

## Members

Diane Dillon  
Mark Luce  
Eric Sklar  
Steven Rosa  
Mark Van Gorder  
Karen Slusser  
David Graves  
Jeff Reichel  
Phill Blake  
Donald Gasser  
Kate Dargan  
Jeffrey Redding  
Robert Steinhauer  
Charles Slutzkin  
Marc Pandone  
Richard Camera

## Alternates

Harold Moskowitz

## AGENDA

### SPECIAL BOARD MEETING

Thursday, February 23, 2006 at 4:30 p.m.

Napa Sanitation District, Suscol Water Recycling Facility  
Conference Room, 1515 Soscol Ferry Road, Napa, California

## Staff Representatives

Patrick Lowe,  
**Secretary**  
Deputy Director,  
Conservation Div., CDPD

Jeff Sharp,  
**Watershed Coordinator**  
Planner III,  
Conservation Div., CDPD

Laura Anderson,  
**Counsel**  
Attorney IV,  
County Counsel's Office

1. **CALL TO ORDER & ROLL CALL** (Chairman/Staff)
2. **APPROVAL OF ACTION MINUTES**  
None at this time (Chairman)
3. **PUBLIC COMMENT**  
In this time period, anyone may comment to the Board regarding any subject over which the Board has jurisdiction, or request consideration to place an item on a future Agenda. No comments will be allowed involving any subject matter that is scheduled for discussion as part of this Agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Board as a result of any item presented at this time. (Chairman)
4. **PRESENTATION AND DISCUSSION ON NAPA SANITATION DISTRICT'S STRATEGIC PLAN FOR RECYCLED WATER USE:**  
  
Presentation and discussion on **Napa Sanitation District's Strategic Plan for Recycled Water Use**, including strategic planning update and purpose, water use predictions and the value of recycled water, estimated project costs and strategy next steps (Staff/NSD General Manager)
5. **ANNOUNCEMENTS** (Board/Staff)
  - a. Councilman **Eric Sklar** from the City of St. Helena, **appointed to the WICC** February 7, 2006 (Staff)
  - b. WICC supported **"Water for Fish and Farms,"** concept proposal invited to submit full grant proposal to CalFed Watershed Program (Staff/RCD)
  - c. Others (Board/Staff)
6. **UPDATES/REPORTS:**
  - a. Update on current County **General Plan Update process and General Plan Steering Committee activities** (Board/Staff)

- b. Update on the **Rutherford Dust Restoration Team's (RDRT) efforts and activities** along the Rutherford Reach of the Napa River to enhance riparian and aquatic habitat, river functioning and property protection (Staff)
- c. Update and report on the **Regional Water Quality Control Board's Total Maximum Daily Load (TMDL) allocation process and implementation plan** for the Napa River (Staff)
- d. Update and report on **steps to develop a Countywide Watershed Monitoring Program** (Staff)
- e. Others (Board/Staff)

**7. PRESENTATION, DISCUSSION AND REQUEST FOR WICC BOARD REVIEW AND COMMENT ON "CARING FOR CREEKS" PUBLICATION:**

Presentation, discussion and **request for WICC Board Member review and comment on "Caring for Creeks in Napa County: Management Tips for Streamside Property Owners,"** a watershed education and outreach publication developed by the Napa County Resource Conservation District (RCD), due by March 9, 2006 (Staff/RCD)

**8. DISCUSSION AND POSSIBLE REQUEST AND RECOMMENDATION THAT THE BOARD OF SUPERVISORS APPROVE UPDATED BYLAWS FOR THE WICC BOARD:**

Discussion and possible action to **request that the Board of Supervisors approve updated bylaws governing the WICC Board** to reflect changes to the Board's membership, meeting schedule and formal name, as supported by approved resolutions (Staff)

**9. FUTURE AGENDA ITEMS** (Board/Staff)

- a. Presentation by the Institute for Conservation Advocacy, Research and Education (ICARE) and request for support
- b. Others (Board/Staff)

**10. NEXT MEETING:**

**Regular Board Meeting of March 23, 2006 – 4:00 PM**  
Hall of Justice Building, 2<sup>nd</sup> floor Conference Room, 1125 Third Street, Napa

**11. ADJOURNMENT** (Chairman)

**Note: If requested, the agenda and documents in the agenda packet shall be made available in appropriate alternative formats to persons with a disability. Please contact Jeff Sharp at 707-259-5936, 1195 Third St., Suite 210, Napa CA 94559) to request alternative formats.**



# Map and Directions

## SOSCOL WATER RECYCLING FACILITY:

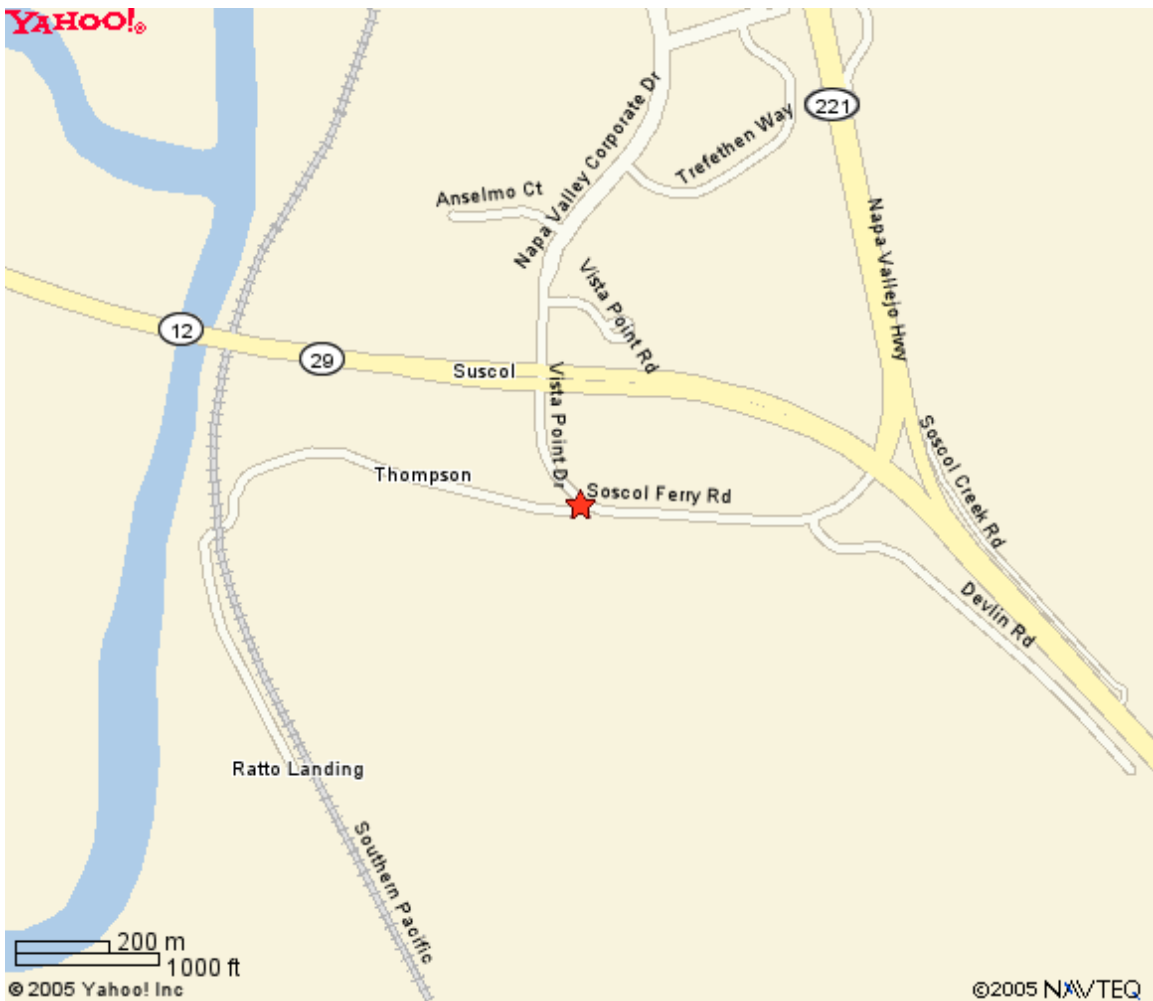
1515 Soscol Ferry Road  
Napa, California 94558  
707-258-6020

### From Northbound 29

Left on Soscol Ferry Road  
Driveway on left-hand side  
before underpass

### From Southbound 29

Right on Soscol Ferry Road  
Driveway on left-hand side  
before underpass



# Exploring Alternative Ways to Expand Use of Recycled Water



## Why the Napa Sanitation District is exploring the expansion of its Water Recycling Program

California has long faced the challenge of allocating a fixed water supply among a growing population with diverse needs. In many cases, there just isn't enough water to go around. The Napa Sanitation District is exploring alternative ways to extend the delivery of recycled water for irrigation and to offset dependency on groundwater and surface water. We invite you to become familiar with and comment on the various strategies and potential solutions outlined in a long term planning document under consideration, called the *Recycled Water Strategic Plan*.

The Napa Sanitation District Board will consider potential revisions in early 2006. Written comments on the proposed use of recycled water and the *Recycled Water Strategic Plan* are due by December 16, 2005.

### Background

The Napa Sanitation District owns and operates the Soscol Water Recycling Facility (WRF) south of the City of Napa. Currently, treated wastewater is sent to the Napa River during the wet season (November 1 through April 30). During the dry season (May 1 through October 31), the water is reclaimed and then distributed for reuse to local vineyards, industrial parks, and golf courses. The recycled water produced at the Soscol WRF is disinfected tertiary quality, which is the highest quality recognized under the Department of Health Services, Title 22 requirements.

The District and its engineering consultants have developed a *Recycled Water Strategic Plan* to explore options to maximize the recycling of wastewater produced at the Soscol WRF to provide the following benefits to the community by addressing the area's urgent water supply and wastewater disposal issues:

- Assurance that the highest quality water is reserved for the highest quality use, public drinking water

- Decreased reliance on dwindling groundwater supplies
- Increased availability of recycled water for irrigation in water-short areas
- Prevention or postponement of costly water supply projects
- Enhancement of the Bay-Delta System by reducing dependence on the North Bay Aqueduct
- Broader rate base for the District with more recycled water users
- Reduction of emphasis on the National Pollutant Discharge Elimination System (NPDES) permit for river discharge and its associated costs and uncertainty

### Recycled Water Strategies

The Strategic Plan developed the following seven recycled water distribution strategies to represent the range of interests relevant to the District:

- 1) Recycle All Water Produced**
  - Treat all influent wastewater to recycled water standards
  - Store all water produced
  - Distribute water through pipelines to landscape, agricultural and industrial users
- 2) Recycle Enough to Meet NPDES Permit Requirements**
  - Deliver recycled water to sufficient recycled water users during the dry season in order to reliably meet the dry weather discharge prohibition
- 3) Maximize Use of Existing Storage (Optimize Largest Users)**
  - Maximize use of existing storage facilities (have water available in ponds at beginning of irrigation season and empty ponds prior to start of river discharge season)
  - Minimize volume of treated effluent discharged to the Napa River
  - Deliver recycled water to the largest users
  - Maximize the number of paying customers
- 4) Maximize Use of Existing Storage (Least Pipeline Cost)**
  - Maximize use of existing storage facilities (as in Strategy 3)
  - Minimize the capital outlay for pipeline construction

For more information, call (707) 258-6000. The complete *Recycled Water Strategic Plan* document and other project information is available online at [www.NapaSanitationDistrict.com](http://www.NapaSanitationDistrict.com).

## 5) Deliver Recycled Water to MST Area

- Deliver recycled water to the MST area as quickly as possible
- Provide recycled water, primarily for golf course and vineyard irrigation, to reduce the groundwater deficit in the area

## 6) Deliver Recycled Water to Carneros Area

- Deliver recycled water to the Carneros area as quickly as possible
- Provide recycled water for agricultural irrigation to improve water supply conditions in the area

## 7) Maximize Use of Existing Storage (Augment Water Supply)

- Maximize use of existing storage facilities (as in Strategies 3 and 4)
- Focus on augmenting water supply in water-short areas of Napa County
- Maximize the volume of recycled water delivered to both the MST and Carneros areas



Photo: Bill Gaffney

*Napa currently uses recycled water on vineyards, golf courses and other landscaping.*

## Evaluation of Strategies

Each of the seven strategies has a different focus and achieves different goals for the District. Some of these achievements can be quantified, such as reduction in river discharge, volume of recycled water supplied to water-short areas, construction costs, and operations and maintenance (O&M) costs. Other benefits are intangible in that they cannot be quantified. These include public and stakeholder acceptance, environmental benefits, and rapid and simple implementation.

A comparison of the recycled water strategies was completed based on both the quantifiable and intangible benefits. The strategies and evaluation criteria were presented to the District Board of Directors in February 2005. The Board indicated that costs to sewer customers is paramount and must factor heavily into any recycled water planning efforts. The Board is also interested in augmenting water supply in the community.

Embracing the two priorities, the Board expressed a desire to certainly implement Strategy 2, as it is

necessary to meet state requirements for protecting the Napa River environment. The Board has also expressed an interest in the possible implementation of Strategy 3, as it calls for minimizing the amount of treated wastewater discharged into the river, while delivering recycled water to the largest users, maximizing the number of paying customers and using existing storage.

The District is now entering a period of gathering public input, evaluating interest in recycled water from potential users and exploring funding opportunities (such as state and federal grants as well as local sources).

## Recycled Water Quality

Recycled water produced at the Soscol WRF is currently being used at 23 sites, including seven sites for vineyard irrigation and the remaining sites for turf grass and landscape irrigation. The users at these sites have been satisfied with the quality of recycled water delivered to them.

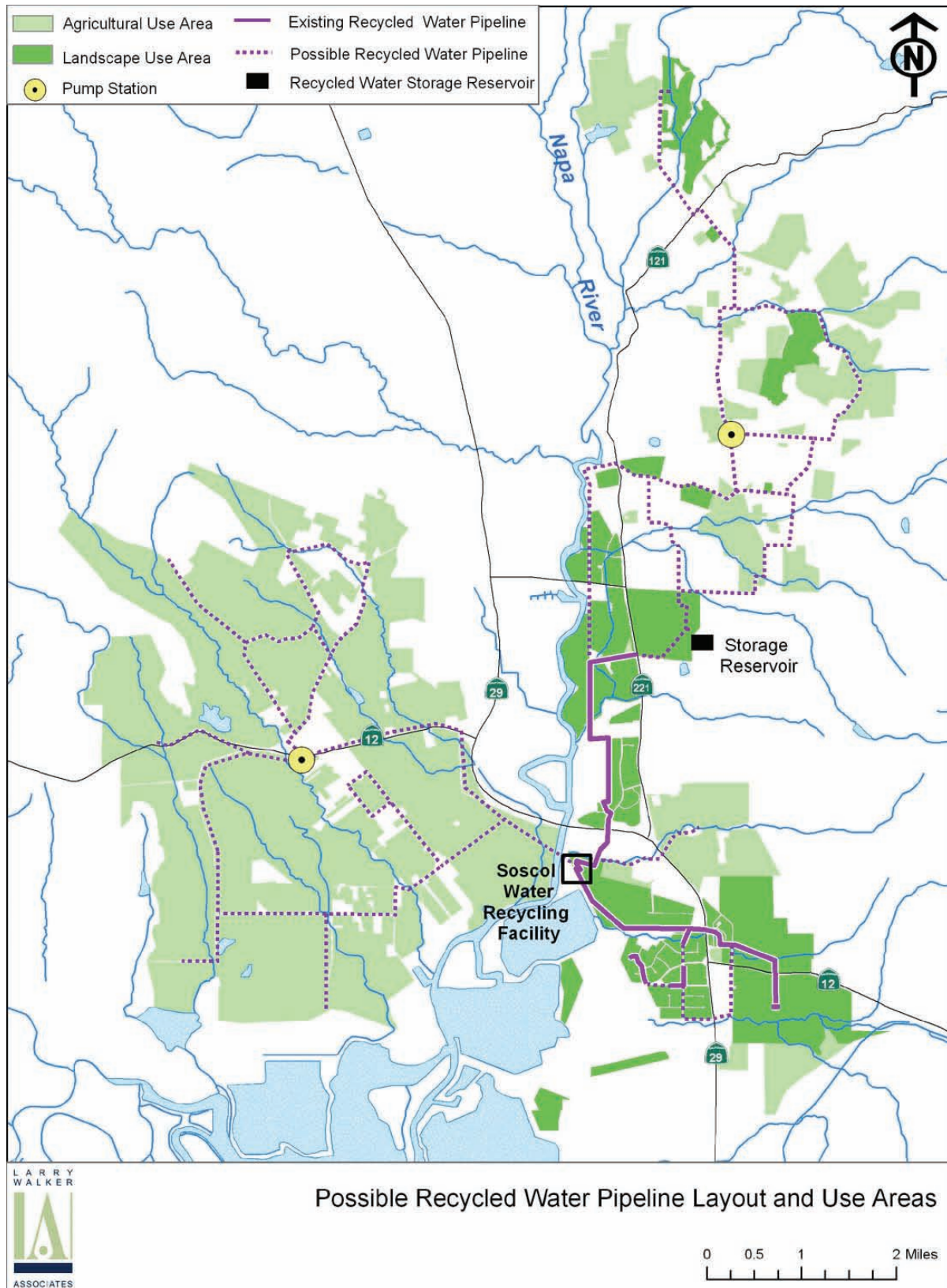
In addition, the California Department of Health Services (DHS), along with other public health experts and recent national scientific studies, confirm that recycled water is safe for the uses outlined in the *Recycled Water Strategic Plan*. DHS and the California Regional Water Quality Control Board carefully regulate the treatment and use of recycled water. These agencies create and enforce some of the strictest water quality regulations in the world – they govern production, transport and use, as well as the prevention of runoff and cross connections between potable and recycled water systems.

The Napa Sanitation District's Soscol Water Recycling Facility meets these regulations (Title 22) by providing a high-quality, tertiary level of treatment and following prescribed use criteria. Recycled water is already a valuable resource that augments the area's water supply and preserves precious drinking water for human uses.

## How to Submit Your Comments

Comments are due by 5 PM, December 16, 2005. Mail or fax your written comments on the proposed *Recycled Water Strategic Plan* to:

Recycled Water Strategic Plan  
Napa Sanitation District  
P.O. Box 2480  
Napa, California 94558  
Fax: (707) 258-6048



*The dotted lines on the map show a variety of pipeline alternatives that are being considered in the **Recycled Water Strategic Plan**. Shaded areas show potential locations for agricultural and/or landscape uses. Final pipeline routes and areas of use will be determined after community interest and funding sources are identified.*

## FREQUENTLY ASKED QUESTIONS

### **When will the project be built?**

Once a recycled water distribution strategy is adopted and funding is secured, a timeline can be established for project implementation. The system will be expanded gradually in phased construction. Some projects could be started within the year. Current plans call for full project implementation by 2020.

### **How much will it cost and how will it be paid for?**

The Napa Sanitation District Board is reviewing all seven distribution strategies to determine which is most feasible; the preliminary strategy project cost ranges from \$2 to \$92 million.

The Recycled Water Program can not be expanded at the sole expense of the District ratepayers. It is intended that Program expansion be paid for by multiple sources, such as state and/or federal grants, connection fees, benefit assessment district(s), user fees, and other sources of funding.

### **What kind of grant funding is the District currently pursuing?**

The District has applied for five separate state grants to fund recycled water projects. In addition, the District is working with other North Bay agencies on potential federal funding.

### **Where are we in the process?**

Currently the District Board is interested in hearing from the public, potentially affected property owners and potential recycled water users. Written comments on the Recycled Water Strategic Plan are due to the District by December 16, 2005. The Board will consider potential revisions to the Strategic Plan in early 2006. Regardless of which strategy is implemented, an environmental review will be conducted as required by CEQA (the California Environmental Quality Act).

### **Will using recycled water be mandatory?**

The District typically negotiates User Agreements with each of its recycled water customers. The agreement specifies a minimum amount of recycled water delivered per year and the cost of the water and the term of the agreement, which may be up to 20 years. Because of the high cost of water recycling facilities (mainly pipelines), the use of User Agreements ensures that projects are economically feasible for the District.

### **Will recycled water users lose their water rights (to groundwater or surface water sources)?**

No; as noted in Section 13551 of the California Water Code, the use of recycled water shall not cause any loss or diminution of any existing water right.

### **Where else is recycled water used?**

There are many successful recycled water projects throughout California, the United States and around the world. For example, Monterey County farmers use recycled water for irrigating food crops. In Sonoma County over 6,400 acres of farmland and vineyards are irrigated with recycled water. Paramount's Great America, in Santa Clara County, uses recycled water to irrigate the amusement park's landscaped areas. In California alone, recycled water is used at more than 400 parks and playgrounds and 300 schools. In Napa, more than 1,500 acres of vineyards, golf courses and landscaping are already being irrigated with recycled water.

### **What is the quality of the water?**

Napa's recycled water is treated to meet or exceed California Title 22 "disinfected tertiary recycled water" standards. That means it is the highest quality recycled water for its intended purpose of landscape and crop irrigation, and can also be used for such things as fire fighting, equipment washdown and in cooling towers.

### **Where will the pump stations be located, what will they look like and will they be noisy?**

Booster pumping stations would be similar to typical municipal water supply well pumping stations. They normally take up an area in the range of 400 to 800 square feet. The location could be anywhere along the length of a given pipeline segment.

Stations would typically be screened with concrete block or other type of appropriate fencing for the location. There would be an entrance gate for maintenance vehicle access. They can be designed to blend into surrounding environments.

Noise levels from electric motor pumps would be similar to a swimming pool pump and are typically not a nuisance provided the set-back from residential areas is adequate.

### **What is Napa doing to conserve water?**

Napa has an aggressive water conservation effort that includes a low-flow toilet program, water-efficient washing machine rebates, home audit surveys, restaurant faucet nozzle replacement programs and commercial landscape irrigation best management practices. To date, about 85% of Napa's water customers are using low-flow toilets.

### **Is the recycled water quality appropriate for vineyard irrigation?**

Recycled water quality varies at each treatment plant; the UC Cooperative Extension is doing a study of vineyard impacts associated with use of the District's recycled water. Seven vineyards in the Napa area have been successfully irrigating with the District's recycled water. Study results will be available in the spring of 2006.

**Recycled Water Opportunities:**  
**Napa Sanitation District's**  
**Strategic Plan for**  
**Recycled Water Use**

**Contact Information**



Michael Abramson  
General Manager  
(707) 258-6000  
mabramson@NapaSan.com



Denise Conners  
Larry Walker Associates  
(408) 261-8385  
deniseC@lwa.com

*Download the full Strategic Plan at our website:*  
[www.NapaSanitationDistrict.com](http://www.NapaSanitationDistrict.com)



## *Project Purpose*

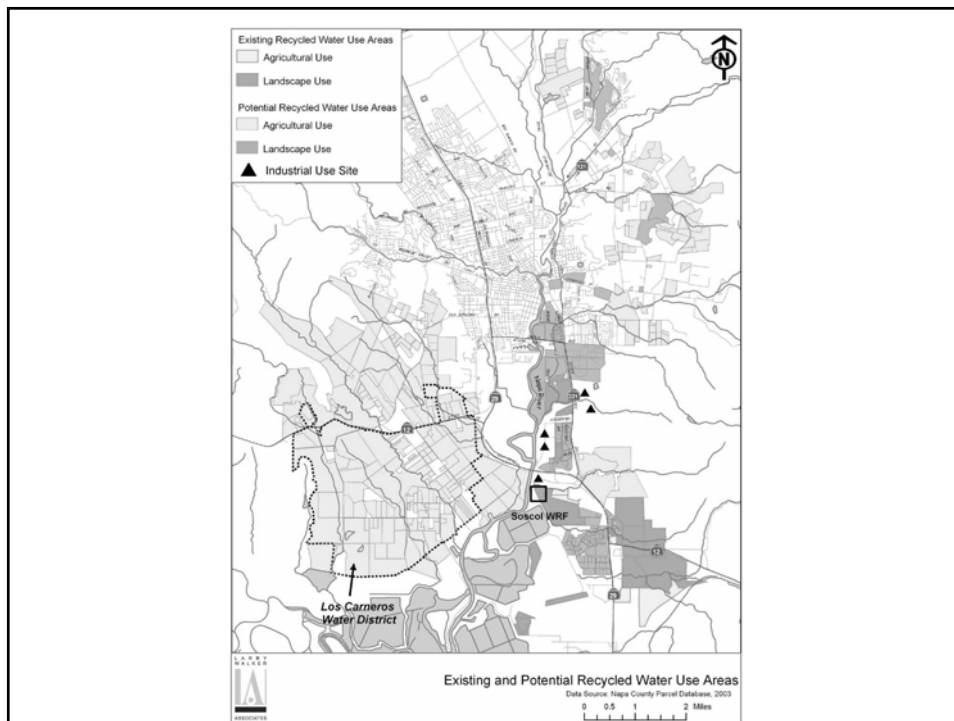
Preparation of a Strategic Plan to determine a recycled water planning approach for the District through the year 2020.

## *Benefits of Water Recycling*

- Augment water supplies in water-short areas
- Prevent overdraft of groundwater resources, with resulting environmental benefits
- Ensure that the highest quality water is reserved for potable uses
- Increase the District's ability to comply with its summer river discharge prohibition

## 2020 Projections

Plant Influent:	10,750 AF
Irrigation Demand:	7,360 AF
Recycled Water Supply:	
with Existing Storage	9,800 AF
with New Storage:	4,540 AF



## *Recycled Water Values*

1. Cost to District Ratepayers
2. Augment Water Supply
3. Reduce River Discharge

Also

- Acceptance by Outside Stakeholders
- Helps Environment
- Rapid Implementation
- Simplicity of Operation

## *Recycled Water Distribution Strategies*

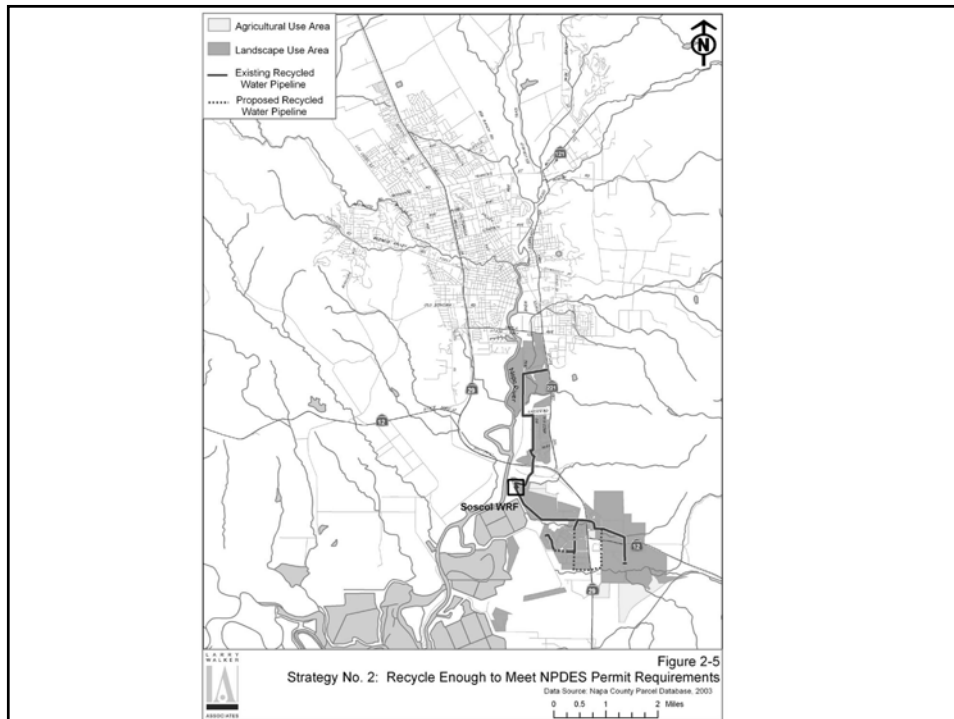
Types of Strategies Considered:

- Recycle Everything (#1)
- Reliably Meet River Discharge Prohibition (#2)
- Recycle Water in Specific Areas (#5, #6)
- Maximize Use of Existing Storage (#3, #4, #7)

## *Recycled Water Distribution Strategies*

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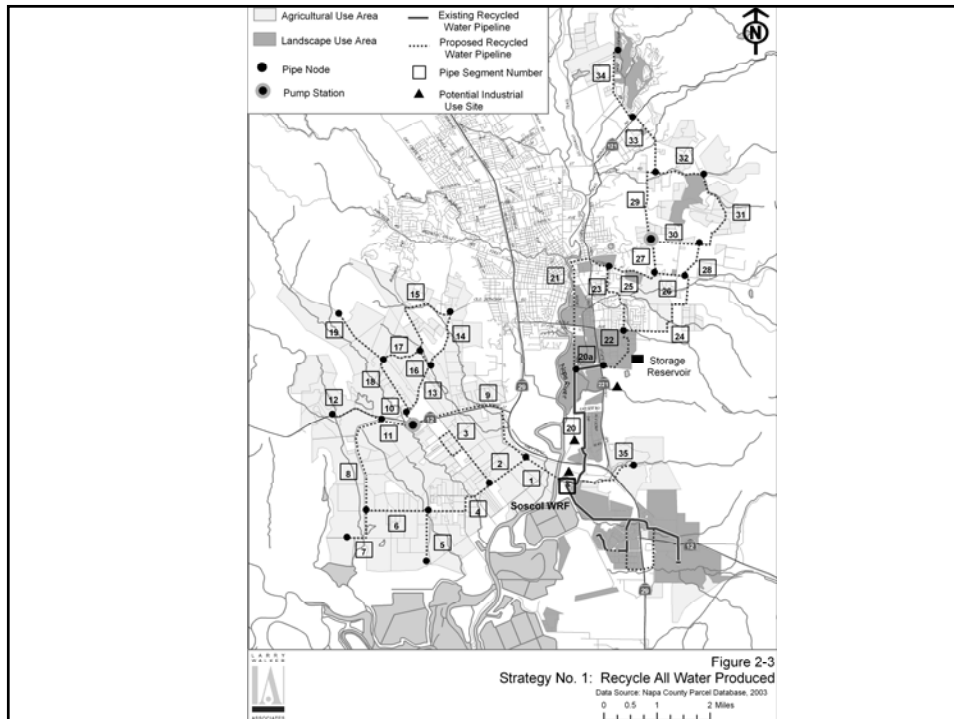
- **Reliably Meet River Discharge Prohibition (#2)**
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# *Recycled Water Distribution Strategies*

Types of Strategies Considered:

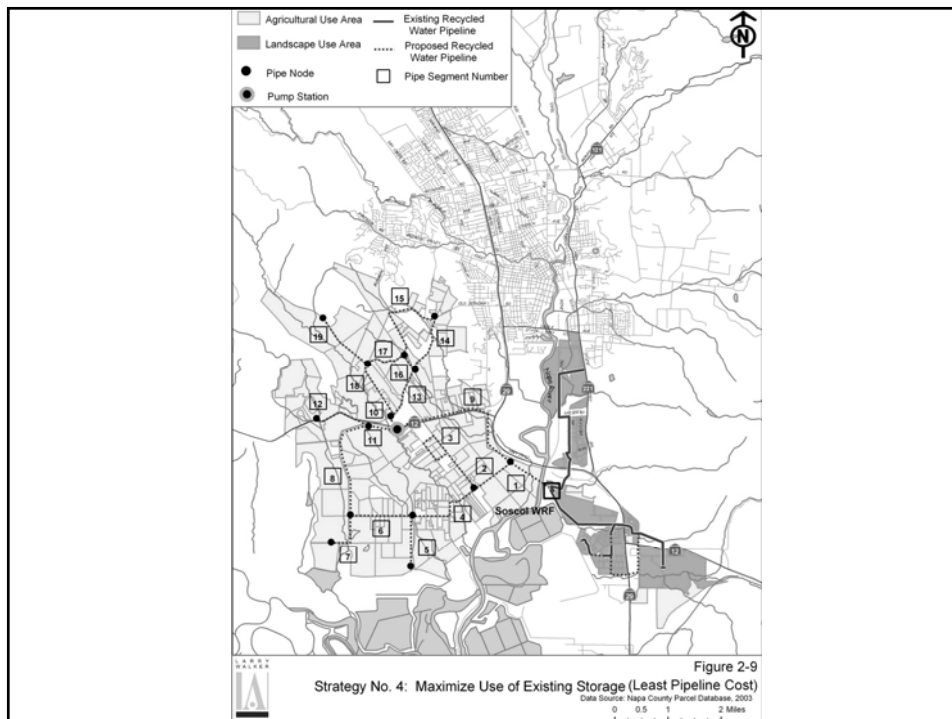
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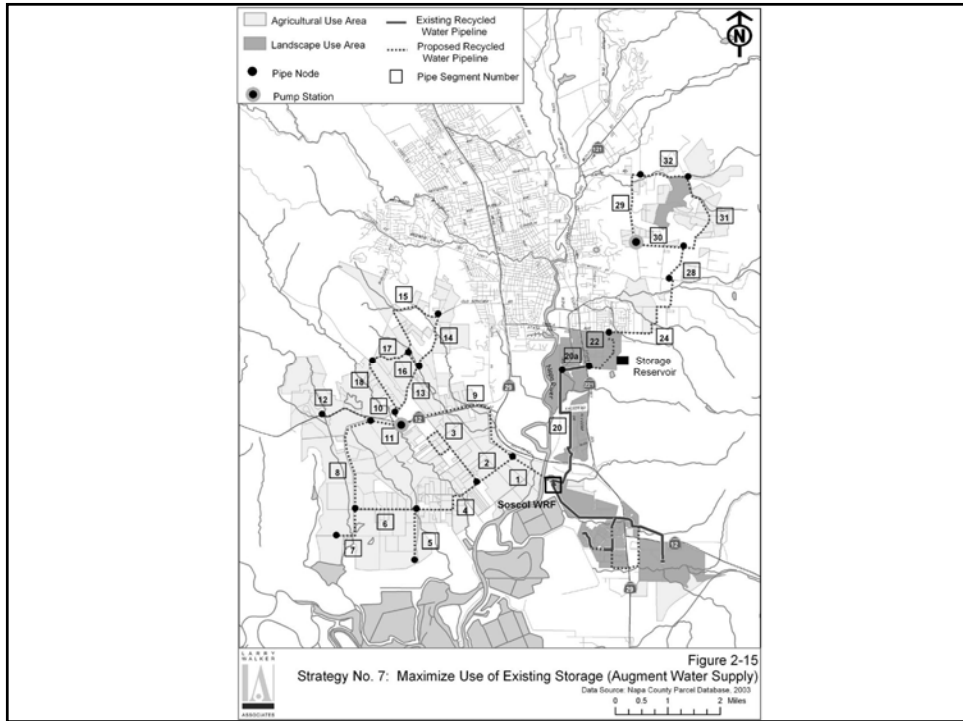
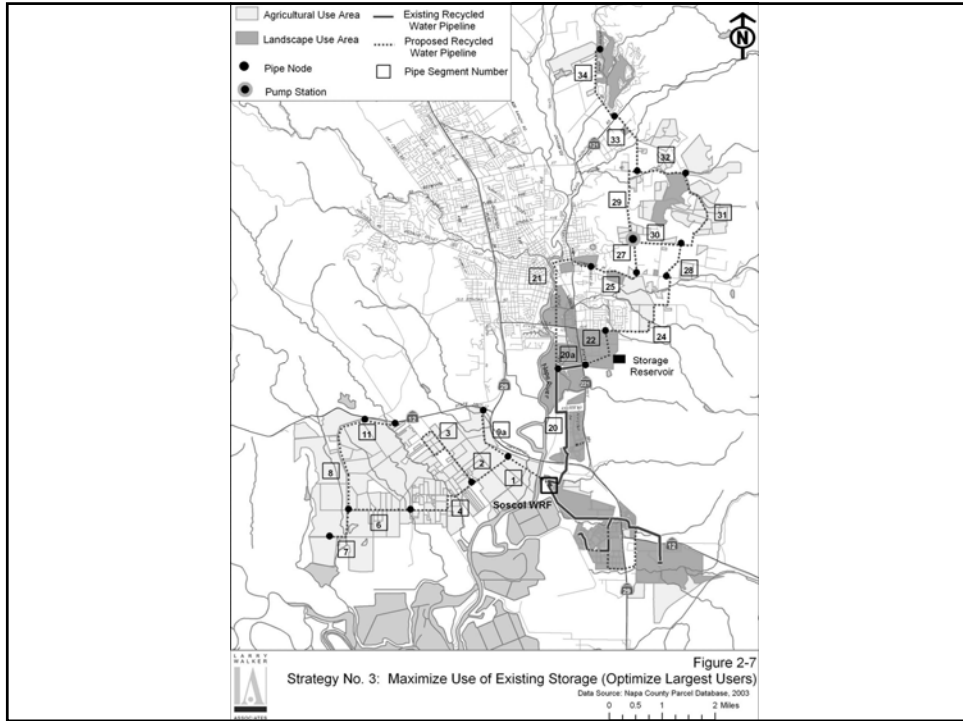


## *Recycled Water Distribution Strategies*

Types of Strategies Considered:

- Reliably Meet River Discharge Prohibition (#2)
- Recycle Everything (#1)
- Recycle Water in Specific Areas (#5, #6)
- **Maximize Use of Existing Storage (#3, #4, #7)**





## *Selection of Strategy for Implementation*

During workshops held in early 2005, the Board determined that *cost to the District's customers* should factor heavily into the selection of a distribution strategy.

However, the Board also felt a responsibility to *augment local water supplies* where needed and possible. So...

Final strategy is being based on availability of outside funding



## *If Outside Funding Is Not Available...*

*Recommended Strategy:* No. 2

### *Benefits:*

- Utilize capacity of existing pipeline
- Minimal capital outlay (\$1.9 million)
- Minimal additional O&M (\$40,000/year)
- Increased ability to meet discharge prohibition

### *Drawbacks:*

- No assistance to water-short areas
- Continued use of operationally-intensive District reclamation sites

## *If Outside Funding Is Available...*

*Recommended Strategy:* No. 3 (as of August, 2005)

### *Benefits:*

- Utilize capacity of existing storage facilities
- Distribute water to MST, Carneros, and Silverado
- Conversion of District reclamation sites

### *Drawbacks:*

- High capital outlay (\$64 million)
- High additional O&M (\$424,000/year)

## So how much will it cost?

- Short answer is “We aren’t sure yet.”
- Longer answer is that we have been working for several years to get grant funding from state and federal sources.

Remaining funding needs will be from local sources. We are trying to identify several sources of revenue so no one source shoulders an unreasonable burden.

A Water Cost Model is nearing completion and will be available soon.

## *What Now? NSD Board asking for Input...*

*The selected strategy may be revised in order to optimize meeting the community’s needs.*

*A Public Outreach Program was implemented with two community meetings in December; one in Carneros and one in MST*

## **Open Houses**

December 6: CARNEROS  
December 8: MST/COOMBSVILLE

### **Attendance**

CARNEROS = 42 signed in  
MST = 53 signed in

**However, total attendance for both events  
was approximately 105.**

## **Who Attended**

### **Carneros Open House**

- Agricultural Irrigators
- Fire District
- Small Parcel Residents

### **MST Open House**

- Residents who live near large irrigators
- Napa Valley Country Club
- Agricultural Irrigators
- Tulocay Cemetery

## Key Player Involvement

<u>Stakeholder</u>	<u>Open House</u>	<u>Letter</u>
Napa County Farm Bureau	Yes	Yes
Winegrowers of Napa County	Yes	-
Carneros Quality Alliance	Yes	-
Los Carneros Water District	Yes	Yes
Silverado Country Club	-	Yes
Napa Valley Country Club	Yes	Yes
Tulocay Cemetery	Yes	Yes
Stanly Ranch	Yes	-
UC Cooperative Extension	Yes	-
Napa County Supervisors (2)	Yes	-
Napa County Public Works	Yes	-

## What They Said - Written Comments -

Comments were generally consistent  
with what we heard at Open Houses

### **22 Comments Received – All in Favor of Project**

- 11 from Carneros Area
- 10 from MST Area
- 1 from Farm Bureau (both areas)

## **What They Said - Common Comments -**

### **General**

- Overall, very positive response
- Interested in special assessment district
- Preferred strategies that deliver water to their region
- They need the water...Now!

### **Concerns**

- Lengthy project implementation
- Costs - who will pay and how much

## **What They Said - Area Specific Comments -**

### **Carneros Concerns**

- Reliability of recycled water delivery
- Effect on ground/aquifer water quality
- Whether accepted for use on organic crops
- More water might mean more growth

### **MST Concerns**

- Perceived lack of interest among largest water users
- Will higher AV offset costs of special assessment?
- Will recycled water usage raise groundwater table?
- Effect on plants, grapes, livestock, groundwater quality

## **Conclusions**

**The public outreach program was a success!**

**Loud message received: Recycled water is wanted in both MST and Carneros areas.**

**The most common questions:**

- When will the water be available?
- What will it cost me?

**There are several comments and questions to be addressed during CEQA process.**

## **Next Steps**

**For a future NSD Board Meeting:**

- Address all public comments received
- Revise recommended strategy, if appropriate
- Prepare financing plan based on construction plan

Development and implementation of a monitoring plan follow a logical progression and contain ten essential elements as outlined by the US EPA.

**Nº 1**

Management Goals and Monitoring Objectives

**Nº 2**

Assessment Questions

**Nº 3**

Monitoring Program Design

**Nº 4**

Indicator Selection

**Nº 5**

Quality Assurance

**Nº 6**

Data Management

**Nº 7**

Data Analysis and Assessment

**Nº 8**

Program Reporting

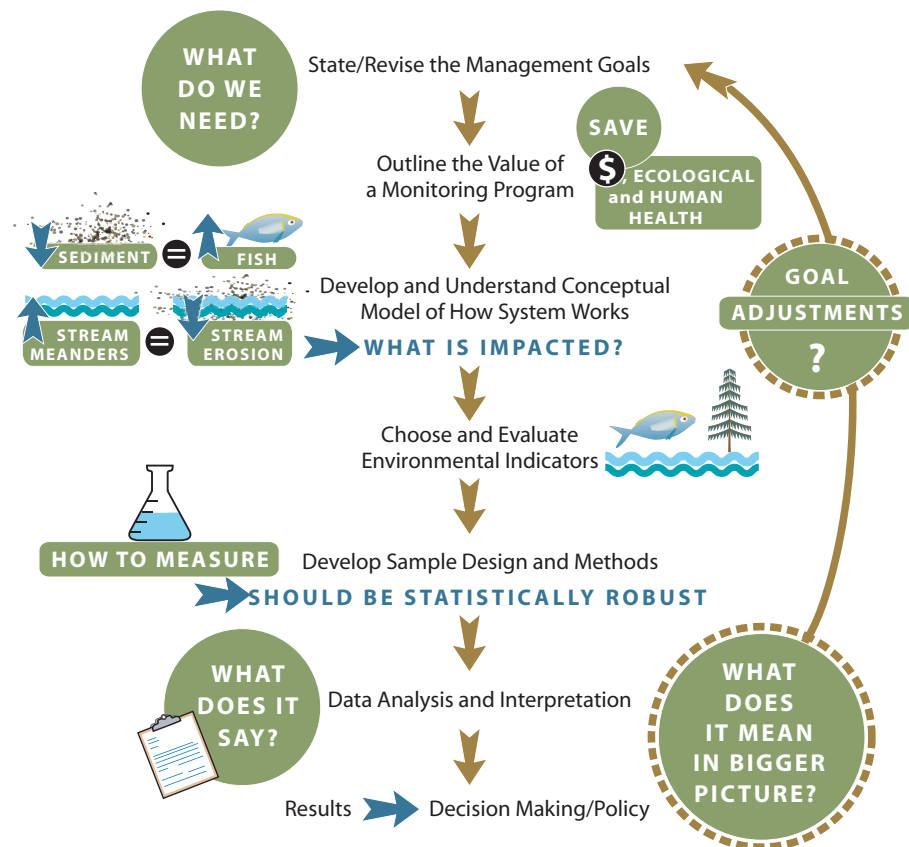
**Nº 9**

Programmatic Evaluation

**Nº 10**

General Support and Infrastructure Planning

Program Development and Implementation Strategy



→ WICC Mission and Goals

The Watershed Information Center and Conservancy (WICC) of Napa County will guide and support community efforts to maintain and improve the health of Napa County's watershed lands.

- Collaboration is the most effective way to accomplish the mission of the WICC. In order to be collaborative, all organizations and individuals working in Napa County's watersheds will be encouraged to participate in the WICC.
- The WICC supports and promotes the activities of other watershed restoration organizations and facilitates cooperation among them. It does not undermine or compete with the mission and goals of these organizations.
- Participation in the WICC and provision of information to the WICC website is done voluntarily by agencies, organizations, and individuals.
- The WICC will be part of the solution to watershed issues and concerns. It will be politically neutral and not involved in the regulatory process but will collect and disseminate the best possible information to aid those involved in policy and decision-making.
- The WICC will seek monies and grants from foundations, private individuals, organizations, and local state and federal government agencies to address its financial needs and to further the mission and goals of the organization.



→ Prepared with assistance from the San Francisco Estuary Institute (SFEI). For more information about SFEI please visit [www.sfei.org](http://www.sfei.org).



→ The WICC is funded by Napa County and serves as an Advisory Committee to the County Board of Supervisors.



watershed information center & conservancy of napa county



watershed information center & conservancy of napa county

A Watershed Monitoring Strategy for Napa County

**A Main Goal** for the WICC Strategic Plan is to 'coordinate and facilitate watershed planning, research, and monitoring efforts among Napa County organizations, agencies, landowners, and citizens.'

**The First Step** towards this goal is the development of a monitoring strategy. Monitoring is key to tracking the success of natural resource protection and restoration efforts, and evaluate the long-term health, wealth and well being of Napa County's watershed lands.

**Adaptive Management** is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs such as monitoring.



● Nº 1

**Management Goals and Monitoring Objectives**

The WICC has begun to identify conservation and planning goals based on community needs and interests for the county's watersheds, including broad goals established for the Napa River watershed and the watersheds of upper Putah and Suisun Creeks. The San Francisco Bay Regional Water Quality Control Board (RWQCB) is proposing pollution allocations for the Napa River watershed in the form of Total Maximum Daily Loads (TMDLs) for sediment, pathogens (nutrients have also been proposed or are being developed) to meet State water quality attainment guidelines. Each TMDL implementation plan is based on adaptive and performance-based management principles, and monitoring information provides the basis for selecting the most flexible and the most cost-effective implementation measures for achieving allocation targets. In consideration of proposed TMDL target allocations and the community's current concerns for watershed health and management, the WICC proposed a fundamental set of candidate watershed goals that were derived from a broader assortment watershed objectives.

**Watershed Goals**

- Protect and enhance watershed lands and natural processes
- Achievement of improved watershed health
- Protection and restoration of water quality and beneficial uses, and
- Continuous application of new information and lessons learned from management action or inaction to adjust future next-steps.

A broader set of watershed monitoring objectives specific to support the above goals are also proposed:

**Monitoring Objectives**

- Characterize watershed conditions and trends using appropriate indicators of "healthy" watershed processes and valued ecosystem components,
- Improve the condition of the county's water bodies recognized as having beneficial use impairment problems,
- Prevent degradation of intact water bodies throughout Napa County,
- Prioritize beneficial use protection and restoration activities, and
- Insure monitoring information is used in decision-making.



● Nº 2

**Assessment Questions**

The next step in implementing a county-wide monitoring program is to derive assessment questions related to each goal and objective that are designed to provide answers relevant to the specific needs of Napa County watershed protection. These assessment questions can be developed on several scales and arranged in hierarchical order into an increasingly specific set of questions that range from the very general to very explicit. Appropriate assessment questions help guide the design of the monitoring program and can focus monitoring expenditures commensurate with the level of community interest, management uncertainty, potential implementation costs, and risks of inaction.

● Nº 3

**Monitoring Program Design**

A carefully planned monitoring program saves management time and money. An effective monitoring program design must consider many factors, including available resources (budget, personnel resources), current and past data gathering efforts (what have learned from those efforts and do they address our assessment needs), design adaptability, data quality issues, (such as comparability and scientific robustness) and suitable design approaches that can yield data for all levels of assessment questions posed by the community. The program design should allow for monitoring at various spatial and temporal scales utilizing multiple indicators, as this provides greater weight of evidence for decision-making. An integrative design approach is recommended to accomplish this; one that incorporates three principal levels:

- 1) inventory of watershed resources (e.g., habitat types, water body types)
- 2) rapid assessment of conditions using appropriate indicators, and
- 3) more detailed or intensive monitoring and assessment of relationships between watershed management actions and watershed health indicators.

Local prioritization of data collection efforts will need to be governed by the community's prioritization of the assessment questions through use of the WICC and its Technical Advisory Committee (TAC). Given recent efforts by the RWQCB to develop TMDLs for the Napa River watershed, there may be particular interest in addressing the protection and prevention of healthy intact water bodies, as well as defining the potential progress toward delisting impaired water bodies in the county.

A carefully laid out strategy saves time and money

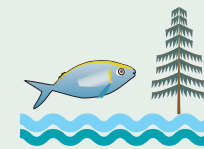
● Nº 4

**Watershed Indicator Selection**

An important element of monitoring implementation is to identify watershed health indicators that correspond with prioritized assessment questions, and are chosen to balance cost and achievable/effective results. A list of preliminary watershed indicators specific to Napa County should be chosen so that they reflect representative geographic areas, ecosystem functions and their component parts.

**Example Indicators for Assessing In-stream Habitat**

- Linear feet of contiguous riparian corridor
- Percent Shading & Cover
- Number/location of fish barriers
- Incision rate
- Diversity & abundance of native fish species
- Diversity & abundance of benthic macroinvertebrates



● Nº 5

**Quality Assurance**

A watershed monitoring program will include the development of data quality objectives for chosen watershed indicators/parameters, data verification, as well as validation and audit procedures for laboratory testing and field sampling.

QA-QC: Quality Assurance – Quality Control



● Nº 6

**Data Management**

A WICC goal is to make credible watershed monitoring data and information available to all stakeholders in the community in a timely and accessible manner. The WICC WebCenter (www.napawatersheds.org) will be the foundation for a cooperative information management system to capture geospatial data for every indicator sample collected throughout the county. Several key elements must be considered in the data management process, including developing guidelines to maintain data quality and comparability, data verification and validation, and development of and training on data tools for effective information sharing and use in decision making

● Nº 7

**Data Analysis and Assessment**

An effective watershed monitoring program achieves the goal of providing a consistent, defensible framework for the evaluation of monitoring data relative to state and countywide standards and supplies a methodology for assessing watershed conditions relative to various benchmarks and guidelines. The methodology must incorporate key elements that identify the available data and procedures used to collect it, document requirements relating to data quality issues, include or reference procedures for evaluating the quality of datasets, and explain data reduction procedures that are appropriate for comparing data to applicable water quality standards and land use goals. Data from different sources need to be in a consistent format and of known quality .

● Nº 8

**Program Reporting and Communication**

The WICC WebCenter (www.napawatersheds.org) provides one tool for a variety of users to access data for reporting purposes and general assessment. However, continual summary reports and condition assessments require considerable long-term resources to maintain and additional tools that may not be available at the local level. Monitoring implementation also requires thought on the frequency of reporting required for timely management intervention for critical parameters or for policy refinement, as well as appropriate reporting media and venues.

● Nº 9

**Programmatic Evaluation**

A successful watershed monitoring should incorporate periodic external scientific and administrative reviews to obtain feedback on the program's validity and the effectiveness of its implementation to meet the community's needs. Approximately five years of data collection and interpretation are required to effectively evaluate lessons learned, to determine the degree of which questions have been answered that formed the rationale for the monitoring program, and to propose effectual adjustments to improve the monitoring effort.

● Nº 10

**General Support and Infrastructure Planning**

Several key infrastructure and planning elements must be considered to sustain a watershed monitoring program and foster institutional collaborations and coordination. Some of the most important structural/operational needs include: staff personnel and training to run and oversee the monitoring program, scientific laboratory needs, necessary funding and potential funding mechanisms to support the program and carry-out various required forms of grant writing and other locally based funding activities. A successful program will likely be implemented with support from a wide variety of funding sources, examples of which may range from federal, state, and private foundation grants to voluntary contributions, General Fund allocations, impact fees on products or activities that diminish watershed health, or fines imposed on violators of land use regulations. However varied the funding arrangement, a minimum level of locally based long-term and reliable funding is required to maintain a basic trend record and understanding of changes in core watershed health indicators.

Good for good. Where public expenditures are used for watershed management activities, good information based on monitoring data is a requirement for gaining and maintaining public confidence.







## Napa County Resource Conservation District

1303 Jefferson Street, Suite 500B Napa California 94559

Phone: 707.252.4188 Fax: 707.252.4219

Email: [staff@naparcd.org](mailto:staff@naparcd.org) Web: [www.naparcd.org](http://www.naparcd.org)

### MEMORANDUM

Date: February 14, 2006

To: Myrna Abramowicz, Todd Adams, George Bachich, Phill Blake, Debra Blodgett, Chip Bouril, Richard Camera, Kate Dargan, John Dickson, Diane Dillon, Sandy Elles, Richard Fitzgerald, Tom Gandesberry, Amy Garden, Don Gasser, David Graves, Michael Haley, Jeri Hansen, Nadine Hitchcock, Rainer Hoenicke, John Hoffnagle, Chris Howell, Paul Jones, Jonathan Koehler, Jennifer Kopp, Bernard Krevet, Carol Kunze, Mark Littlefield, Stefan Lorenzato, Patrick Lowe, Mark Luce, Lester McKee, Maura Moody, Mike Napolitano, Beth Painter, Marc Pandone, Stephen Rae, Jeff Redding, Jeff Reichel, Gail Seymour, Steve Rosa, Jeff Sharp, Eric Sklar, Karen Slusser, Charles Slutzkin, Robert Steinhauer, Gary Stern, Rick Thomasser, Mark Van Gorder, Mike Wilson, Bob Zlomke

From: Leigh Sharp, District Development and Stewardship Coordinator

RE: **Request for review of *Caring for Creeks in Napa County: Management Tips for Streamside Property Owners*. Comments requested by March 9.**

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The Napa County Resource Conservation District, with funding from the California Department of Conservation and the Bay-Delta Authority, is developing a creek care guide for public distribution in Napa County. The goal of the guide is to improve the health of Napa County's watersheds by providing accurate watershed information and management recommendations to creek side property owners for their use in voluntarily managing the resources on their property.

The intent of the guide is to be pertinent to all creeks in Napa County, to be accurate in the information and recommendations made available, to be readily understood by a non-technical audience, and to be presented in a way which is widely acceptable to a diversity of watershed stakeholders.

In an effort to be successful in our endeavor, we are putting this DRAFT creek care guide out for broad review. Review has been requested from individuals on the Watershed Information Center & Conservancy (WICC) Board and the WICC Technical Advisory Committee and from individuals and representatives from several community organizations.

The guide is a draft, please do not circulate it at this time. When the guide is complete and the content is acceptable to a diversity of watershed stakeholders, the District will pursue funding for its publication and distribution. Thank you in advance for your time and interest in Napa County's watersheds and their communities.

Please take some time to review *Caring for Creeks in Napa County: Management Tips for Streamside Property Owners* and provide your feedback in hard copy or via email by **Thursday, March 9**. Your thoughts and input are important and will be considered in developing the final guide. The District would like to have the guide published and ready for distribution by May 1, 2006.

Send your comments and thoughts to Leigh Sharp, reached via email at [leigh@naparcd.org](mailto:leigh@naparcd.org), via phone at 707.252.4188 ext. 110, or via mail at the District address provided above.



# *CARING FOR CREEKS*

*IN NAPA COUNTY*

Management Tips  
for Streamside  
Property Owners

Draft 1.12.06



# Many Thanks

to those who helped review this publication:

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The work upon which this publication is based was funded in whole or in part through a grant awarded by the California Department of Conservation. The statements and conclusions of this publication are those of the Napa County Resource Conservation District and not necessarily those of the Department of Conservation, or its employees. The Department makes no warranties, express or implied, and assumes no liability for the information contained in the succeeding text.

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# Preface

Having a creek on your property is a valuable amenity. Creeks provide water supply, fish and wildlife habitat, a conveyance for flood water, and a host of aesthetic and recreational values. As a streamside property owner you have an opportunity to help maintain or improve the health of local creeks for your enjoyment, for the benefit of the community, and for the wellbeing of the wildlife that depend upon them. Careful management of your streamside property can help prevent or minimize excess stream bank erosion, preserve water quality, contribute to the survival of local fish and wildlife, and help avoid flood and property damage.

This booklet is designed to encourage and support the ongoing stewardship of creeks in Napa County. It provides some background on how watersheds work; some recommendations for how you can contribute to maintaining a healthy creek; and a resource directory, should you find that you would like additional information or assistance. While this publication primarily focuses on recommendations for people living along freshwater creeks in Napa County, much of the information and many of the recommendations are also suitable for a broader audience.

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# How Watersheds Work

## *What is a Watershed?*

No matter where you are, you are in a watershed. A **watershed** is an area of land that catches rain and snow and drains it into a body of water, such as a river, pond, estuary, bay, lake, or ocean. A watershed can also be called a **drainage basin**.

Ridgetops of hills or mountains form the boundaries between watersheds. A drop of water falling on the top of a ridge will flow by gravity into one watershed or another depending upon the topography or lay of the land. Watershed boundaries often cross private property, county, state, and even international borders.

The upstream areas of a watershed are called the **headwaters**. As you move downhill and downstream, tiny rivulets and streams combine to form larger rivers which eventually empty into a larger body of water such as a lake or bay.



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The area of land in a watershed can be immense or it can be very small. Large watersheds often are composed of several smaller watersheds, called **sub-watersheds** or sub-drainages. For example, Sulphur Creek flows into the Napa River and has its own watershed, but it is also part of the much larger Napa River watershed, which is part of the even larger San Pablo Bay watershed.

Napa County has three major watersheds: the Napa River, Putah Creek, and Suisun Creek watersheds. The Napa River and Suisun Creek watersheds are part of the San Pablo Bay watershed and the Putah Creek watershed is part of the larger Sacramento River watershed. Each of Napa County's watersheds is comprised of many smaller sub-watersheds.

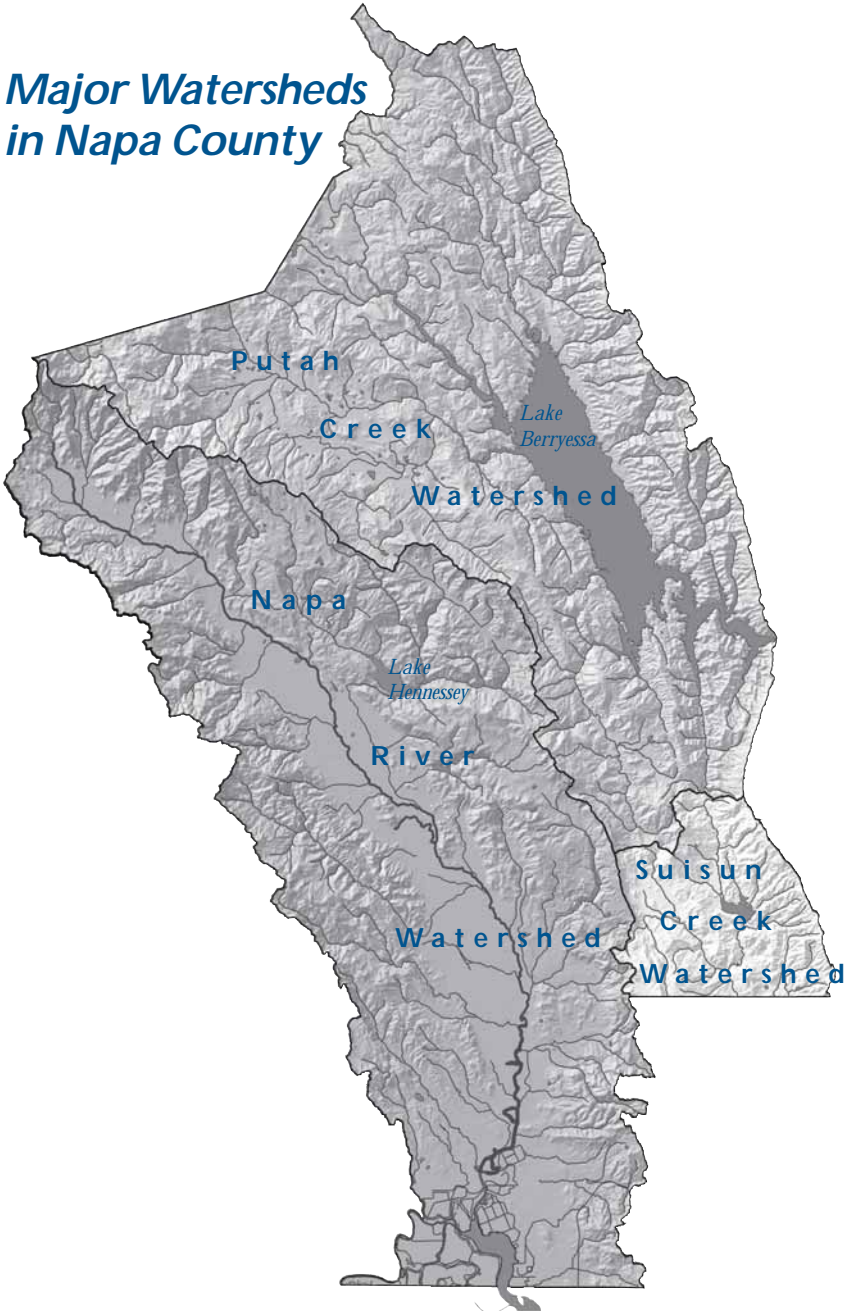
It is important to recognize that activities and conditions *anywhere* within a watershed can influence the condition of

**Watershed** - all of the land and subsurface groundwater that drains to a particular point along a stream or river.

creeks. What takes place in the upper watershed will influence the downstream area. Likewise, what happens downstream may also influence conditions in the upper watershed. Taking a watershed approach means looking at all of the watershed's

components (e.g., the creek and tidal areas, the streambanks, and the adjacent lands) and considering how they work together. Taking care of local creeks will benefit the entire watershed. Creek care can happen in the context of an overall watershed management plan or on individual pieces of property.

# Major Watersheds in Napa County

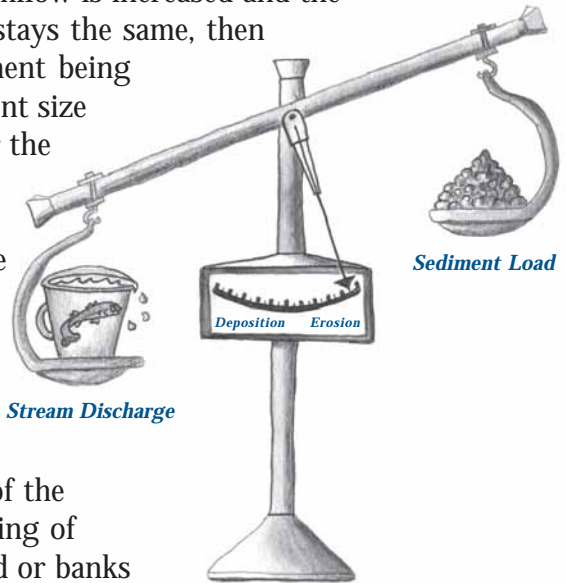




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## Creek and River Dynamics

Creeks and rivers are formed, maintained, and altered by the water and sediment they carry. The size of a creek channel is determined by four basic factors: quantity and size of sediment, streamflow, and slope. The relationship between these factors can be envisioned as a balance between quantity and size of sediment and streamflow and slope. If one of the factors changes, one or more of the others must also change. For example, if streamflow is increased and the slope of the channel stays the same, then the quantity of sediment being moved and/or sediment size must also increase for the creek to remain in balance. The likely result of this example is that the creek will move larger (and/or more) sediment downstream. This re-balancing will result in a lowering of the creek bed or broadening of the channel as the bed or banks of the creek erode.



Creeks naturally work toward a balance between sediment and streamflow. They are constantly reacting to natural and human induced disturbances in the watershed. These disturbances can significantly alter the size and shape of streams by increasing or decreasing stream flow and sediment supply.

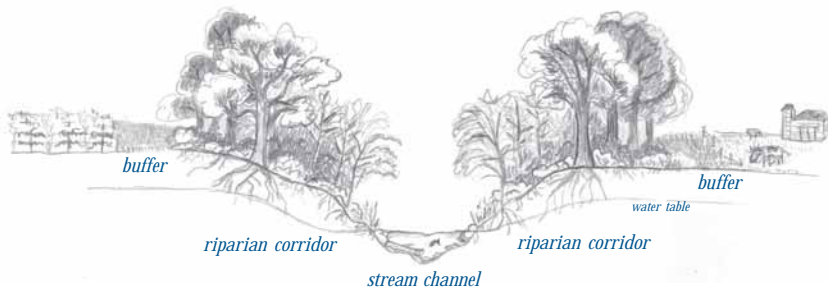
Common natural disturbances include fires, floods and landslides. Examples of human induced changes include creation of impervious surfaces (e.g., homes, roads, parking lots), clearing of vegetation and the development of on-stream reservoirs.

The creation of impervious surfaces and clearing of vegetation changes the timing of runoff, allowing more water to enter the stream in a shorter period of time, which leads to an increase in erosion and possibly localized flooding. The creation of reservoirs reduces the amount of sediment being carried by waters immediately downstream of the reservoir creating “hungry water” that will pick up sediment by scouring stream banks or channel bottoms.

Over time, changes in streamflow or sediment supply may result in changes to the ecosystem that conflict with the needs of society, such as loss of creekside property, lowering of the groundwater table, loss of wildlife habitat, reduced water quality, frequent flooding, etc.

## ***Plants Along the Creek***

A border (or corridor) of diverse native plants along the creek is a key part of creek function. These riparian corridors and their associated vegetation and root masses help to stabilize creek banks, buffer the waterway from unwanted pollutants, slow flood waters, and help to recharge groundwater.



---

## Common Native Riparian Plants in Napa County

### *Trees*

Arroyo willow  
Big-leaf maple  
Box elder  
California bay  
California buckeye  
California nutmeg  
California walnut  
Canyon oak  
Coast-live oak  
Fremont's cottonwood  
Oregon ash  
Red alder  
Red willow  
Sandbar willow  
Valley oak  
White alder

### *Understory Plants*

California blackberry  
California figwort  
California wild grape  
California wild rose  
Coyote brush  
Mugwort  
Nightshade  
Poison oak  
Seep-spring monkey flower  
Snowberry  
Spicebush  
Stinging nettle

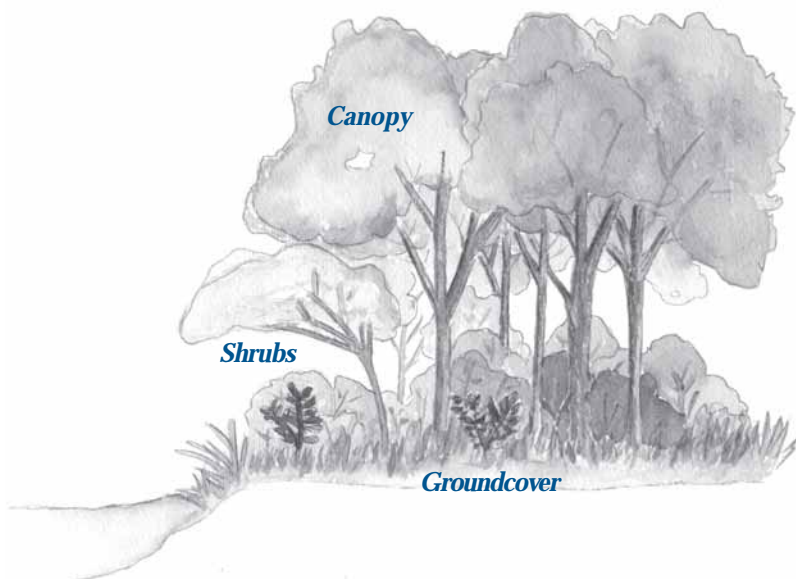


*Spicebush*

In essence, creekside vegetation regulates the quantity, quality, and timing of water running into creeks and the amount of sediment entering the creek, thereby helping the creek to maintain its natural equilibrium. Riparian corridors also provide essential habitat and nutrients for land- and water- based animals, insects, and plants.

Every riparian corridor is different. The types and species of plants that grow within a riparian corridor depend on the soil type, topography, and depth to groundwater. Most streams that have a permanent supply of water support a diversity of plant sizes, shapes, and ages including a low layer of groundcover, an intermediate layer of shrubs, and one or more canopy layers.

Many of the ephemeral streams, which flow only when it rains, do not support a tree canopy at all. The best way to determine what kinds of plants should grow along your creek is to look at examples of undisturbed streams from the same area that have similar water regimes and soil types.



---

## ***Creeks, Riparian Areas and Wildlife***

Functioning riparian areas along creeks provide important habitat for a particularly diverse mix of wildlife because of the availability and relative proximity of water, food, and shelter. These areas support terrestrial species that utilize the available habitat for hunting, nesting, and accessing water and they support aquatic species by protecting water quality, providing nutrients, and shading the creek.

Connected corridors of riparian vegetation promote healthy wildlife populations.

Aside from providing important resting and foraging habitat, corridors of riparian vegetation also serve to connect lower portions of watersheds to headwater and upland areas, thus enabling wildlife movement. These travel corridors, to the extent that they are connected to one another, promote greater genetic exchange within wildlife populations, which makes wildlife more resilient to environmental stresses and change.

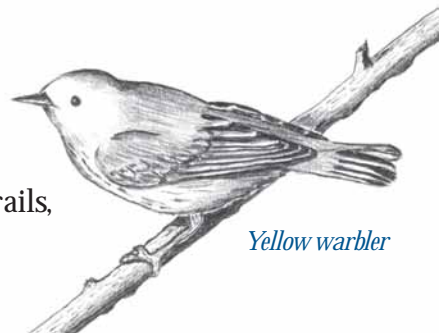
Napa County's creeks and riparian areas are home to over 200 wildlife species. With careful observation of local creeks and riparian habitats you might see some or all of the following:

### ***Mammals***

Muskrat, river otter, beaver, raccoon, ringtail, mule deer, bats, fox, rabbit, bear, lion and others.

### ***Birds***

Mergansers, belted kingfisher, osprey, eagles, herons, geese, grebes, owls, ducks, bitterns, cormorants, rails, gulls, songbirds and others.



*Yellow warbler*

## ***Fish***

Steelhead (rainbow trout), Chinook salmon, Sacramento sucker, prickly sculpin, Pacific lamprey, threespine stickleback, tule perch, California roach, hardhead, and others.

## ***Amphibians and Reptiles***

Pacific giant salamanders, California red-legged frogs, Foothill yellow-legged frogs, western pond turtles, garter snakes, newts, and others.

## ***Insects***

Aquatic beetles, damselflies, butterflies, dragonflies, stoneflies, and thousands more.

## ***Rare or Endangered Species***

California red-legged frog, steelhead, Chinook salmon, western pond turtle, Pacific giant salamander, California freshwater shrimp, and others.

## ***Fish: An Indicator of Creek Condition***

Several fish species make their home in Napa County's watersheds. Some are native to the local watersheds and others have been introduced. Fourteen native fish species can be found in our waterways, a diversity that is relatively high among nearby watersheds and counties.

Fish, especially those species with narrow tolerances for disturbance and habitat alteration, can be used as indicators of creek and watershed conditions.

Salmon and steelhead are used as indicators of watershed conditions because of their sensitivity to habitat conditions and because they use the entire stream system --



*Adult Steelhead Trout*

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## Native Fish in Napa County

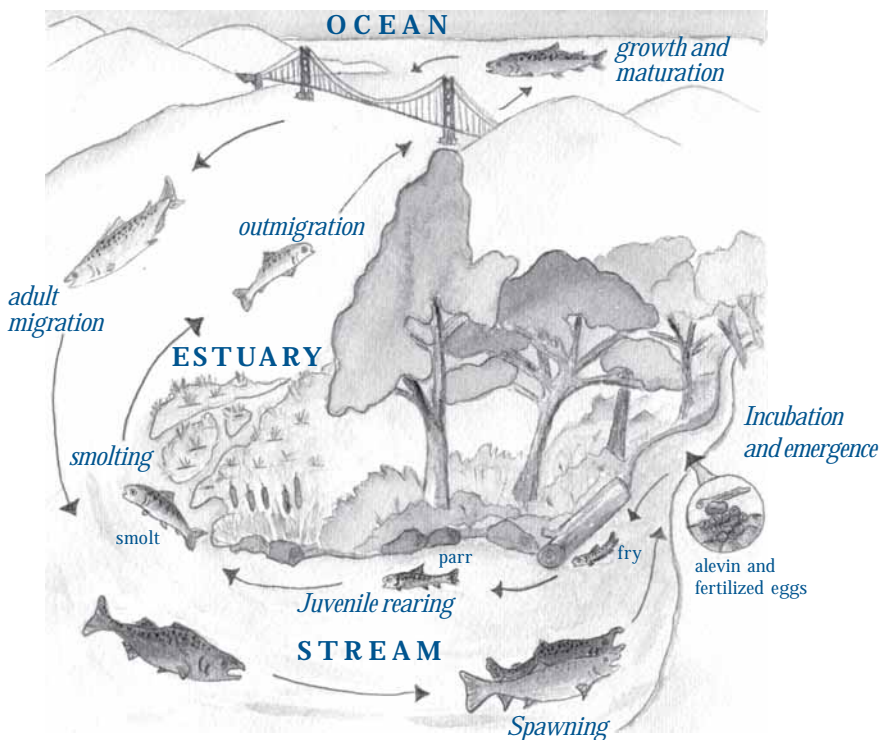
California roach  
Chinook salmon  
Hardhead  
Pacific lamprey  
Pacific staghorn sculpin  
Prickly sculpin  
Riffle sculpin  
Sacramento pikeminnow  
Sacramento splittail  
Sacramento sucker  
Steelhead (rainbow trout)  
Threespine stickleback  
Tule perch  
White sturgeon

from the ocean or estuary to small headwater streams. Salmon and steelhead are anadromous, meaning that they are born in freshwater, mature at sea, and return to freshwater to lay eggs (spawn).

Very little information is available about historic populations of fish species in Napa County. The historic populations of Coho salmon and steelhead have been documented and the historic presence of Chinook salmon is likely given the characteristics of the Napa River watershed and the documented presence of Chinook in neighboring watersheds with similar characteristics. Coho salmon have been extinct in the Napa River watershed since the 1960's, steelhead are federally listed as a threatened species under the Endangered Species Act, and Chinook salmon maintain a small remnant run in Napa County.

The habitat requirements of steelhead and Chinook salmon, while somewhat different from one another, support several other fish and wildlife species found in and around our local streams. Rivers and streams that sustain salmon and steelhead provide habitat conditions that support spawning and rearing -- these conditions include adequate water flow, diverse creek structure, clean spawning gravels, abundant food and a well -- functioning riparian zone.

## Chinook Salmon Life Cycle



## Signs of a Healthy Creek

There is no single definition to what is meant by a “healthy creek.” All creeks are important, whether they flow year-

All creeks are important, whether they flow year-round, part of the year, or just during storms.

round (perennial), part of the year (intermittent), or just during storms (ephemeral). Even small swales that look like ditches are important

because they (like other drainages) carry water, soil, and nutrients into larger creeks and water bodies.



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Generally, healthy creeks in our region will have the following characteristics:

### **Cool, clean water**

Cool water is critical for many of our local fish and wildlife. For example, steelhead and Chinook salmon need water temperatures between 40° and 60° F to thrive. Temperature affects the amount of dissolved oxygen available for aquatic species -- the higher the water temperature, the less dissolved oxygen available. Waters should also be free of excessive algae, trash and toxins.

### **Adequate dissolved oxygen**

Water that is flowing usually has plenty of dissolved oxygen for aquatic species. Isolated pools or warm ponds may not. Suspended fine sediments, nutrients from fertilizers, sewage, and toxins (such as metals, pesticides, oil, and grease) can reduce the amount of oxygen available.

### **A variety of slow and fast moving water (pools and riffles)**

Riffles add oxygen to water, provide diverse habitat for aquatic insects, and move aquatic insects (fish food) downstream. Pools are a resting place for fish, often have pockets of cool water during the summer, and can provide refuge from fast moving winter storms and predators.

### **High groundwater level**

Creeks are connected to groundwater and they often move together. If the level of the creek channel drops, the groundwater level (also called water table) may also drop and may cause the creek to cease flowing until groundwater is replenished by rainfall. A lowered water table may cause problems with wells and may leave creek vegetation without access to water .

### **Dense and diverse native vegetation with stable undercut banks and minimal streambank erosion**

This type of habitat shades the creek and provides homes for many insects and other forms of wildlife.

# Stewardship of Creeks

Responsible stewardship and care for creeks is essential for creek stability, good water quality, reliable water supply, and healthy habitats. Whether or not one lives along a creek, it is important to be a good watershed steward. Those who live along a creek are in the fortunate position of being able to most directly help improve our creeks. The following recommendations are a starting point for keeping Napa County's creeks and watersheds healthy for humans and wildlife.

This guide is not meant to be all inclusive -- references to additional sources of information and contact information for organizations that might be helpful are provided in an effort to make it easy to follow up and learn more about recommendations that are of importance to you.

## *Protecting Creek Habitat & Banks*

Creeks are constantly reshaping their channels through natural processes -- scouring outside curves and depositing sediment inside of bends in the waterway. A stream's natural tendency to meander can be accelerated by human activities throughout the watershed. Increased rates and volumes of stormwater runoff into creeks, removal of natural vegetation, and upstream alteration of the creek channel may lead to erosion problems on banks that were once considered stable. Unstable creek banks can result in property loss, lead to costly bank failures, and add large volumes of fine sediment to the creek. Creeks are complex systems and repair of eroding banks requires specialized knowledge and expertise.

Following are some recommendations that can help you avoid excessive streambank erosion on your property, protect creek habitat, and protect water quality.

---

## Helpful Contacts

California  
Department  
of Fish &  
Game (DFG):  
707.944.5500

Napa County  
Resource  
Conservation  
District  
(RCD):  
707.252.4188

Natural  
Resources  
Conservation  
Service  
(NRCS):  
707.252.4188

Napa County  
Flood Control  
District:  
707.259.8600

Napa County  
Agricultural  
Commissioner:  
707.253.4357

Napa County  
Conservation,  
Development,  
and Planning  
Department:  
707.253.4416

## Keep an eye on your creek banks

If you notice bank failures or areas where vegetation has been damaged or removed, you may need to take action to restore your streambank to a healthy condition. Serious bank erosion often begins when large trees fall into the creek. When water levels recede in the spring, inspect the bank to see if tree roots have been exposed, or if large cracks in the soil are developing parallel to the bank. The type of action necessary to repair eroding streambanks varies from site to site. It may mean stabilizing eroding banks or allowing the stream more room to move. Streambank work is often complex and requires several types of permits to protect surrounding areas. Contact a qualified resource professional to assist you. The Natural Resources Conservation Service (NRCS) and Napa County Flood Control District can help you get started.

## Avoid locating structures near creek banks

Locating structures such as decks and storage sheds near the creek often requires removal of vegetation and can decrease streambank stability. In addition, structures built within reach of flood water may decrease the creek's ability to accommodate flood flows and are subject to damage or complete loss. Remember that creeks are constantly reshaping their channels and plan accordingly. Local city or county building codes also require setting structures back. Check with your local building department before planning a structure close to the creek.

## Locate potential fish migration obstructions

Steelhead and Chinook salmon migrate up and down watercourses in Napa County during specific times of the year. Obstructions in the creek, such as culverts, fences, dams, etc., may limit the amount of creek habitat available to these fish or prohibit their movement in and out of the watershed. If you think there might be a fish migration obstruction on your property contact the California Department of Fish & Game (DFG) or the Napa County Resource Conservation District (RCD) to assist you.

## Approaching Streambank Erosion

Given the dynamic nature of creeks and how they function, streambank restoration or stabilization is a complex endeavor. It can cause changes in stream flow that are difficult to predict. Keep in mind that actions taken to protect your streambank may have unforeseen consequences up and downstream. You may unintentionally pass your problem on to your neighbor. For this and other reasons, creek and streambank work requires in-depth planning and permits from natural resource agencies such as the California Department of Fish & Game, Army Corps of Engineers, Regional Water Quality Control Board, and Napa County. Streambank restoration requires specialized knowledge. The soundest advice is to seek professional assistance.

### When considering streambank work:

- Consider techniques that use living plant material to provide habitat.
- Where possible, provide the creek with more room to move and meander.
- Do not use tires, old appliances, concrete debris, etc. (this practice can be dangerous and it is illegal).
- Be sure not to constrict the channel -- flooding is a potential problem on any creek.
- Monitor, care for, and fine tune your projects.
- Consult with qualified professionals (civil engineers, NRCS, biologists, and other resource specialists).
- Work with other local property owners to develop a coordinated response to approaching streambank issues.
- Complete your plans and submit them to permitting agencies well in advance (permits can be complex and often take months to acquire).

**Helpful  
Contacts  
& Native  
Plant  
Suppliers**

Appleton  
Forestry  
Nursery  
Sebastopol,  
CA  
707.823.3776

Circuit Rider  
Productions,  
Inc. Native  
Plants  
Nursery  
Windsor, CA  
707.838.6641

Pacific Open  
Space, Inc.  
North Coast  
Native  
Nursery  
Petaluma, CA  
707.769.1213

California  
Native Plant  
Society:  
[www.cnps.org](http://www.cnps.org)

## Avoid removal of natural debris

Removing branches, boulders, and rocks from a creek can harm fish and other aquatic species because natural debris provides cover for fish, aquatic insects, and other wildlife. Refer to page 23 for more information on managing natural debris in the creek.

## Preserve and promote native creekside vegetation

Native riparian vegetation growing within a creek corridor helps to stabilize streambanks and provides wildlife habitat. In times of flooding, a well vegetated streambank may provide protection for your property. When seedling trees or shrubs are present, protect them with weed control cloth and tube protectors to ensure survival. Native seedlings represent future replacements for aging vegetation and also add rooting strength to the bank. If clearing of vegetation must occur, or if you are removing non-native invasive species, leave as many native plants as possible and replant with native plants.



## Remove invasive non-native plants and replace them with native vegetation

Invasive non-native plants often crowd out native plants and do not provide the same bank stabilization and wildlife habitat benefits. Removal of non-natives often requires a permit from DFG and is allowed only during certain times of the year. Contact the NRCS, RCD, Napa County Flood Control District, or the Napa County Agricultural Commissioner for assistance. See pages 26 and 27 for a list of native and invasive non-native riparian species common to Napa County's watersheds.

## A Word on Riparian Corridor Width

There is not one generic corridor width that will keep water clean, stabilize creek banks, protect fish and wildlife habitat, and satisfy human demands on the land. The specific width and vegetation structure of a corridor depends upon the intended purpose or goal of the corridor, adjacent land uses, and the specific characteristics of the creek.

Corridors should be designed with specific goals in mind. When the goal is to address sediment delivery issues, appropriate corridor widths increase as slope increases and as sediment materials get finer. On the other hand, corridors designed to protect and enhance wildlife habitat and ecological functions generally increase in width as slope decreases or natural floodplain width increases. In general terms, wider streamside corridors are needed for ecological purposes than for sediment control and water quality purposes.

An advisable approach to establishing appropriate corridor widths is to base the width of the corridor on the intended purpose of the corridor and consider site specific features such as slope of adjacent lands, slope of the channel, presence of wetlands, width of the floodplain, existing condition of the creek, wildlife species of interest, and presence of nearby buildings or development. As a general guide, appropriate corridor widths for the purpose of protecting water quality from excess sediment, nutrients, and pathogens may range from 35 feet on smaller streams with slopes less than 15% to over 100 feet on moderate slopes. Corridor widths to protect ecosystem function and wildlife habitat may be in the range of 80 to 600+ feet, depending upon specific site characteristics and the wildlife species targeted for protection.

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## Keeping Soil On-Site

Erosion is the natural process by which soil, rock, and gravel are moved by the agents of wind, ice, water, or gravity. A certain amount of erosion is healthy for ecosystems, as it brings nutrients to creeks and creates habitat for aquatic plants and animals. However, excessive erosion can cause problems.

The amount of erosion depends on a combination of many factors, including the amount and intensity of precipitation, the make-up of the soil, the steepness of the terrain, and the

When water flows over bare ground, exposed soil may move downhill and lead to excess sediment in local waterways.

amount of vegetative ground cover. Excess erosion most often occurs on bare areas such as creek banks, pastures, roads, stockpiled soil, areas cleared for the construction of new homes and buildings, or other places where soil is not protected. When water

flows over bare ground, exposed soil may move downhill and will often end up in a creek.

The watersheds in Napa County naturally produce relatively high amounts of sediment owing to climate, topography, geology and soil conditions. However, natural sediment production has been accelerated by human activities over the past 200 years.

Some strategies to keep soil on-site include:

### Protect bare soil surfaces

Use vegetation (trees, shrubs, grasses, cover crops) to hold soil in place and allow water to soak into the ground. Consider using native vegetation where possible and if vegetation is not possible, consider straw mulch. Avoid non-native invasive species that may escape. A list of plants to avoid is provided on page 26.

## Helpful Contacts & Resources

Natural  
Resources  
Conservation  
Service (NRCS):  
707.252.4188

*Handbook for  
Forest and Ranch  
Roads.* \$25 from  
the Mendocino  
County Resource  
Conservation  
District:  
707.468.9223  
ext. 111

*Horse Keeping:  
A Guide to Land  
Management  
for Clean Water*  
Download  
for free at  
[mcstopp.org/  
horses.htm](http://mcstopp.org/horses.htm)

## Assess your roads for erosion and address road problems

Poorly constructed roads, vineyard avenues and driveways can be a significant source of erosion. Look for signs of erosion such as small gullies across the road surface and deepening ditches along the side of the road. In addition, assess the condition of any drains and culverts that transport concentrated water to make sure they are performing properly. Culverts need to be properly sized and maintained to handle storm runoff and should include some form of soil protection at each outlet where water is dispersed. If you observe erosion from your road, contact the Natural Resources Conservation Service (NRCS) or refer to the *Handbook for Forest and Ranch Roads* published by the Mendocino County RCD.

## Avoid the piling of soil, construction materials and wastes where they will be exposed to rain or carried into the creek

Cover exposed piles with plastic sheeting and locate piles away from creeks, stormdrains, and ditches.

## Assess erosion prone areas on your property and be sensitive to them

Minimize soil and vegetation disturbance around creek banks, gullies, seasonal drainages, unsurfaced roads, replanted areas, and landslides.

## Manage erosion caused by livestock and horses

Maintain plant and/or grass borders around horse paddocks to act as a filter; separate water and salt blocks to disperse animals more evenly in grazed areas; develop off-stream watering sources; seed pastures to minimize bare soil; and develop grazing management plans with the NRCS.



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## Keep culverts clear of debris

### Helpful Contacts & Resources

Napa County  
Stormwater  
Management  
Program:  
707.259.8600

*Blueprint for a  
Clean Bay*,  
available from  
the Bay Area  
Stormwater  
Management  
Agencies  
Association at  
[www.basmaa.org](http://www.basmaa.org)

BMP  
Handbooks by  
California  
Stormwater  
Quality  
Association:  
[www.  
bmphandbooks.  
com](http://www.bmphandbooks.com)

*Erosion and  
Sediment Control  
Field Manual*,  
San Francisco  
Bay Regional  
Water Quality  
Control Board

NRCS or Napa  
County RCD:  
707.252.4188

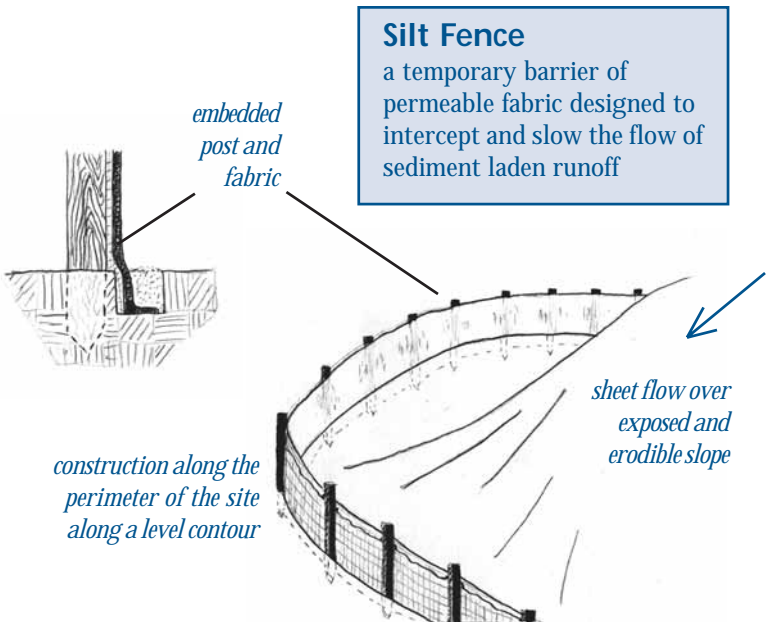
Clear leaves, fallen branches, garbage, and other debris from culvert inlets prior to the first rain in the fall and throughout the rainy season.

## Avoid concentration of water flow

If possible, spread flows out or use a detention basin to store and slowly release storm water. Where water is concentrated, protect outlets by using carefully placed rock to dissipate the erosive force of fast flowing water. Contact the NRCS for assistance.

## Use erosion and sediment control practices at construction and disturbed sites

Refer to *Blueprint for a Clean Bay* or the Best Management Practices (BMP) Handbooks published by the California Stormwater Quality Association. An example of a common erosion control practice is the application of straw mulch. Silt fences are commonly used to protect waterways or sensitive locations from sediment.



## Managing Natural Debris in the Creek

Natural debris in the creek -- branches, logs, and root wads, sometimes referred to as large woody debris (LWD) -- creates food and shelter for fish and wildlife. This woody debris may need to be repositioned, removed, or partially removed if it threatens life or property. Because removing woody debris can alter or even harm fish habitat, it is important to observe a situation before taking action. Removing debris from the creek requires a Streambed Alteration Agreement from the California Department of Fish and Game (DFG). If you are unsure about managing woody debris, contact DFG or the Napa County Flood Control District.

Following are some general recommendations:

### Helpful Contacts

California  
Department  
of Fish and  
Game (DFG):  
707.944.5500

Napa County  
Flood Control  
District:  
707.259.8600

### Natural debris should be left in the creek

unless it causes flooding or erosion that threatens life or property (a house, utility pole, or other structure).

### Consider repositioning natural debris

if it obstructs creek flow and causes flooding, or if it causes excessive streambank erosion by redirecting flow.

### If fallen trees or branches are causing bank erosion, trim the portion of woody debris above water

Try to leave the main stem or root wad intact and in place.

### Remember that most fish can swim through or around debris barriers

If you know that fish can not swim through or around a barrier, contact DFG.

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## Maintaining Landscapes & Yards

### Helpful Contacts & Resources:

Local Public  
Works &  
Water

Departments  
*American  
Canyon:*  
707.647.4500  
*Napa:*  
707.257.9521  
*Yountville:*  
707.944.8851  
*St Helena:*  
707.968.2658  
*Calistoga:*  
707.942.2780  
*Unincorporated:*  
707.253.4351

Napa County  
Master  
Gardeners:  
707.253.4421  
or toll free  
877.279.3065

*Water-wise  
Gardening in  
the Napa Valley.*  
\$5. Available  
at local city  
offices, the  
RCD, and UC  
Cooperative  
Extension.

Napa Garbage  
Service  
Recycling and  
Composting  
Facility:  
707.255.5200

Landscaping can turn a basic house into a beautiful home. Unfortunately, many landscaping techniques require large amounts of water, pesticides, and fertilizers; increase the spread of invasive plants; and can create a fire hazard.

Several resources are available for landscape planning and maintenance. Gardening, composting and irrigation workshops are often available through local cities and towns. The Napa County Master Gardeners Program is also a good resource. Additionally, *Water-Wise Gardening in the Napa Valley* is a locally developed CD-ROM with information regarding native plants, water use, and much more.

When planning and maintaining your yard, use the following tips to help yourself and your creek.

### Compost leaves, grass clippings, and other organic waste away from the creek

Never dump these or other items onto the creek bank or into the creek. Although leaves and other organic waste are biodegradable, adding them to the creek system depletes oxygen in the water and can stress or kill fish and other aquatic life. It also suppresses vegetation growth, which helps to stabilize banks.

### Properly irrigate lawns and gardens

Use meters, timers, or other measuring devices to control water use. Over-watering adds water, excess fertilizers and pesticides, and soil to ditches and stormdrains. It is also a

common cause of streambank erosion. Observe irrigation carefully, if water is running off, you are likely applying too much water in too short a time period.

Landscape irrigation  
accounts for  
approximately 60% of  
residential water use.

## Helpful Contacts & Suppliers

Appleton  
Forestry  
Nursery  
Sebastopol, CA  
707.823.3776

Circuit Rider  
Productions,  
Inc. Native  
Plants Nursery  
Windsor, CA  
707.838.6641

Pacific Open  
Space, Inc.  
North Coast  
Native Nursery  
Petaluma, CA  
707.769.1213

California  
Native Plant  
Society:  
[www.cnps.org](http://www.cnps.org)

*A Guide to  
Estimating  
Irrigation Water  
Needs of  
Landscape  
Plantings in  
California.*  
[www.owue.water.ca.gov/docs/wucols00.pdf](http://www.owue.water.ca.gov/docs/wucols00.pdf)

## Consider alternatives to impervious concrete

Pervious surfaces such as brick, interlocking pavers, flat stones, and decking allow rainwater to infiltrate the soil. Consider this type of material when installing a new patio or rebuilding a walkway.

## Avoid or minimize use of fertilizers and pesticides (including herbicides, fungicides, and insecticides)

Many home gardeners over-apply fertilizers and pesticides -- always follow application directions. Excessive fertilizer use can make its way to the creek and create algal blooms that deplete oxygen supply in the water. Excessive amounts of some nutrients are toxic to aquatic life. Avoid applying fertilizers and pesticides during the rainy season or on windy days. Pesticide drift threatens riparian plants and aquatic life. Store chemicals in a protected area to avoid runoff.

## Keep leaves and yard litter out of street gutters and ditches

so they won't clog stormdrains and/or be transported to the creek. Green waste can be taken to the Napa Garbage Service Recycling and Composting Facility.



What enters the stormdrain eventually enters the creek.

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**Helpful  
Contacts &  
Resources**

State Water  
Resources  
Control  
Board,  
Division  
of Water  
Rights:  
916.657.2170

*Layperson's  
Guide to  
Water Rights  
Law*  
prepared by  
the Water  
Education  
Foundation -  
Updated  
2005.  
916.444.6240  
or www.  
watereducation.  
org

## **Use water legally and with great care**

Make sure that you have a permit to take water and that you do not exceed your allocation. Allow flow to continue in the creek.

## **Cover intake diversion pipes with a 1/8 inch mesh hardware cloth screen**

if you are pumping from the stream. This prevents fish and other critters from being sucked in. Each year large numbers of juvenile fish are lost to unscreened water diversions. Screening also reduces the cost of maintaining and cleaning out the diversion pipe.

## **Landscape with low-maintenance native plants**

Native plants are more tolerant of drought conditions and are better suited to local soils and pests. See below for a list of the most highly invasive ornamental plants in Napa County (i.e., plants to avoid) and the next page for a list of recommended plants.

### **Plants to Avoid**

<i>Common Name</i>	<i>Scientific Name</i>
Acacia	<i>Acacia sp.</i>
Black locust	<i>Robina pseudoacacia</i>
Blue gum eucalyptus	<i>Eucalyptus globulus</i>
Cape ivy	<i>Delairea odorata</i>
Cherry plum	<i>Prunus cerasifera</i>
English ivy	<i>Hedera helix</i>
Fennel	<i>Foeniculum vulgare</i>
Giant reed	<i>Arundo donax</i>
Himalayan blackberry	<i>Rubus discolor</i>
Periwinkle	<i>Vinca major</i>
Poison hemlock	<i>Conium maculatum</i>
Scarlet wisteria	<i>Sesbania punicea</i>
Scotch broom	<i>Cytisus scopariu</i>
Tamarisk	<i>Tamarix sp.</i>
Tree of Heaven	<i>Ailantus altissima</i>
Vetch	<i>Vetch sp.</i>

## Recommended Plants

*Common Name*

*Scientific Name*

### Trees

Arroyo willow	<i>Salix lasiolepis</i>
Big-leaf maple	<i>Acer macrophylla</i>
California bay	<i>Umbellularia californica</i>
California buckeye	<i>Aesculus californica</i>
California walnut	<i>Juglans californica</i>
Coast-live oak	<i>Quercus agrifolia</i>
Freemont's cottonwood	<i>Populus fremontii</i>
Oregon ash	<i>Fraxinus latifolia</i>
Red willow	<i>Salix laevigata</i>
Sandbar willow	<i>Salix exigua</i>
Valley oak	<i>Quercus lobata</i>
White Alder	<i>Alnus rhombifolia</i>

### Shrubs

California rose	<i>Rosa californica</i>
Coyote brush	<i>Baccharis pilularis</i>
Snowberry	<i>Symphoricarpos albus var. laevigatus</i>
Spicebush	<i>Calycanthus occidentalis</i>

### Small Plants and Groundcover

Blue wild rye	<i>Elymus glaucus</i>
California figwort	<i>Scrophularia californica</i>
Mexican rush	<i>Juncus mexicanus</i>
Rough sedge	<i>Carex senta</i>
Santa Barbara sedge	<i>Carex barbarae</i>
Seep-spring monkey flower	<i>Mimulus guttatus</i>

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## Water Management & Use

Small streams can be heavily impacted by water diversions, even small ones. In summer, when flow is at its lowest, some streams may only have enough water to support small “pools.” These pools sustain aquatic life until winter when heavier flows resume. It is important to avoid depleting these pools of their water. The amount of life a stream can support is directly related to the amount of water in it. Diversions and wells located near creeks decrease underground streamflows which, in turn, drain the pools of their much needed water.

Water diversions from creeks are only legal if you have a Riparian Right, an Appropriative Water Right Permit, or a Small Domestic Registration.

A **Riparian Right** is limited to parcels adjacent to creeks and stays with the property, unless deleted from the title. Storage beyond 30 days is not allowed.

With an **Appropriative Water Right Permit**, the land does not need to be next to a stream. A permit is required, and water can be stored for over 30 days.

A **Small Domestic Registration** is for landowners who use less than 4,500 gallons per day and store less than 10 acre-feet of water. For more information, contact the State Water Resources Control Board, Division of Water Rights.

**Helpful  
Contacts:**

Household  
Hazardous Waste  
Facility:  
1.800.984.9661

Napa Garbage  
Service  
Recycling and  
Composting  
Facility:  
707.255.5200

Napa County  
Stormwater  
Management  
Program:  
707.259.8600

**Certified Oil  
Collection  
Facilities** (*call  
for quantities &  
materials  
accepted*):

**American  
Canyon:**  
Public Works:  
707.647.4366

Devlin Road  
Recycling &  
Transfer Station:  
707.252.0500

**Yountville:**  
Yountville Corp  
Yard:  
707.944.2988

**Calistoga:**  
Clover Flat  
Landfill:  
707.963.7988

*Cont. on next page*

## **Home Maintenance & Waste Disposal**

Maintenance of our homes is essential. With careful implementation maintenance can be done to minimize potential impacts to local creeks. Even in small amounts, common hazardous materials such as paint, motor oil, solvents, pool chemicals, batteries, and many cleaners can contaminate a creek and harm fish and wildlife. Following are several recommendations to minimize the impacts of common household maintenance activities.

### **Keep trash and waste out of the creek, off the street, and out of ditches and storm drains**

Avoid storing trash where it might reach the creek and keep trash lids securely closed. Remove trash that accumulates in the creek, but do not remove natural debris, see *“Managing Natural Debris”* on page 23.

### **Minimize stormwater runoff**

Direct all gutters or downspouts to areas where the water can soak into the ground; minimize paved or other hard surface areas; and keep water and pipes from flowing directly to the creek or onto the creek banks.

### **Take all hazardous items to the Household Hazardous Waste Facility**

Hazardous materials includes paint, solvents, pesticides, etc. The hazardous waste facility is located at 889A Devlin Road in American Canyon and is open every weekend from 9 am to 4 pm. Refer to the Napa Recycling and Waste Services Recycling Guide in the Napa Valley Yellow Pages for additional information.



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**St. Helena:**  
St. Helena  
Center:  
707.963.2741

### **Use water-based paint and paint removers**

when possible -- they are less toxic than oil-based paints, turpentine and thinners and they can be recycled.

**Napa:**  
B&B Foreign  
Car Service:  
707.255.7588

### **Clean latex paint brushes and rollers in a sink**

so that waste water does not reach a stormdrain, ditch, or creek.

Bert Williams &  
Sons Auto Parts:  
707.255.7003

### **Place paint thinner or turpentine in a container to clean oil-based paintbrushes and rollers**

Allow the solids to settle out and carefully transfer liquid to another container for reuse. Take the solids to the hazardous waste collection site at 889 A Devlin Road in American Canyon.

Classic  
Automotive:  
707.257.6677

Imports  
Unlimited:  
707.252.1177

Kragen Auto  
Parts:  
707.224.8606  
707.255.5266

### **Use non-toxic cleaning products in your home**

See the following page for some suggestions.

Quality Tune-  
Up:  
707.252.1561

### **Dispose of water used to clean carpets, upholstery, or floors down sinks or toilets**

If you are on a septic tank, use septic safe products.

Silverado Auto  
Service:  
707.224.4708

### **Use mechanical methods to clean drains that are blocked by roots**

Avoid copper-based root control products.

**Other:**  
6450 Berryessa-  
Knoxville Rd.

### **Drain waterbed mattresses in a drain that will reach the sanitary sewer system**

Waterbed chemicals can be toxic to aquatic life.

Napa Valley  
Marina:  
707.252.8011

Pacific Union  
College:  
707.965.7150

### **Avoid hosing down or pressure washing paved surfaces like driveways**

Use a broom instead and put debris in a compost bin, yardwaste container or trash can.

Rancho  
Monticello:  
707.965.8216

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## Non-toxic Household Products

Product	Suggested Uses
Baking Soda	Deoderize refrigerators, drains, carpets, and upholstery. Clean & polish aluminum, chrome, jewelry, plastic, porcelain, silver, stainless steel, and tin.
Cornstarch	Clean windows, polish furniture, shampoo carpets, and starch clothes.
Lemon Juice	Clean glass, remove stains from aluminum, clothes and porcelain.
Steel Wool	Remove rust and scour barbeque grills
TSP	Clean drains or remove old paint (note: TSP is toxic if swallowed).
Vinegar	Dissolve mineral deposits and grease. Remove traces of soap, mildew, or wax buildup. Clean brick or stone. Shine windows without streaking.
All purpose cleaner	Mixture of vinegar & salt OR 4 tbsp. baking soda dissolved in 1 quart warm water.
Drain cleaner	Try a plunger first. To open clogs pour 1/2 cup baking soda down drain, add 1/2 cup white vinegar, and cover the drain. (NOTE: do not try this approach after trying a commercial drain opener--the vinegar can react with the drain opener to cause dangerous fumes.)
Tub & Tile cleaner	Try baking soda with a damp sponge or wipe with vinegar first and follow with baking soda.
Ant Deterrent	Sprinkle powdered red chili pepper, paprika, or dried peppermint where ants are entering.
Cockroach Poison	Mix by stirring and sifting 1 oz. TSP, 6 oz. borax, 4 oz. sugar, and 8 oz. flour. Spread on floor of infested area, repeat after 4 days and again after 2 weeks.

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## **Discharge water from your washing machine away from creeks, ditches, or storm drains**

### **Wash vehicles at commercial or coin-operated car washes**

where the water is recycled before it is discharged to a sewer system. If washing your car or other equipment at home, do so in a grassy or gravel area where soapy water can filter into the soil. Do not put soap, even biodegradable, down the storm drain, it can harm fish and other aquatic life.

### **Properly care for pools and spas**

Make sure discharges from pools and spas don't reach creeks or cause erosion. Chlorine and algaecides used in pools and spas are toxic to plants and aquatic life. Use diatomaceous earth (DE) cautiously. If DE gets into the creek it can cut the gills of aquatic animals, making them more susceptible to infection and disease. The draining of pools or spas may require a permit, contact the Napa County Stormwater Management Program for additional information.

### **Properly care for cars and boats**

For proper disposal of used motor oil and other automotive products, refer to the Napa Recycling and Waste Services Recycling Guide in the Napa Valley Yellow Pages or call Napa County Stormwater Management Program. Motor oil can coat fish gills (depriving them of oxygen) and bird feathers (interfering with their ability to keep warm and dry). Oil can also poison animals when they ingest it in an effort to clean themselves. Locally certified oil collection centers around Napa County are listed under "Helpful Contacts" on pages 29 and 30.

### **Properly maintain and care for septic systems**

Minimize the amount of liquid that goes into the system and avoid unnecessary solid waste. Have your system monitored regularly and pump as often as necessary (pumping may be required in as little as every 2 years and as many as 12). Maintain a healthy bacteria count by keeping bleach, antibacterial soap, paints, solvents and pesticides out of the system.

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## Septic Systems

Most rural residences use septic systems for sewage disposal. Septic systems operate by collecting sewage in a concrete tank and allowing the liquid portion to percolate into the ground through perforated pipe (leach lines). Solids are pumped out of the collection tank and hauled off-site for disposal.

Septic systems are safe and effective, as long as they are properly designed, installed, and maintained. If not, they can be a source of groundwater and surface water contamination. Leaky septic systems can pollute domestic water systems by contaminating the aquifer from which a residential well draws. Older homes may have a primitive system composed of a redwood or metal box with no leach lines. These systems are now illegal and efforts should be made to replace them with a new system.

Human wastes leaking from faulty or old septic systems are a source of water pollution in Napa County. Like livestock waste, human sewage contains nutrients and pathogens. Human sewage poses a more serious health risk than livestock waste because there is a greater chance that it contains human disease organisms.

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**Helpful  
Contacts &  
Resources:**

UC Cooperative  
Extension -  
Livestock &  
Natural  
Resources  
Program:  
707.435.2459

Natural  
Resources  
Conservation  
Service (NRCS):  
707.252.8144

*Horse Keeping: A  
Guide to Land  
Management for  
Clean Water.*  
2001. The  
Council of Bay  
Area Resource  
Conservation  
Districts with  
the USDA  
NRCS. \$25.

## ***Caring for Livestock & Animals***

Livestock and other domesticated animals (including horses, dogs, cats, etc.) can impact creeks by destroying plants, trampling creek banks, disturbing wildlife, and/or reducing water quality. Thoughtful control of livestock and other animals can minimize the disruptions they may cause to our local waterways. Consider the following:

### **Restrict or control livestock and horse access to creeks**

Livestock and horses can trample creek banks and contribute to water quality degradation.

### **Avoid or limit pet access to the creek**

Pets scare fish and wildlife and muddy the creek.

### **Avoid building livestock corrals and feeding/watering areas near creeks**

Develop off-stream watering sources and separate water and salt blocks to spread animals more evenly in grazed areas.

### **Pick up after your pets and store animal waste away from the creek and in a location where runoff will not enter the creek**

Animal waste increases bacterial levels and contributes excess nutrients to the creek, which cause algal blooms and deplete oxygen from the water.

### **Manage erosion from livestock & horses**

Consider seasonal grazing or exclusion of livestock from the creek corridor. Maintain plant and/or grass borders around horse paddocks to act as a filter and seed pastures to minimize bare soil.

## Preventing Catastrophic Fire

Much of Napa County is considered a high hazard fire environment. The area possesses all of the ingredients necessary to support large, intense, and uncontrollable wildfires. Individual houses, subdivisions, and entire communities could be impacted. In addition, an intense wildfire could have catastrophic effects on natural resources due to loss of upland habitat and large increases in erosion and sediment transport.

### Helpful Contacts & Resources

The following publications are available from Napa County Firewise Program and the California Department of Forestry and Fire Protection: 707.967.1426

*Living with Fire in Napa County: A guide for the homeowner.*

*Protecting the Homes and Citizens of California: Wildland-Urban Interface Building Standards.*

*A Homeowners Guide to Firewise Landscaping in Napa County.*

The ability to live more safely and reduce the risk of fire in our environment greatly depends upon the use of “pre-fire activities.”

Pre-fire activities are actions taken before a wildfire occurs that improve the

Pre-fire activities will improve the survivability of homes and may help firefighters better control large wildland fires and

survivability of people and homes and may help firefighters better control large wildland fires and protect natural resources.

More information regarding fire preparedness can be obtained from the Napa County Firewise Program and the California Department of Forestry and Fire Protection. The following tips are provided as a place to start.

**Move woodpiles and garbage cans away from your home.** Do not put woodpiles or garbage in or near a creek, ditch, or stormdrain.

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**Helpful  
Contacts:**

Napa Garbage  
Service  
Recycling and  
Composting  
Facility:  
707.255.5200

Natural  
Resources  
Conservation  
Service:  
707.252.4188

Napa County  
Resource  
Conservation  
District:  
707.252.4188

## **Keep rain gutters and roof clean of all flammable material**

Dispose of these materials properly, do not put them in or near a creek, ditch, or stormdrain. Green waste can be taken to the Napa Garbage Service Recycling and Composting Facility.

## **Dispose of dry grass, brush, and other flammable materials around your home**

Compost debris or take it to a disposal location such as the Napa Garbage Service Recycling and Composting Facility. Avoid disposing of debris in or near a creek, ditch, or stormdrain.

## **Inspect and clean your chimney every year**

Trim away branches within 10 feet. Install a spark arrester with 1/4" or smaller mesh screen. Dispose of chimney and branch debris properly and away from creeks, ditches, and stormdrains.

## **Do not store flammable material within 10 feet of a propane tank**

If possible, locate propane tanks at least 30 feet from any structures and out of the reach of flood waters.

## **Learn about and implement "defensible space"**

Remove dead and dying grass, shrubs, and trees; reduce the density of vegetation and ladder fuels; replace hazardous vegetation with less flammable vegetation. Keep in mind the need to protect bare soil from erosion and to minimize use of water during the summer months when creek flows are already low. See *Landscape & Yard Maintenance* (page 24) and *Keeping Soil On-Site* (page 20) for more information. Contact the Natural Resources Conservation Service or Resource Conservation District for additional information on erosion control.

## **Creek Friendly Recreation**

When enjoying the watersheds of Napa County, at home or elsewhere, remember that the ways we recreate can impact local creeks and disrupt wildlife habitat. Following are some simple tips to keep recreation fun and safe for the watershed.

### **Look for fish, don't catch them**

Most creeks in Napa County are closed for trout fishing for much of the year because these fish are experiencing declines in population. Consider fishing in areas with healthier populations of fish.

### **Supervise children**

Children are naturally curious, but they can unintentionally kill or harm aquatic life.

### **Avoid or limit pet access to the creek**

Pets scare fish and wildlife and muddy the creek water.

### **Pick up after your pets**

Animal waste increases bacterial levels and contributes excess nutrients to the creek, which cause algal blooms and deplete oxygen from the water.

### **Avoid walking on bare creek banks**

especially in the rainy season. This will help prevent erosion.

### **Avoid walking in streams**

especially during spawning season (November through April), when young fish are born. Avoid walking in pools where fish live during the summer.

### **Stay on the trail**

Hikers and bikers should avoid using short cuts and illegal trails. These "trails" are not properly designed or maintained and using them contributes to erosion problems.



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# Resource Directory

## *Technical Assistance*

### **California Department of Fish and Game**

707.944.5500

[www.dfg.ca.gov](http://www.dfg.ca.gov)

P.O. Box 47

Yountville, CA 94559

The Department's mission is to protect and conserve plants, fish, wildlife, and the habitats upon which they depend. In addition to assisting with required permits, department staff can provide technical advice on ways to reduce potential impacts to fish and wildlife when one desires to alter the bed, bank or channel of a stream.

### **Napa County Agricultural Commissioner Napa County Weed Management Area**

707.253.4357

[www.co.napa.ca.us](http://www.co.napa.ca.us)

1710 Soscol Ave, Suite. 3

Napa, CA 94559

The Napa County Agricultural Commissioner is responsible for the implementation of several programs within Napa County including pesticide safety, organic registration, and pests and diseases. The department also coordinates the Napa County Weed Management Area (WMA) which was created to address concerns regarding non-native plant species in Napa County by providing a forum to make it easier to identify Napa's weed problems, share information, and qualify for grants and other funding.

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## **Napa County Conservation, Development, and Planning Department (CDPD)**

707.253.4416

[www.co.napa.ca.us](http://www.co.napa.ca.us)

1195 3rd Street, Room 210

Napa, CA 94559

CDPD manages Napa County's "Conservation Regulations" and in partnership with Napa County Resource Conservation District can provide technical assistance regarding erosion control techniques to protect lands from excessive soil loss and to maintain and improve water quality.

## **Napa County Department of Environmental Management (DEM)**

707.253.4471

[www.co.napa.ca.us](http://www.co.napa.ca.us)

1195 3rd Street, Room 101

Napa, CA 94559

Environmental Management provides assistance with water wells and septic systems for individual homes and provides educational workshops and materials for businesses and the public on waste reduction and other topics.

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## **Napa County Firewise Program**

707.967.1426

<http://www.co.napa.ca.us/firewise/index.html>

1199 Big Tree Road

St. Helena, CA 94574

In May 2005, the communities of Napa County launched Napa Firewise, a five-year prevention and education program. The program is intended to raise community awareness of the dangers of wildland fires and provide residents with the knowledge necessary to protect themselves.

## **Napa County Master Gardeners**

707.253.4221 or toll free 877.279.3065

<http://groups.ucanr.org/mgnapa/index.cfm>

1710 Soscol Ave.

Napa, CA 94559

Master Gardeners provide information on plant health and gardening practices for vegetables, trees, soils, lawns ornamental horticulture, insects, diseases, and use of pesticides.

## **Napa County Resource Conservation District (RCD)**

707.252.4188

[www.naparcd.org](http://www.naparcd.org)

1303 Jefferson Steet, Suite 500B

Napa, CA 94559

The RCD is a non-regulatory agency whose mission is to promote responsible watershed management through voluntary community stewardship and technical assistance. RCD staff assist landowners and community members with stewardship and conservation through education, technical assistance, and funding for on-the-ground projects.

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## **Napa County Stormwater Management Program**

707.259.8600

804 First Street

Napa, CA 94559

The Stormwater Management Program provides educational materials on protecting local waterways for the general public and businesses.

## **Napa County Flood Control & Water Conservation District**

707.259.8600

[www.co.napa.ca.us](http://www.co.napa.ca.us)

804 First Street

Napa, CA 94559

The Flood Control District administers a number of County storm drainage easements. District staff can provide technical assistance with regard to erosion repair on streams and removal of woody debris. The District also provides some stream channel maintenance and stream bank repairs, and emergency labor and technical assistance.

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## **UC Cooperative Extension Livestock & Natural Resources Program**

707.435.2459

<http://cesolano.ucdavis.edu>

501 Texas Street

Fairfield, CA 94533

The primary focus of this program is to disseminate research-based information to help livestock producers make informed decisions on livestock and natural resource management. Another role is to conduct research projects that provide useful information for local producers and resource managers. The goal of the program is to help local ranchers maintain, and hopefully improve, the viability of livestock production without compromising the valuable resources that sustain the natural and productive environment in which we live and work.

## **USDA Natural Resources Conservation Service (NRCS)**

707.252.4188

1303 Jefferson Street, Suite 500B

Napa, CA 94559

The NRCS works with private landowners to conserve and protect soil, water, air, plants, and animals. NRCS provides no-cost technical consultation to landowners and landusers to address soil erosion, water quality protection, and restoration/management of riparian areas and wetlands. Grants and educational opportunities are available to agricultural producers through various USDA programs.

## **Watershed Information Center & Conservancy of Napa County (WICC)**

707.259.5936

[www.napawatersheds.org](http://www.napawatersheds.org)

1195 3rd Street, Room 210

Napa, CA 94559

## Useful Publications

*Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction-Related Activities.* 2004. Bay Area Stormwater Management Agencies Association. *This publication offers several good ideas for minimizing impacts from construction sites. It is meant for general contractors, home builders and subcontractors, but is useful for anyone involved in a construction project.* The publication can be downloaded from the Napa County Stormwater Management Program on the Watershed Information Center and Conservancy WebCenter at [www.napawatersheds.org](http://www.napawatersheds.org) or by contacting the Napa County Stormwater Management Program at 707.259.8600.

*Fish Friendly Farming Certification Program and Farm Assessment and Conservation Plan Workbook.* 2004. Laurel Marcus. *The program and workbook focus on management practices for vineyards.* Contact the California Land Stewardship Institute for more information or visit [www.fishfriendlyfarming.org](http://www.fishfriendlyfarming.org)

*Handbook for Forest and Ranch Roads.* 1994. William Weaver, PhD., and Danny Hagans for the Mendocino County Resource Conservation District. \$25. Call 707.468.9223 ext. 111.

*Horse Keeping: A Guide to Land Management for Clean Water.* 2001. The Council of Bay Area Resource Conservation Districts, Petaluma, California. *This guide provides practical management information to San Francisco Bay Area horse owners on what they can do to help protect the environment.* Order form available at Napa County Resource Conservation District. \$25 + tax & shipping.

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*The House and Garden Audit: Protecting Your Family's Health and Improving the Environment.* 2001. Laurel Marcus. Available from Laurel Marcus and Associates, call 510.832.3101.

*Layperson's Guide to Water Rights Law.* 2005. The Water Education Foundation. Order online at [www.watereducation.org](http://www.watereducation.org) or call 916.444.6240.

*Stream Corridor Restoration: Principles, Processes, and Practices.* 1998, revised 2001. The Federal Interagency Stream Restoration Working Group. This workbook is available on-line at [http://www.nrcs.usda.gov/technical/stream\\_restoration](http://www.nrcs.usda.gov/technical/stream_restoration).

Watershed Information Center & Conservancy (WICC) of Napa County. [www.napawatersheds.org](http://www.napawatersheds.org) hosts several useful watershed publications.

*Water-Wise Gardening in the Napa Valley.* 2004. City of Napa. *This CD-ROM helps one to better plan and maintain a beautiful and low-maintenance landscape that is water efficient. It includes detailed information for over 1,000 plants and a virtual encyclopedia of water-wise landscape design, irrigation, and maintenance tips.* This resource is available through the Cities of American Canyon, St. Helena, Calistoga, and Napa; the Town of Yountville; the Napa County Resource Conservation District; UC Cooperative Extension; Master Gardeners of Napa County; and the Napa Chapter of the California Native Plant Society. The cost is \$5.

## *Permitting Agencies*

When modifying a stream in any way you will likely need a permit from one or more of the resource agencies listed below. Permitting agencies can provide some technical assistance in how to comply with their permit requirements and it is advisable to contact them early in your planning process.

### **California Department of Fish and Game**

707.944.5500

Pertinent to streambed alteration as it influences fish and wildlife habitat.

### **Napa County Conservation, Development, and Planning Department**

707.253.4416

Pertinent to stream work that includes earth disturbing activities.

### **Napa County Department of Environmental Management**

707.

Pertinent to

### **National Marine Fisheries Service**

707.525.6050

Pertinent to stream work that could impact threatened steelhead and chinook salmon populations.

### **San Francisco Bay Regional Water Quality Control Board**

510.622.2300

Pertinent to stream work as it influences water quality, including potential sediment input.



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**State Water Resources Control Board -  
Division of Water Rights**

916.341.5300

Pertinent to water diversions and use.

**US Army Corps of Engineers**

415.977.8462

Pertinent to work done in waters under their jurisdiction.

**US Fish and Wildlife Service**

916.414.6600

Pertinent to stream work that could impact threatened or endangered species.

# Acknowledgements

This publication is a modification of the following creek care guides:

*Creek Care: A Guide for Rural Landowners and Residents of Petaluma and Sonoma Creek Watersheds.* Southern Sonoma Resource Conservation District in cooperation with Prunuske Chatham, Inc.

*Creek Care: A Guide for Urban Marin Residents.* 1997. Marin County Stormwater Pollution Prevention Program in cooperation with Prunuske Chatham, Inc.

*The Napa County Resource Conservation District greatly appreciates the work of Martha Neuman with Prunuske Chatham, Inc.; the Southern Sonoma County Resource Conservation District; and the Marin County Stormwater Pollution Prevention Program. We are thankful for their permission to modify their existing guides to better suit the needs of Napa County watersheds.*

## Additional Sources

*Creek Care Guide for Residents and Businesses.* 1994. Rivers, Trails and Conservation Assistance Program, National Park Service.

*Creek Care Guide for Residents and Businesses.* City of Arlington, Texas.

*Common Riparian Plants in Napa County.* 2005. Working document provided by Todd Adams.

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*A Homeowners Guide to Firewise Landscaping in Napa County.* 2005. Napa County Fire Wise Project.

*Living Lightly in Our Watersheds.* Malibu Creek Watershed Council.

*Stream\*A\*Syst: A Tool to Help You Examine Stream Conditions on Your Property.* 2001. Oregon State University Extension Service and USDA Natural Resources Conservation Service.

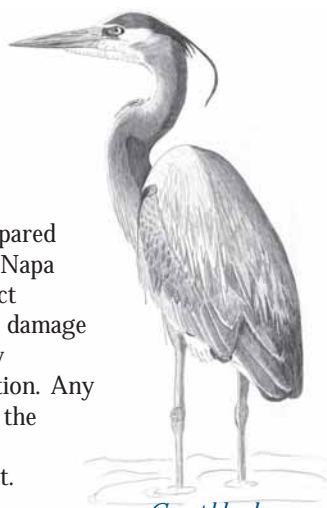
*Safe Substitutes at Home: Non-toxic Household Products.* Gary Davis and Em Turner. University of Tennessee - Knoxville Waste Management Institute. Working Paper.

*Stream Care Guide: Management Tips for Streamside Property Owners.* 1999, revised 2002. Placer County Resource Conservation District.

*Stream Corridor Restoration: Principles, Processes, and Practices.* 2001. The Federal Interagency Stream Restoration Working Group.

*River Dynamics & Erosion; An Introduction to Riparian Buffers; Riparian Buffers as Habitat; Soil Erosion & Soil Stability; Napa County Fisheries; and Noxious Riparian Weeds.* 2005. Napa County Resource Conservation District.

Disclaimer: This publication was prepared for informational purposes only. The Napa County Resource Conservation District assumes no liability for any injury or damage resulting from the use or effect of any information contained in this publication. Any mention of a brand or company is for the reader's convenience and does not constitute endorsement by the District.



*Great blue heron*



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Conservation District  
1303 Jefferson St., Ste. 500B  
Napa CA 94559  
707.252.4188  
staff@naparcd.org  
www.naparcd.org**

**- DRAFT "TRACKING" COPY -**

**BYLAWS OF THE NAPA RIVER WATERSHED CONSERVANCY  
AND WATERSHED INFORMATION CENTER AND CONSERVANCY  
BOARD OF NAPA COUNTY**

(adopted December 18, 2002; amended January 22, 2004, ~~expected to be amended~~ June 24, 2004)

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**I. THE WATERSHED INFORMATION CENTER AND CONSERVANCY BOARD OF NAPA COUNTY~~NAPA RIVER WATERSHED CONSERVANCY AND WATERSHED INFORMATION CENTER BOARD~~**

**A. Name.** The official name of the Board shall be the Watershed Information Center and Conservancy Board of Napa County, Napa River Watershed Conservancy and Watershed Information Center Board, hereinafter referred to as the "Conservancy/WIC/WICC Board." (per Resolution No. 04-102)

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**II. OFFICERS.** The officers of the Conservancy/WIC/WICC Board shall be the Chair, Vice-Chair and Secretary, chosen as follows:

- A. Time of Election of the Chair and Vice-Chair.** At the first organizational meeting and thereafter at the Conservancy/WIC/WICC Board's annual organizational meeting, the membership of the Conservancy/WIC/WICC Board shall elect the Chair and Vice-Chair from among themselves.
- B. Term of the Chair and Vice-Chair.** The Chair and Vice-Chair shall serve one calendar year or until their successors are elected and assume office. If the office of Chair becomes vacant during the term, the Vice-Chair shall become Chair. Vacancy in the office of Vice-Chair during the term shall be filled by election to serve the remainder of the term.
- C. Duties of the Chair and Vice-Chair.** The Chair, or the Vice Chair in the absence of the Chair, shall act as the presiding officer of Conservancy/WIC/WICC Board and in that capacity shall preserve order and decorum, decide questions of order subject to being overruled by a two-thirds vote and perform such other duties as are required by the Conservancy/WIC/WICC Board. The Chair shall have all the rights and duties enjoyed by any other member of the Conservancy/WIC/WICC Board, including the right to make and second motions.
- D. Secretary.** Deputy Director of the Conservation Division of the Napa County Conservation, Development and Planning Department shall serve ex officio as the Secretary of the Conservancy/WIC/WICC Board.
- E. Authority to Bind Conservancy/WIC/WICC Board.** No member of the Conservancy/WIC/WICC Board shall have any power or authority to bind the Conservancy/WIC/WICC Board by any contract, to pledge its credit, or to render

it liable for any purpose in any amount.

**F. Term of Conservancy/WICWICC Board members.** ~~The term of office for four (4) members of the Conservancy/WIC Board shall be two (2) years from the initial date of appointment, and three (3) years from the initial date of appointment for five (5) members, and four (4) years from the initial date of appointment for five (5) members. Thereafter, e~~Each member of the WICC Board shall serve for a period of four (4) years. ~~Each Members serving on the WICC Board as elected officials and the~~ alternate member acting for ~~the cities or~~ the County Board of Supervisors shall serve the same term as their elected office.

**G. Service and termination of Conservancy/WICWICC Board membership.**

1. **Service.** Members appointed to the Conservancy/WICWICC Board by the County Board of Supervisors shall serve at the will and pleasure of the County Board of Supervisors.
2. **Termination.** A Conservancy/WICWICC Board member's term may be concluded before expiration if any one of the following events occurs:
  - a. His or her absence from three consecutive regular meetings during the term year, unless confined by illness or other absence approved by a majority of the Conservancy/WICWICC Board at any meeting thereof, will be considered as having involuntarily resigned her/his position as a member of the Conservancy/WICWICC Board.
  - b. His or her resignation is submitted to the Chair.
  - c. His or her ceasing residency in Napa County.
  - d. His or her conviction of a felony or any offence involving a violation of his or her official duties.
  - e. Refusal or neglect to file the required oath of office.

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### III. MEETINGS

**A. Date of Regular Meetings.** All dates of regular meetings of the Conservancy/WICWICC Board shall be on the fourth Thursday of every ~~other~~ month, apart from November, when the meeting shall be held on the third Thursday, as shown on a calendar, which the Conservancy/WICWICC Board shall adopt at the first meeting of the Conservancy/WICWICC Board, of each calendar year. Notwithstanding the foregoing, any regularly scheduled meeting of the Conservancy/WICWICC Board may be canceled by majority vote or, if there

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is not a quorum, be adjourned by the Chair or Secretary in the manner set forth in Section III(G) of these by-laws.

- B. Time of Regular Meetings.** Regular meetings shall commence at 4:00 p.m. and continue until all agendized business is concluded unless adjourned earlier on motion of the Conservancy/WICWICC Board for any reason or by the Secretary for lack of a quorum.
- C. Location of Regular Meetings.** Unless specially noticed otherwise, regular meetings shall be held at 1125 Third Street, Hall of Justice Building, 2<sup>nd</sup> Floor Meeting/Training Room, Napa, California.
- D. Emergency Meetings.** Emergency meetings shall be called in conformance with Section 54956.5 of the California Government Code
- E. Special Meetings.** A special meeting may be called at any time by the Chairman or upon the request of a majority of the members of the Conservancy/WICWICC Board by delivering written notice to each member and to each person or entity entitled by law to receive such notices in the manner required by Government Code Section 54956 at least 24 hours before the time of the meeting as specified in the notice. The call and notice shall specify the time and place of the special meeting and the business to be transacted or discussed and shall be posted at least 24 hours prior to the special meeting in a location that is freely accessible to members of the public. No other business shall be considered at such meetings by the Conservancy/WICWICC Board. Such written notice may be dispensed with as to any Conservancy/WICWICC Board member who at or prior to the time the meeting convenes files with the Secretary of the Conservancy/WICWICC Board a written waiver of notice. Such waiver may be given by telegram. Such written notice may also be dispensed with as to any member who is actually present at the time the meeting convenes.
- F. Agendas Involving Regular Meetings.** At least 72 hours before a regular meeting, an agenda containing a brief general description of each item of business to be transacted or discussed shall be posted at a location freely accessible to members of the public. All agendas shall include a time period for public comment and shall specify the time and location of the regular meeting. No discussion shall occur, or action be taken, on any item not appearing on the posted agenda except as permitted by law. Questions or comments regarding items not included on the agenda shall be limited to the scope permitted for “public comment”. Supplemental agendas involved in a regular meeting will be prepared and considered by the Conservancy/WICWICC Board only under the following conditions:

  - 1. Emergencies.** Upon a determination by the Conservancy/WICWICC Board that an emergency situation exists, as defined in Section 54956.5 of the Government Code.



2. **Need Arising after Posting.** Upon a determination by a two-thirds vote of the Conservancy/WICWICC Board or, if less than two-thirds of the potential votes are present, a unanimous vote of the Conservancy/WICWICC Board members present, that there is a need to take immediate action and the need to take action came to the attention of Conservancy/WICWICC Board or staff subsequent to the regular agenda being posted.
3. **Recently Continued Item.** The item was properly posted for a prior meeting of the Conservancy/WICWICC Board occurring not more than five calendar days prior to the date action is taken on the item, and at the prior meeting the item was continued to the meeting at which action is being taken.

**G. Adjourning Meetings.** The Conservancy/WICWICC Board may adjourn any meeting to a time and place specified in the order of adjournment. Less than a quorum may so adjourn from time to time. If all Conservancy/WICWICC Board members are absent from any regular meeting or adjourned regular meeting the Secretary or Acting Secretary of the Conservancy/WICWICC Board may declare the meeting adjourned to the next regular meeting of the Conservancy/WICWICC Board. A copy of the order or notice of adjournment shall be conspicuously posted on or near the door of the place where the meeting was held within 24 hours after the time of the adjournment. When a regular or adjourned regular meeting is adjourned as provided in this section, the resulting adjourned regular meeting is a regular meeting for all purposes. When an order of adjournment of any meeting fails to state the hour at which the adjourned meeting is to be held, it shall be held at the hour specified for regular meetings.

**H. Meetings to be Open and Public.** All meetings of the Conservancy/WICWICC Board to take action or to deliberate concerning Conservancy/WICWICC Board business and its conduct shall be open and public. All persons shall be permitted to attend any such meetings except as otherwise provided or permitted by law.

#### IV. CONDUCT OF MEETINGS

- A. Order of Business.** The regular order of business of the Conservancy/WICWICC Board shall be:
1. Call to order.
  2. Approval of the minutes of the previous meeting.
  3. Public comment on unagendized items.
  4. Consideration and Action on Agenda Items.

5. Adjournment.

- B. Parliamentary Procedure.** Unless otherwise provided by these Bylaws, all proceedings before Conservaney/WICWICC Board shall be conducted in accordance with and pursuant to the parliamentary procedure prescribed in "Sturgis Standard Code of Parliamentary Procedure, 3rd edition."
- C. Recording of Meetings.** Any meeting of the Conservaney/WICWICC Board, other than a closed session permitted under the Brown Act, may be recorded by any person, unless the Conservaney/WICWICC Board determines that such recording could constitute a disruption of the proceedings.
- D. Presentations to the Board.** Any person desiring to address the Conservaney/WICWICC Board shall, when recognized by the Chair, give his or her name and address. The Chair may, in the interest of facilitating the business of Conservaney/WICWICC Board, set in advance of the presentation of testimony reasonable time limits for oral presentations. Persons may be required to submit written testimony in lieu of oral testimony if the Chair determines that a reasonable opportunity for oral presentations has been provided, and in such a case, the matter may be continued to a later date to allow a reasonable time for such submittals to occur.
- E. Recordation of Board Actions.** All official actions or decisions by the Conservaney/WICWICC Board shall be entered in the minute book of- the Conservaney/WICWICC Board kept by the Secretary. The vote or votes of each member of the Conservaney/WICWICC Board on every question shall be recorded. Only action minutes will be maintained, however, tape recordings will be made of each meeting of the Conservaney/WICWICC Board and shall be available to the public at the Conservaney/WICWICC Board offices.

**V. VOTING AND QUORUM**

- A. Roll Call Vote.** A roll call vote may be required in voting upon any motion of the Conservaney/WICWICC Board at the discretion of the Chair.
- B. Inaudible Votes.** Any member present who does not vote in an audible voice or abstains for a legally insufficient reason shall be recorded as voting "aye".
- C. Quorum.** A majority of the members of the Conservaney/WICWICC Board shall constitute a quorum for the purpose of conducting its business and exercising its powers and for all other official purposes, except that less than a quorum may adjourn from time to time until a quorum is obtained.
- D. Number of Votes Required for Action.** All actions require a motion and a second. No action or recommendation of the WIC/WIC Board shall be valid and

binding unless a quorum is present and the motion is approved by at least a majority of the members present. Each member shall have one vote. No votes may be cast by proxy. Tie votes shall be considered as denial of the motion.

- E. Voting Affected by Conflict of Interest.** As a general rule, no member shall participate as a member in any discussion or voting if to do so would constitute a conflict of interest. However, if a quorum cannot be achieved or the required number of affirmative votes for action obtained because conflicts of interest exist that prevent members having such conflicts from discussing or voting on the matter, and the conflicts are such that the members with conflicts will be unable to vote at a later date even if the matter is continued, the matter shall not be continued and a sufficient number of members having conflicts of interest, selected by lot, shall be allowed to participate to provide enough votes for the Conservancy/WICWICC Board to form a quorum and take affirmative action.
- F. Motion to Reconsider.** The Conservancy/WICWICC Board may reconsider a matter during the meeting at which the vote was taken, provided all members who were present when the matter was discussed and voted upon are still present, provided that all persons who addressed the Conservancy/WICWICC Board regarding the matter are still present, and provided the motion to reconsider is made by a member who voted with the prevailing side. A motion for reconsideration shall have precedence over every motion except a motion to adjourn. A final vote on any matter may also be placed on any future agenda for reconsideration by the Conservancy/WICWICC Board or any member of the Conservancy/WICWICC Board at the meeting at which the actions was taken or at any later time. Any interested person may request that an action be reconsidered, provided that such a request must be in writing and filed with the Secretary of the Conservancy/WICWICC Board within ten calendar days of the action of the Conservancy/WICWICC Board.

## **VI. CHANGES TO BYLAWS**

The provisions of these Bylaws may be altered, amended, or repealed at any time, within limitations imposed by the Brown Act.

**BYLAWS OF THE WATERSHED INFORMATION CENTER AND  
CONSERVANCY BOARD OF NAPA COUNTY**

(adopted December 18, 2002; amended January 22, 2004, June 24, 2004)

**I. THE WATERSHED INFORMATION CENTER AND CONSERVANCY BOARD OF NAPA COUNTY**

**A. Name.** The official name of the Board shall be the Watershed Information Center and Conservancy Board of Napa County, hereinafter referred to as the "WICC Board." (per Resolution No. 04-102)

**II. OFFICERS.** The officers of the WICC Board shall be the Chair, Vice-Chair and Secretary, chosen as follows:

**A. Time of Election of the Chair and Vice-Chair.** At the first organizational meeting and thereafter at the WICC Board's annual organizational meeting, the membership of the WICC Board shall elect the Chair and Vice-Chair from among themselves.

**B. Term of the Chair and Vice-Chair.** The Chair and Vice-Chair shall serve one calendar year or until their successors are elected and assume office. If the office of Chair becomes vacant during the term, the Vice-Chair shall become Chair. Vacancy in the office of Vice-Chair during the term shall be filled by election to serve the remainder of the term.

**C. Duties of the Chair and Vice-Chair.** The Chair, or the Vice Chair in the absence of the Chair, shall act as the presiding officer of WICC Board and in that capacity shall preserve order and decorum, decide questions of order subject to being overruled by a two-thirds vote and perform such other duties as are required by the WICC Board. The Chair shall have all the rights and duties enjoyed by any other member of the WICC Board, including the right to make and second motions.

**D. Secretary.** Deputy Director of the Conservation Division of the Napa County Conservation, Development and Planning Department shall serve ex officio as the Secretary of the WICC Board.

**E. Authority to Bind WICC Board.** No member of the WICC Board shall have any power or authority to bind the WICC Board by any contract, to pledge its credit, or to render it liable for any purpose in any amount.

**F. Term of WICC Board members.** Each member of the WICC Board shall serve for a period of four (4) years. Members serving on the WICC Board as elected

officials and the alternate member acting for the County Board of Supervisors shall serve the same term as their elected office.

**G. Service and termination of WICC Board membership.**

1. **Service.** Members appointed to the WICC Board by the County Board of Supervisors shall serve at the will and pleasure of the County Board of Supervisors.
2. **Termination.** A WICC Board member's term may be concluded before expiration if any one of the following events occurs:
  - a. His or her absence from three consecutive regular meetings during the term year, unless confined by illness or other absence approved by a majority of the WICC Board at any meeting thereof, will be considered as having involuntarily resigned her/his position as a member of the WICC Board.
  - b. His or her resignation is submitted to the Chair.
  - c. His or her ceasing residency in Napa County.
  - d. His or her conviction of a felony or any offence involving a violation of his or her official duties.
  - e. Refusal or neglect to file the required oath of office.

**III. MEETINGS**

- A. **Date of Regular Meetings.** All dates of regular meetings of the WICC Board shall be on the fourth Thursday of every month, apart from November, when the meeting shall be held on the third Thursday, as shown on a calendar, which the WICC Board shall adopt at the first meeting of the WICC Board, of each calendar year. Notwithstanding the foregoing, any regularly scheduled meeting of the WICC Board may be canceled by majority vote or, if there is not a quorum, be adjourned by the Chair or Secretary in the manner set forth in Section III(G) of these by-laws.
- B. **Time of Regular Meetings.** Regular meetings shall commence at 4:00 p.m. and continue until all agendized business is concluded unless adjourned earlier on motion of the WICC Board for any reason or by the Secretary for lack of a quorum.
- C. **Location of Regular Meetings.** Unless specially noticed otherwise, regular meetings shall be held at 1125 Third Street, Hall of Justice Building, 2<sup>nd</sup> Floor

Meeting/Training Room, Napa California.

- D. Emergency Meetings.** Emergency meetings shall be called in conformance with Section 54956.5 of the California Government Code
- E. Special Meetings.** A special meeting may be called at any time by the Chairman or upon the request of a majority of the members of the WICC Board by delivering written notice to each member and to each person or entity entitled by law to receive such notices in the manner required by Government Code Section 54956 at least 24 hours before the time of the meeting as specified in the notice. The call and notice shall specify the time and place of the special meeting and the business to be transacted or discussed and shall be posted at least 24 hours prior to the special meeting in a location that is freely accessible to members of the public. No other business shall be considered at such meetings by the WICC Board. Such written notice may be dispensed with as to any WICC Board member who at or prior to the time the meeting convenes files with the Secretary of the WICC Board a written waiver of notice. Such waiver may be given by telegram. Such written notice may also be dispensed with as to any member who is actually present at the time the meeting convenes.
- F. Agendas Involving Regular Meetings.** At least 72 hours before a regular meeting, an agenda containing a brief general description of each item of business to be transacted or discussed shall be posted at a location freely accessible to members of the public. All agendas shall include a time period for public comment and shall specify the time and location of the regular meeting. No discussion shall occur, or action be taken, on any item not appearing on the posted agenda except as permitted by law. Questions or comments regarding items not included on the agenda shall be limited to the scope permitted for “public comment”. Supplemental agendas involved in a regular meeting will be prepared and considered by the WICC Board only under the following conditions:
- 1. Emergencies.** Upon a determination by the WICC Board that an emergency situation exists, as defined in Section 54956.5 of the Government Code.
  - 2. Need Arising after Posting.** Upon a determination by a two-thirds vote of the WICC Board or, if less than two-thirds of the potential votes are present, a unanimous vote of the WICC Board members present, that there is a need to take immediate action and the need to take action came to the attention of WICC Board or staff subsequent to the regular agenda being posted.
  - 3. Recently Continued Item.** The item was properly posted for a prior meeting of the WICC Board occurring not more than five calendar days prior to the date action is taken on the item, and at the prior meeting the item was continued to the meeting at which action is being taken.

- G. Adjourning Meetings.** The WICC Board may adjourn any meeting to a time and place specified in the order of adjournment. Less than a quorum may so adjourn from time to time. If all WICC Board members are absent from any regular meeting or adjourned regular meeting the Secretary or Acting Secretary of the WICC Board may declare the meeting adjourned to the next regular meeting of the WICC Board. A copy of the order or notice of adjournment shall be conspicuously posted on or near the door of the place where the meeting was held within 24 hours after the time of the adjournment. When a regular or adjourned regular meeting is adjourned as provided in this section, the resulting adjourned regular meeting is a regular meeting for all purposes. When an order of adjournment of any meeting fails to state the hour at which the adjourned meeting is to be held, it shall be held at the hour specified for regular meetings.
- H. Meetings to be Open and Public.** All meetings of the WICC Board to take action or to deliberate concerning WICC Board business and its conduct shall be open and public. All persons shall be permitted to attend any such meetings except as otherwise provided or permitted by law.

#### **IV. CONDUCT OF MEETINGS**

- A. Order of Business.** The regular order of business of the WICC Board shall be:
1. Call to order.
  2. Approval of the minutes of the previous meeting.
  3. Public comment on unagendized items.
  4. Consideration and Action on Agenda Items.
  5. Adjournment.
- B. Parliamentary Procedure.** Unless otherwise provided by these Bylaws, all proceedings before WICC Board shall be conducted in accordance with and pursuant to the parliamentary procedure prescribed in "Sturgis Standard Code of Parliamentary Procedure, 3rd edition."
- C. Recording of Meetings.** Any meeting of the WICC Board, other than a closed session permitted under the Brown Act, may be recorded by any person, unless the WICC Board determines that such recording could constitute a disruption of the proceedings.
- D. Presentations to the Board.** Any person desiring to address the WICC Board shall, when recognized by the Chair, give his or her name and address. The Chair may, in the interest of facilitating the business of WICC Board, set in

advance of the presentation of testimony reasonable time limits for oral presentations. Persons may be required to submit written testimony in lieu of oral testimony if the Chair determines that a reasonable opportunity for oral presentations has been provided, and in such a case, the matter may be continued to a later date to allow a reasonable time for such submittals to occur.

- E. Recordation of Board Actions.** All official actions or decisions by the WICC Board shall be entered in the minute book of the WICC Board kept by the Secretary. The vote or votes of each member of the WICC Board on every question shall be recorded. Only action minutes will be maintained, however, tape recordings will be made of each meeting of the WICC Board and shall be available to the public at the WICC Board offices.

## V. VOTING AND QUORUM

- A. Roll Call Vote.** A roll call vote may be required in voting upon any motion of the WICC Board at the discretion of the Chair.
- B. Inaudible Votes.** Any member present who does not vote in an audible voice or abstains for a legally insufficient reason shall be recorded as voting "aye".
- C. Quorum.** A majority of the members of the WICC Board shall constitute a quorum for the purpose of conducting its business and exercising its powers and for all other official purposes, except that less than a quorum may adjourn from time to time until a quorum is obtained.
- D. Number of Votes Required for Action.** All actions require a motion and a second. No action or recommendation of the WIC/WIC Board shall be valid and binding unless a quorum is present and the motion is approved by at least a majority of the members present. Each member shall have one vote. No votes may be cast by proxy. Tie votes shall be considered as denial of the motion.
- E. Voting Affected by Conflict of Interest.** As a general rule, no member shall participate as a member in any discussion or voting if to do so would constitute a conflict of interest. However, if a quorum cannot be achieved or the required number of affirmative votes for action obtained because conflicts of interest exist that prevent members having such conflicts from discussing or voting on the matter, and the conflicts are such that the members with conflicts will be unable to vote at a later date even if the matter is continued, the matter shall not be continued and a sufficient number of members having conflicts of interest, selected by lot, shall be allowed to participate to provide enough votes for the WICC Board to form a quorum and take affirmative action.
- F. Motion to Reconsider.** The WICC Board may reconsider a matter during the meeting at which the vote was taken, provided all members who were present when the matter was discussed and voted upon are still present, provided that all



persons who addressed the WICC Board regarding the matter are still present, and provided the motion to reconsider is made by a member who voted with the prevailing side. A motion for reconsideration shall have precedence over every motion except a motion to adjourn. A final vote on any matter may also be placed on any future agenda for reconsideration by the WICC Board or any member of the WICC Board at the meeting at which the actions was taken or at any later time. Any interested person may request that an action be reconsidered, provided that such a request must be in writing and filed with the Secretary of the WICC Board within ten calendar days of the action of the WICC Board.

## **VI. CHANGES TO BYLAWS**

The provisions of these Bylaws may be altered, amended, or repealed at any time, within limitations imposed by the Brown Act.