to the American River Parkway via the Laguna Creek corridor and the Folsom South Canal (see Figure 3-1). Discontinuous trail sections occur along 6.75 of the 25 miles of creek. Similar situations exist along tributary creeks, especially Elk Grove Creek. The planning, construction, and maintenance of the existing recreational trails and riparian corridor buffers was financed by requirements and assessments placed on new streamside development projects. As a result, existing trail sections have developed in piecemeal fashion and not always in a manner that has balanced habitat, flood risk reduction, water quality, recreational and financial goals. Connecting these fragments will be a challenge because there is no funding mechanism, and grant programs are highly competitive.



Source: City of Elk Grove, Sacramento County 2006

Figure 3-1 Trails Network

An additional hurdle is property ownership. Some sections of Laguna Creek and its tributaries are located on private property, and landowners may not wish to grant public access through their land.

The City of Elk Grove, CCSD, and Southgate have trails master plans that include conceptualized alignments for the remaining sections of the Parkway (see Chapter 4). The Upper Laguna Creek Corridor Master Plan will propose additional details concerning trail alignments and riparian buffer characteristics for the Laguna Creek corridor upstream of Waterman Road. Three proposed development projects (Cordova Hills, Sun Creek, and the Arboretum) in the uppermost reaches of the watershed have trail systems proposed in project designs that will connect to the Parkway at the Folsom South Canal, with the potential of connecting to the proposed Deer Creek Hills and Alder Creek trail systems to the east.

In the lower watershed, the City of Sacramento and the SRCSD Bufferlands are exploring trail alignment options that will continue the Parkway west from its current terminus at Franklin Boulevard, northwest through the Bufferlands, and west through the City of Sacramento's proposed Delta Shores development to the Sacramento levee trail system.

To connect existing trail sections, and to expand and complete the Parkway, the LCWC recommends a watershed-wide, multi-faceted planning strategy for recreational trails that will require regional collaboration to incorporate trails master plans developed by the City of Elk Grove (Elk Grove Trails Committee 2007), CCSD, and Southgate, as well as the interests of streamside landowners and the various participants of ULCC planning process. A recommended action for this effort is included in Chapter 6.

In addition to planning future reaches of the Parkway, the development of future parks by the City of Elk Grove, CCSD, the City of Sacramento, and Southgate should include efforts to link trails from new parks and developments to the main Parkway.

3.7 Educational Community Connections

Building Partnerships

The LCWC Watershed Education and Watershed Stewards programs require on-going efforts to recruit, train, coordinate, and retain teachers, students, and volunteer citizens. They also depend on building a network of community partners. Since fall 2002, LCWC has worked with many community partners to develop, fund, advertise, and sustain both programs. The following is a description of LCWC program partners.

Birdwatching with Audubon Society volunteers in the Fallbrook area.

Elk Grove Unified School District

In spring 2003, EGUSD was awarded a CalServe Service Learning Development Program Grant through the California Department of Education, to design and implement an

interdisciplinary curriculum in which students, teachers, school, and community entities work together to develop a shared awareness of the history, people, and places throughout the school district, including the Laguna Creek Watershed. Representatives from LCWC, the Cosumnes River Preserve, and the Stone Lakes National Wildlife Refuge helped EGUSD staff write the original Service Learning (SL) grant proposal; they continue to work as partners to implement the SL program.

Sacramento Splash

Sacramento Splash is a place-based, watershed education program jointly sponsored by SRCSD, the City of Sacramento Department of Utilities, and the Sacramento County Department of Water Resources. Splash's mission is to deliver to local communities a science-based education program that builds awareness of local water resources and the public's role in their protection. Before LCWC was formed, several LCWC founding members worked on the development of the Splash program and curriculum, and delivered it to a few schools in the Laguna Creek Watershed.

Florin Resource Conservation District

FRCD has been an on-going partner that helps coordinate and fund tree planting and World Water Monitoring Day events. Beginning in 2009, LCWC and FRCD will be partners in an invasive weed removal program focusing on Laguna Creek Watershed stream corridors.

City of Elk Grove

Most of the lower Laguna Creek Watershed flows through the City of Elk Grove. The City of Elk Grove has provided funding, staff, and public access to lands as part of several educational and stewardship projects. The City has partnered with the Sacramento Tree Foundation (STF) and LCWC to plant trees throughout the city, including in riparian areas.

The Bufferlands

In 2007, SRCSD, Sacramento Splash, and the LCWC began developing field trip activities for the SRCSD's Bufferlands property, which is managed with an emphasis on the protection of natural resources. The field trips are intended to augment the Splash high school curriculum's class lessons. Four local high schools were chosen to participate in the Bufferlands field trip program during 2008 to evaluate the value of that program.

Cosumnes Community Services District

CCSD and LCWC have partnered together to continue the Jr. Creek Keepers and Trail Trekkers creek walk programs for pre-K to 3rd grade children. This fee-based program was begun by CCSD in 2000 and was taken over by LCWC in spring 2008.

Sacramento Tree Foundation

STF has provided plants, equipment, labor, and monitoring for native tree, shrub, and grass planting events throughout the watershed.

UC Davis, John Muir Institute of the Environment

Since 2006, the UC Davis John Muir Institute of the Environment has funded a graduate student to work with LCWC to develop education and stewardship projects focused on building awareness of the connection between urban runoff and stream habitat quality, and engaging community members in activities to reduce runoff volume and impacts to water quality. The project is the outreach-based portion of a large research project on "Effective Improvement of Urban Water Quality and Reduction of Residential Runoff" led by UC researchers.

Watershed Education Program

The LCWC WEP makes existing watershed-related curriculum available to local high schools, and coordinates stream-related

activities with local K-12 schools. Both the curriculum and projects focus on raising awareness of the connections between land use, and water and habitat quality.

In November 2002, a small group of EGUSD teachers and administrators, Sacramento Splash staff, and LCWC members formed a network upon which to build the WEP. Since then, the WEP network has grown to include other partners.

From 2002 through the end of the 2008-2009 school year, there have been 28 EGUSD teachers from 11 school sites (six high schools (HS), five elementary schools) who have participated in one or more watershed education projects. Several more teachers are currently developing project ideas with LCWC but have yet to implement them with their classes. Of the teachers who have participated at least one year since the program began in 2002–2003, some have left the teaching profession, some no longer participate, and some continue to involve their students in on-going and/or new projects. Identifying and recruiting additional teachers is an important and continual challenge for the WEP. Following is a list of past and current LCWC WEP projects.

Splash Lessons

LCWC adopted the use of the Splash high school curriculum, *Life in the Watershed: Investigating Streams and Water Quality*, as a recruitment tool for WEP high school teachers because it is familiar to LCWC members, free of charge, focused on the local streams of Sacramento County, and introduces the concepts of watersheds, aquatic ecosystems, non-point source pollution, and water quality monitoring. The Splash concepts lay the foundation for further watershed education field projects. Through April 2008, the Splash high school curriculum has been taught by teachers at 6 EGUSD sites.

World Water Monitoring Day

LCWC has involved schools in World Water Monitoring Day since 2005. To expand upon the Splash lessons, LCWC, in partnership with FRCD, recruited several high school teachers to participate in World Water Monitoring Day. This international outreach event builds public awareness about water resources by having people monitor their local streams. Participants measure certain water quality parameters (dissolved oxygen, pH, temperature, and turbidity) using very basic kits.

High school students at half of the first year's event sites were paired with elementary school students in the field, and were tasked with mentoring their younger partners on the concept of a watershed, some natural history about their creek site, the purposes for monitoring water quality, and how to use the monitoring kits. Other sites were monitored by high school students alone.

Post-event evaluations concluded that sites monitored by high school-elementary school student teams provided a richer, more challenging experience for participants than sites monitored by high school students alone. In addition, involving elementary schools increased the number of participants. For these reasons, the student mentor team model was adopted for all monitoring sites in subsequent years. There were four teams of elementary-high school students in October 2006, three in October 2007, and two in October 2008.

Unlike the Splash lessons, these events require funding. Costs include bus transportation, substitute teacher pay (for high school teachers), disposable gloves, and hand washing materials. To date, costs have been shared among the event co-sponsors: LCWC, FRCD, and the EGUSD SL program.

Watershed Symposium

In 2004, Franklin HS hosted a Watershed Symposium, which was funded by the City of Sacramento Department of Utilities,

Students monitor water quality along Laguna Creek upstream of Vineyard Road.

the Sacramento County Department of Water Resources, and LCWC. The symposium brought together students who had participated in stream-related class projects from watersheds throughout Sacramento, Placer, El Dorado, and San Joaquin Counties. The event provided an opportunity for students and teachers to network and share their project information.

Tree Planting Projects

LCWC has partnered with the City of Elk Grove and STF to fund native oak, shrub, and grass planting events along the banks of the Laguna Creek Bypass Channel between Hwy 99 and Lewis Stein Road. Students from five high schools participated in plantings in December 2004 and January 2006.

Wildcat Waterway Project

In 2005, LCWC worked with science teachers from Franklin HS to develop activities focused on monitoring water quality, vegetation conditions, and channel morphology within the East Franklin Drainage Channel (renamed the Wildcat Waterway by Franklin HS students - after their school mascot).

River-Friendly Memorial Garden

Students and teachers at Monterey Trails HS designed and planted a memorial garden for a colleague and classmate. LCWC, Monterey Trails HS, and UC Davis partnered together to review plans for the garden.

Strawberry Creek Project

Teachers and students at Calvine HS have been comparing water quality, wildlife, and vegetation conditions between two reaches along Strawberry Creek for several years. One study reach is a concrete-lined trapezoidal channel bordered by cyclone fencing, and the other is a vegetated trapezoidal channel bordered by a small vernal pool preserve area and detention basin.

Barbara Comstock Morse Elementary Watershed Program

In August 2006, representatives from the EGUSD Service Learning Program, LCWC, and the Principal and B-Track teachers of Barbara Comstock Morse Elementary met to design a school program that would integrate at least one watershed-based lesson into every grade (K–6).

That program was implemented during the 2006–2007 school year. K–6 B-Track teachers brought several Laguna Creek Watershed-centered activities to their school, including; a stormwater education school assembly in October, World Water Monitoring Day in October, Project WET (Water Education for Teachers, an internationally sponsored water resources curriculum) teacher training workshop in November, Splash Vernal Pool lessons and field trip in February and March, and Watershed Day in March. During Watershed Day, the K–6 grade classes taught one Project WET lesson per grade, and the entire school spent the day rotating from classroom to classroom to do each lesson.

Other Projects

In addition to participating in LCWC-coordinated projects, many schools in the watershed have participated in watershed projects hosted by other education and stewardship organizations. Networking between EGUSD teachers and other watershed education partners was often the result of LCWC-hosted and/or EGUSD Service Learning Program-hosted meetings and events. Examples of additional projects include on-going plant restoration projects at both the Cosumnes River Preserve and the Stone Lakes National Wildlife Refuge, and the California Waterfowl Association's Marsh Mentors Program.

Watershed Stewards Program

The LCWC Watershed Stewards Program develops and coordinates activities and events for watershed residents to educate residents about watershed issues and foster community involvement.

Creek Walks

LCWC currently provides three types of Creek Walk opportunities as part of the Watershed Stewards Program. Jr. Creek Keepers walks are stream-centered nature walks for preschool and kindergarten children. Trail Trekkers is a similar type of nature walk for 1st–3rd grade children. Saturday Creek Walks are theme-based interpretive walks open to the public and typically led by an expert in a particular field. Past walks have focused on aquatic and upland insects, riparian birds, beavers, riparian vegetation, and the natural history of Laguna Creek.

Community Event Booths

LCWC members staff booths at many community events to distribute outreach materials and engage interested passers-by in discussions of the natural history of the Laguna Creek Watershed. LCWC has staffed booths at the Elk Grove Harvest Festival, Elk Grove Creek Week, Sheldon Heritage Days, and Bufferlands Walk on the Wildside events.

Adopt-a-Reach

One of the LCWC's ongoing goals is to identify and recruit community groups to adopt sections of their local creeks. Local scout groups have adopted portions of Laguna Creek and Elk Grove Creek, and members of local neighborhood associations regularly help with Creek Week activities along their local reaches.

Tree Planting Projects

The tree planting events described in the WEP were also open to the public. In addition to student participants, residents of all ages have participated.

Student and resident volunteers have planted hundreds of oak acorns around the watershed for the benefit of future generations.

World Water Monitoring Day on Laguna Creek at Jack Hill Park.

Next Steps for Education and Stewardship

Past and current projects of the Watershed Education and the Watershed Stewards programs represent a significant effort to raise the ecological awareness of watershed residents through education and stewardship. The Programs have resulted in a well-established network of people and events.

Maintaining the WEP and Watershed Stewards Programs will depend on funding available for program coordination. At a minimum, the programs could be reduced to a minimum number of regularly repeating, popular events like the annual World Water Monitoring Day and Creek Week events.

As funding allows, program expansion could focus on training volunteer docents to increase the availability of the Creek Walk program, and on training volunteer stream monitors to perform regular water quality testing and bioassessment (see action recommending a watershed-wide water quality monitoring program in Chapter 6).

3.8 The Community's Vision for the Watershed's Future

A critical step in creating this Plan was assessing the values and expectations of the affected community in a variety of ways. First, results from other visioning processes sponsored by the City of Elk Grove were reviewed and data related to environmental protection was examined. Then watershed tours were organized to allow the community members to visit different landforms and creek configurations in the watershed and complete worksheets that would help them define their "preferred future" for the creek corridor.

Surveys were conducted to allow stakeholders to express their values related to the many services a creek system can provide (e.g., flood control and recreation), and presentations were made to public agency councils, commissions, and boards to provide a forum for information exchange. Input was gathered from the community by hosting and staffing a watershed booth at public events, and those attending monthly Laguna Creek Watershed Council meetings regularly offered their ideas, observations, and concerns. Interviews were conducted with key watershed residents as well as public agency maintenance personnel, in order to identify problem areas, such as those prone to flooding, overgrowth of aquatic weeds, or beaver activity. The interviews were also useful in identifying opportunity areas. A summary of "issues of concern" was then developed using all of this information.

A landowner work group was formed by ULCC and met several times during the development of this Plan. The input provided at those meetings was considered and integrated into this Plan.

Environmental Protection Preferences from City of Elk Grove Visioning Processes

In September 2002, the Elk Grove City Council conducted Envision Elk Grove, a community workshop to develop a 3-year strategic plan for the city. Envision Elk Grove's purpose was to gather information from residents on important issues that affect the community at large. During the 1-day workshop, several preferences were expressed related to environmental/watershed protection, such as:

- maximize parks and trails while preserving the river and creeks, planting trees, and preserving open space;
- mitigate the loss of farmland and wetlands within the Elk Grove area where possible;
- involve citizens of all ages to be stewards of the community;
- integrate and connect transit and trails;
- consider low-impact, environmentally sustainable development; and
- create an educational nature center (urban botanical garden) on the old fish hatchery land at Bell South (area behind what is now called Creekside Plaza).

Four years after the first strategic planning workshop, the Elk Grove City Council launched "Envision Elk Grove 2006," where the City spent over a year engaging in a public outreach process to learn about the community's vision for the future of the city. Through numerous focus groups, telephone surveys, an online survey, and a half-day public workshop, the City obtained significant feedback about the public's vision for the future of their community. The research indicated that key priorities for Elk Grove residents were the need for environmental protection and habitat

preservation including wetlands, vernal pools and Swainson's hawk habitat. Residents also want open space to separate people from concrete and noise, and trails similar to those along the American River for running, biking and hiking (Elk Grove 2006).

Watershed Presentations

The initial outreach to generate awareness about the watershed involved making presentations to the local government agencies. Formal presentations were made to CCSD (formerly Elk Grove CSD) Board in 2002 and City of Elk Grove Planning Commission in 2003. Numerous discussions were held with managers in Sacramento County's Department of Water Resource in order to correlate watershed management activities to existing programs already conducted by the three agencies, and to encourage collaborative partnerships to achieve multiple benefits in the future. This type of outreach helped to secure support and funding for the LCWC in its formative years. The base support provided by these agencies and the Urban Creeks Council (discussed previously in this chapter) continues to this day, and other agencies and organizations have since joined as partners. Copies of representative Powerpoint presentations are available to view and download at http://www.lagunacreek.org/.

Watershed Tours

Beginning in 2003, watershed tours were conducted periodically with interested residents and government agency representatives to generate awareness of the watershed and its unique natural resources. In fall 2005, two strategic field trips were organized to visit selected sites in the watershed; this was the start of the process to develop a vision for a "preferred future" for the watershed. The selected sites represented a wide range of conditions, from the undeveloped grazing lands around Blodgett Reservoir, to the wide native reaches weaving through the Vineyard and Fallbrook neighborhoods, to the more manicured green belt in the Camden Lakes community, and finally to the confined narrow creek channel in the older sections of Elk Grove.

The tour participants were asked to complete site evaluation worksheets to describe their impressions of each reach visited and to rank their performance in providing various functions, such as flood control, habitat, open space, and recreation/access. Participants were asked to identify the two top functions to be managed at each reach. Detailed results of the tour exercises are presented in the Appendix and summarized briefly below.

Certain key preferences emerged from the tours. The participants expressed their desire to see open space adjacent to the creek, which could provide drainage and flood storage while filtering out pollutants flowing from nearby neighborhoods and businesses. The participants overwhelming preferred a waterway with natural meanders over a straightened channel. They preferred passive multi-modal recreational trails set back from the creek with low-maintenance native grasses, plants, and oak trees, versus trails at the creek's edge or manicured green belts which require continual irrigation and care. Participants would like to see more trees in the riparian zone to provide shade for reduced water temperatures and wildlife habitat. They desire more open water for wildlife and less algae, primrose, and bulrush which choke the creek. The participants preferred that the creek be visible from many vantage points along the trail system to promote an "eyes on the creek" stewardship ethic. Many commented that these types of features make for an attractive amenity that is more conducive to the historical California setting and would likely increase values of property located adjacent to, or within walking distance of, the creek.

The collective "preferred future" vision for Laguna Creek as a result of the 2005 watershed tours is largely consistent with the ULCC's graphic vision for a future multi-functional Parkway in the Upper Watershed (see Figure 3-2 and http://www.upperlagunacreek.org/).

Watershed Surveys

In fall 2005, LCWC members were asked to complete a creek values exercise and a watershed survey. The creek values exercise required respondents to rank creek functions based on their understanding or personal values of the importance of such functions in the watershed. Table 3-2 shows the results.

Table 3-2
Results of the Laguna Creek Values Exercise

Function	Rank
Provide Wildlife Habitat	1
Protect Buildings from Flooding	2
Filter Out Pollutants and Sediment	3
Provide Drainage	4
Provide Greenspaces and Attractive Amenity	5
Furnish Recreational Opportunities	6
Sustain Fish Communities	7
Protect Parks and Open Space from Flooding	8
Prevent Excessive Algae Growth	9
Maintain Cool Water	10
Enhance Property Values	11

A written watershed survey was distributed to LCWC members at the regular LCWC meetings in late 2005 and early 2006 and posted on the web site. A copy of the survey and a summary of results are presented in Appendix A. Although the response rate was not high, the data collected was valuable in identifying actions for this Watershed Management Action Plan (Chapter 6). All respondents were familiar with the creek and had previously used the trail system.

In addition to the formal exercise and survey, ideas and preferences were collected continuously from residents and local agencies via the regular LCWC meetings. An opportunities and constraints map was posted on the wall in many of the early meetings, on which residents could locate and describe observed problem areas along the creek and suggest ideas for projects. When it came time to design the interpretive signage for the Creekside Trail (formerly known as Bell South), full size draft signs were posted on the wall during one of the meetings and attendees wrote their comments on flipcharts provided.

Interviews

Several longtime watershed residents provided anecdotal historical information about the creek and its environs through informal interviews. For example, one of the residents recalled more oaks in the riparian zone, drier summer creek conditions, and scooping out fish in certain reaches. This information was factored into the watershed assessment described in Chapter 5.

Also, the technical project team conducted interviews with maintenance personnel from the City of Elk Grove, County of Sacramento, CCSD, and Southgate. The goal was to compile measured and observed data about key problem areas and issues and locate these areas on a map. The information was invaluable in assessing watershed conditions (Chapter 5) and identifying actions for this Watershed Management Plan (Chapter 6). Common problems included:

- invasive aquatic vegetation growth (e.g., primrose and bulrush) – block flow and require permits/funds to remove;
- beaver dams – same as above;
- flooding of trails, parking lots, and/or backyards in some areas during heavy storm events;
- excessive sedimentation in channels;
- erosion (incision and undercutting) of streambanks and pipe outfalls;
- illegal dumping in creeks; and
- vandalism and graffiti along creekside trails and under bridges.

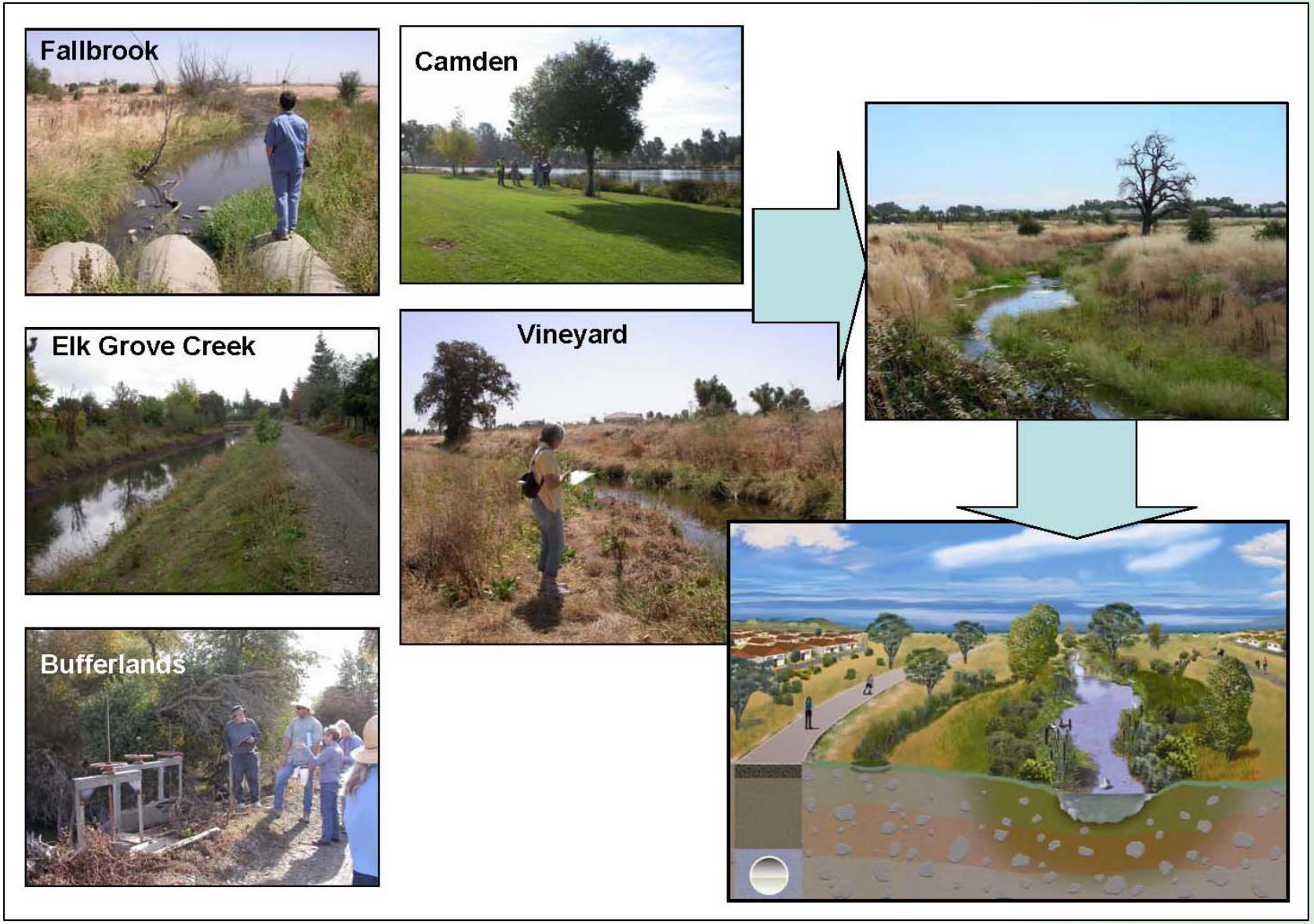


Figure 3-2 Envisioning the "Preferred Future" for the Laguna Creek Corridor

Upper Watershed Landowner Work Group

The upper watershed is home to many landowners, some with long histories of farming and ranching in the area. Some would like to continue these practices while others who are relative newcomers plan to develop the land in the future. This is different than the lower watershed, where most property owners are homeowners, renters, and businesses in the urbanized developed portions of the community. The needs and interests of all parties are being taken into consideration in the development of this management plan and identification of recommended actions. The various outreach and public involvement mechanisms described previously in this chapter worked well to determine the interests of the lower watershed population, but a different strategy was needed to outreach to landowners in the upper watershed.

In the upper watershed, future public and private development projects must preserve high-value habitat to mitigate the impacts of their projects on species and habitat. This requirement creates opportunities for landowners to participate, both individually and collectively, in local habitat conservation. As development proceeds, landowners will have options to sell and/or manage their land to maximize natural resource values. Some may opt to place all or some of their land into conservation.

Landowner outreach was facilitated for this Watershed Management Plan through the ULCC Master Plan process. A Landowner Work Group was initiated in late 2006 and since then has hosted a spaghetti feed dinner and several informational meetings. Meetings offer a chance for neighbors to network and discuss their goals and vision for the future of the upper watershed. Information is shared about plans, processes, and projects that could affect the interests of landowners. They provide a forum for discussing issues, challenges, and possible collaborative solutions.

To date, the landowners have been provided an overview of the basic regulatory framework, so that they can see how those regulations influence the value of land for conservation. They have been updated on the South Sacramento County Habitat Conservation Plan (HCP) process, and were shown the HCP habitat location maps in order to see where resources lie in relation to their properties. Meetings will continue until the ULCC Master Plan is finalized (anticipated 2009).

Issues of Concern for the Community

A comprehensive summary of issues of concern for the Laguna Creek Watershed was developed in July 2007 for reference by the Advisory Committee charged with overseeing the development of this Watershed Management Plan.

The following issues of concern (problem statements) were compiled over a 4 year period by the technical team (as expressed to the technical team during meetings, tours, and other events; observed by the team directly during field surveys; written in public survey responses; etc.) They are presented in no particular order and this is not an exhaustive list.

Recreation

- Lack of recreational access in some areas
- Lack of shade for some creekside trails
- Discontinuous trail system
- Lack of bike/foot path along creek
- Need safe pedestrian and bike trails

Education

- Insufficient education/information for residents about protecting creek/watershed

- Insufficient education about alternative ways to get involved
- No educational/interpretive signage
- Graffiti in some areas

Land Use/Planning

- Too many buildings with backs to the creek (valuable creekside areas are not visible/accessible to public)
- Lack of low impact development techniques to minimize impacts to creek
- Poor public visibility/usage of creekside areas
- Inadequate screening of big box stores
- Declining farm/agricultural use as urbanization proceeds

Design of Drainage Features

- Natural meander of creek has been altered/ straightened; need to restore where possible

Drainage/Flooding

- More water in the creek during rain storms/rising water levels
- Observed/threatened flooding (either on streamside property/building or observed in other areas)
- Lack of storage capacity in some stretches of local creeks
- Creek is too shallow
- Lack of or disconnected floodplain

Vegetation/Habitat

- Lack of wildlife habitat
- Not enough trees (especially natives)
- Too little vegetation/shade for the creek
- Too much vegetative growth in the creek (e.g., bulrush, water primrose, volunteer trees)
- Not enough woody debris in the creek to provide habitat and shade for aquatic life
- Dying trees/vegetation along the creek
- Lack of space for mitigation plantings
- Invasive (non-native) plant growth (e.g. blackberry, water primrose)

Aquatic Life and Wildlife

- Lack of continuous wildlife migration corridor
- Lack of abundant/diverse fisheries

Water Quality/Aesthetics

- Unattractive creek in some areas
- Unclean water
- Cloudy, muddy water
- Excessive algal growth/scum on the water, especially in summer
- Trash and debris in the creek (e.g. shopping carts), especially near commercial areas

Erosion and Sedimentation

- Streambank erosion
- Excessive sediment runoff from construction sites
- Sediment build-up in the channel and/or at bridge culverts

Upper Laguna Creek Corridor Vision

As stated previously, the collective “preferred future” vision for Laguna Creek as a result of the 2005 watershed tours is largely consistent with the ULCC’s graphic vision for a future multi-functional Parkway in the upper watershed. The ULCC vision can be found at http://www.upperlagunacreek.org/.

3.9 Bibliography

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