

## PART II.

# CURRENT MANAGEMENT AND RECOMMENDATIONS

## INTRODUCTION

The Mount Diablo Creek Watershed Planning Group met in committees to draft recommendations on each of the topics below. The committees reviewed information about existing programs, and the full Planning Group heard presentations from experts on most of the topics addresses.

The recommendations at the end of each section represent the consensus reached by the full Planning Group. In the case of habitat conservation and restoration, property rights activists blocked consensus on all recommendations. Therefore, the notes from that meeting are presented in lieu of recommendations.

### 1. Watershed Education and Stewardship

The residents of the Mount Diablo Creek Watershed and the surrounding region are lucky to have an unusual and diverse ecosystem to learn about and protect. From locals who pick up trash along the creek in Clayton on their morning walk to birders who come from around the Bay Area to observe the spring warbler migration in Mount Diablo State Park, the watershed has a multitude of champions.

#### Existing Programs

A variety of groups are dedicated to watershed education and stewardship.

- Friends of Mount Diablo Creek organize creek restoration work parties, water quality monitoring, and creek cleanups.
- The Clean Water Programs of Contra Costa County and the Cities of Clayton and Concord organize cleanups and conduct outreach to residents about how to protect water quality.
- The Clayton Community Library has created a butterfly garden and a learning circle next to Mount Diablo Creek. Friends of Mount Diablo Creek have planted and labeled native plants in a garden next to the learning circle.
- Teachers at Diablo View Middle School involve their students in water quality monitoring and creek cleanups.
- The County Community Development Department leads volunteers in monitoring creek health through surveys of bugs in the creek (benthic macroinvertebrates) and global positioning system (GPS) surveys of creek and riparian habitat.
- Mount Diablo State Park organizes an annual Earth Day celebration involving trail maintenance, invasive plant removal, and planting native plants in Mitchell Canyon.
- Mount Diablo Interpretive Association is a volunteer organization that educates the public about natural and cultural resources in Mount Diablo State Park through its publications and website, and by staffing the Mitchell Canyon Visitor Center.
- Save Mount Diablo, Greenbelt Alliance, and local chapters of the Sierra Club, Audubon Society

and the California Native Plant Society lead hikes, organize events, and raise awareness about conservation issues in the watershed.

- Staff and contractors of the Tesoro Refinery join local kayakers every two years in collecting trash from Pacheco Slough.

The Mount Diablo Creek Watershed Planning Project and Inventory have also contributed to watershed education and restoration.

- Watershed stakeholders attend monthly Planning Group meetings where they hear from experts about various watershed issues.
- The Mount Diablo Creek Watershed Assessment provided an overview of watershed issues and data in an easily accessible format.
- The Mount Diablo Creek Watershed Inventory identified opportunities for habitat conservation and restoration.

## Consensus Recommendations on Watershed Education

**Goal: Increase watershed awareness, stewardship and responsibility.**

**Objectives:**

1. Develop materials that communicate an understanding of the Mount Diablo Creek Watershed ecosystem.
2. Organize local events to promote watershed awareness and restore habitat.
3. Encourage place-based learning and service projects through the use of existing partnership between local schools, community organizations and public agencies.
4. Avoid promoting a political agenda, but instead produce fact-based, balanced materials.

Actions	Lead Organization, Agency or Individual
1.1. Work with local representatives and a designer to develop an interpretive watershed map showing natural features, infrastructure, and public features (e.g., parks, schools, etc.). The map may be based on an aerial photo and/or a topographical map.	Contra County Resource Conservation District (CCRCD)
1.2. Adapt the Caring for Our Creeks guide to the Mount Diablo Creek Watershed. Include contact information for local groups and agencies. Cite references and strive to minimize bias.	CCRCD
1.3. Develop a Mount Diablo Creek Watershed website with links to and from websites of local groups and agencies. Ensure accuracy and cite sources. Find a sustainable host.	Mount Diablo Creek Watershed Planning Group
1.4. Create outreach materials for the general public that could include a presentation, brochure, display or poster that could be in presented in person or distributed via a website, cable access, or DVD. Explore developing multilingual versions. Develop materials for different age groups that reflect different ways of learning.	Local schools and libraries working with professional consultant; University of California Cooperative Extension
2.1. Organize volunteer creek cleanups on public lands and where requested on private property	Friends of Mount Diablo Creek, Rotary Club (contact to ask permission to include), Conservation Corps, neighborhood groups
2.2. Organize watershed festivals. Invite all groups to participate.	Clayton Community Library Foundation (ask permission to include)
2.3. Coordinate with local entities to organize work days to remove invasive plants and plant natives on public lands and where requested on private property.	Friends of Mount Diablo Creek, Mount Diablo State Park
3.1. Explore various models for watershed education, e.g., the Adopt-a-Watershed model.	
3.2. Share watershed education experiences with other schools in the watershed.	Diablo View Middle School, Clayton Library Foundation, Kids in Creeks training program alumni

Note: There is an existing program through the Clean Water Program to fund Contra Costa County teachers' participation in Kids in Creeks and Kids in Gardens training courses. The County Clean Water program has already worked with a professional company to create messages and test effectiveness.

## 2. Watershed Approach to Creek Bank and Flood Management

### Background

Contra Costa County experienced a building boom following World War II. Floodplains were developed and impervious surfaces increased. Increased surface runoff destabilized the creeks and flooded many cities in the county in the 1950s, creating an urgent need for flood protection.

The Contra Costa Flood Control District formed in 1951 as a special district funded through property taxes and staffed by the County Public Works Department. The first generation of flood protection infrastructure consisted of 72 miles of concrete channels, rock-lined channels, earthen channels and drop structures. First generation channels were designed to have no vegetation, except for grasses. This allowed for a narrower waterway, but reduced the habitat value of the creek and riparian corridor.

The Flood Control District has shifted its approach toward watershed planning, multi-objective projects (e.g., combining flood management, clean water, trails and habitat), joint use of facilities (e.g., siting playing fields in flood detention basins), and restoration partnerships (e.g., collaborating with local creek groups and watershed councils).

The Flood Control District implements flood control projects in unincorporated areas and can work within city limits if a city invites it to do so. Cities are also free to use their own public works departments and contractors to do flood control work.

As first generation flood control structures begin to fail, cities have to decide whether to replace them with similar structures or to restore the creek. Some common restoration approaches include creating a wider two-stage channel, or detaining water upstream, to create room in the channel for woody vegetation, which provides wildlife habitat.

### Existing Programs

- The City of Concord's stream corridor program provides guidelines for bank stabilization measures on public and private land that enhance wildlife habitat while ensuring adequate flow capacity. (See Appendix 8, Stream Corridor Management in Concord.) (Bank stabilization on private land is the responsibility of the landowner.)
- The City of Concord Public Works Department helps homeowners living along Mount Diablo Creek remove debris before the rainy season to reduce the risk of flooding. The department uses city maintenance crews to do additional brush clearing in the flood control channel downstream of Brazil Quarry Park.
- The Contra Costa Clean Water Program's C.3 regulations require new development projects to treat stormwater runoff before it may be discharged, or to detain or infiltrate the runoff on site. (See Appendix 9, Stormwater Quality Control for Development Projects.)

- C.3 regulations also require projects to prevent any increases in the total amount of runoff and the speed at which runoff reach the creeks, thus preventing any increase in peak flow.
- In order to be eligible for Federal Emergency Management Agency (FEMA) assistance in case of emergency, cities must ensure that no new structures are built in the 100-year floodplain and that new development does not increase downstream flood risk.

## **Future Programs**

The Regional Board is developing a Stream and Wetland Protection Policy that may provide additional guidance regarding the protection and restoration of creek corridors and other integrated approaches to flood management, habitat restoration and water quality protection.

## Consensus Recommendations on Creek Bank and Flood Management

**Goal: Encourage voluntary adoption of flood management and bank stabilization strategies that integrate the enhancement of wildlife habitat and recreation opportunities and the protection of private property rights.**

Objectives	Recommendations for Local Public Agencies	Suggestions for Private Land Owners/Managers
1. Use a watershed approach <sup>7</sup> to analyzing flooding issues.	X	
2. Maintain creek channels and riparian areas to provide flood management, bank stability and wildlife habitat.	X	X
3. Reestablish connections between creeks and their floodplains on public land where feasible and where voluntarily chosen by the private property owner.	X	X
4. Develop and use existing natural features, e.g., swales, ponds and wetlands, for flood storage and water infiltration	X	X
5. Encourage land uses that do not increase the amount of impervious surfaces.	X	
6. Encourage the use of best management practices (BMPs) to reduce erosion from creek banks and upland areas and ensure that BMPs are maintained and up to date.	X	

### Recommended Actions

Actions	Lead Organization, Agency or Individual
Seek opportunities to create detention basins in existing parkland or vacant public land.	Public agencies (e.g., city or regional parks dept. or other responsible agency)
Restore stock ponds and encourage new ponds in Mount Diablo State Park.	Mount Diablo State Park
Investigate the Port Chicago Highway flooding problem that affects Clyde and determine the cause and possible solutions.	County Flood Control District
Distribute information on whom to call when a culvert or storm drain is plugged.	Local Cities

### **3. Future of the Concord Naval Weapons Station**

The inland area of Concord Naval Weapons Station (CNWS) has been slated for closure and conversion to civilian use. The Mount Diablo Creek Watershed Planning Group has taken an interest in the future of the CNWS because its development is likely to be a determining factor in watershed health.

#### **Key Biological Resources and Physical Process on the CNWS Site**

The CNWS contains valuable biological resources that are in need of protection. The Mount Diablo Creek Watershed Inventory (NHI, 2006) has identified several priorities for ecological conservation and restoration on the base:

- Preservation of upland wetlands and ponds and a wetland complex associated with Mount Diablo Creek downstream of Highway 4.
- Preservation of an overland wildlife migration corridor linking Mount Diablo with Suisun Bay that includes passage under the Willow Pass Road and Highway 4 overpasses.
- Restoration of floodplain connectivity and riparian habitat as part of a steelhead trout run restoration project for the watershed.

Preservation and restoration of these areas would benefit a variety of species, including California red-legged frogs, California tiger salamanders, northwestern pond turtles, California horned lizards, golden eagles, western burrowing owls, Cooper's hawks, yellow warblers, and northern harriers.

#### **Planning Processes**

Reuse planning for the CNWS takes place in the context of Contra Costa County's ongoing struggle to balance development and conservation on its remaining open land. The county's urban limit line, designed to prevent sprawl by keeping new development within existing city limits, has been a contentious issue. Concord began planning for the reuse of the inland area of the CNWS in 2003 through the update process for its 2030 General Plan, in which it proposed that about half of the land be preserved as open space. The rest would be used to provide space for up to 13,000 new homes and 15,500 new jobs. The city subsequently removed these numbers from the 2030 General Plan after input at public hearings convinced them to start the reuse planning process with a blank slate. The city re-focused the General Plan on the currently developed areas of the city. Concord is also in the process of updating its zoning and other ordinances.

The City of Concord, which has been designated by the Department of Defense as the Local Reuse Authority for the CNWS site, will determine its future through a multi-year planning process involving extensive public input. Phase I of the reuse planning process, from April to August of 2006, focused on engaging the community. The City of Concord hired a consultant to conduct a telephone survey, hold an "ideas fair", and convene focus groups. City Council members held small group discussions in neighborhoods around the city. During Phase II, which is still ongoing, a Community Advisory Committee meets regularly to advise the City Council in the development a Reuse Plan for the site. The City of Concord has begun an Initial Study, which is the first step toward developing the EIR for the Reuse Plan. Next, in Phase III, the Detailed Reuse and Community Facilities Plans will be prepared and adopted. Workshops are being held to allow the citizens of Concord to provide input on how the land should be used once it is restored.

## Existing Policies and Programs

A variety of environmental policies and programs will help ensure that ecological factors are considered in the reuse planning process for the base.

- The Navy has completed an Environmental Condition of Property (ECP) report on the land that they propose to transfer to civilian use, including descriptions of contaminated sites and sites potentially containing munitions and the status of cleanup efforts. The ECP also describes key natural resources in need of protection.
- The U.S. Environmental Protection Agency and partnering agencies are responsible for ensuring that site cleanup meets the appropriate health and ecological standards for the proposed future uses of the site. Local residents and other interested parties can participate in oversight of clean up by attending meetings of the Restoration Advisory Board.
- The California Environmental Quality Act requires that any proposed plan or project must have an environmental impact report which must be made available for public comment and all comments must be addressed before the project can be approved. Any significant impacts must be mitigated.
- The Contra Costa Clean Water Program's C.3 regulations require most new development projects to treat stormwater runoff before it may be discharged, or to detain or infiltrate the runoff on site. C.3 regulations also require projects that create or replace one acre or more of impervious area to follow guidelines intended to ensure that runoff will not exceed pre-project rates and durations.
- In order to be eligible for Federal Emergency Management Agency (FEMA) assistance in case of emergency, the City of Concord must ensure that no new structures are built in the 100-year floodplain and that new development does not increase downstream flood risk.
- The City of Concord has General Plan policies on sustainable land use, well-planned natural resources conservation, a floodway ordinance, and a hillside protection ordinance. (See Appendix 10, Creek and Open Space Protections in Land Use Plans and Ordinances in Clayton, Concord and Contra Costa County.)

# Consensus Recommendations on the Future of the Concord Naval Weapons Station

**Goals:** The Planning Group recommends the following for the Concord Naval Weapons Station (CNWS) site:

- A safe and healthy creek
- A natural, self-maintaining creek and watershed system
- Access to local recreation
- Harmonization of economic, social and environmental values
- Preservation of cultural and historic resources.

## Creek Objectives

1. Protect water quality.
2. Protect and enhance creek and creekside habitat.
3. Reduce the risk of flood damage to property.
4. Promote public safety.
5. Provide recreational and educational opportunities along the creek, e.g., a creekside trail.
6. Allow for natural connectivity between creek and floodplain as part of a flood management plan.
7. Minimize channelization<sup>8</sup> and/or culverting of the creek.
8. Remove culverts where feasible.

## Watershed Objectives

1. Design development to provide for variable natural flows to support and enhance the creek.
2. Clean up toxic contamination to meet public health and ecological standards.
3. Restore native vegetation and remove invasive plants.

## Recommended Actions

Actions	Lead Organization, Agency or Individual
Use best management practices to maintain or improve habitat, reduce fire hazard and protect sensitive areas in public rangeland areas.	Rangeland managers
Design recreational facilities, such as parks, ball fields and golf courses, with buffers to intercept water and filter pollutants, such as pesticides and fertilizers, and landscape with native plants wherever possible.	Park designers, managers and landscapers

<b>Actions</b>	<b>Lead Organization, Agency or Individual</b>
Model a range of development and conservation scenarios <sup>9</sup> to assess the impacts on flood flows, creek habitat and water quality during Local Reuse Planning.	City of Concord/Local Reuse Authority (LRA)
If the ongoing fish barriers study supports it, remove fish barriers on the CNWS.	Natural Heritage Institute, City of Concord/LRA, Dept. of Fish and Game
Check feasibility of removing culverts and replacing them with bridges where creek crossings are needed and ensure that access is not limited.	City of Concord/LRA
Keep the creek <sup>10</sup> and floodplain as public property with the objective of minimizing impact to private property.	City of Concord/LRA
Consider ways to ensure that funding is set aside for maintenance of parks and trails and find funds to support recommended watershed stewardship activities.	City of Concord/LRA

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10 Keeping the creek and floodplain as public property would avoid the kinds of damage to private property (e.g., flood damage, damage caused by bank collapse) that can occur when structures are built too close to the banks of a creek or in the floodplain.

## 4. Watershed-Friendly Gardening and Landscaping

Home gardens and public landscaped areas can be thought of as microcosms of the watershed, offering opportunities for rainwater infiltration, soil and water conservation, integrated pest management, and habitat restoration. They also have the potential to contribute to watershed threats, such as non-point source pollution, wildfire and vector-borne diseases, such as West Nile Virus.

### Existing Programs

A variety of organizations, workshops and brochures provide information about how to design and care for a garden that contributes to the health of the watershed. By choosing plants, especially native plants, that are well suited to local climate and soil conditions, watershed residents can create gardens that provide beauty, wildlife habitat and rainwater infiltration while minimizing the use of irrigation, fertilizer and pesticides and their associated costs and impacts.

### Rainwater Detention and Infiltration

Homes and yards can be designed to make the best use of seasonal rains. The Contra Costa Clean Water Program's *Start at the Source* manual describes a range of options for detaining and infiltrating water on site, such as using bricks or pavers instead of cement or asphalt, and using cisterns and dry wells to store water. Appropriate vegetation can help water infiltrate the soil and be taken up by plant roots. However, the clay soils that are prevalent in much of the watershed make on-site water infiltration difficult in some cases.

### Native Plants

The **East Bay Chapter of the California Native Plant Society** promotes the appreciation of native plants in the wild and the use of native plants in gardens. A variety of native plant gardening books can be purchased on their website.

**The Watershed Project** promotes the use of native plants in home and school gardens and other educational settings, such as libraries.

The **Bringing Back the Natives** tour provides a glimpse into the yards of native plant gardeners throughout the East Bay. This free tour takes place every May. Additional resources are available on the website.

Volunteers are developing a native plant nursery and demonstration area in Mount Diablo State Park around the Mitchell Canyon Interpretive Center.

### Nurseries and Native Plant Resources

Navlet's

Native Here

The Watershed Nursery

*The Gardener's Guide to Native Plants of the East Bay*, The Watershed Project, [www.thewatershedproject.org](http://www.thewatershedproject.org)

*Easy to Grow East Bay Native Plant List* (by Habitat), Developed by Glen Schneider and Lyn Talkovsky, Permission to use provided by The Watershed Project, <http://www.bringingbackthenatives.net/easytogrow.pdf>.

## **Invasive Plants**

The California Invasive Plant Council provides information about the problems caused by non-native invasive plants, helps raise awareness about what invasive plants look like, and suggests alternative plants to replace invasives in gardens and landscaping projects.

*Don't Plant a Pest!* California Invasive Plant Council, [www.cal-ipc.org](http://www.cal-ipc.org)

## **Pollution Prevention**

Nonpoint source pollution, including pesticides and fertilizers from home gardens, has been recognized as a major contributor to pollution in local creeks and San Francisco Bay. The Regional Water Board requires county and municipal clean water programs to conduct public outreach to residents about how to reduce their reliance on these polluting chemicals without sacrificing the beauty of their gardens. County waste authorities also promote composting as a means of improving soil quality while diverting waste from landfills and incinerators.

*Bay-Friendly Gardening*, Alameda County Waste Management Authority, <http://www.stopwaste.org/home/index.asp?page=141>.

*A Healthy Garden, Fact Sheets from the Contra Costa Clean Water Program*, [http://www.cccleanwater.org/residents/prevent\\_pollution/healthy\\_garden.php](http://www.cccleanwater.org/residents/prevent_pollution/healthy_garden.php).

Healthy Gardening Workshops, Central Contra Costa Sanitary District  
<http://centralsan.org/education/ipm/workshops.html>

Composting Workshops, Central Contra Costa Solid Waste Authority <http://www.wastediversion.org/compostworkshop.htm>

## **Water Conservation**

Home gardens account for more than half of household water use. Local water districts have produced several publications describing ways to reduce water use through appropriate plant selection, mulching, and irrigation efficiency.

*Water-Wise Gardening in Contra Costa County*, Contra Costa Water District, CD-ROM guide, free to county residents, <http://www.ccwater.com/conserv/c-cd.asp>.

*CCWD's Conservation Garden: A Self-guided Tour* (brochure), Contra Costa Water District, Concord, CA. Water Conservation Brochures (watering, soil and mulching, and lawn care), Contra Costa Water District, [http://www.ccwater.com/publications/dist\\_pubs.asp](http://www.ccwater.com/publications/dist_pubs.asp).

*Plants and Landscapes for Summer-Dry Climates*, East Bay Municipal Utility District, 2004, [http://www.ebmud.com/conserving\\_&\\_recycling/plant\\_bo/](http://www.ebmud.com/conserving_&_recycling/plant_bo/).

## **Wildlife Habitat**

Improved wildlife habitat, as well as pollution prevention and water conservation, can result from taking a more natural approach to gardening and landscaping. The National Wildlife Federation's Backyard Habitat Program provides guidelines for creating a wildlife-friendly yard.

Urban Creeks Council's Stream Management Program for Landowners (SMPL), <http://www.urbancreeks.org/> offers property owners advice about low-cost, environmentally sound streamside management practices and alternatives to concrete and riprap. It educates landowners about native plants and wildlife habitat, including introducing the National Wildlife Federation's Backyard Habitat Program.

*California Native Plants Beneficial to Wildlife*, Developed by the Watershed Project, <http://www.bringingbackthenatives.net/benefitwildlife.pdf>.

## West Nile Virus and Mosquito Control

The Contra Costa Mosquito and Vector Control District, <http://www.ccmvcd.dst.ca.us/>, works to protect public health by monitoring for and controlling mosquitoes other vectors, which are defined as any insects or animals that can transmit disease or cause discomfort to people or animals.

West Nile Virus is a viral infection of birds that is transmitted from bird to bird by mosquitoes. It occasionally infects humans, horses, other animals, usually transmitted through the bite of infected mosquito. In severe cases, patients develop severe brain inflammation, muscle weakness, partial or complete paralysis, mental confusion, or memory loss. No cure or vaccine is currently available. Although West Nile Virus has not yet been detected in Contra Costa County, it has been found in the state.

Mosquitoes require standing water to complete their lifecycles. Because the District does not have access to private land, backyard sources have become the most common sources of mosquitoes in Contra Costa County. Residents can help reduce the risk of West Nile Virus by eliminating standing water on their property:

- Dirty swimming pools
- Backyard ponds
- Old tires
- Clogged rain gutters
- Pool and boat covers
- Cans, buckets and other containers.

Residents can also get free mosquitofish for backyard ponds from the District. Call the District at (925) 685-9301 to report mosquito problems or visit its website, <http://www.ccmvcd.dst.ca.us/>

### Contra Costa Mosquito and Vector Control District Services

- **Mosquitoes** – Personal appointments. Residents must provide mosquito sample.
- **Mosquitofish** –FREE to county residents for horse troughs and ornamental ponds. Can eat 500 mosquitos/day!
- **Rats and Mice** – We make house calls to private residences and businesses. Full inspection, report & advice.
- **Skunks** - Traps loaned and skunks removed. Rabies reduction program.
- **Ticks** –FREE Lyme disease testing on live ticks. \$55.00 charge for dead ticks.
- **Yellowjackets** –Ground nests only. Resident must locate and mark nest.
- **Public Affairs** –presentations and community events.

*Keeping Mosquitoes Away from You and Your Yard,*  
<http://www.ourwaterourworld.org/pub/ow/Mosquitoes.pdf>

**Lindsay Wildlife Museum**, <http://www.wildlife-museum.org>

The staff helps with problem solving for “nuisance” wildlife in backyards and cares for injured and orphaned wildlife.

*Wildlife in Your Backyard! A Guide to Living with Wild Animals in Contra Costa and Alameda Counties,*  
Contra Costa Fish and Wildlife Committee and Alameda County Fish and Wildlife Committee.

## **Wildfire and Firesafe Landscaping**

Homeowners living next to wildlands are required to provide 100 feet of “defensible space” around their house to enable a fire fighter to defend their home. No combustible fuel, including dry vegetation, should be located within three feet of the house. Trees should be spread 10-15 feet apart and lower limbs should be removed. Needles and leaves should be removed from eaves and rain gutters.

Diablo Fire Safe Council, <http://www.diablofiresafe.org/>, serves a resource and catalyst for bringing together people, agencies and the means to reduce substantially the impact of wildland fire on communities. DFSC helps homeowner organizations develop and design fuel reduction projects, find labor forces, and in some cases secure financial support for the projects. Since 2002, DFSC has awarded over \$15,000 to local community groups for their fuel reduction projects to make their neighborhoods more fire safe.

*Homeowner’s Guide to Fire Safe Landscaping*, California Fire Safe Council, <http://www.firesafecouncil.org/>

*Make Your Home Fire Safe: A Quick Checklist*, California Department of Forestry and Fire Protection, [www.fire.ca.gov/Education/pdf/Checklistrevised.pdf](http://www.fire.ca.gov/Education/pdf/Checklistrevised.pdf)

*Firescape: Landscaping to Reduce Fire Hazard*, East Bay Municipal Utility District, 2003, [http://www.ebmud.com/conserving\\_&\\_recycling/conservation\\_publications/firescape\\_bolet.pdf](http://www.ebmud.com/conserving_&_recycling/conservation_publications/firescape_bolet.pdf).

## Consensus Recommendations on Landscaping and Gardening

**Goal: Adopt and promote private and public landscaping and gardening practices that contribute to the health of the watershed. All recommended actions are voluntary.**

### Objectives:

Integrate the following objectives into a comprehensive landscaping or gardening plan:

1. Enhance soil quality
2. Control erosion
3. Stabilize creek banks if appropriate, as determined by landowner
4. Conserve water
5. Protect and restore wildlife habitat
6. Protect and improve creek water quality
7. Reduce pesticide impacts on people and the environment
8. Reduce the risk of wildfire damage
9. Reduce the threat of West Nile Virus and other diseases

Figure 15. Railroad Crossing Restricts Tidal Flow in the Lower Watershed, Photo by Jessica Hamburger

### Recommended Actions

Actions	Lead Organization, Agency or Individual
Consider using native plants that benefit wildlife and beneficial insects	Private homeowner or public land manager
Choose plants that are drought-tolerant, fire safe, non-invasive, wildlife-friendly, and appropriate to local conditions	Private homeowner or public land manager
Remove and avoid planting invasive plants	Private homeowner or public land manager
Compost appropriate home and yard waste and apply to soil	Private homeowner or public land manager
Promote composting by providing information and discounts on equipment	Municipalities
Stabilize soil using current best management practices	Private homeowner or public land manager
Prevent erosion related to roof drainage by dissipating energy or using other best management practices	Private homeowner or public land manager
Encourage water infiltration where appropriate by using alternatives to impervious pavement and spreading water in grassy areas or a series of terraces	Private homeowner or public land manager
Use ecologically-based, least-toxic integrated pest management approaches when reasonable	Private homeowner or public land manager
Avoid excessive use of fertilizer (often none is needed if native plants are used)	Private homeowner or public land manager
Educate on appropriate gardening techniques	UC Master Gardeners
Use “fire safe” landscaping measures	Private homeowner or public land manager

<b>Actions</b>	<b>Lead Organization, Agency or Individual</b>
Eliminate or treat mosquito breeding habitat and/or introduce mosquito fish to ponds	Private homeowner or public land manager
Provide a list of resources related to eco-friendly gardening and distribute brochures	City and County Clean Water Programs, CCRCDD, Friends of Mount Diablo Creek
Hold workshops on fire safe landscaping	Diablo FireSafe Council, CCRCDD
Create a brochure and/or web-based document listing recommended plants for the local area. Include a matrix showing whether they have the following desirable characteristics: native, non-invasive, drought-tolerant, fire-resistant, beneficial to wildlife, pest-resistant, soil-stabilizing.	CCRCDD in collaboration with local agencies and groups
Provide educational materials about environmentally friendly gardening to new homeowners	Developers, realtors, nurseries, and city clean water program managers

## 5. Pollution Prevention

Now that major point sources of pollution, such as factories discharging their wastewater directly into creeks and the bay, have been mostly controlled, environmental agencies have shifted their attention to non-point source pollution, such as sediment and pesticides in stormwater. Residential and commercial activities, such as pouring motor oil or kitchen grease down a storm drain or washing vehicles or equipment near a storm drain or creek, have also been identified as serious pollution sources. In addition, many residents are concerned about illegal trash dumping in their watersheds.

### Existing Programs

Non-point source pollution is being addressed by all levels of government. U.S. Environmental Protection Agency maintains a list of impaired water bodies and is responsible for making sure that the states work with their cities and dischargers to clean up water bodies so that they can be taken off the impaired list.

In the Bay Area, the San Francisco Regional Water Quality Control Board (Regional Board), oversees implementation of city stormwater programs, administers permits to industrial dischargers in the watershed, and works to reduce nonpoint source pollution from activities, such as grading. The Regional Board recently required Contra Costa and Alameda Counties and their cities to adopt a new set of rules called the stormwater C.3 regulations, governing discharges to storm drains and creeks. The regulations require most new development projects to treat stormwater runoff before it may be discharged, or to detain or infiltrate the runoff on site. (See Watershed Approach to Creek Bank and Flood Management.)

As all members of the Contra Costa Clean Water Program, the Cities of Concord and Clayton implement the requirements of their stormwater permits, which include ensuring compliance with regulations and conducting public outreach. The Clean Water Program staff distributes materials at public events, respond to information requests, and organize annual creek cleanups.

Illegal dumping is primarily addressed at the local level through incentive, enforcement and education programs. Curbside pickup and/or free drop-off for waste that is no longer permitted to be included in regular garbage provide alternatives to illegal dumping and hotlines allow residents to help local agencies catch illegal dumpers. A variety brochures, guides and websites educate the public about reuse and recycling programs.

### Homeowner Programs

#### Curbside Electronic Waste Disposal

Concord Disposal Service offers a recycling pickup for cathode ray tubes (computer monitors, TVs) for an extra fee that pays for disassembly and removal of hazardous materials. Call to make arrangements. <http://www.concorddisposal.com/>

**Pleasant Hill Bayshore Disposal** offers residents of Clayton and Clyde recycling pickup for cathode ray tubes (computer monitors, TVs) for an extra fee that pays for disassembly and removal of hazardous materials. Additionally, up to three electronic waste items (computers, keyboards, etc.) without cathode ray tubes can be recycled curbside for an extra fee. <http://www.alliedwasteservicesofcontracostacounty.com>

**Free E-Waste Recycling Drop-Off Center** <http://www.recycleforbreastcancer.org/dropoffanytime.htm>  
**San Ramon Recycle Center** Location: Saf Keep Storage, 200 Purdue Road, San Ramon, CA 94583, phone (925) 735-7203 Hours: Seven days a week, 9:30 am - 4:30 pm (no appointments necessary)

**Free Drop-Off Center for Household Hazardous Waste**, [www.centalsan.org](http://www.centalsan.org)

**Central Contra Costa Household Hazardous Waste Collection Facility**  
4797 Imhoff Place, Martinez, 800-646-1431 Hours: Tue-Sat, 9 am – 4 pm

**Illegal Dumping Hotline:**

Hotline for reporting illegal dumping in the public right-of-way, 1-800-NO DUMPING.

**Abandoned Shopping Cart Abatement Program:** Concord Shopping Cart Hotline, 671-5080

**Local Guides and Brochures:**

*Contra Costa Reuse and Recycling Guide*  
<http://www.co.contra-costa.ca.us/depart/cd/recycle/guide.htm>

*Contra Costa County Reuse and Recycling Options Website*  
<http://www.co.contra-costa.ca.us/depart/cd/recycle/options/>

*Pollution Prevention (fact sheets), Contra Costa Clean Water Program*  
[http://www.cccleanwater.org/residents/prevent\\_pollution/index.php](http://www.cccleanwater.org/residents/prevent_pollution/index.php).

*Tips for the “Weekend Warrior”:* *Controlling Erosion* (brochure), Contra Costa County Public Works Department.

*We All Live in a Watershed* (brochure), Contra Costa Watershed Program, Contra Costa County Public Works Department.

(Additional resources are listed under Gardening and Landscaping and Rural Land Management.)

## **Consensus Recommendations on Pollution Prevention**

**Goal:** Prevent or reduce polluting activities in the watershed.

**Objectives:** Provide incentives and education regarding voluntary means to prevent or reduce pollution from the following sources:

- Fertilizers and pesticides
- Automotive waste
- Household hazardous waste
- Septics
- Vehicle and equipment washing
- Human and animal waste
- Excessive (non-natural occurrences of) soil erosion
- Illegal dumping
- Non-natural occurrences of metals and other chemicals of concern for San Francisco Bay health.

### **Recommended Strategies to Improve Homeowner Outreach**

- Approach homeowners with information, not instructions. Describe the tradeoffs of different approaches.
- Agencies need to learn from homeowners about the issues they face, e.g., during events such as the Home and Garden show, Earth Day, etc.
- When making a recommendation, explain what's in it for the homeowner as well as how it benefits society/the watershed.
- Improve agency coordination to better serve homeowners.

## Recommended Actions

Actions	Lead Organization, Agency or Individual
Educate on appropriate gardening techniques (See recommendations on Landscaping and Gardening)	UC Master Gardeners
Encourage the use of best management practices (BMPs) to reduce erosion from creek banks and upland areas and ensure that BMPs are maintained and up to date. (See recommendations on Creek Bank and Flood Management)	Clean Water Programs and Public Works Depts.
Encourage law enforcement agencies to prosecute illegal dumpers	Law enforcement agencies
Make waste transfer stations less expensive or have more convenient hours, e.g., longer hours on weekends and a weekday evening	
Add flash cameras with motion sensors to catch illegal dumpers	Law enforcement
Remove and discourage illegal encampments in riparian areas	Law enforcement in collaboration with homeless outreach groups
Provide disposable bags for pet manure disposal	Public agencies, e.g., parks, or community service groups
Provide a list of agencies to contact for different pollution prevention and reuse issues.	City and County Clean Water Programs, CCRCDD
Bring in celebrities to improve attendance at outreach events.	All event organizers
Do outreach at car shows about automotive waste management. Distribute flyers and ask race car drivers to make announcements about recycling motor oil, etc.	City and County Clean Water Programs
Reduce illegal dumping and trash in the creek through: <ul style="list-style-type: none"> <li>• Free dumpster days/more curbside pickup of big trash items</li> <li>• Shopping cart abatement hotline</li> <li>• Adopt-a-Creek program</li> </ul>	City and County Clean Water Programs, city and county waste management programs

## 6. Rangeland Management

In some areas of the watershed, uncontrolled grazing by cattle led to erosion and sedimentation of the creeks and the destruction of riparian vegetation. These changes reduced the creeks' habitat values for species that depend on riparian vegetation and the shade it provides to the creeks.

Land managers are now more aware of the need to adopt practices that are protective of riparian corridors and other natural resources. For example, managed grazing occurs at the headwaters of Mount Diablo Creek on the Chaparral Spring property, owned by Save Mount Diablo. After the group acquired the land, land managers reduced the number of cattle and observed marked improvements in habitat quality (Adams, 2005).

Much of the former grazing land in the upper watershed is now part of Mount Diablo State Park. The park's General Plan states that grazing can only be used for the explicit purposes of resource management or interpretation (i.e., public education) (California Department of Parks and Recreation, 1989). Grazing for resource management largely ceased in the 1990s after a heated debate between park managers and the community (Fried and Huntsinger, 1998), and grazing for interpretation currently occurs on very limited acreage in the park. Many community members and experts expressed concern that removal of grazing would increase the risk of wildfire to an unacceptable level. State Park managers responded to that concern by developing a wildfire management plan that includes the use of fire breaks and other techniques.

In contrast to Mount Diablo State Park, the East Bay Regional Park District supports the use of managed grazing on its land. The District has an ongoing research program to examine the benefits of grazing for species such as California red-legged frogs and California tiger salamanders, and raptors. Managed grazing also appears to benefit certain native wildflower species by reducing the accumulation of thatch. Several invasive non-native species, such as yellow starthistle, etc., became serious threats to the ecological integrity of grassland ecosystems, as well as to the economical viability of land that is grazed or ungrazed.

### Existing Programs

**Environmental Quality Incentives Program (EQIP)** The USDA Natural Resources Conservation Service is a non-regulatory federal agency that provides technical and financial assistance to local farmers and ranchers for natural resource conservation projects, which may include erosion control, water conservation and integrated pest management practices.

### Farm and Ranch Solid Waste Cleanup Program

Cities, counties, RCDs and Native American tribes are eligible to receive grants to assist landowners in cleaning up refuse that has been illegally dumped on their land. Information is available from the California Integrated Waste Management Board website, [www.ciwmb.ca.gov](http://www.ciwmb.ca.gov).

### Local Guides and Brochures

*Best Management Equine Facility Practices*

(complete set of documents, including *Horse Owners Guide to Water Quality Protection*),

Council of Bay Area Resource Conservation Districts in partnership with

the USDA Natural Resource Conservation Service,

<http://www.cccleanwater.org/resources/materials/index.php>.

## Consensus Recommendations on Rangeland Management

**Goal: It is our goal to collaboratively work together to protect and enhance the rangeland landscape and adjacent grasslands and oak woodlands in the watershed on a voluntary basis.**

### Objectives:

1. Maintain populations of common native species on public and private lands.
2. Work to recover sensitive species<sup>11</sup> and enhance habitat on rangelands without increasing regulations and while minimizing economic impact on private lands.
3. Support the long-term viability of the ranching industry and its culture by providing economic, social and other incentives and by reducing burdens on proactive stewardship on private ranchlands.
4. Encourage increased private, state and federal funding, technical expertise and other assistance to continue and expand the ranching community’s beneficial land stewardship practices that benefit sensitive species and are fully compatible with currently viable ranching practices.
5. Encourage voluntary, collaborative and locally-led conservation that has proven to be very effective in maintaining and enhancing rangelands.
6. Educate the public about beneficial grazing and ranching practices in rangelands.

### Recommended Actions

Actions	Lead Organization, Agency or Individual
Educate the public and public land managers about beneficial grazing and ranching practices.	East Bay Regional Park District, Contra Costa Resource Conservation District, USDA Natural Resources Conservation Service, University of California Cooperative Extension, Contra Costa Farm Bureau, Cattlemen’s Association
Link local landowners and land managers to conservation planning assistance.	Contra Costa Resource Conservation District, USDA Natural Resources Conservation Service

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<sup>11</sup> “Sensitive species” refers to threatened, endangered and species of concern at the state or national level.

## **7. Water Use Efficiency and Conservation**

Water conservation is an important element of watershed health, particularly when considering the larger San Francisco Bay-Delta watershed. Residents of the Mount Diablo Creek Watershed receive water from Contra Costa Water District (CCWD), which takes water from the Delta. CCWD delivers treated and untreated water to 500,000 people in Central and East County. In addition, two thirds of Californians drink some Delta water and much of the state's agriculture depends on Delta water.

Demand on the Delta's water is increasing, even as scientists and policy makers struggle to unravel the mysteries of the crash of many species of Delta organisms. California is expected to have 60 million residents by 2040. This will mean more competition for water in drought years, less fresh water inflow to Delta, and more urban runoff and wastewater flowing to Delta. Water conservation, along with water recycling and water transfers, will help to ensure future water supply in the state. Water conservation also helps customers by saving them money.

### **Existing Programs**

CCWD's Conservation Program has been offered throughout its service area since 1989. It is funded through rates and some grants when available. Its goal is to reduce long-term demand by 5%. Key program elements include surveys, incentives, water budgets, education and system leak detection.

Single family surveys target top users. CCWD inspects the home interior and irrigations system, and recommends equipment improvements. Staff provide an irrigation schedule and seasonal reminders. In multi-family residential surveys, staff inspect each unit. They provide showerheads and aerators, test for toilet leaks, and recommend high efficiency toilets and clothes washer programs. Commercial surveys cover a wide variety of sites. Staff review accounts and past water usage, inspect water uses, recommend rebates and incentive programs, and calculate cost payback for upgrades. In landscape surveys, staff inspect irrigation stations, perform application rate tests, provide a written report listing equipment and maintenance improvements, and prepare a weather-based irrigation schedule.

Incentive programs provide \$50 or \$100 rebates for appliances and \$175 rebates or direct installation of high-efficiency toilets. These program help consumers save water, energy and money and achieve better performance. CCWD offers commercial device and irrigation rebates for cooling towers, water brooms, monitoring meters, drip retrofits, sprinkler heads, and rain sensors. The agency also provides rebates of approximately 75% of material cost for smart sprinkler timer rebates that are self-adjusting based on real weather data, providing water and labor savings.

## Consensus Recommendations on Water Conservation

**Goal: Promote water use efficiency and conservation.**

**Objectives:**

1. Promote water efficient landscapes, including water efficient irrigation systems.
2. Promote residential indoor water conservation.
3. Expand participation in existing water conservation programs.
4. Promote water recycling and the use of cisterns.

**Recommended Actions**

Actions	Lead Organization, Agency or Individual
Promote the use of water conserving equipment, such as high-efficiency toilets, high-efficiency clothes washers and low flow showerheads.	Contra Costa Water District
Educate people about what garden landscaping plants are drought resistant and habitat friendly.	Contra Costa Water District, Master Gardeners
Provide water conservation education in the schools.	Contra Costa Water District
Encourage more people to become Master Gardeners.	
Add a water conservation education component to the Clayton Community Library garden.	Clayton Community Library Foundation, Friends of Mount Diablo Creek
Develop list of education resources and make available through a website, library.	CCRCD, Friends of Mount Diablo Creek
Encourage tours of water efficient and wildlife habitat gardens.	Local garden clubs
Encourage water users to make use of programs that help them evaluate ways to conserve water.	Contra Costa Water District

## **8. Habitat Conservation and Restoration**

The watershed includes a variety of habitat types, such as grassland, chaparral, oak woodland, riparian zones, and freshwater and tidal wetlands. It supports high levels of biodiversity, including several threatened and endangered species. Creekside residents report enjoying listening to frogs from their yards and walking along the creek regularly to observe a wide array of wildlife, from herons to turtles.

### **Existing Programs and Projects**

The Contra Costa County Community Development Department has led the development of an East County Habitat Conservation Plan/Natural Community Conservation Plan (HCP). This new program is designed to preserve diverse ecosystems in East Contra Costa County while clearing regulatory obstacles to continued economic development. The HCP program will replace project-by-project permitting and fragmented mitigation with a coordinated plan to preserve large, connected, biologically rich blocks of habitat. The program will give developers the opportunity to pay a fee that will fund the purchase of habitat land or conservation easements from willing sellers. The East County HCP currently covers the City of Clayton and the agricultural part of the upper Mount Diablo Creek watershed outside Mount Diablo State Park.

In addition, CCRCDD, the Natural Heritage Institute, Mount Diablo State Park, the Contra Costa Mosquito and Vector Control District and the East Bay Municipal Utility District have begun discussing ways to work together to remove fish barriers in order to restore the historic steelhead trout run to Mount Diablo Creek.

### **Summary of Group Discussion**

(No Consensus Recommendations on Habitat Conservation and Restoration)

The Planning Group could not reach complete consensus on any recommendations related to habitat conservation and restoration because of a fundamental disagreement about whether to include wildlife corridors as an objective of our watershed plan. Some workgroup members felt very strongly that wildlife corridors should be part of the plan while other workgroup members felt equally strongly that wildlife corridors should not be part of the plan. Some members were very concerned about the possible impacts of wildlife corridors on private property rights and property values. During this watershed planning process, discussions were not able to alleviate these concerns nor meet the desires of those who felt that establishing wildlife corridors is essential to conserving and restoring wildlife habitat. Below is a list of the issues that were discussed.

#### **Concerns about the effect of wildlife corridors on property rights and property values:**

- Need an economic study of the cost of designation of wildlife corridors to landowners.
- Land use planning should not be in the purview of the MDCW Planning Group because land use planning can adversely affect property values, e.g., urban limit line limits development potential of property outside the line.
- Designation of wildlife corridors creates pressure to donate land for conservation and/or can lead to coercion to sell land under threat of eminent domain.
- Wildlife corridor designations can have impacts on property rights, e.g., landowner may have to fence cattle out of the creek.

- Wildlife corridor recommendations in our watershed plan could lead to setback requirements similar to those proposed in the Sonoma County General Plan.
- Restoration efforts that bring back endangered species could adversely affect property values by limiting development potential.

**If not wildlife corridors, how do we protect wildlife? (Property rights perspective)**

- Use common sense.
- Accept that no one knows what to do to protect species.

**Other participants' comments addressing concerns about property rights/values:**

- Wildlife corridors and trails have increased property values in Clayton.
- The focus of the watershed planning group should be protecting the watershed, not analyzing potential impacts on property rights.
- We can build property rights protections into the watershed plan while including support for wildlife corridors.
- We need to find a compromise.
- It is not fair for one group to block progress on this issue without trying to find common ground.
- Conduct studies on voluntary best management practices for species protection

One participant suggested leaving wildlife corridors out of the plan since the group could not reach consensus. Another participant suggested putting the issue in the “parking lot”, a list of issues to address at a later time, because the majority of participants still want to find a way to include wildlife corridors while protecting property rights.